

Aswachch Bharat

*Why India can't beat the plastics crisis
without the cooperation of corporations*



This report is an independent investigation and an addendum to
Talking trash - the corporate playbook of false solutions to the plastic crisis
published by the Changing Markets Foundation (September 2020)

By Dharmesh Shah

The information in this document has been obtained from sources believed reliable and in good faith but any potential interpretation of this report as making an allegation against a specific company or companies named would be misleading and incorrect. The authors accept no liability whatsoever for any direct or consequential loss arising from the use of this document or its contents.

This report was written and researched by Dharmesh Shah in collaboration with the Changing Markets Foundation

Published in September 2020



www.changingmarkets.org
www.talking-trash.com

Designed by Pietro Bruni - toshi.ltd
Printed on recycled paper

Introduction

The plastic pollution crisis is a climate crisis, a biodiversity crisis, a public-health crisis and a crisis of accountability blended into one. Yet, regardless of the increased awareness, plastic production is skyrocketing - expected to double by 2030 - and, despite all the talk of clean-ups and recycling, plastics keeps ending up in our mountains, rivers and oceans.

In the face of public ire, those deemed truly responsible for flooding the world with plastic pollution - fossil-fuel companies, consumer-goods companies, packaging producers and retailers - have rapidly coalesced to form a glut of individual or group initiatives aimed at tackling the problem. On the surface, they appear to be championing solutions to the crisis; our report *Talking Trash: The corporate playbook of false solutions to the plastic crisis* reveals that, behind the scenes, they are doing everything they can to protect their profits and continue pumping out single-use consumer products and packaging.

This briefing investigates the actions of the plastic industry, consumer brands and other companies in India, which is suffering under the scourge of plastic pollution. According to the Central Pollution Control Board (CPCB), 60 major cities in the country generate around 25,940 tons of plastics, of this around 60%¹ is recycled mainly by the informal sector while the rest (approximately 9,400 tons) ends up in the environment.² These numbers are perhaps a highly conservative reflection of the reality on the ground. India's leading plastic industry body, Plast India Foundation, has estimated an annual consumption of 16.5 million tonnes (2017-18). A staggering 43%, or 7 million tons,³ of this is single-use and packaging plastics that has no recycling value.



| *Plastic pollution in the Ladakh region of the Himalayas*

| *Credit: Shailendra Yashwant*

The problem with multilayered packaging

From aeroplanes, electronics and insulation to medical equipment, furniture and ubiquitous packaging, plastic permeates every aspect of our lives. Production has skyrocketed – from just 2.3 million tonnes in 1950 to 162 million tonnes in 1993, which more than doubled to 448 million tonnes by 2015⁴ – and half of all plastics ever made have been produced since 2005.⁵

The sheer volume of plastic has overwhelmed the waste-management systems designed to contain it, pouring out into the natural world at a rate of 8 million tonnes a year, or one garbage truck per minute.⁶ Here, it saturates almost every surface of the planet – from the deepest abysses to the highest mountains and remotest islands – causing an unprecedented crisis for wildlife.⁷ What makes plastic ideal for convenience and durability makes it a nightmare for nature, and it has become infamous for choking, ensnaring and poisoning everything from plankton to porpoises. Images of dead whales stuffed with plastic bags, seals garrotted by netting, turtles’ noses impaled by straws, albatross chicks starved from being fed plastic fragments, and seas swelling under layers of bottles and other plastic detritus are published daily. Just as insidious are the plastic particles we cannot see. Microplastics and plastic fibres smaller than 5mm slough off from polyester clothing, car tyres, fragmented packaging and even when we open plastic containers.⁸ These easily enter the food chain when ingested by plankton or insects,⁹ and even contaminating fruits and vegetables,¹⁰ working their way directly and indirectly into our lungs, stomach and bloodstream.¹¹

The exact effects of microplastics in the human body are still unclear, but studies on animals suggest they leach harmful toxic chemicals and hormone disruptors, and can even cross the blood-brain barrier.^{12,13} Our rate of literal plastic consumption is alarming – it is estimated that we ingest a credit card’s worth of plastic each week.¹⁴ But it is not just in the food we eat, the water we drink and the air we breathe that plastics cause us harm. The consequences of mismanaged waste – including plastics – to human health have become a silent and toxic crisis, killing between 400,000 and 1 million people each year in low- and middle-income countries.¹⁵ Indeed, from extraction and production to use and disposal, the entire life cycle of plastic poses serious toxic risks to human health, contributing to cancer, neurotoxicity, reproductive issues, endocrine disruption and genetic problems on a global scale.¹⁶ Our mismanagement of plastics is also a major economic failure. The negative externalities associated with plastics tally up to a conservative estimate of \$40 billion annually – for example, through degrading the natural environment, hampering infrastructure or harming people’s health¹⁷ – a cost predominately borne by low-income communities.

Packaging is the largest end-use market segment for plastics, accounting for just over 40% of total usage, most of which is single use.¹⁸ By throwing away 95% of packaging of material value after just one use, an estimated \$80–120 billion is being lost to the global economy on a yearly basis.¹⁹ Since plastic production took off in the 1950s, just 9% of all plastic has been recycled, while 12% has been incinerated and 79% has ended up in landfills or the natural environment.

In the South Asian context, it is Multi-layered packaging (MLP) that contributed significantly to the plastic pollution crisis. MLP uses a variety of plastics, primarily Polyethylene (PE), Polypropylene (PP), Polyvinylchloride (PVC), and PET. However, PE and PP account for ~ 62% of polymer usage in the flexible or multi-layered packaging industry.²⁰



Waste workers in Kollam, India

Credit: Shailendra Yashwant

Plastic industry tactics to derail unfavourable legislation in India

The several functional benefits offered by multi-layered plastics makes it the preferred material for the food, beverage and FMCG industries. In India, the food processing sector accounts for ~9% of the total manufacturing industry²¹ and roughly 9% of plastic waste.

However, the complex composition also poses significant challenges to recycling and disposal. An additional problem with multi-layered packaging is that it has been pushed by the industry as a way to improve access to their products in affordable small quantities, despite the prior existence of affordable, environmentally friendly reuse and refill systems, and the fact that plastic sachets saddle communities with a serious waste issue.

Talking Trash shows how the plastics industry has used different tactics to distract, delay and derail unfavourable legislation. Industry delaying tactics include lobbying to delay unfavourable legislation, to protect the status quo for longer and to remain primed for future opportunities to influence or weaken legislation.

Delaying tactics go hand in hand with a campaign of distraction, which include fixating on sticking-plaster solutions, like beach clean-ups, token projects to deal with the issue, promoting recycling without mandatory collection; claiming plastic products are more recyclable than they actually are; touting other single-use alternatives, such as bio-based, biodegradable or compostable plastics; pushing magical

Plastic industry tactics to derail unfavourable legislation in India

technological solutions, such as chemical recycling; funding studies engineered to support their point of view; and widely publicising their green credentials to consumers through well-funded media and advertising campaigns.

Finally, the industry is constantly watching for chances to derail legislation before it sees the light of day. Many consumer brands and other companies in the plastics supply chain have direct lobbyists influencing governments around the world; their interests are also indirectly represented through numerous trade associations and other organisations established or funded to influence policy, weaken enforcement and even cynically misdirecting legislation by promoting measures that do not address the problem at source.

This section will show how these tactics play out in the context of plastic legislation and voluntary commitments of corporations active in India.

Indian policies on plastic waste management have been evolving in response to the growing nature of the crisis. The country’s first law on plastics was announced in September 1999 with an aim to restrict the use of plastic carry bags (20 microns and less) and prevent the packing of food in recycled plastic.²² The 1999 rules were amended in 2003 with the aim to dilute the restriction on carry bags but with a caveat mandating registration of manufacturing units with regional pollution control authorities.²³ Eventually as the plastic crisis moved beyond carrier bags, the government announced the draft Plastics (Manufacture, Usage and Waste Management) Rules in 2009. The 2009 draft rules were relatively ambitious, as it was the government’s first attempt at regulating the unrestricted use of multi-layered plastics for packaging. The deliberations on the 2009 draft spanned over the course of a year and the final rules were notified in February 2011 as the Plastic Waste (Management and Handling Rules, 2011).²⁴

However, in its final iteration, the expert committee reviewing the draft dropped the restrictions on multi-layered plastics following representations from the Indian Institute of Packaging (IIP) and the Federation of Indian Chambers of Commerce and Industry (FICCI) – (See Box 1).²⁵ The IIP is an autonomous body under the Ministry of Commerce and Industry but it solicits members from the plastic industry. IIP’s current membership base comprises of 593 companies which includes lifetime members like Hindustan Coca-Cola Beverages Pvt. Ltd., Hindustan Unilever Ltd., Colgate Palmolive India Ltd., ITC Ltd., Procter & Gamble among others.²⁶ Its lifetime and patron membership fund currently amounts to Rs.15 crores (approx. US\$2,700,000).²⁷

Watering down legislation

A comparison of the Clause 5 of Draft Plastics (Manufacture, Usage and Waste Management) Rules 2009 which became the final Plastic Waste (Management and Handling Rules, 2011) in conjunction with the deliberations of the expert review committee.

2009 draft - Clause 5 (f) no person shall manufacture; stock, distribute or sell non-recyclable laminated plastic or metallic pouches, multi-layered packagings, and other non-recyclable plastics.²⁸

Expert Committee - Clause 5 may be read as “ No persons shall manufacture, stock, distribute or sell multilayer plastics including material unless it complies with the provision of Rule (6 on informal sector inclusion)” by adding “ plastics including” and deleting “packaging”.

2011 Rules final notification - Clause 5 (f) deleted in entirety and replaced with provision on compostable carry bag standards.

The inefficacy of the 2011 rules became clear as India’s plastic consumption rose from 8.5 million tons per year to 17.8 million tons per year in 2017.²⁹ Eventually, the launch of the Swach Bharat Abhiyan (Clean India Mission) laid the foundation for the next iteration of the rules. The Plastic Waste Management (PWM) Rules were notified in March 2016 to supersede the Plastic Waste (Management & Handling) Rules, 2011.³⁰ The 2016 rules were hailed as the most progressive because of its emphasis on the responsibility on manufacturers

and brand owners. Furthermore, they also proposed a comprehensive framework on Extended Producer Responsibility (EPR). The rules were also dubbed as the boldest for proposing a controversial two year phase out deadline for all multi-layered plastics used in packaging. The clause 9(3) of the rules stated that; “*manufacture and use of non- recyclable multi-layered plastic if any should be phased out in two years’ time*”.

According to environmental groups fighting plastic pollution, the 2016 rules were a landmark legislation that promised to push the complacent industry towards adopting alternative packaging and delivery mechanisms. However, the rules were rendered toothless via a crucial amendment in 2018.³¹ The Plastic Waste Management (Amendment) Rules, 2018 specifically targeted the clause 9(3). The amendment proposed substituting the phrase ‘*non-recyclable multi-layered plastic if any*’ with ‘*multi-layered plastic which is non-recyclable or non-energy recoverable or with no alternate use*’.

The 2018 amendment was the result of intense and effective lobbying by the plastic industry bodies like All India Plastic Manufacturers Association (AIPMA) and the PET Packaging Association for Clean Environment (PACE). Internal deliberations of the ministry also go on to expose the stronghold of the plastic industry on policy making. A committee formed under the aegis of the Ministry of Environment, Forests and Climate Change in 2017 deliberated upon the challenges faced in implementation of the Plastic Waste Management Rules 2016. In its recommendations report of November 2019 the committee made the following observations on clause 9(3) of the 2016 rules – “*In the stakeholders meeting is was suggested that only non-recyclable and non-energy recoverable plastic should be banned. However, practically there is no plastic which is not recyclable or non-energy recoverable. Therefore, there is no need to ban Multi Layered Plastics.... The committee noted that MLPs are used world over and it is not banned anywhere. The committee also noted that MLPs perform a very important function, especially in the food processing industry. The committee was of the view that we should remove the Rule regarding banning of MLPs from the PW Rules. MLPs waste should be regulated and its use in WE plants, cement plant etc be promoted.*”³²

Another salient feature of the Plastic Waste Rules 2016 is that they empower state governments and urban local bodies to initiate action plans on plastic waste management. As a result 22 state governments have passed complete or partial ban legislations.³³

The state of Maharashtra passed the most comprehensive ban on plastic items targeting a range of single use plastic products including PET bottles of less than 200ml capacity and plastic bags with or without handles.³⁴

Maharashtra State Plastic and Thermocol Ban Notification 2018³⁵

- Ban on drinking water PET/PETE Bottles having liquid holding capacity Less than 200ml, Plastic Mineral Water Pouch.
- Ban on Plastic Bags with or without handle.
- PET/PETE Bottles having a liquid holding capacity of 200 ml and more than 200 ml (Printed with deposit and refund price or buy back price under EPR).
- Plastic material made up of minimum 20% recyclable plastic material & having a thickness more than 50 microns, used for wrapping the material at the manufacturing stage or integral part of manufacturing.
- Thermocol used for wrapping the material at manufacturing stage (printed with manufacturer’s details, type of plastic with code number and buy-back price under EPR).
- Plastic packaging material more than 50 micron thickness with minimum two grams weight used to seal groceries & grain products for wholesale & retail (printed with manufacturers details, type of plastic with code number and buy-back price under EPR).



Compressed plastic waste
Credit: Shailendra Yashwant

Corporate double standards and weak voluntary initiatives

Talking Trash shows how consumer goods companies, retailers and plastic manufacturers - faced with increasing public awareness of, and consumer backlash against, plastic pollution - have been quick to make a raft of voluntary and non-binding pledges to end plastic waste. While voluntary initiatives in themselves are not inherently bad - and, indeed, play an important role in some contexts - it is vital to challenge weak and misguided initiatives that hinder rather than help. This section looks at the commitments of the biggest plastic polluters in India and analyses why they fall short from tackling the problem - and even worse, how they are used to distract and delay legislation.

The Indian subsidiaries of multi-national corporations have developed their own set of voluntary initiatives that shy away from addressing the plastic crisis in any meaningful way. An overall analysis of the various commitments and voluntary programs reveal a lack of transparency in reporting the progress of such initiatives. For example, there is no way to independently verify the claims made by the companies about their recycling numbers. Furthermore, end-of-pipe solutions like cement kiln co-incineration and plastic downcycled into road construction material are passed off as “recycling”. Companies like PepsiCo and Coca-Cola, which have the highest plastic footprints, were found diverting the majority of their post-consumer waste towards downcycling applications like polyester staple fibre and yarn. In several instances, the financial commitments made for plastic waste initiatives were woefully small in comparison to both the revenue and waste footprints of the companies. Additionally, informal waste workers and waste pickers are an integral part of the recycling eco-system in countries like India, playing a crucial in ensuring that high value discards are recovered back into the system. Most companies have recognised this and seem to have developed programs that piggyback on the goodwill of the informal sector and help them whitewash their image in the process.

Furthermore, the Maharashtra legislation also proposed a first of its kind EPR buy back (See Box 2) scheme for PET/PETE, plastic and thermocol used in packaging (white goods and e-commerce items), and plastic packaging used to seal groceries and grains. The decision drew a lot of criticism from the plastics industry which was quick to form ad hoc lobby groups seeking relaxations. According to media reports representatives of companies, including Amazon, H&M, Pepsi and Coca-Cola, met Maharashtra government officials days before the ban came into effect on June 23 2018, urging them to implement the rule in phases and relax some norms.³⁶ In its letter dated June 7 2018, the industry association FICCI stated that “the plastic ban will not be without its own share of adverse environmental impacts which are largely driven by issues associated with the use of alternatives.”³⁷ FICCI’s members include Coca Cola, Amazon, Unilever, Nestle among others. Maharashtra’s SUP phase out plans currently stand suspended since the change of government and in light of the COVID pandemic. No review or audit reports on the efficacy of the ban are available. FICCI has been instrumental in delaying bans in the state of Kerala as well.³⁸

In March 2019, India piloted an ambitious resolution to phase out single use plastics by 2025 at the 4th session of UN Environment Assembly in Nairobi.³⁹ India also announced its own single use plastic ban by 2022. However, both these announcements were eventually diluted due to political and economic compulsions.^{40, 41}

Nestlé



In 2018, Nestle India launched its ‘Maggi wrapper return scheme’ which was piloted in the small hill towns of Dehradun and Mussoorie in collaboration with the GATI foundation.⁴² The projects goal is to encourage consumers to bring used packaging waste at Maggi drop off points across the town. The project also promised one pack of Maggi in return for ten waste plastic packets. Nestle has not published any progress reports or shared any expansion of this scheme in other regions. However, in a clear case of double standards the company, in its submissions to the New Plastics Economy Initiative, has declared that “*Nestlé Professional is introducing mono-material container (PP) for CHEF® and MAGGI® in Europe with 33% plastic reduction on average, jointly representing a reduction of 130 tonnes annually. MAGGI® containers have been changed from yellow and red color to white to increase the value of plastic waste sorted by recyclers. In India we are progressively moving to mono-material laminate starting with MAGGI Noodles and MUNCH chocolate bars.*”⁴³ There is no commentary on why high quality containers for Maggi cannot be introduced in India and we also note the absence of time commitment for the move towards mono-materials laminate.



Unilever

Unilever is the fifth biggest FMCG company (by revenue), with sales in over 190 countries reaching 2.5 billion consumers each day.⁴⁴ The company produces 700,000 metric tonnes of plastic per year, as reported to the New Plastics Economy Global Commitment.⁴⁵

In October 2019, Unilever and Coca-Cola launched a multi-city plastic waste management program in association with the United Nations Development Program. The program aims to develop a plastic waste collection mechanism in collaboration with the informal sector in 25 cities across the country.⁴⁶ A closer scrutiny of the annual work plan reveals that Coca-Cola and Unilever have allocated a modest budget of US\$1,371,793 (approx. INR 10.28 crores) and US\$286,897 (INR 2.15 crores approx) respectively.⁴⁷ By contrast, the annual advertising budget of Unilever in India between April to December 2018 alone was approximately US\$ 459.3 million (INR 3445 crores),⁴⁸ whereas Coca-Cola tripled its spending on the Indian Premier League sponsorship from INR 30 crores to INR 100 crores (US\$ 4,094,589 to US\$ 13,648,630).⁴⁹ The campaign so far claims to have collected 30,000 tons of waste and aims to reach 100,000 tons in due course,⁵⁰ – a negligible fraction of the 3 million tons the company generates globally per year.⁵¹ Moreover, the ultimate fate of the plastics collected through this program is for end-of-pipe applications like road construction⁵² and cement kiln co-incineration,⁵³ and not recycling back into the same product.

Colgate-Palmolive



Colgate-Palmolive India rolled out pilots for plastic recycling initiatives in the states of Gujarat and Maharashtra in 2018.⁵⁴ The company's annual report 2017-18 makes the following claim: *“more than 90% of the waste generated during the manufacturing process at the Company's plants is being diverted towards recycling. Company [sic] has also contracted with a waste management Service Provider entity named NEPRA Environmental Solutions Pvt. Ltd. The said Service Provider is responsible for collection, sorting, processing, and recycling of an uncontaminated multi layered packaging waste from the market. This will help in diverting the Industrial waste towards recycling and co-processing of the waste to avoid landfills. Also, the containers of our primary packaging material are reused and recycled. Most of the material used for transportation of primary and secondary packaging material is recycled and reused.”*⁵⁵ However, there are no progress reports divulging any further details on the quantity of materials recovered or the financial commitments made by the company so far.

Colgate-Palmolive along with Procter & Gamble and Unilever is also a member of the Indian Beauty & Hygiene Association's (IBHA) voluntary plastic waste task force. The 'zero-waste' plastic management project focuses on collecting, segregating and recycling post-consumer multi-layered plastics (MLP), which are considered to be difficult to collect and recycle. The project claims to have “recycled” a mere 55 tons of multi-layered plastics in 2019.⁵⁶



PepsiCo

PepsiCo's global plastic footprint is 2.3 million metric tonnes per year.⁵⁷ PepsiCo India's plastic waste management efforts span across a few initiatives. The company boasts 100% recovery and recycling of its PET bottles in the states of Maharashtra and Delhi.⁵⁸ In Maharashtra it has partnered with GEM Enviro Management

Pvt. Ltd., to set up 100 collection points in 36 districts of the state. However, in its official statement, the company spokesperson claims that *“PepsiCo has been actively working across multiple states to collect, segregate & sustainably recover 100 percent of its plastic packaging, towards effective plastic waste management by 2021.”*⁵⁹

GEM Enviro is a part of the Ganesha Ecosphere Ltd., which is India's leading recycled polyester staple fibre and spun yarn manufacturer. Effectively, the PET bottles recovered by GEM are downcycled into polyester fibre. Furthermore, the company websites or annual reports do not provide any evidence to corroborate recovery or recycling rates.

PepsiCo has also collaborated with NEPRA Environmental Solutions Pvt. Ltd., for a multi-layered plastic waste collection project in the state of West Bengal. The program aims to work with school students and encourage them to “donate” post-consumer multi layered plastic (MLP) at dedicated collections points in their schools. The company aims to collect 800,000kg of waste through the program.⁶⁰ PepsiCo is also a member of the Waste Efficient Collection and Recycling Efforts (We Care) initiative in New Delhi.⁶¹ The project aims to collect multi-layered packaging waste with the help of the informal sector and divert it to the Waste-to-Energy incinerator of East Delhi Municipal Corporation, Ghazipur, Delhi. The initiative does not have a website that provides further information.

The PepsiCo Foundation is also an anchor investor in Singapore-based investment management company, Circulate Capital, created to finance *“innovation, companies, and infrastructure that prevent the flow of plastic waste into the world's ocean while advancing the circular economy”*.⁶² According to media reports, Circulate Capital Ocean Fund has a corpus of US\$106 million. PepsiCo is the company's first Limited Partners (LPs), or investor. Other LPs include Coca-Cola, Unilever, Procter & Gamble, Dow, Danone and CHANEL. PepsiCo has committed US\$15 million to Circulate Capital.⁶³ Circulate Capital has in turn invested US\$ 6 million into two recycling companies: Lucro in India and Tridi Oasis in Indonesia.⁶⁴ The company has not disclosed the exact amount of investment in each facility. In India, the website of Mumbai based Lucro Pvt. Ltd. makes the following statement, *“Plastic isn't a mistake. It is simply mismanaged. We can change this by closing the loop with Plast-E-Cycle™.”* The company's website does not have any information on the quantity of plastics recovered so far. Furthermore, most applications are single-use downcycled products like carrier bags, waste bin liners, medical waste bags, plastic sheeting, shrink wrap etc.⁶⁵ Lucro does not provide any information on the post-consumer recovery of these products. z



Reccomendations for Indian policy makers

This report has shown that voluntary initiatives and commitments by the industry rarely work and are in fact used across the world to undermine legislation.

For this reason, policymakers should adopt progressive legislation, built on the following key elements:

1. The Plastic Waste Rules 2016 has clear and time bound commitments on Extended Producer Responsibility (EPR) which have still not been met despite the lapse of the prescribed deadlines and directions by the National Green Tribunal. The government needs to ensure that producers/brand owners meet their obligations under the rules at the earliest.
2. Develop a binding national packaging policy with timelines and targets.
3. Pass legislations aimed at phasing out of harmful chemicals used in packaging plastics such as BFRs, BPAs, Phthalates, Lead etc.
4. Reverse the 2018 amendment to the plastic waste management rules and reintroduce the 2-year phase out deadline on multi-layered plastics.
5. Add EPR cess to plastic packaged products to promote non plastic alternatives and reduce tax tariff for plastic products maintaining stipulated percentage of recycled content.
6. The 2018 amendment to the plastic waste rules is a regressive step as it promotes false solutions such as mass incineration, cement kiln co-incineration and plastic roads in the guise of recycling. The government should remove these practices from the scope of recycling.
7. Implement minimum recycled-content targets in the production of packaging and containers of at least 50% for beverage containers and at least 30% for other items, as a starting point. This creates a market for effective plastic recycling and maintains plastic in a closed loop without downcycling the material.

8. Central or state governments should consider a tax on virgin plastic, which ensures the use of recycled plastic is incentivized over virgin plastic. This should be accompanied with a clear position on the use of alternative materials, such as bio-based, biodegradable and compostable plastic, with justifications for what is – and what is not – a good use of these materials.
9. Introduce bans on unnecessary or harmful plastic materials, such as PVC and polystyrene.
10. Prioritise reusable alternatives and act to avoid regrettable substitutions – for example, replacing single-use plastic with other single-use materials, such as bio-based, biodegradable or compostable plastic – which do not fix pollution problems and may also lead to other environmental problems.
11. Indian urban local bodies should support the Zero Waste Cities approach by creating and implementing systems that continuously intend to phase out waste – not by incinerating, landfilling or exporting it, but instead by not generating waste in the first place.
12. India could spearhead the establishment of an intergovernmental negotiating committee at the United Nations Environment Assembly to negotiate a dedicated global agreement – a Convention on Plastic Pollution – that eliminates plastic discharges into the environment while also promoting a safe circular economy for plastics; one that addresses the full life cycle of plastics, from production and design to prevention and waste management.

References

1

Government Of India Ministry Of Environment, Forest And Climate Change Lok Sabha Unstarred Question No. 4553 <http://www.indiaenvironmentportal.org.in/files/file/Generation%20of%20Waste.pdf>

2

India's plastic waste situation wasn't created today, Down to Earth, October 2 2019 - <https://www.downtoearth.org.in/blog/waste/india-s-plastic-waste-situation-wasn-t-created-today-67061>

3

India Is Generating Much More Plastic Waste Than It Reports. Here's Why, India Spend, April 2 2019 - <https://www.indiaspend.com/india-is-generating-much-more-plastic-waste-than-it-reports-heres-why/#:~:text=India%20consumes%20an%20estimated%2016.5,institutions%20that%20deal%20in%20plastic.>

4

Parker, L. (2018) We made plastic. We depend on it. Now we're drowning in it. National Geographic [ONLINE] Available at: <https://www.nationalgeographic.com/magazine/2018/06/plastic-planet-waste-pollution-trash-crisis/>.

5

Plastic Soup Foundation (n.d.) What to do with plastic waste? [ONLINE] Available at: <https://www.plasticsoupfoundation.org/en/files/what-to-do-with-plastic-waste/>

6

Jambeck, J. R., et al. (2015) Plastic waste inputs from land into the ocean. Science, 13 Feb 2015: Vol. 347, Issue 6223, pp. 768-771 [ONLINE] Available at: <https://science.sciencemag.org/content/347/6223/768>

7

Peng, X., Chen, M., Chen, S., Dasgupta, S., Xu, H., Ta, K., Du, M., Li, J., Guo, Z. and Bai, S. (2018) Microplastics contaminate the deepest part of the world's

8

Sobhani, Z., Lei, Y., Tang, Y., et al. (2020) Microplastics generated when opening plastic packaging. Scientific Reports, 10: 4841. [ONLINE] Available at: <https://doi.org/10.1038/s41598-020-61146-4>

9

Spary, S. (2018) Now even insects are eating plastic – and that's bad news for our food chain. The Huffington Post, 19 September. [ONLINE] Available at: https://www.huffingtonpost.co.uk/entry/now-even-insects-are-eating-plastic-and-thats-bad-news-for-our-food-chain_uk_5ba21077e4b04d32ebfe20aa

10

Plastic Soup Foundation (2020) New studies: Microplastics found in fruit and veg. [ONLINE] Available at: <https://www.plasticsoupfoundation.org/en/2020/06/new-studies-microplastics-found-in-fruit-and-veg/>

11

Harvey, F. and Watts, J. (2018) Microplastics found in human stools for the first time. The Guardian, 22 October [ONLINE] Available at: <https://www.theguardian.com/environment/2018/oct/22/microplastics-found-in-human-stools-for-the-first-time>

12

Critchell, K., and O'Hoogenboom, M. (2018) Effects of microplastic exposure on the body condition and behaviour of planktivorous reef fish (Acanthochromis polyacanthus). PloS One, 13:3 (e0193308). [ONLINE] Available at: [doi:10.1371/journal.pone.0193308](https://doi.org/10.1371/journal.pone.0193308).

13

Prata, J. (2017) Airborne microplastics: Consequences to human health? Environmental Pollution [ONLINE] Available at: [https://www.researchgate.net/profile/Joana_Prata3/publication/321299826_Airborne_microplastics_Consequences_to_human_health/links/5a915a16aca2721405630a1f/Air-](https://www.researchgate.net/profile/Joana_Prata3/publication/321299826_Airborne_microplastics_Consequences_to_human_health/links/5a915a16aca2721405630a1f/Air-ocean.Geochemical.Perspectives.Letters,9:1-5.)

	borne-microplastics-Consequences-to-human-health.pdf		http://toxicslink.org/docs/Plastics_Law_Policy.pdf		Notification https://www.mpcb.gov.in/sites/default/files/whats_new/2019-08/English_booklet.pdf		turn-offer-grab-1-free-maggi-noodles-packet-under-nestle-indias-noble-initiative-heres-how/1382337/
14	WWF (2019) No plastic in nature: Assessing plastic ingestion from nature to people [ONLINE] Available at: http://awsassets.panda.org/downloads/plastic_ingestion_press_singles.pdf	25	Report of the Expert Committee to examine the comments and suggestions including economic instruments in the draft Plastics (Manufacture, Usage and Waste Management) Rules, 2009 – October 2010	35	Ibid.	43	The New Plastics Economy Global Commitment 2019 Progress Report, October 2019 - https://www.newplasticseconomy.org/assets/doc/Global-Commitment-2019-Progress-Report.pdf
15	Tearfund (2019) No time to waste [ONLINE] Available at: https://learn.tearfund.org/-/media/files/tilz/circular_economy/2019-tearfund-consortium-no-time-to-waste-en.pdf?la=en	26	IIP Membership List - https://www.iip-in.com/uploads/Membership/excel/membership-1.pdf	36	MNCs Lobbying for Plastic Wriggle Room, 1 July 2018 https://www.telegraphindia.com/india/mncs-lobbying-for-plastic-wiggle-room/cid/1349731	44	Ellen MacArthur Foundation and UN Environment Programme (2019) The New Plastics Economy global commitment: 2019 progress report [ONLINE] Available at: https://www.newplasticseconomy.org/assets/doc/Global-Commitment-2019-Progress-Report.pdf
16	CIEL (2019) Plastic & health: The hidden costs of a plastic planet. [ONLINE] Available at: https://www.ciel.org/wp-content/uploads/2019/02/Plastic-and-Health-The-Hidden-Costs-of-a-Plastic-Planet-February-2019.pdf	27	IIP 53rd Annual Report 2018-19 - https://www.iipin.com/uploads/Annual_report/Pdf/2019-6.pdf	37	Amazon, others seek relaxation in Maharashtra Plastic Ban, Live Mint, 29 June 2018 - https://www.livemint.com/Industry/HzQ6zic9llq7dRe5eMomyI/Amazon-others-seek-relaxation-in-Maharashtra-plastic-ban.html		
17	World Economic Forum (2016) The new plastics economy: Rethinking the future of plastics [ONLINE] Available at: http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf p.6	28	http://www.indiaenvironmentportal.org.in/content/287617/the-plastics-manufacture-usage-and-waste-management-rules-2009-draft-notification/	38	FICCI appeals to allot more time on single-use plastic ban in Kerala, BusinessLine, December 31 2019 - https://www.thehindubusinessline.com/news/national/ficci-appeals-to-allot-more-time-on-single-use-plastic-ban-in-kerala/article30443636.ece	45	Ellen MacArthur Foundation and UN Environment Programme (2019) The New Plastics Economy global commitment: 2019 progress report summary [ONLINE] Available at: https://www.newplasticseconomy.org/assets/doc/Global-Commitment-2019-Progress-Report-Summary.pdf
18	Plastic Oceans (2020) The facts [ONLINE] Available at: https://plasticoceans.org/the-facts/	29	World Environment Day: Can India #BeatPlasticPollution With The Current Plastic Bans In Various States?, NDTV India, June 5 2018 - https://swachhindia.ndtv.com/world-environment-day-plastic-ban-india-20774/	39	India pilots resolutions on Single-use Plastics and Sustainable Nitrogen management at Fourth United Nations Environment Assembly, March 16 2019 - https://pib.gov.in/PressReleasePage.aspx?PRID=1568929	46	Hindustan Coca-Cola Beverages Partners With UNDP To Launch 'Plastic Lao, Thaila Pao' Campaign, Business World, March 9 2020 - http://www.businessworld.in/article/-Hindustan-Coca-Cola-Beverages-Partners-With-UNDP-To-Launch-Plastic-Lao-Thaila-Pao-Campaign-/09-03-2020-185827/
19	World Economic Forum (2016) The new plastics economy: Rethinking the future of plastics [ONLINE] Available at: http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf p.6	30	Plastic Waste Management Rules 2016 http://www.moef.gov.in/sites/default/files/PWM_2016_english.pdf	40	Fearing economic disruption, govt shelves plan of countrywide ban on single-use plastic, Reuters, October 2 2019 - https://www.indiatoday.in/india/story/fearing-economic-disruption-govt-shelves-plan-of-countrywide-ban-on-single-use-plastic-1605438-2019-10-02	47	UNDP Annual Work Plan 2019 - https://info.undp.org/docs/pdc/Documents/IND/Plastic%20Waste%20Management%20AWP-2019.pdf
20	Ibid	31	Plastic Waste Management (Amendment) Rules, 2018 - http://egazette.nic.in/WriteReadData/2018/184349.pdf	41	U.N. meet dilutes Indian plan to phase out single-use plastic, The Hindu March 16 2019 - https://www.thehindu.com/sci-tech/energy-and-environment/un-meet-dilutes-indian-plan-to-phase-out-single-use-plastic/article26556292.ece	48	HUL spent Rs 3445 cr on advertising from April to Dec of 2018, Exchange4Media, January 17 2019 - https://www.exchange4media.com/announcements-news/hul-net-profit-up-9-per-cent-year-on-year-to-rs-1444-cr-in-the-quarter-ended-dec-94069.html
21	FICCI - Potential of Plastics Industry In Northern India With Special Focus On Plasticulture And Food Processing -2014	32	Report on Recommendations of the Committee On Issues/challenges faced by Municipalities related to Implementation of Solid Waste Management Rules, 2016 and Plastic Waste Management Rules, 2016, November 2017, Hazardous Substance Management Division MoEFCC - http://moef.gov.in/wp-content/uploads/2017/06/Final-Report-on-the-Issues-related-to-SWM-and-PWM-Rules-2016.pdf	42	Maggi wrapper return offer: Grab 1 free Maggi Noodles packet under Nestlé India's noble initiative; here's how, Financial Express, November 15 2018 - https://www.financialexpress.com/industry/maggi-wrapper-re	49	Coke Triples IPL Spend, WARC, April 13 2018 - https://www.warc.com/newsandopinion/news/coke-triples-ipl-spend/40316
22	The Plastics Maufacture, Sale And Usage Rules, 1999 - http://www.ppcb.gov.in/Attachments/Plastic%20Waste/2nd.pdf	33	Annual Report for the Year 2018-19 on Implementation of Plastic Waste Management Rules, Central Pollution Control Board October 2019.				
23	The Plastics Manufacture and Usage (Amendment) Rules, 2003 - https://www.mpcb.gov.in/sites/default/files/plastic-waste/rules/Amendrule2003.pdf	34	An Illustrated Guidebook for Plastic and Thermocol Ban				
24	Plastic Waste Management and Handling Rules 2011 -						

50	Hindustan Coca-Cola Beverages Partners With UNDP To Launch 'Plastic Lao, Thaila Pao' Campaign, BusinessWorld, March 9 2020 - http://www.businessworld.in/article/-Hindustan-Co-ca-Cola-Beverages-Partners-With-UNDP-To-Launch-Plas-tic-Lao-Thaila-Pao-Campaign-/09-03-2020-185827/	58	Pepsico collects, recycles its entire used PET bottles in Maharashtra, Business Standard, September 17 2019 - https://www.business-standard.com/article/compa-nies/pepsico-collects-recycles-its-entire-used-pet-bot-tles-in-maharashtra-119091601435_1.html	65	Lupro Range of Recyclables - https://www.lucro.in/repro
51	Coca-Cola will continue to use single-use plastic, com-pany says consumers want it, Money Control, Janu-ary 23 2020 - https://www.moneycontrol.com/news/trends/coca-cola-will-continue-to-use-single-use-plas-tic-company-says-consumers-want-it-4851201.html	59	PepsiCo India Partners With Project Mumbai's "Jalosh - Clean Coasts" Drive; 16,000 kg Trash Cleared From Mumbai's Wa-terfronts, Pepsico Press Release, 3 June 2019 - http://www.pepsicoindia.co.in/en-IN/live/pressrelease/pepsico-india-partners-with-project-mumbai-jalosh-clean-coasts-drive		
52	Made of Plastic, It's Fantastic, UNDP India June 4 2018 - https://www.in.undp.org/content/india/en/home/climate-and-disas-ter-resilience/successstories/made-of-plastic--it-s-fantastic.html				
53	No Longer Going to Waste: Improved Plastic Waste Manage-ment Builds Roads & Livelihoods For Women in India, The GEF Small Grants Programme, December 5 2019 - https://sgp.undp.org/resources-155/our-stories/609-no-longer-going-to-waste-improved-plastic-waste-management-builds-roads-livelihoods-for-women-in-india-2.html	60	PepsiCo India Launches Plastic Waste Management Pro-gramme Across Darjeeling Schools In Association With NEPRA, Pepsi Co Press Release, 19 July 2019 - http://www.pepsicoindia.co.in/en-IN/live/pressrelease/pep-sico-india-launches-plastic-waste-management-pro-gramme-across-darjeeling-schools-in-association-with-nepra		
54	Colgate-Palmolive Plastic Waste Management - https://www.colgatepalmolive.co.in/core-values/sustainability/waste-management/plastic-waste-management	61	Q&A with PepsiCo India's Chief Govt. Affairs & Comm. Officer, Mr. Viraj Chouhan, on their sustainable plas-tic strategy, South Asia Fast Track - https://southa-siafasttrack.com/2019/10/16/viraj-chouhan-pepsi-co-india-pepsicos-sustainable-plastics-strategy/		
55	Colgate-Palmolive India Ltd., Annual Report 2017-18 - https://www.colgateinvestors.co.in/media/1986/annual-report-2017-18.pdf				
56	Indian beauty & hygiene Association's sustainable plastic waste management initiative gets encouraging response, Business Standard, June 5 2019 - https://www.business-stand-ard.com/article/news-ani/indian-beauty-hygiene-asso-ciation-s-sustainable-plastic-waste-management-initia-tive-gets-encouraging-response-119060500790_1.html	62	Circulate Capital Home Page - https://www.circulatecapital.com/		
		63	Circulate Capital fund invests in plastic recycling firm Lucro, VC Circle, 28 April 2020 - https://www.vccircle.com/circu-late-capital-fund-invests-in-plastic-recycling-firm-lucro/		
57	Ellen MacArthur Foundation and UN Environment Pro-	64	Circulate Capital announces Inaugural investments that		will help South and Southeast Asian SMEs to combat ocean plastic and weather the Covid-19 crisis, Eco Cycle, 28 April 2020 - https://www.eco-business.com/press-releases/circulate-capital-announces-inaugural-investments-that-will-help-south-and-southeast-asian-smes-to-com-bat-ocean-plastic-and-weather-the-covid-19-crisis/

