

Extended Producer Responsibility and Plastic Waste Management

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Manifest pedagogy

Issues related to plastic management finds mention in both prelims and mains. The acts/regulations/provisions are the potential areas for prelims. The broad policy framework and its implications can be asked from mains perspective. Various dimensions with emphasis on environmental and economic aspects of plastic waste management should be prepared

In news

- CPCB sends 52 producers notice over Extended Producer Responsibility violation

Placing it in syllabus

- **Environmental conservation**

Static dimensions

- Status of plastic usage in India
- Microplastics
- Central pollution control board (CPCB)

Current dimensions

- Regulation of plastic – plastic waste management rules -2016
- What is Extended Producer Responsibility
- Current issue

Content

Recently the CPCB has pulled up 52 companies – including Amazon, Flipkart, Danone Foods and Beverages and Patanjali Ayurveda Limited for not specifying a timeline or a plan to collect the plastic waste that results from their business activities. The Plastic Waste Management (PWM) Rules, 2016, (which was amended in 2018) prescribed by the Union Environment Ministry, says that companies that use plastic in their processes packaging and production have a responsibility to ensure that any resulting plastic waste is safely disposed of.

Status of plastic usage in India

According to a September 2017 report by the CPCB, which extrapolated data from 60 major cities, the country generates around 25,940 tonnes of plastic waste a day. About 94 per cent of this comprises thermoplastic, such as PET (polyethylene terephthalate) and PVC (polyvinyl chloride), which is recyclable. The remaining belongs to thermoset and other categories of plastics, such as sheet moulding compound (SMC), fibre reinforced plastic (FRP) and multi-layer thermocol, which are non-recyclable.

According to the latest report on the Implementation of PWM rules published in 2016, the plastic waste generated across the country is close to 1.6 million tonnes a year, with almost half of it coming from **Maharashtra and Gujarat**. According to industry body FICCI, 43 per cent of India's plastics are used in packaging and are single-use plastic. **Consumption has clearly outstripped India's capacity to recycle**. A recent study shows over 90 per cent of the total plastics that end up in the ocean comes from rivers in Asia and China. It identifies the Ganga and Indus as the major sources in South Asia



Over the past two decades, 25 of the 29 states and several Union Territories have tried to regulate the use of plastics. India's first attempt at tackling the menace of plastic waste came in 2011 when the government notified the Plastic Waste (Management and Handling) Rules, 2011. The policy sought to dis-incentivise the use of poly bags by setting up a pricing mechanism for them and also to establish rules for recycling by local authorities. The Rules were replaced with a stronger PWM Rules, 2016. These rules were again amended in 2018.

Microplastics

Microplastics are tiny plastic particles up to 5mm in diameter. Marine litter, especially plastic debris in the ocean is a major global environmental issue. Seawater is contaminated with a wide variety of organic and inorganic pollutants. Many plastics absorb organic contaminants, such as the pesticide DDT and polychlorinated biphenyls (PCBs), to a high degree. These compounds can pass through the food chain and cause chronic human health effects, including disruption of the hormonal system inducing genetic changes and cancer.

Microplastics are included in personal care products such as toothpaste and skin care products. In some cases microplastics have replaced natural ingredients, such as pumice or ground seeds and shells in skin cleansers and scrubs. They tend not to be filtered out during sewage treatment, but to be released directly to the ocean or other water bodies such as lakes and rivers.

Central Pollution Control Board (CPCB)

- The CPCB is a statutory organisation, constituted in September, 1974 under the **Water (Prevention and Control of Pollution) Act, 1974.**
- Further, CPCB was entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.

- It serves as a field formation and also provides technical services to the Ministry of Environment and Forests of the provisions of the Environment (Protection) Act, 1986.

Principal Functions of the CPCB

1. To promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution,
2. To improve the quality of air and to prevent, control or abate air pollution in the country.

Plastic waste management (PWM) rules, 2016

- *Increasing the minimum thickness* of plastic carry bags from 40 microns to 50 microns.
- *Responsibility of local bodies* Rural areas are brought under the rules since plastic has reached rural areas as well. The gram sabhas have been given responsibility of implementation.
- *Extended Producer Responsibility* Earlier, EPR was left to the discretion of the local bodies. First time, the producers and brand owners have been made responsible for collecting waste generated from their products.
- *Record Keeping* Producers are to keep a record of their vendors to whom they have supplied raw materials for manufacturing. This is to curb manufacturing of these products in unorganised sector.
- *Responsibility of waste generator* All institutional generators of plastic waste shall segregate and store the waste generated by them in accordance with the Rules, and handover segregated wastes to authorized waste disposal facilities.
- *Responsibility of street vendors and retailers* Not to provide such carry bags or fine would be imposed. Only the registered shopkeepers on payment of a registration fee to local bodies would be allowed to give out plastic

carry bags on charge.

- *To promote the use of plastic for road construction or energy recovery.*

Plastic Waste Management (Amendment) Rules, 2018

- The amended Rules lay down that the phasing out of Multilayered Plastic (MLP) is now applicable to MLP, which are “non-recyclable, or non-energy recoverable, or with no alternate use.”
- The amended Rules also prescribe a central registration system for the registration of the producer/importer/brand owner.
- Any mechanism for the registration should be automated and should take into account ease of doing business for producers, recyclers and manufacturers.
- The centralised registration system will be evolved by CPCB for the registration of the producer/importer/brand owner. While a national registry has been prescribed for producers with presence in more than two states, a state-level registration has been prescribed for smaller producers/brand owners operating within one or two states.

Extended Producer Responsibility (EPR)

Extended Producer Responsibility is a legislative strategy used by most industrialised nations to promote reuse, recycling, and eco-friendly disposal of polymer waste. **EPR assigns the responsibility of disposal of this waste to the manufacturer of the goods.** For example, disposal of flexible packaging used for food items, consumer goods, and water bottles is assigned to consumer goods manufacturers. Similarly, the responsibility of disposal of waste tires disposal responsibility is assigned to the tire manufacturing companies under EPR.

At the centre of EPR lies a closed loop approach to manage

products, whereby waste generated from a product is used to produce another product. This approach ensures the price of the product includes the cost of its safe disposal. Therefore, this approach significantly reduces the environmental impact of the waste as well as leads to lower cost of production for the new product.

In practice, if a manufacturer introduces 100MT of polymer packaging material in the market, then it is responsible for collection and disposal of 100MT of post consumer plastic waste. The company may also delegate this responsibility to a **Producer Responsibility Organization (PRO)**. A PRO is paid by the manufacturer for collection and safe disposal of plastic waste. Since EPR has shifted the burden of waste disposal from governments to these product manufacturers, it has driven the adoption of innovative product and packaging strategies leading to reduction in plastic waste



Broadly, plastic waste can be classified into **recyclable and non-recyclable waste**.

Recyclable plastic waste can be physically recycled using technologies such as remoulding. Examples of this type of plastic waste include segregated and more than 95% pure Polyethylene, Polypropylene (PP) plastic waste. End-of-life plastic waste cannot be physically recycled. Examples of this type of plastic waste include Post consumer laminate waste (PCLW). This plastic waste can not be physically recycled by remoulding and incineration of such plastic waste is banned in most developed countries. Hence chemical recycling of this plastic waste by pyrolysis or hydrolysis is the only way for disposal of this end-of-life plastic waste.

EPR is applicable in India from 2018. Each company submitting its EPR plan must now recover 20% of the Multilayered Plastic (MLP) it produces within a year, and 100% within three.

Current issue

In spite of these laws, India has made little progress in managing its plastic waste. According to CPCB estimates in 2015, Indian cities generate about 15,000 tonnes of plastic waste per day and about 70 per cent of the plastic produced in the country ends up as waste. Nearly 40 per cent of India's plastic waste is neither collected nor recycled and ends up polluting the land and water.

The National Green Tribunal earlier this year hauled up 25 states and union territories for not following its orders on submitting a plan by April 30, 2019, on how they would comply with the PWM Rules of 2016. They stand to potentially pay a fine of Rs 1 crore.

Now CPCB has hardened its stance on plastic packaging and has asked 52 companies from nine industries to submit their EPR plan, in accordance to the PWM rules, 2016. Non-submission of EPR plans can attract action under the Environment Protection Act (EPA), 1986 and the National Green Tribunal (NGT) Act, 2010.

In addition, the March 27, 2018 amendment to PWM rules substituting *"non-recyclable multilayered plastic"* with *"multi-layered plastic which is non-recyclable or non-energy recoverable or with no alternate use"* has further weakened the rules. This gave producers an escape route by claiming that the packaging material, if not recycled, can be put to some other use. MLP manufacturers used this loophole to continue to use the material.

So far, EPR implementation in India under the rules is far from satisfactory, except for some who have been collecting waste through PROs. With 20 registered PROs with CPCB, the EPR responsibility of the producer is shifted to a PRO. This has increased the quantum of waste diverted from landfills or oceans.

An ideal EPR framework should be an integration of all stakeholders. Also, a sustainable infrastructure based on source segregation needs to be developed by producers. Since waste management is civic bodies' primary responsibility, support by producers can help ensure more sustainable waste management practices. India was the global host of 2018 World Environment Day with the theme "**Beat Plastic Pollution**". To beat this crisis, proper vision and political will is required. The solution to India's problems with plastic waste can be addressed through targeted investments in recycling and ensuring sustained effort to cut down consumption