

WASTE WISE CITIZENS

A PRACTICAL GUIDE TO MAKING THE SWM
RULES, 2026 PART OF OUR DAILY LIVES



APRIL 2026



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TO MAKING THE SWM
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NEW DELHI MUNICIPAL COUNCIL (NDMC) IN PARTNERSHIP WITH CHINTAN ENVIRONMENTAL RESEARCH AND ACTION GROUP.

ABOUT NEW DELHI MUNICIPAL COUNCIL (NDMC):

One of Delhi's three local bodies, the NDMC comprises the territory that has been described as Lutyen's Delhi and which has historically come to be regarded as the seat of central authority in the Union of India. It resolves to intensify its efforts in providing better civic services to the citizens and a multitude of visiting patrons from all over the country and overseas. It aims to provide social and community welfare amenities with public private participation - with special emphasis on promotion of art and culture, environmental improvement, cleaning and greening campaigns.

ABOUT CHINTAN ENVIRONMENTAL RESEARCH AND ACTION GROUP:

Chintan is a non-profit Circular Society Do-Tank that improves the lives, livelihoods and leadership of the people who contribute the least to environmental pollution and climate change while combating the excessive and inequitable consumption that causes it. Chintan works in multiple states on circularity, waste, air pollution and climate, through partnerships and collaboration.

AUTHORS

Abhishek Singh
Bharati Chaturvedi

EDITING

Meghlayana Banerjee

REVIEWERS

Dr Shakuntala Srivastava, Head Swachhta and Environment Cell, New Delhi Municipal Council (NDMC)
Apoorva Agrawal, Chintan Environmental Research and Action Group

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NEW DELHI MUNICIPAL COUNCIL (NDMC)

Palika Kendra, Parliament Street,
New Delhi - 110001
Tel: 24/7 Helpline (Toll Free) : 1533
Email: care@ndmc.gov.in
Website: www.ndmc.gov.in

CHINTAN ENVIRONMENTAL RESEARCH AND ACTION GROUP

238 Sidhartha Enclave,
New Delhi - 110014
Email: info@chintan-india.org
Website: www.chintan-india.org

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Foreword

SH. KESHAV CHANDRA, IAS

Chairman, New Delhi Municipal Council

NEW DELHI, the Capital City of India, occupies a unique position as the seat of National Governance and a symbol of the Country's commitment to progress, sustainability, and responsible urban development. The New Delhi Municipal Council (NDMC), entrusted with the administration of this distinguished area, has consistently strived to maintain the highest standards of urban cleanliness, environmental management, and civic services.

In recent decades, rapid urbanisation, changing consumption patterns, and increased economic activity have significantly altered the scale and composition of municipal solid waste generated in urban areas. These developments have made it imperative for cities to adopt modern, sustainable, and resource-efficient approaches to waste management. The Solid Waste Management Rules, 2026 provide a comprehensive framework for the scientific handling of waste, emphasising segregation at source, decentralised processing, recycling, and responsible disposal.

NDMC is proactive in implementing these principles and has undertaken several initiatives to strengthen waste management systems within its jurisdiction. The Council has already promoted source segregation, established decentralised waste processing facilities, operationalised Micro Material Recovery Facilities (MMRFs) and an innovative model of Anupam Colonies for efficient sorting and recycling of dry waste, and encouraged composting of biodegradable waste in their catchment area. Special emphasis has also been placed on ensuring compliance by Bulk Waste Generators for doing onsite processing of wet waste and promoting the development of zero-waste colonies known as Anupam Colonies. These initiatives are aligned with National priorities under the Swachh Bharat Mission framework, which seek to transform urban sanitation systems across the country.

**THE SOLID WASTE
MANAGEMENT
RULES, 2026
PROVIDE A
COMPREHENSIVE
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THE SCIENTIFIC
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SEGREGATION AT
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RECYCLING, AND
RESPONSIBLE
DISPOSAL.**

While municipal infrastructure and services form the backbone of waste management, the success of these efforts ultimately depends on the active participation of citizens, institutions, and commercial establishments. Responsible waste practices such as segregation at source, reduction of single-use materials, composting of organic waste, and proper recycling are essential steps that every individual can adopt to contribute to a cleaner and healthier city.

The manual Waste Wise Citizens has been developed as a practical guide to empower residents, BWGs and all other stakeholders within the NDMC area to understand and implement sustainable waste management practices in their daily lives. By simplifying the key provisions of the Solid Waste Management Rules 2026 and presenting them in an accessible manner, this publication promotes awareness, encourages behavioural change, and strengthens community participation in environmental stewardship.

I commend the efforts of the Public Health department of NDMC, along with Chintan Environmental Research and Action Group who have been contributing to the Solid Waste Management in NDMC. Their work reflects NDMC's continued commitment to innovation, citizen engagement, and sustainable urban management.

I am confident that this guide will serve as a valuable resource in fostering a culture of responsible waste management and collective action. Together, through informed choices and sustained cooperation, we can ensure that New Delhi continues to set benchmarks in urban sanitation, environmental sustainability, and civic excellence for the entire nation. ●



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Foreword

BHARATI CHATURVEDI

Founder & Director, Chintan

OVER THE past two decades, the New Delhi Municipal Council has been our steadfast partner and collaborator in the work around waste, circularity, inclusion and air pollution. In fact, the NDMC was our very first partner, when its then-chairperson, Mr B.P. Misra, convinced us to start exploring providing doorstep waste collection services in Connaught Place. We didn't know him, but we sought to meet with him to discuss the challenges we observed. It became a game-changer. Subsequent chairpersons have similarly nudged Chintan to become more robust. One of them scolded us for not thinking more deeply about health, while another dared us to set up our first micro-MRF at Teen Murti Marg. In our long-standing partnership with NDMC, we have focused on strengthening decentralised waste processing via MMRFs and RRR Centres, supporting residents and institutions to do what is legally expected of them, via models inclusive of informal waste workers.

This handbook also took shape when the Chairperson suggested we create a knowledge product that offered fundamental information to those who live and work here. As the new Solid Waste Management Rules, 2026, were announced, his team and colleagues worked with Chintan to produce this handbook.

The Solid Waste Management Rules, 2026 mark an important milestone in this journey. Coming 26 years after the first set of rules, they reflect a shift from awareness to accountability, with clearer roles and responsibilities defined for all stakeholders. These rules recognise that effective waste management cannot be achieved without informed and responsible citizens. There is now an expectation that households, institutions, and commercial establishments understand the fundamentals of waste management, particularly the importance of segregation at source into four streams: wet, dry,

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sanitary, and special care waste. The Rules also place greater accountability on Bulk Waste Generators, while creating opportunities for decentralised solutions, partnerships, and innovation. Importantly, they acknowledge the critical role of informal waste workers and seek to integrate them into formal systems with greater structure, recognition, and accountability. This is a significant and necessary step towards building an inclusive and efficient waste management ecosystem.

This handbook has been developed as a practical guide for all waste generators within the NDMC. It simplifies complex rules into clear, actionable steps for citizens, bulk waste generators, and institutions. It serves as a bridge between policy and practice, enabling people to make waste management a part of their daily lives. It aligns with NDMC's zero-landfill approach. This requires not only adherence to rules but also a shift in everyday practices such as reducing consumption, reusing materials, repairing products, and making informed choices.

I hope this publication will serve as a useful resource and inspire greater participation in shifting from waste management to circularity. Through informed choices and sustained cooperation, we can reduce the environmental and health impacts of solid waste. We can ensure our cities are cleaner, healthier, and more resilient. ●

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SECTION
01



01

OUR
WASTE

DON'T YOU wonder why we all generate so much waste? Do we really need so many fancy paper bags, gift wrapping and food wrapped in cling wrap? We think about that too. And we believe that waste management is not just a matter of managing our discarded materials, but reducing waste by re-using, sharing, recycling, repairing and simply saying no to new things. It is a service that brings health, environmental and economic benefits to everyone.

With a rising population, we are seeing an upwards trend of consumption – and therefore more waste. As cities sprawl, the problem is exponentially exploding.

India generates close to 1,70,000 tonnes per day (TPD) of solid waste¹. Of this, Delhi contributes around 13,000 tonnes per day (TPD), generated by about 35 million people. Nearly 50 – 55% of this is biodegradable waste, 35% is non-biodegradable waste, and 10% is inert waste. Delhi has a capacity to process close to 9,200 TPD of waste. This includes waste-to-energy plants with a capacity of 8,200 TPD and composting facilities with a capacity of approximately 1,000 TPD. The remaining unprocessed waste of 3,800 TPD reaches one of the three designated landfills at Gazipur, Bhalswa, and Okhla.

Waste increases not only due to an increased population, more tourists and employment, but also as individuals consume more, particularly as they use single use or short-term packaging.

Waste Management under NDMC

The New Delhi Municipal Council (NDMC) follows a Zero Landfill Policy, which requires it to manage waste as close to the source as possible.

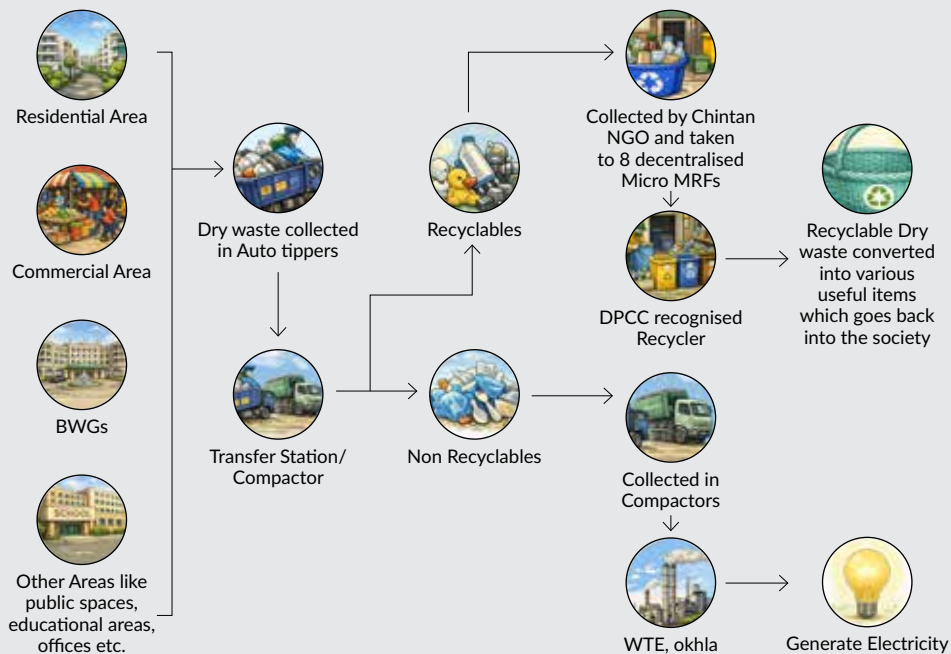
It handles the waste both from a population of 2.6 lakh, along with a significant floating population, generating approximately 300 tonnes per day. Of this, 54 tonnes is wet or organic waste and 246 tonnes is dry, including horticulture waste. The horticulture waste is managed through 46 locations of composting pits, wet waste is composted through decentralized processes and through the composting plant in Okhla. The dry waste is primarily channelized via the 8 Micro Material Recovery Facilities. Non-recyclable, dry waste is sent to the waste-to-energy plants. At NDMC, the efforts are to decentralize waste valorization and minimize pressure on landfills. NDMC has developed model zero-waste 'Anupam Colonies' and strengthened composting and recycling systems. We urge all citizens to adopt similar practices in their colonies and establishments. Chintan, along with the support of NDMC also supports these practices.

Approximately 1,700 people help manage NDMC's waste. This includes Zonal Officers, Sanitary Officers, and safai karamcharis. This team is headed by the MOH, NDMC, who oversees operations, compliance and addresses gaps and complaints. Alongside this, nearly 400 informal workers contribute to collection, sorting, reuse, repair and recycling.

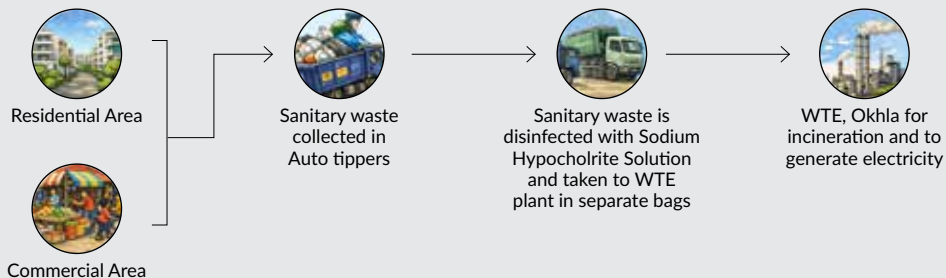
Complaints are monitored digitally and resolved within defined timelines. Citizens can register their complaints/ grievances through NDMC 311 Mobile App, NDMC 1533 helpline and website and Circle-level sanitation offices.

Yet, the most important next step is to reduce waste and move towards a Zero Waste Model. ●

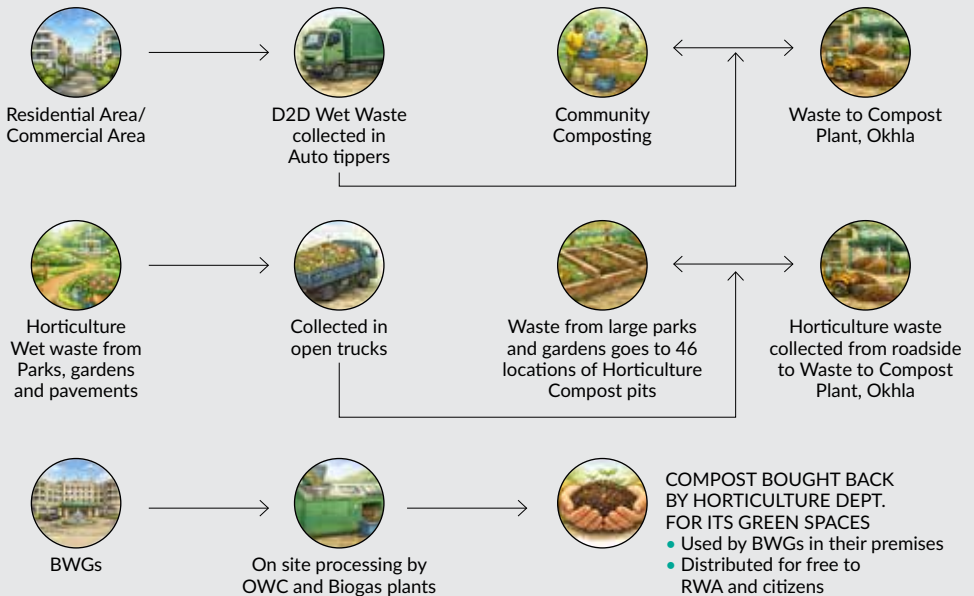
DRY WASTE MANAGEMENT



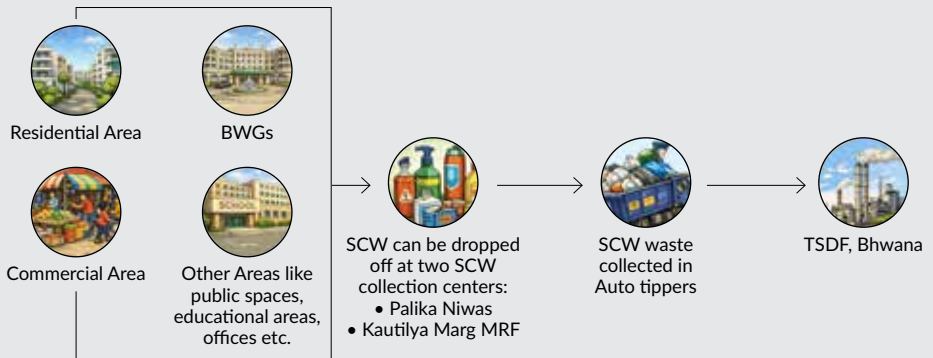
SANITARY WASTE MANAGEMENT



WET WASTE MANAGEMENT



SPECIAL CARE WASTE (SCW) MANAGEMENT





02

INDIA'S WASTE MANAGEMENT RULES



N INDIA, waste management rules are made by the Ministry of Environment, Forest and Climate Change (MoEFCC) to ensure that diverse types of waste, like household waste, plastic, e-waste, medical waste, and construction debris, are handled safely and responsibly.

These rules are put into action by municipal bodies, with support from organizations like the Central and State Pollution Control Boards. They set out clear steps for how waste should be collected, sorted, recycled, or disposed, and who is responsible at each stage. Households, shops, offices, and even factories are all expected to play their part, especially by segregating waste at source. The goal is to reduce pollution, protect health, and promote cleaner, more sustainable communities through better everyday waste habits.

NOTE: The details of each type of waste and our role as waste generators in reducing and managing this waste is discussed in detail in Chapter 3 of this manual.

2.1 Extended Producer Responsibility (EPR)

WHAT IS EPR?

A policy that makes producers responsible for managing waste from their products. Example: A packaged water brand that sells to consumers is responsible for the collection and recycling (or end-of-life management) of the empty water bottles. When EPR does not work effectively, low value items are burnt or land up in landfills.

WHO IS RESPONSIBLE?

- Producers
- Brand Owners
- Importers

WHICH WASTE STREAMS COME UNDER EPR?

- Plastic
- E-waste
- Batteries
- Tyres

WHAT SHOULD HOUSEHOLDS DO?

- Keep waste segregated
- Hand over responsibly - Use municipal collection points, authorized recyclers, authorized e-waste centres, or brand take-back programs

WHY DOES EPR MATTER?

EPR pushes materials back into the recycling loop, reduces landfill pressure, improves environmental safety, and supports a circular economy where products and packaging are continuously reused, recovered, or recycled.

2.2 Solid Waste Management (SWM) Rules, 2026

The SWM Rules form the backbone of municipal waste management in India. They apply to all waste generators, specifically Bulk Waste Generators (BWG). BWGs are categorised by the total waste they generate alongside factoring in the total number of households. The Solid Waste Management Rules 2026, effective 1st April 2026 mandate that waste is to be segregated into four specific streams:

- **Biodegradable (wet/organic) waste** (e.g., kitchen scraps, flowers, etc.)
- **Non-biodegradable (dry) waste** (non-biodegradable recyclables such as paper, plastic, metal, glass)
- **Special Care Waste** (domestic hazardous items like batteries, CFL bulbs, paint containers, mercury thermometers, medicines, and similar materials)

- **Sanitary waste** (e.g., diapers, sanitary pads, other personal hygiene items)

The rules emphasize doorstep segregation, decentralized processing, and reducing landfill dependence through composting, recycling, and recovery.

ROLE OF WASTE GENERATORS:

- Segregate waste correctly at source and hand it over to collectors in separate bins or bags.
- Store waste safely until collection, without littering or dumping in open spaces.
- Keep domestic hazardous and sanitary waste wrapped and clearly marked before disposal.
- Follow directions issued by the municipality regarding timing, storage, and handover of waste.

BULK WASTE GENERATORS

Based on the Solid Waste Management Rules, 2026, Bulk Waste Generators (BWGs) have enhanced responsibilities for managing the waste they produce. These rules, effective from April 1, 2026, mandate a decentralized and accountable approach to waste management.

EXTENDED BULK WASTE GENERATOR RESPONSIBILITY (EBWGR)

An entity is classified as a Bulk Waste Generator if it satisfies at least one of the following criteria:

- **Physical Size:** Buildings occupying an area of 20,000 square meters or more.
- **Water Consumption:** Consumption of 40,000 liters of water per day.
- **Waste Volume:** Production of 100 kilograms of solid waste per day.

ARE YOU A BULK WASTE GENERATOR?

Typical BWGs include institutional users (government departments, universities, schools), commercial users (malls, hotels, hospitals, stadiums), and large residential societies.



KEY DUTIES AND RESPONSIBILITIES

Under the new framework, BWGs are required to transition from simple waste generators to active waste managers:

- **Registration:** All BWGs must register through a centralized online portal with their local body.
- **On-site Processing:** All new BWGs must set up and operate adequate facilities (such as composting or bio-methanation) to process 100% of their wet and horticultural waste within their premises.

They must store waste in four separate streams: wet, dry, sanitary, and special care waste.

Existing BWGs unable to process wet waste on-site must obtain EBWGR certificates from the local body by paying for the processing of an equivalent amount of waste elsewhere.

BWGs must fulfill obligations for the environmentally sound management of collected dry, sanitary, and special care waste:

- **Reporting:** BWGs are required to submit annual returns by June 30th each year via the online portal, detailing their waste generation and management compliance.
- **Prohibitions:** They are strictly prohibited from littering, burning, or burying waste, or engaging with any waste-handling entity that is not registered under these rules.

Local bodies are empowered to levy spot fines on BWGs for non-compliance with these provisions.



2.3 Plastic Waste Management (PWM) Rules, 2016 (Amended 2022)

These rules regulate the use, collection, and recycling of plastic. The rules place major responsibility on producers and brands, through the concept of Extended Producer Responsibility (EPR).

ROLE OF WASTE GENERATORS:

- Segregate plastic separately as dry waste.
- Return used plastic items through door-to-door or municipal collection systems or designated take-back channels.
- Avoid banned single-use plastics.

2.4 E-Waste Management Rules, 2022

These rules cover discarded electrical and electronic items. Producers and brands are legally required, under EPR, to organize the collection and safe recycling of the electronics they put on the market.

ROLE OF WASTE GENERATORS:

- Do not throw e-waste in dustbins with regular waste.
- Hand over old electronics to authorised collection centres, recyclers, or municipal e-waste drives.

2.5 Construction & Demolition (C&D) Waste Rules, 2016

These apply to anyone renovating, repairing, or constructing buildings.

ROLE OF WASTE GENERATORS:

- Store C&D waste separately.
- Not mix it with household waste.
- Deliver it to a designated collection point.



2.6 Biomedical Waste Management Rules, 2016

These mainly apply to hospitals and clinics, but households generate small quantities too.

ROLE OF WASTE GENERATORS:

- Residents must keep sharps, needles and other household biomedical waste separate, and hand them over only through the authorised collection channels notified by the urban local body (such as special collection drives or designated pick-up systems).

SECTION

02



03

WHAT IS IN OUR WASTE AND WHAT TO DO WITH IT?

FOUR CITIES, including Delhi, have to get any better, the time must be now to move to a zero-waste model. At the heart of this model must be waste management. This has tremendous potential to also improve air quality for citizens to breathe clean air.

Core Components of an Implementable Model

Zero-waste supports the achievement of circular material flows, diverting more than 90% of waste from disposal. Global examples illustrate how governance, segregation, and citizen participation drive zero-waste success.



3.1 Organic Waste

The largest share of our daily municipal solid waste is organic waste. Often referred to as kitchen waste/ biodegradable waste, it forms over 60-70% of our household waste. Managing this holds the key to reducing our landfills significantly.

The most common example of organic waste in our households is the waste generated in our kitchens such as vegetable peels, rotten vegetables and fruits, leftover food, eggshells, bones, etc. The dry leaves that fall off the plants in our home gardens too fall under the organic waste category.

Can a rotting vegetable that can decompose in the environment be dangerous? Well, it can be very dangerous. And it's even more dangerous rotting in the landfills creating the perfect recipe for disaster!

HOW IS ORGANIC WASTE MANAGED?

Organic waste processing can be done using any of the possible solutions below. These solutions can be applicable at individual and community levels.

1. Biomethanation: This is a complex process which involves converting waste into usable biogas.

2. Composting: This is the process of decomposition of organic matter by micro-organisms. When done right, the output gives a nutrient-rich fertilizer that adds to soil biodiversity and supports a healthy environment. This can be done both at home or at community level.

3. At the city level, Compressed Biogas (CBG) can also be explored. CBG is primarily used as green fuel for vehicles and finds use in industrial settings.

NON-BIODEGRADABLE WASTE

Plastic, paper, metal, glass, textile waste, old shoes, electronic waste – are all non-biodegradable waste. Many of these materials now are mandated to be managed as per various rules notified by the Government of India.

3.2 Plastic Waste

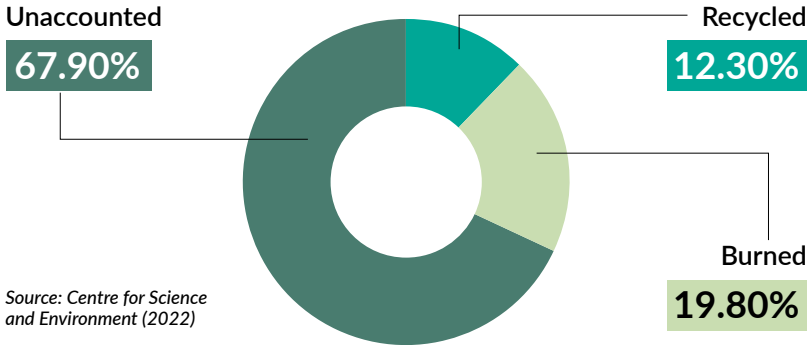


WHAT IS THE PROBLEM WITH PLASTIC?

Plastic's advantages have turned it into one of the biggest challenges of waste reduction and management. It is lightweight, durable, can be moulded into any shape, and is waterproof. No wonder that from a shampoo sachet to space exploration, plastic finds use everywhere!

Most plastics are made from fossil fuels like petroleum. These are broken into small building blocks and joined to form long chains called polymers. Manufacturers add chemicals to make plastics flexible, strong, colourful, or heat-resistant, so each plastic product is specially designed for its use.

This physical and chemical property of plastic makes it not biodegradable. It does not simply break down and decompose in the environment. On top of that, its chemical composition results in the release of toxic pollutants.



HOW MUCH PLASTIC ARE WE CONSUMING AND WASTING?

India is among the top three plastic consumers in the world and is the largest plastic polluter in the world! We emit close to 9.3 million tonnes (Mt) of plastic waste into the environment annually, which is approximately 20% of global plastic emissions.²

The major chunk of plastic waste is unaccounted for. It could be anywhere in the environment. And this brings us to the second stage at which plastic becomes a challenge – when it becomes waste.

HOW IS THE UNACCOUNTED PLASTIC WASTE HARMFUL?

A. MICROPLASTICS

Plastic is non-biodegradable and never goes away. Over time, it breaks down into tiny plastic particles, microplastics (or nano-plastics), and stays in the environment forever. These microplastics make their way into our body and even bloodstream via the food we eat, water we drink, and even the air that we breathe.

As stated on the United Nations Development Programme's website, a study in 2018 suggested that the average adult consumes approximately 2,000 microplastics per year through salt.³

B. TOXICITY

Plastic contains toxic chemicals that are known to be life threatening. It is important to note that the exposure to toxicity is not limited to just those processing (or burning) this waste. This risk extends to consumers, that is to all of us, when we use plastic products that contain toxic chemicals.

WHAT IS BEING DONE TO PREVENT EXCESSIVE PLASTIC USE AND POLLUTION?

A. SINGLE-USE PLASTIC BAN

The Government of India, in 2022, banned 19 single-use plastics (SUPs). These items were selected because of their low utility and high littering potential.

LIST OF BANNED SINGLE-USE PLASTICS



PLATES, CUPS, GLASSES, FORKS, SPOONS, KNIVES, STRAWS, TRAYS



CANDY STICKS, ICE-CREAM STICKS



In addition, plastic carry bags of less than 120 microns thickness were banned because of the difficulty in their collection and recycling

- Earbuds with plastic sticks
- Plastic sticks for balloons
- Plastic flags
- Plastic invitation cards
- Plastic cigarette packets
- Stirrers
- Polystyrene (Thermocol) for decoration
- Wrapping or packing films around sweet boxes
- Plastic or PVC banners less than 100 microns

The success of implementation of this ban, however, relies on many factors. One such factor is the active participation of consumers like us. If we continue demanding or accepting these single-use plastic items, it would be extremely difficult to arrive at complete elimination of these items. Alternatives must be scaled and supply of SUPs stopped, in order to support the consumer participation.

PACKAGING WASTE

With the rise in online shopping, home deliveries, and convenience-based products that cater to our fast-paced urban lifestyle, packaging waste is rapidly increasing. Note that packaging waste is not a new kind of waste but a combination of various kinds of dry waste that have been discussed in this manual. This includes things such as plastic, paper and cardboard, metal, glass, and multi-layered packaging.

In the context of packaging waste, we must:

- Open our packages in a way such that minimal damage is caused to the packaging
- Attempt to reuse the packaging materials

- Before disposing of packaging, separate its various parts. For example, remove plastic tape from cardboard boxes. This helps each material get properly recycled, instead of being rejected due to mixing.

- Dispose of each kind of packaging material separately as prescribed for that particular type of material.

We must also attempt to reduce packaging waste, not just manage it. We can help reduce this by grouping our orders, avoiding fast delivery for non-urgent items, and supporting sellers who use eco-friendly packaging. Always provide feedback to help encourage more responsible packaging practices.

OUR ROLE AS WASTE GENERATORS

- Refuse creating plastic waste by choosing low or no-packaging products. Get produce in your own containers or carry a cloth bag to avoid bringing home new plastic.

- Carry basic steel cutlery and a water bottle when you travel.

NDMC and Chintan have made it possible to dispose of your plastic waste safely. All you have to do is drop off your segregated waste items at any of the 8 Micro Material Recovery Facilities (MMRFs) /Reduce Reuse Recycle (RRR) centres. See Page 39 for your closest MMRF cum RRR centre or call 9319994916 for a free pick up if you have segregated your waste and are unable to go to the centre yourself.

3.3 Sanitary Waste

WHAT IS SANITARY WASTE?

Sanitary waste refers to used diapers, sanitary towels or napkins, tampons, condoms, incontinence sheets and any other similar waste. Essentially, it is waste that is contaminated by bodily fluids.

WHY SHOULD WE WORRY ABOUT SANITARY WASTE?

By weight, sanitary waste is not a large percentage of solid waste generated in India. An estimate from 2022 put this percentage at 0.65%.⁴ But sanitary waste is still a major area of concern for the following reasons:

- Period poverty is a challenge the government and private agencies are addressing. As more girls and women have access to menstrual products, the volume of such waste will increase.

- Sanitary waste is voluminous.

- The presence of bodily fluids in them makes sanitary waste infectious. Waste collectors and workers that come in contact with improperly disposed sanitary waste are exposed to infections.

- When sanitary waste is mixed with other waste types, such as paper, it contaminates the entire batch, making it unsafe or unusable for recycling.

- Plastic is a primary material used in the manufacture of disposable sanitary products. The risks associated with unsafe disposal of plastic apply to sanitary

products as well. For example: Open burning of these sanitary products would release toxic pollutants into the air.

OUR ROLE AS WASTE GENERATORS

The Solid Waste Management Rules, 2026 mandate segregating sanitary waste as a separate category. To safely manage sanitary waste:

- Wrap it securely, right after use, in a newspaper or the packaging provided by the brand-owner.
- Mark it clearly as 'Sanitary Waste'.
- Hand it over separately to your waste collector. Sanitary waste should never be mixed with any other waste.
- Wash your hands thoroughly with soap and water after handling used sanitary products.
- Do not dispose of sanitary waste by burning, burying, flushing down the toilet, or throwing it in open bins and dumps. Follow the above-mentioned protocol.
- These are products designed to help manage our bodies' basic functions. There is nothing embarrassing in the use of a sanitary product.



3.4 Textile Waste

TEXTILE WASTE IN INDIA

India's textile waste accounts for 8.5% of world's total textile waste. Up to 7,800 kilotonnes of textile waste is accumulated in India annually. Of the total waste generated in India, only 59% is reused or recycled.⁵ Textile waste is produced as a result of fast fashion. More buying equals more waste.

WHY IS TEXTILE WASTE A CHALLENGE?

The quantity of textiles being produced, and then discarded, has become unsustainable for our planet. The rise of fast fashion, a business model characterized by rapid production of relatively inexpensive clothing to cater to demand due to changing fashion trends, as well as to create new fashion trends, has made the situation worse.

THE FASHION INDUSTRY IS THE SECOND LARGEST CONSUMER OF WATER

- More than 2,600 liters of water is required to make one cotton shirt.
- More than 7,500 liters of water is required to produce a pair of jeans.

DYEING AND FINISHING OF TEXTILES POLLUTE WATERBODIES

- These processes, which are employed to apply colours and other chemicals to clothes, are responsible for over 20% of global water pollution.
- Leather tanning is among the most toxic processes in this industry. The chemicals that are used contaminate water sources.

MICROPLASTICS

Synthetic fibers, such as nylon, polyester, and acrylic, are made from plastics. A report from 2017, Primary microplastics in the oceans, stated that 35% of all microplastics found in the ocean come from the laundering of synthetic textiles.⁶

More than half of the textile waste in India is post-consumer waste, which means that it originates from consumers like us.

Given the fact that we, the consumers, are responsible for more than 50% of the textile waste, we have a key role to play in reducing this consumption and wastage.

OUR ROLE AS WASTE GENERATORS

The shift from traditional to synthetic textiles has worsened India's textile waste problem. The introduction of fast fashion has altered our habits in a way that is not sustainable for us or the planet. The good news is that we can do something about it – both while deciding to purchase a product and identifying an appropriate way of disposing of it.

Some simple considerations and changes in the way we take decisions can go a long way:

- Buy less and choose wisely. Choose quality over quantity and durable and timeless clothes over fast fashion. Avoid buying synthetic fibers. Choose natural fibers such as cotton, linen, or khadi.
- Consider donating your old clothes to NGOs, shelters, textile collection centers, and other charitable initiatives.
- Consider swapping your clothes; you may organize your own clothes swap events in your communities.
- Repair your old clothes to use them longer. Use your neighbourhood tailor's (darzi) or rafoogar's expertise for repairing.
- If (or when) the clothes are not in a state to be repaired, swapped, or donated, consider repurposing them. For example: Old sarees can be repurposed into cushion covers or curtains.
- Consider renting or borrowing clothes. This can be a useful way of cutting down expenses, especially when one must buy something expensive that would

be used only once or twice in a year.

- Consider buying pre-owned or pre-loved clothes. Shopping for clothes at thrift stores is a good way to give new life to pre-owned clothes.
- Do your own research. Information is key to decision-making. Before buying from a brand, do your due diligence to see if their products are made from natural fibers, are organic, use recycled materials, and have eco-certifications.
- And finally, take care of your clothes and other textiles. Wash them only as needed and recommended, and avoid dryers.

NDMC and Chintan have made it possible to dispose of your used clothes, tableware, and all other textiles safely. All you have to do is drop it off at any of the 8 Micro Material Recovery Facilities (MMRFs) /Reduce Reuse Recycle (RRR) centres. See Page 39 for your closest MMRF cum RRR centre or call 9319994916 for a free pick up if you have segregated your waste and are unable to go to the centre yourself.



3.5 Footwear Waste

WHY ARE WE TALKING ABOUT FOOTWEAR?

When we think about waste, there are certain wastes that pop up in our mind right away. Footwear or shoes are not one of them. Composed mainly of synthetic materials, footwear often catches fire in landfills, which are prone to methane-led fires and fires from extreme heat. The environmental impact is profound, contributing to soil and water pollution, and exacerbating the already critical issue of landfill overflows. Not managing footwear waste poses serious risks to

ecosystems and human health.

Many trends that we discussed in the context of textiles remain applicable to footwear as well. Fast fashion is resulting in more consumption, shorter lives of products, and more waste. Rising disposable incomes, changing habits, and ease of buying are only going to rapidly increase our consumption and waste unless something changes. And that change will have to start with us.

According to estimates, 22 billion (2,200 crore) pairs of shoes end up in landfill each year.⁷

FOOTWEAR IS A LUXURY FOR MANY

In many parts of India, especially in rural and low-income areas, footwear is not always easy to come by. For some, owning even one decent pair of shoes is a challenge. We see children often walk barefoot to school, and adults work long hours

without proper footwear - putting them at risk of injury and illness. Instead of our out-of-use footwear going to landfills, we can decide to donate or channelize worn out footwear to a collection center.

The charitable enterprise, **Barefoot Warriors** [3.1], came up as a solution for both the social and environmental aspects of footwear waste. Started by a school student from Delhi, Barefoot Warriors collects used shoes, repairs them with the help of mochis and redistributes them to those in need.

OUR ROLE AS WASTE GENERATORS

The three-pronged approach typically applies to most waste:

1. Buy responsibly and buy less
2. Extend life by repairing with your local mochi, repurposing for lighter use, or passing it on to someone who can still use it
3. Discard safely

Some simple considerations and changes in the way we take decisions can go a long way:

- Invest in fewer but higher quality footwear that last longer. Avoid fast fashion footwear.
- Consider a colour and style that goes with most clothes. This reduces the urge to buy many different colours and kinds of shoes to fit the variety of clothes that we wear in India.



3.6 E-Waste

WHAT IS E-WASTE?

The E-Waste (Management) Rules, 2022 define e-waste as “electrical and electronic equipment, including solar photo-voltaic modules or panels or cells, whole or in part discarded as waste, as well as rejects from manufacturing, refurbishment and repair processes.”⁸

WHAT KIND OF E-WASTE IS GENERATED IN OUR HOUSEHOLDS?

E-waste is not only generated in offices, factories, or manufacturing plants but also by households. The constant innovations and technological developments coupled with macro-economic policy mean that electrical and electronic components and devices will consistently keep a flow of e-waste in our cities.

Some common examples of e-waste in our homes include mobile phones, laptops, tablets, televisions, printer cartridges, radios, smart watches, light bulbs, solar panels, etc.

WHY IS THE RESPONSIBLE MANAGEMENT OF E-WASTE CRITICAL?

India is the third largest producer of e-waste in the world. We generated 1.6 million tonnes of e-waste in 2021-22 and recycled only 33%.⁹ Delhi accounts for close to 9.5% of the total e-waste generated in India.¹⁰

But why is it a challenge in the first place? Many reasons exist:

- E-waste cannot simply disintegrate and vanish once we are done with the electrical and electronic products. And given that only close to 33% is recycled, a major chunk of the remaining e-waste ends up at landfills, dumpsites, and in unsafe extraction activities.

- Valuable materials such as gold and copper go into making of the electrical and electronic products. If discarded as waste, these precious resources are lost. Moreover, such wastage translates into a requirement for more mining of these resources.

- E-waste contains hazardous materials. These toxic materials include arsenic, cadmium, lead, and mercury as well as heavy metals. When not treated safely through proper recycling routes, open-air burning and acid baths are used to extract valuable elements/materials from e-waste. These methods release toxic fumes and chemicals that are extremely hazardous. When E-waste is not managed safely, it may leach out into groundwater, water bodies and soil, contaminating the same in the process. Burning of these toxic chemicals also pollutes our air.

AROUND 1.5 KG OF GOLD CAN BE EXTRACTED FROM ONE TONNE OF MOBILE PHONE PRINTED CIRCUIT BOARDS. IN CONTRAST, ONE TONNE OF ORE HAS AN EXTRACTABLE RESERVE OF CLOSE TO 1.4 KG OF GOLD.



BATTERIES

Batteries fall under domestic hazardous waste under the Solid Waste Management Rules. But they typically are inside an electrical or electronic product – one that is disposed of as e-waste after use. Battery Waste Management Rules, 2022, notified by the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India, regulate the management of battery waste in India. These rules mandate that, under the Extended Producer Responsibility (EPR) framework, producers are held responsible for management of the batteries that they introduce in the market.

Some examples of batteries in our households include AA and AAA cells, button

cells (used in watches, etc.), mobile phone batteries, laptop batteries, power bank batteries, and batteries in toys. Lithium-ion (Li-ion) batteries are being employed in electric vehicles and battery enabled storage solutions to store energy produced by renewable sources such as solar and wind.

Managing battery waste effectively is extremely critical for a variety of reasons:

- Most batteries contain heavy metals and toxic chemicals such as lead, mercury, cadmium, nickel, lithium, and electrolytes (which can be corrosive). If dumped into landfills, the chemicals and materials from these batteries can leach into soil and groundwater and contaminate them. These valuable materials are also extracted and mined. Proper and efficient recycling of batteries allows us to extract these materials, keep them in circulation, and reduce our dependence on mining of virgin (new) materials.

- Improper handling of battery waste exposes people to harmful chemicals that can cause neurological damage, respiratory issues, skin burn, and even organ damage.

- Lithium-ion batteries, when crushed, damaged, or exposed to heat, can catch fire and explode.

Therefore, as waste generators, we must ensure that all our batteries are going only to authorized, safe recycling channels. The basic step that enables us to do so is to first ensure that no battery, however small, goes into bins with any other kind of waste. All batteries must be stored separately and given to authorized recyclers, collectors/collection centers, or dealers.

OUR ROLE AS WASTE GENERATORS



Households and individuals can play a role across the three phases, shown in the figure, to make a positive contribution to e-waste management and thereby to our own and the environment's health.

A. BEFORE BUYING A NEW PRODUCT

The best way to reduce waste, as indicated in the waste hierarchy as well, is to consume less. Ask these questions before buying a new device:

Question 1: Do I need a new device?

- Can I prolong the life of my existing device via repairing?
- Do I really need this new device or is it an impulse purchase?
- Is buying a new device the only option? Or can I make use of other business models? For instance, does a sharing model exist for this product under which I

can share the usage of this device with others. Or, can I buy a used or refurbished product?

Question 2: From which brand or manufacturer should I purchase the new device?

- Should I buy from a brand/manufacturer whose device allows compatibility with existing components at my home? For example, the same charger and adapter could be used with the new device.
- Should I buy from a brand/manufacturer that designs products in a way that allows easy disassembly and repair?
- Should I buy from a brand/manufacturer that has shown credible performance in the longer life of its products?
- Should I buy from a brand/manufacturer whose actions - via their annual disclosures and third-party assurances - show commitment to the environmental cause.

In the era of easy doorstep delivery at the click of a button, impulse purchases are difficult to resist. One trick to overcome impulse online purchases of non-essential items is to add the items to your shopping cart and let them be there. Only if the assumed need to purchase does not abate in the next few weeks, one should think of going ahead with the purchase.

B. USING THE NEWLY BOUGHT PRODUCT

Once an electrical and electronic product has been bought, our goal should be to prolong its life as much as possible. This can be done via:

- Ensuring regular and timely maintenance of the product to keep it in its optimal running condition.
- Leveraging the vast and ubiquitous repair infrastructure in India to repair the product when it breaks down instead of discarding it.

C. DISPOSING OF THE USED PRODUCT (E-WASTE)

At the end of life, find the right partner to dispose of this e-waste. Find your nearest Micro Material Recovery Facility (MMRF), or Material Recovery Facility, and drop your e-waste at one of these locations. Decentralized waste management via such facilities has shown to be an effective way of waste management in our vast, densely populated, and high-traffic cities. These MRFs are typically operated by informal workers that have been trained and upskilled and thus included and recognized in the waste value chain. E-Waste collected at these MRFs is sorted and routed to authorized recyclers that ensure safe and environmentally friendly recycling.

NDMC and Chintan have made it possible to dispose of e-waste safely. All you have to do is to send it to any of our 8 MMRFs/RRR centres. See Page 39 for your closest MMRF cum RRR centre or call 9319994916 for a free pick up if you have segregated your waste and are unable to go to the centre yourself.

While it may appear lucrative to sell the e-waste for the best price, channelising

e-waste to authorized dismantlers/recyclers is very important. The environmental and health price that we will pay is too high if we indulge in unsafe disposal of e-waste.

3.7 Paper Waste

WHAT IS PAPER WASTE?

Paper waste refers to discarded paper products that are no longer useful in their current form. This includes newspapers, magazines, notebooks, cardboard boxes, packaging paper, used envelopes, bills, tissue paper, and more. In households, it can come from a variety of sources such as shopping, education, or packaging. Some forms of paper are recyclable, while others (like heavily soiled or laminated paper) are either not recyclable or difficult to recycle.



PAPER RECYCLING IN INDIA

Paper recycling levels are low in India. It is estimated that the country recycles 30 – 35% of the paper it consumes.¹¹ This is close to half of the global average.¹² Due to its low recovery rates, India imports a significant quantity of wastepaper for recycling. The paper that is not recycled or recovered ends up in landfills, drains, or is burned. The recycling of paper in India helps reduce deforestation by decreasing the need for virgin wood pulp. The Indian Pulp and Paper Technical Association (IPPTA) states that nearly 77 - 80% of the paper that is produced in the country uses recycled paper.¹³

Recycling paper saves a significant amount of energy compared to making new paper from raw materials.

OUR ROLE AS WASTE GENERATORS

Keep in mind the following points as you handle paper or manage paper waste:

- Keep paper waste separate from wet (organic/biodegradable) waste or any other waste as soiled paper is not recyclable.
- Consider using steel boxes as an alternative to wrapping food items in paper.
- Reduce unnecessary use of paper:
 - Use digital bills, receipts, and statements whenever possible.
 - Avoid unnecessary printing.
 - Say no to paper flyers, brochures etc. when you don't need them.
- Reuse whenever possible:
 - Repurpose cardboard boxes for storage or gifting.
 - Donate old books and magazines to libraries, schools, and NGOs instead of discarding them.

- Buy recycled paper products.
- Avoid using heavily dyed paper, laminated or plastic-coated paper. These papers have plastic or wax coatings that are hard to separate during recycling. Chemical coating in dyed paper makes it difficult to recycle.
- Soiled or greasy paper cannot be recycled. Examples: Used tissue papers, oily food wrappers. Try not using paper for such purposes. Why waste parts of a tree or forest when you can use a re-usable cloth napkin?

You can drop off your segregated paper waste items at any of the 8 MMRFs/RRR centres. Remember to flatten cardboard boxes and bundle newspapers for easy handling. See Page 39 for your closest MMRF cum RRR centre or call 9319994916 for a free pick up if you have segregated your waste and are unable to go to the centre yourself.



3.8 Metal Waste

Metals fall into the category of dry recyclable waste. Metal waste includes any household items made primarily of iron, steel, aluminium or any other metals. These items are 100% recyclable. They also have high resale value if kept clean and separated from other waste.

As urbanization and industrial growth accelerate, India's demand for metals and the amount of scrap generated will continue to rise. India is already the second-largest steel producer in the world, yet recycling rates remain relatively low. By one estimate, only

about 30% of recyclable metal scrap is recovered.¹⁴ Increasing this share is essential for keeping valuable metals in circulation, reducing pressure on mining virgin materials, and cutting the high energy costs of producing metals from ore.

SOURCES OF METAL WASTE AT HOME

- Used food and beverage cans (for example: tomato purée, soft drinks)
- Old utensils
- Broken tools
- Aluminium foil (clean)
- Bottle caps and jar lids
- Scrap parts from furniture

OUR ROLE AS WASTE GENERATORS

Due to the competitive prices offered by Kabadiwalas, most Indian consumers are accustomed to selling their metal scrap to these local collectors, who then supply it to recyclers. Below are some points to keep in mind:

- Rinse and dry metal waste before disposal (especially if it was used for storing something; for example: food cans).
- Do not mix with other waste types.

NDMC and Chintan have made it possible to dispose of your old metal waste safely. All you have to do is send it to any of our MMRFs/RRR centres. See Page 39 for your closest MMRF cum RRR centre or call 9319994916 for a free pick up if you have segregated your waste and are unable to go to the centre yourself.



3.9 Domestic Hazardous Waste

WHAT IS DOMESTIC HAZARDOUS WASTE?

Hazardous waste is defined as any waste that because of any of its physical, chemical, reactive, toxic, flammable, explosive or corrosive characteristics causes danger or is likely to cause danger to health or the environment, whether alone or when in contact with other wastes or substances.

Some common domestic hazardous wastes are listed below:¹⁵

- **Household cleaners:** Oven cleaners, drain cleaners, wood and metal cleaners and polishes, toilet cleaners, tile and shower cleaners, laundry bleach
- **Automotive products:** Motor oil, fuel additives, air conditioning refrigerants, starter fluids, automotive batteries, transmission and brake fluid antifreeze
- **Household insecticides:** Herbicides, insecticides, fungicides/wood preservatives
- **Painting supplies:** Adhesives and glues, furniture strippers, oil or enamel-based paint, latex or water-based paint, stains and finishes, paint thinners and turpentine, paint strippers and removers, fixatives and other solvents
- **Indoor pesticides:** Ant sprays and baits, cockroach sprays and baits, flea repellents and shampoos, bug sprays, houseplant insecticides, mosquito coils, moth repellents, pet care products
- **Other flammable products:** Compressed gas cylinders, kerosene diesel fuel gas/oil mix, lighter fluids, shoe polish, cigarette butts
- **Miscellaneous:** Fluorescent light bulbs, discarded PVC toys, batteries, computer components and end-of-life electronics items

RISKS ASSOCIATED WITH DOMESTIC HAZARDOUS WASTE

Improperly managed domestic hazardous waste, like most of our other waste, reaches our landfills as mixed waste. Leachates in landfills as they make their way through this waste, extract heavy metals and volatile organic compounds (VOCs)

and contaminate the soil and ground water. Some key pollutants found in household products are listed below:¹⁶

- **Lead:** Mostly found in lead-containing paints
- **Cadmium:** Found in dyes, paints, batteries, PVC, photocells, tyres, electronic components, heating elements
- **Nickel:** Found in steel alloys and galvanized coating of various products like car parts and tools
- **Mercury:** Found in fluorescent lamps
- **Arsenic:** Found in herbicides, insecticides, fungicides, desiccant pesticides, medicines, enamels, nutritional supplements, and washing agents
- **Zinc:** Found in cosmetic products, medicines, and pesticides
- **Copper:** Found in large quantities in electrical cables and printed circuit boards

The impacts of exposure to these hazardous products range along a wide spectrum. From eye and skin irritation, dizziness, headaches, pulmonary edema, damage to kidneys and lungs, nervous system damage, to even cancer - the impacts can be deadly.

OUR ROLE AS WASTE GENERATORS

- Do not mix domestic hazardous waste with other waste types (such as biodegradable or non-biodegradable waste). Note that, even though both sanitary waste and e-waste are also hazardous, they must be stored and disposed separately. These waste types have been discussed in their own sections in this manual.

- Keep the hazardous waste separately in a clearly marked container.
- Hand it over safely to your doorstep waste collector and ensure that they too keep it separate from other waste types.

Municipalities are responsible for ensuring safe transportation and disposal of hazardous waste, primarily through channels such as Common Hazardous Waste Treatment Storage and Disposal Facility (CHW-TSDF). But to enable them to do so, we must ensure that we follow the rules to store and dispose of our domestic hazardous waste safely and separately.

OTHER TYPES OF WASTE

3.10 Tyre Waste

As per a 2021 report by the Ministry of Housing and Urban Affairs (MoHUA), waste tyres constitute 1% of total municipal waste in India. Despite the small percentage, the problem still exists to address. Tyres are non-biodegradable. As per an analysis funded by Pew Charitable Trust, in 2016, 1 million tonnes (10 lakh tonnes) of tyre dust entered the oceans globally which constituted 9% of the total plastic that made its way to the ocean.¹⁷ Some problems associated with tyres are:

- They take up substantial space in waste dumping areas.
- The water that collects in these tyres is an ideal breeding ground for disease causing insects and rodents.



- Tyres have a complex composition, and it includes synthetic rubber that is derived from plastics. So, all the risks associated with plastics (covered under the 'Plastic' section of this manual) apply to tyres as well.

- Air pollution from particulate matters from tyres is a major health concern. Tyres are known to be a major source of PM 10 (particulate matter of diameter 10 micrometer or less). PM 10 has been shown to worsen asthma and can have a negative effect on cardiac health, besides causing eye and throat irritation. Tyres are also likely to be a key source of PM 2.5 (particulate matter of diameter 2.5 micrometer or less) that are even finer particles and even more lethal. They are known to cause respiratory and cardiovascular diseases and lung cancer.

Air pollution from tyres is dangerous also because of the toxicity of the chemicals involved in the complex and often varying makeup of the tyres.

The management of tyre waste in India is governed by the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2022, which introduced an Extended Producer Responsibility (EPR) framework for waste tyres. Under EPR for waste tyres, the producers and importers of tyres must collect and recycle tyres that they place in the market. The EPR mechanism for tyres is similar to that for e-waste and plastic.

OUR ROLE AS WASTE GENERATORS

As waste generators, we must give our tyres to only authorised tyre dealers, service centres, or recyclers. We must never burn or dump the tyres in open, nor hand them over to unauthorised recyclers or entities.

3.11 Micro Material Recovery Facilities and RRR Centres

The informal sector plays a vital role in India's waste ecosystem. The Solid Waste Management (SWM) Rules, 2026, are focussed on integrating them in the SWM system. In line with the SWM Rules, 2026, and the Swachh Bharat Mission guidelines, NDMC and Chintan created 8 MMRFs and RRR Centres, to be run

by wastepickers, now formalized. These have been upgraded to align with the SWM Rules, 2026. Moreover, the NDMC is also working with Chintan to enable all wastepickers to benefit from the NAMASTE scheme. More ideas are being rolled out - wait and watch, and even better, join us in our efforts.

NEIGHBOURHOOD MICRO-MRFS: A DECENTRALISED ZERO-WASTE SOLUTION IN NDMC

New Delhi Municipal Council (NDMC), in collaboration with Chintan, has set-up multiple Micro-Material Recovery Facilities (Mico-MRFS) also known as RRR centres. One such micro-MRF was launched in June 2025 in the Khan Market area. These MMRFs and RRR centres are the pride of every citizen of Delhi who segregates. It's an opportunity for us to come together as a neighbourhood, community and a city!

KEY FEATURES

The site is a **revamped "dhalao" (local waste drop site) converted into a facility specialising** in e-waste (batteries, wires, ear-phone chargers, old electronics) as well as old clothes, shoes, books, domestic hazardous waste, and plastics.

The facility uses a 1kW solar panel at the entrance to power lighting, fan and weighing machines — demonstrating integration of clean energy in waste-processing infrastructure.

Waste is sorted into specified bins (paper/plastics, electronics, batteries etc.) and plastic bottles are compressed on site, then transferred onwards to authorised recycler units.

Trained waste-pickers from the informal sector have been engaged, thereby linking resource recovery with livelihoods, and embedding informal-formal integration in the system.

LINK TO ZERO-WASTE OBJECTIVES

The model **enhances source segregation**, by providing accessible drop-points in busy markets, raising awareness among households and shops in the area.

It **strengthens decentralised processing by locating the facility at neighbourhood scale** (market area) rather than relying solely on large distant centralised plants.

It **promotes material recovery** (reuse and recycling) especially for e-waste, batteries, plastics, and textiles — diverting waste from landfill or incineration, thereby aligning with the core principle of zero-waste (keeping materials in circulation).

By **engaging informal waste-workers in a structured facility**, it supports institutional and behavioural enablers (recognition of the informal sector and capacity building) which are central to sustainable zero-waste systems.

Waste-pickers, itinerant buyers, and small scrap dealers recover large volumes of recyclables such as paper, plastics, metals, and glass, long before they reach landfills. Their work keeps the recycling market valued, reduces municipal waste loads, and keeps valuable materials circulating in the economy. In many cities, including NDMC

areas, where almost 1000 waste and repair workers undertake their work everyday. Efforts are underway to link informal workers with formal systems through training, safety measures, and partnerships, so that resource recovery becomes more efficient, dignified, and environmentally sound.

Citizens like you are requested to help us divert more waste and channelise it for effective recycling. These MMRFs cum RRR Centres are:

S. NO.	MRF CUM RRR CENTRE	LOCATION	TIMINGS
1	Khan Market	20 Meters from OMA Shop Khan Market, New Delhi 110003 https://maps.app.goo.gl/MF47UgrBxuvSTxoa7	10 AM to 5 PM
2	Dharam Marg, Malcha	20 Meters from Sarvodaya Co-Education Senior Secondary School, Chanakyapuri, New Delhi 110021 https://maps.app.goo.gl/VJteQRs7bChKy1dT8	10 AM to 5 PM
3	Lodhi Road	20 Meters from Palika Niwas, Lodhi Road, New Delhi 110003 https://maps.app.goo.gl/oCzKLujqZt7opYvV6	10 AM to 5 PM
4	Todar Mal Lane	20 Meters Modern School Gate No. 5, Todar Mal Lane, New Delhi 110001 https://maps.app.goo.gl/hoNCnsYBo6M97eai6	10 AM to 5 PM
5	Kautilya Marg	40 Meters from Indonesia Embassy, New Delhi 110021 https://www.google.com/maps?q=28.6011661,77.1958472&z=17&hl=en	10 AM to 5 PM
6	E Block, Connaught Place	20 Meters from Pasupati Acrylon Ltd Middle Circle, Connaught Place, New Delhi 110001 https://maps.app.goo.gl/U2DyPEQex5zk2cxu9	10 AM to 5 PM
7	H.C. Mathur Lane	25 Meters from P&T Quarters or BSNL (Lal Building), New Delhi 110001 https://maps.app.goo.gl/GXLdoSvV3VDK27JR9	10 AM to 5 PM
8	Gate No. 3, Major Dhyan Chand Stadium	50 Meters from Delhi High Court, Shershah Road, New Delhi 110001 https://www.google.com/maps?q=28.6096815,77.2378625&z=17&hl=en	10 AM to 5 PM

***To Contact the MMRFs cum RRR Centres, call +91 8826272236**



Across Indian cities, long-standing community repair and reuse systems keep materials in circulation and reduce the load on municipal waste systems. Strengthening these practices can significantly advance zero-waste goals. This is what the NDMC is working towards.

KEY TRADITIONAL REPAIR AND REUSE SERVICES INCLUDE

- **Tailors, darzis, and rafoogars** who extend garment life through mending, resizing, patching, and refurbishing.
- **Mochis (cobblers)** who repair and reinforce footwear, preventing early disposal.
- **Utensil and appliance repair shops** that keep household items functioning rather than being replaced.

Together, these everyday repair and reuse traditions form a quiet but powerful foundation for circular living. When communities recognise and strengthen these local skills and services, waste begins to shrink at its very source and materials keep finding their way back into use. A zero-waste system is not built by infrastructure alone; it grows from the choices people make, the hands that mend, and the neighbourhood networks that keep resources moving in thoughtful loops.

3.12 Your Health and Waste

Managing our waste correctly isn't just a hygiene or aesthetics solution. Mismatched waste directly and indirectly impacts one's health in the long and short term.

SHORT-TERM HEALTH IMPACTS

DISEASES DUE TO LACK OF SANITATION

- Poor sanitation and accumulated waste is ideal breeding ground for disease-causing insects and pests.

WATER & SOIL CONTAMINATION

- In landfills, mixed waste releases leachate which contains toxins and heavy metals that pollute soil and groundwater. With rain, the pollutants spread further.

AIR POLLUTION FROM OPEN WASTE BURNING & LANDFILL FIRES

- Methane released from landfills, is highly flammable, and causes landfill fires.
- Mixed waste in landfills contains hazardous substances, e-waste, sanitary waste, plastics, all of which burn together.
- Waste burning releases black carbon, dioxins, heavy metals and other toxicants.
- These are linked to skin lesions, cancer, birth defects, heart disease, respiratory, immunological, and neurological disorders.

DID YOU KNOW?

- Eggs from chickens that forage around waste yards and plastic burning sites have been found to contain high levels of persistent organic pollutants (POPs) which have been linked to cancers, neurological, immune and reproductive disorders.

LONG-TERM HEALTH IMPACTS

MICRO & NANOPLASTICS

- Micro & nanoplastics have been found in the human blood, stomach, lungs, & even placenta.
- They easily penetrate human body cells, leading to cytotoxicity, metabolic disturbances & DNA damage, contributing to various diseases.

GLOBAL WARMING

- Organic waste in landfills is the 3rd largest anthropogenic source of methane emissions globally, causing global warming.
- Heatwaves, floods, droughts, food shortage and other disasters due to global warming have direct impacts on human health and wellbeing.

INDIRECT HEALTH IMPACT

THINK ABOUT IT

- The take-make-throw system of consumption leads to a huge waste of resources. Better managed waste allows resources to go back into a reuse, repair or recycle loop.
- This preserves raw materials, electricity and water - reducing mining, deforestation and freshwater depletion - all of which impact human and environmental health.

3.13 Our Role Beyond Waste Segregation

Ensuring better waste management in our cities is a collective responsibility. As consumers, we have the potential to make a tremendous impact on our city's waste landscape by reducing our consumption, prolonging the use of products, and enabling effective waste management by practicing source segregation. But there are a few more activities that we can engage in to further strengthen our city's waste management. Here are 6 simple steps:



HAVE YOU EVER NOTICED THAT PERSON ON A CYCLE CALLING OUT “KABARI”?

He is not to be ignored! He will buy your ghee tins, glass bottles, newspapers and even your old cooler. Then he will sell it for recycling. When you hand over your recyclable waste to him, instead of throwing it away, he ensures that the majority of it is recycled.

This person is one of India's greenest - his cycle is pollution free, his occupation keeps our cities clean, keeps recyclables out of landfills, and fights climate change. Don't ignore him. Sell him your waste, and if you like, give it off for free. You can always enable him to get a colony pass to make his work smoother and for your colony to be a little closer to being zero waste!

An extra tip: He will even come to you in the intense heat. Offer him some water while he's there.



MEET JHARNA

A resident of Vivekananda camp, in Chanakyapuri, Delhi, Jharna worked as an informal waste collector. With limited income, livelihood insecurity and lack of workplace safety, it was difficult for her to meet her daily household requirements, while raising a family of 4. In 2019, Chintan stepped in, provided her with training on the different types of waste, correct segregation and waste handling practices, recycling and its importance, low-value plastics, and e-waste handling.



Two years later, Jharna was handed over the responsibility of managing the Micro Material Recovery Facility (MMRF) at Kautilya Marg in Delhi. Now, her daily work involves organizing and segregating waste that arrives at the MMRF. She ensures that recyclables such as paper, plastic, and metal are sorted and sent to authorized recyclers. To make the process more efficient, she introduced the use of cardboard cartons at the MMRF to store different categories of waste separately, making segregation easier and more systematic.

She also collects and manages low-value plastic, which is often ignored in the recycling chain. By ensuring that this material is properly sorted and sent for recycling, she not only helps

reduce landfill waste but has also created an additional source of income for herself. Her one complaint is that people forget how unsafe it is for her when they don't segregate their waste properly into 4 categories.

Jharna has two sons who are currently studying in grades 8 and 10. The stable income from her work at the MMRF helps her support their education and meet household needs.

Jharna's role in managing the MMRF has strengthened the efficiency of the facility and contributed to a cleaner environment in the surrounding areas.

Nearly 400 people like Jharna work in the NDMC, managing and recycling, often re-using the waste people discard. They can recycle upto 20% of the waste generated. They are called wastepickers, and are considered India's best Green Warriors, because of their role in keeping waste recycled and cities cleaner. Their work also fights climate change. Some of them are now old, but keep working. The Government of India mandates their inclusion in all plans for waste management, and also gives them social security under the NAMASTE scheme. The next time you see a wastepicker, ask them about their work and learn how to support them.



CONCLUSION

Everyone generates solid waste - a little or a lot. Our new Solid Waste Management Rules, 2026, show us how important it is to take ownership - as individuals, communities, bulk waste generators and brand owners, to reduce and manage waste correctly and scientifically. The NDMC is here to take the lead in managing it, but we need all of you to be part of it.

GLOSSARY



Biodegradable	Any organic material that can be degraded by micro-organisms into simpler stable compounds.
Bio-methanation	A process which entails enzymatic decomposition of the organic matter by microbial action to produce methane-rich biogas.
Climate Change	Long-term changes in Earth's climate, primarily caused by the increase in greenhouse gas emissions.
Compost	A nutrient-rich soil amendment made from decomposed organic materials.
Decentralised processing	Establishment of dispersed facilities for maximizing the processing of wet waste or horticulture waste as well as segregation and sorting of dry waste, sanitary waste, and special care waste closest to the source of generation so as to optimize transportation of waste for recycling or processing or disposal.
Dry Waste	Waste other than wet, waste sanitary waste, special care waste and includes recyclable waste and non-recyclable waste.
E-waste	Electronic waste, such as computers, laptops, phones, televisions, printers, and other electronic devices.
Extended Producer Responsibility (EPR)	A policy that requires manufacturers and importers of products to take responsibility for the end-of-life management of their products, including collection, recycling, and disposal.
Greenhouse Gas (GHG)	A gas that traps heat in the atmosphere, contributing to climate change.
Horticultural waste	Plants-based waste from parks, gardens, traffic islands, road medians, etc. including grass and wood clippings, weeds, pruning, branches, twigs, wood chipping, straw or dead leaves and tree trimmings, which cannot be accommodated in the daily collection system for wet waste.
Itinerant Buyers	A person who moves around the streets buying (or bartering for) reusable and recyclable materials.

Landfill	A large designated area for the disposal of waste.
Leachate	The liquid that seeps through solid waste or other medium and has extracts of dissolved or suspended material from it.
Material Recovery Facility	A facility where solid waste other than wet waste and horticulture waste, can be temporarily stored by the local body or any entity authorised by local body to facilitate segregation and sorting of collected waste including biodegradable plastic as well as compostable plastic, and transfer of recyclables and non recyclables to authorised recyclers or waste processors from various components of waste. Micro MRFs are those that are deemed small in area.
Microplastics	Tiny pieces of plastic (smaller than 5 mm) that can harm all the living organisms and pollute the environment.
Micro Material Recovery Facility (MMRF)	A facility for segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity before the waste is delivered or taken up for its processing or disposal.
Municipal Solid Waste (MSW)	Domestic waste, commercial waste, institutional waste, market waste and other non residential wastes, street sweepings, silt removed/collected from the surface drains, horticulture waste, construction and demolition (C&D) waste and treated bio-medical waste excluding industrial hazardous waste, and e-waste generated in any municipal authority area in either solid or semi-solid form.
Non-biodegradable waste	Any waste that cannot be degraded by micro-organisms into simpler stable compounds.
Recycling	The process of transforming segregated non-biodegradable solid waste into new material or product or as raw material for producing new products which may or may not be similar to the original products.
Reduce	Using fewer resources and generating less waste.
Reuse	The use of a product more than once in its same form for the same purpose; e.g., a soft drink bottle is reused when it is returned to the bottling company for refilling.
Sanitary waste	Waste comprising of used diapers, sanitary towels or napkins, tampons, condoms, incontinence sheets and any other similar waste.
Single-use Plastic	Plastic items that are designed to be used only once and then thrown away, such as plastic bags, straws, and cutlery.
Special Care Waste	Waste that can be harmful to human health or the environment, such as batteries, chemical containers, sharps, CFLs, etc..

WASTE WISE CITIZENS

Solid Waste Management (SWM)

Environmentally sound management of solid waste such as dry waste, wet waste, special care waste, sanitary waste, horticultural waste as well as sanitary landfill management and existing or legacy waste dumpsite remediation.

Sorting

Separating various components and categories of recyclables and non-recyclables such as paper including paperboard, plastic, metal, glass, etc., from waste as may be appropriate to facilitate recycling or processing or disposal.

Waste generator

Every person or group of persons, every residential premises and non-residential establishments including Indian Railways, defense establishments, which generate solid waste.

Waste Segregation

Sorting and separate storage of various components of solid waste namely wet waste including agriculture and dairy waste, dry waste including recyclable waste, non-recyclable combustible waste, sanitary waste and non-recyclable inert waste, special care waste, and construction and demolition waste.

Wastepicker

A person or groups of persons informally engaged in collection and recovery of reusable and recyclable solid waste from the source of waste generation including the streets, bins, material recovery facilities, processing and waste disposal facilities for sale to recyclers directly or through intermediaries to earn their livelihood.

Wet Waste

Organic waste including kitchen waste, food waste, vegetable waste, meat waste, fruits waste, flower waste, and such similar waste and biodegradable waste.

REFERENCES



1. Ministry of Environment, Forest and Climate Change, Press Information Bureau, Government of India, <https://www.pib.gov.in/PressReleaseFramePage.aspx?PRID=2003989>
2. Cotton, J.W., Cook, E. & Velis, C.A (September 4, 2024). A local-to-global emissions inventory of macroplastic pollution. *Nature*. <https://doi.org/10.1038/s41586-024-07758-6>
3. UNDP (2023), <https://www.undp.org/kosovo/blog/microplastics-human-health-how-much-do-they-harm-us>
4. Atin Biswas and Shailshree Tewari (2022), Sanitary Waste Management in India: Challenges and Agenda, Centre for Science and Environment
5. Fashion for Good (November 2021), Wealth in Waste: India's Potential to Bring Textile Waste Back into The Supply Chain, https://www.fashionforgood.com/our_news/wealth-in-waste-indias-potential-to-lead-circular-textile-sourcing/
6. IUCN (2017) Primary microplastics in the oceans, <https://portals.iucn.org/library/sites/library/files/documents/2017-002-En.pdf>
7. Vivobarefoot (2020), https://www.vivobarefoot.com/media/wysiwyg/pdf/black_friday_revivo.pdf
8. Ministry of Environment, Forest, and Climate Change (November 2, 2022). E-Waste (Management) Rules, 2022. https://cpcb.nic.in/uploads/Projects/E-Waste/e-waste_rules_2022.pdf
9. Ministry of Environment, Forest, and Climate Change (July 27, 2023). Generation of E-Waste. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1943201>
10. ASSOCHAM & NEC. (June 4, 2018). India among top five countries in e-waste generation: Study. *India Today*. <https://www.indiatoday.in/india/story/india-among-top-five-countries-in-e-waste-generation-finds-study-1249937-2018-06-04>
11. DTE Staff (March 2025), Turning paper to purpose: A cycle of hope for India's recycling industry, *Down To Earth*, <https://www.downtoearth.org.in/waste/turning-paper-to-purpose-a-cycle-of-hope-for-indias-recycling-industry>
12. Navin Singh Khadka (March 2019), Why India is a world leader in waste paper, *BBC News*, <https://www.bbc.com/news/world-asia-india-46641059>

13. The Hindu Bureau (August 2023), No forests cut for manufacturing paper: IPPTA, The Hindu, <https://www.thehindu.com/news/national/karnataka/no-forests-cut-for-manufacturing-paper-ippta/article67149990.ece>
14. Sneha Patro (September 2022), How India's Metal Scrap Recycling Industry Growing, Business World, <https://www.businessworld.in/article/how-indias-metal-scrap-recycling-industry-growing-447133>
15. Richa Singh (2022), Domestic Hazardous Waste: An Approach Towards Scientific Collection, Treatment and Disposal in India, Centre for Science and Environment
16. ibid
17. Breaking the Plastic Wave (2020), <https://www.pew.org/en/research-and-analysis/articles/2020/07/23/breaking-the-plastic-wave-top-findings>



MESSAGE

NEW DELHI MUNICIPAL COUNCIL

The New Delhi Municipal Council (NDMC) appeals to all residents, RWAs, market associations, institutions, embassies, commercial establishments and visitors in the NDMC area to actively partner with us in maintaining the highest standards of cleanliness and sustainability in the national capital. However, the true success of cleanliness efforts depends on citizen participation. Therefore, NDMC requests all citizens to:

- Segregate waste at source into wet, dry, domestic hazardous and sanitary waste.
- Promote home and community composting wherever feasible.
- Avoid littering and use designated bins in markets, parks and public spaces.
- Refrain from open dumping of construction and demolition waste.
- Reduce use of single-use plastics and promote reuse and recycling.
- Support sanitation workers and cooperate during cleanliness drives.
- Report any sanitation-related issue promptly through the NDMC 311 App.

NDMC has developed model zero-waste "Anupam Colonies" and strengthened waste-to-energy, composting and recycling systems. We urge all citizens to adopt similar practices in their colonies and establishments.

Let us work together to preserve NDMC's legacy as a clean, green and sustainable capital city and set an example for the nation.

Clean NDMC is our collective responsibility. Your participation makes the difference.

CONTACT INFORMATION

NEW DELHI MUNICIPAL COUNCIL (NDMC)

Palika Kendra,
Parliament Street,
New Delhi - 110001
Tel: 24/7 Helpline
(Toll Free): 1533

Email:
care@ndmc.gov.in
Website:
www.ndmc.gov.in

CHINTAN ENVIRONMENTAL RESEARCH AND ACTION GROUP

238 Sidhartha Enclave,
New Delhi - 110014

Email:
info@chintan-india.org
Website:
www.chintan-india.org