

PLASTIC POLLUTION AND ANTI PLASTIC LAWS IN INDIA

-AYUSHI BHOJWANI¹ & DISHA MOHANTY²

Abstract:

Plastics have become ubiquitous workhorse material of modern economy that combines unrivalled functional properties with low cost. The use of plastic products has increased in past half century and it is expected to double in next 20 years. Every day India generates 33.1 million pounds of plastic waste of which only 19.8 million pounds are collected and recycled leaving the rest to pollute water, drains, kill cows and degrade soil. There are laws made by government that deal with restricting the use of plastics as they are one which decompose through a very long process. Laws such as Environmental Protection Act had laid down Rules such as Solid Waste Management Rules 2016 which provided for a legislation under which citizens may be penalized for littering waste and not complying by the provisions but it failed in terms of implementation as the checking by government officials carried out in a blue moon further these rules were revised to be known as the Plastic Waste Management (Amendment) Rules 2018 with an attempt to mitigate the plastic menace but all have failed to sustain the economy.

Through this research paper the researcher wants to critically analyze the issue relating to plastic pollution that still prevails in India and the upcoming legislation which sought to prevent use of plastic and to create a plastic free environment so that the problem could be eliminated but is unable to due to lack of implementation of law, technology, innovation to create an environment for better lifestyle to its citizen.

Keywords: sustainable, plastic bags, environment, reusable bags, bag legislation .

¹ Student, Amity University chhattisgarh

² Student, Amity University Chhattisgarh

I. Introduction

Our ocean and the array of species that call it home are succumbing to the poison of plastic.³World Economic Forum study shows that by 2050, oceans will have more plastic than fish. Plastic is one of the worst pollutants in the world – It clogs up our rivers and oceans, and eradicates the marine life. More than 1 million of birds, and around 100,000 whales, sharks, seals, dolphins and turtles die every single year because of plastic pollution.⁴Plastic has become more of a necessity for the smooth functioning of daily chores, unfortunately being a significant aspect of life plastic has become a danger and threat to environment today. According to report, an approxof 6.3bn tons of plastic has been generated in 2015, out of which only 9% was recycled and 12% was incinerated the rest was accumulated in landfills and natural environment in 2017 an estimated 8.2bn tonsof plastic had still been produced by industry despite of problem that recycling and reusing the plastic is not proper and end result is wastage. If current production still continues, 12 billion tons of plastic waste will be accumulated in environment by 2050.⁵The first man to invent plastic was Alexander Parkes, a British metallurgist, in 1862 and during World War II plastic industry continued to expand and todaythe use of plastic is ubiquitous.⁶“Plastic” is a material which contains an essential ingredient a high polymer such as polyethylene terephthalate, high density polyethylene, Vinyl, low density polyethylene, polypropylene, polystyrene resins, multi-materials like acrylonitrile butadiene styrene, polyphenylene oxide,

³ Simon Reddy , ocean conservation : plastic pollution affects sea life throughout the ocean , (24th sepetember,2018). See more at :

<https://www.pewtrusts.org/en/research-and-analysis/articles/2018/09/24/plastic-pollution-affects-sea-life-throughout-the-ocean>

⁴ Anisha Bhatia , poor implementation means plastic still being commonly used (27th april 2017)

<https://swachhindia.ndtv.com/delhi-plastic-ban-poor-implementation-means-plastic-still-commonly-used-5986/>

⁵ bbcnews:seven charts that explain the plastic pollution problem (10th December 2017)

<https://www.bbc.com/news/science-environment-42264788>

⁶ Shengyuan Su, Yazhou Li, Emma Maschal, and Yuejiao Ha Dr. Emily Klein, advisor, Plastic reduction case study (April 23, 2015)

https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/9640/MP_PlasticPollutionCoalition.pdf;sequence=1

polycarbonate, polybutylene terephthalate.⁷ Plastic bags are durable, resistant to chemicals, and are relatively inexpensive to produce, thermal and electrical insulator, and less weight than the competing materials, makes it indispensable part of life. India produces more than 15,000 tons of plastic waste every single day. Out of which, 6,000 tons remain uncollected and littered.

Plastics can be classified into 3 categories⁸:

1. Plastics that are not recyclable from a technical stand point: these are plastics found in electrical and cooking appliances: laminations, pvc pipes etc.
2. plastics that are recyclable but the recycling process is not economically viable: low quality plastic bags that are technically easy to recycle but are far too scattered to be collected efficiently fall within this category.
3. Plastics that can be recycled in economically viable ways.

The nature of plastics is the reason why they cannot be biodegraded. The carbon chains of plastics are too long and too well packed for micro organism to digest, but if they are broken into small pieces the microorganism will be able to digest them but it takes a long time to do so and thus it has converted into waste which is threat to the environment today.

“Plastic waste” means any plastic discarded after use or after their intended use is over.⁹

Plastic waste usually means those plastic that are used for carrying out the product which after that are usually thrown in water bodies or dump in barren land or road side or animals eat it that ultimately dangerous to life. Various enactments of waste management rules 2011 and 2018 were legislated which included increasing the price of plastic bags so that people would opt for alternatives but eventually had not sought to overcome the danger. In India, 80 % of total plastic

⁷ Section 3(p) of Plastic waste management (Amendment) Rules, 2018

⁸ Book: solid and liquid resource management : plastic waste management
see more at:

http://swachhbharatmission.gov.in/SLRM/Download.aspx?FileName=Resource%20book_Plastic%20Waste%20Management.pdf

⁹ Section 3(r) of plastic waste management (Amendment) Rules, 2018

consumption is discarded as waste and official statistics say the country generates 25, 940 tons of plastic waste daily. At least 40% of this waste is uncollected.¹⁰

Apart from major drawbacks, if non biodegradable plastics are replaced with some other environmentally viable materials, millions of workers will lose their jobs and the economy will face a major jolt. Being concerned of the environment is

Obviously propitious for the society, but economy is also a pivotal factor of any functional society. Thus this paper seeks to explore the need to solve the plastics pollution problem and find alternative methods of the plastic that is required to be taken into consideration. There is no silver bullet to stop plastic pollution¹¹ and thus there is a need for forming and enforcing strict laws for plastic ban in India.

II Laws related to plastic pollution and waste

The growth of industry has given rise to improvement and development but one of the consequences we often seem to ignore is the causation of wastage. The management and regulation of such waste is of utmost importance as it can lead to various environmental issues. As it is said, sustainability and development go hand-in-hand, a proper system for the management of waste is needed to be set up. In our country, waste management is governed by Ministry of Environment, Forest and Climate Change (MoEF) who work with State Pollution Control Board set up in various States. Certain laws are also present in the legal setup which helps in regulation of waste in India. The National Environment Policy, 2006 laid emphasis not only on disposal of waste but also recycling and treating waste.¹² Some Act pertaining plastic waste management are:

¹⁰http://economictimes.indiatimes.com/articleshow/64420276.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

¹¹ Briabclarkhoward,sarahgibbens,elainazachos, a running list of action on plastic pollution
<https://www.nationalgeographic.com/environment/2018/07/ocean-plastic-pollution-solutions/>

¹² Prमित Bhattacharya, Student, DamodaramSanjivayya National Law University,waste management laws in india,(14th may 2016) see more at:
<https://blog.ipleaders.in/waste-management-laws-india/>

- **The Environment Protection Act**

This Act aims to establish the decision of the United Nations conference for sufficient protection and improvement of environment. It is one of the primary legislation which protects the environment and regulates the waste. Some of the important relevant provisions such as:

Section 7¹³ of this Act places a principal prohibition on harming the environment by stating that no person carrying any activity should emit or discharge environmental pollutants in excess of the prescribed standards.

Section 9¹⁴ of the Act states that if any event takes place which harms the environment through any foreseen or unforeseen event, the person responsible for the harm is duty bound to prevent or alleviate the pollutant, discharged as a result of such event. The person is also obliged to inform the proper authorities about the event which may harm the environment.

The Act also contains provisions which remove the corporate veil. In case any environmental offense was committed by a company, with the connivance or consent of any director, manager, secretary or any other officer of the company, they'll be held personally liable for committing offense in the name of the company.¹⁵

¹³ No person carrying on any industry, operation or process shall discharge or emit or permit to be discharged or emitted any environmental pollutants in excess of such standards as may be prescribed.

¹⁴ (1) Where the discharge of any environmental pollutant in excess of the prescribed standards occurs or is apprehended to occur due to any accident or other unforeseen act or event, the person responsible for such discharge and the person in charge of the place at which such discharge occurs or is apprehended to occur shall be bound to prevent or mitigate the environmental pollution caused as a result of such discharge and shall also forthwith--

(a) intimate the fact of such occurrence or apprehension of such occurrence; and

(b) be bound, if called upon, to render all assistance, to such authorities or agencies as may be prescribed.

(2) On receipt of information with respect to the fact or apprehension on any occurrence of the nature referred to in sub-section (1), whether through intimation under that sub-section or otherwise, the authorities or agencies referred to in sub-section (1) shall, as early as practicable, cause such remedial measures to be taken as necessary to prevent or mitigate the environmental pollution.

(3) The expenses, if any, incurred by any authority or agency with respect to the remedial measures referred to in sub-section (2), together with interest (at such reasonable rate as the Government may, by order, fix) from the date when a demand for the expenses is made until it is paid, may be recovered by such authority or agency from the person concerned as arrears of land revenue or of public demand.

¹⁵ Section 16. OFFENCES BY COMPANIES

(1) Where any offence under this Act has been committed by a company, every person who, at the time the offence was committed, was directly in charge of, and was responsible to, the company for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Being primary law for the protection and improvement of waste in India this act doesn't even define the term "plastic" or "plastic waste" which today has become a major threat to environment. This is one of the reasons why still India faces problem of plastic and is not able to completely ban plastic.

- **The Plastic Waste (Management and Handling) Rules, 2011**

The PWM Rules are set of regulatory framework set up to control the use, manufacture, and recycling of plastic waste. Plastic waste includes any plastic product which has been discarded after its use at the end of the product's life. The Rule has uniform applicability towards all distributors, users, retailers and manufacturers of plastic products. Rule 9¹⁶ makes it compulsory for every manufacturer of plastic products and recycler to obtain registration from State Pollution Control Board. This registration has to be renewed every three years. Rule 10¹⁷ states that no retailer can provide plastic bags free of cost. This is done to ensure that people use plastic bags

Provided that nothing contained in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

¹⁶ Registration of Manufacturers and Recyclers. -

(a) any person manufacturing or proposing to manufacture¹³ [plastic carry bags, multilayered plastic pouch or sachet] shall apply to the State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) of the Union territory concerned for the grant of registration or for the renewal of registration for the manufacturing unit using Form 1 appended to these rules;

(b) any person recycling or proposing to recycle carry bags or¹⁴ [multilayered plastic pouch or sachet] or any plastic waste shall apply to the SPCB or PCC for grant of registration or renewal of registration for the recycling unit using Form 2 appended to these rules;

(c) no person shall manufacture plastic carry bags, multilayered plastic pouch or sachet or recycle plastic carry bags or multilayered plastic pouch or sachet or any plastic waste without obtaining registration certificate from the State Pollution Control Board or Pollution Control Committee, as the case may be, prior to the commencement of its production

¹⁷ Explicit pricing of carry bags. -No carry bags shall be made available free of cost by retailers to consumers. The concerned municipal authority may by notification determine the minimum price for carry bags depending upon their quality and size which covers their material and waste management costs in order to encourage their re-use so as to minimize plastic waste generation.

judicially. The PWM rules also specify details of plastic products such as the classification of the types of plastic like compostable plastic¹⁸, multilayered plastic pouch¹⁹, virgin plastic²⁰.

Recycling of plastic products is to be done in a fixed procedure laid down by Bureau of Indian Standard Specification.²¹

The act defines the term plastic²² classify plastic define plastic waste²³ make regulations for recycling plastic setting up regulations for plastic industry but gives no penalty for wastage even after determining what plastic waste is and how can it impact the environment this is yet another reason why India still struggles with plastic pollution.

- **Plastic Waste Management (Amendment) Rules, 2018:**

The Ministry of Environment, Forest and Climate Change has notified the Plastic Waste Management (Amendment) Rules 2018²⁴ which has given new scope and ambit to the plastic ban in India.

Under section 9 (3)²⁵ of plastic waste (management and handling) rules 2011, the term 'non-recyclable multilayered plastic if any' has been substituted by 'multi-layered plastic which is non-recyclable or non-energy recoverable or with no alternate use'²⁶. This gives plastic producers a scope to argue that their products can be put to some other use, if not recycled. This

¹⁸ "Compostable plastics" mean plastic that undergoes degradation by biological processes during composting to yield CO₂, water, inorganic compounds and biomass at a rate consistent with other known compostable materials and does not leave visible, distinguishable or toxic residue;

¹⁹ "multilayered plastic pouch or sachet" means a pouch or sachet having at least one layer of plastic in combination with one or more layers of packaging material such as paper, paper board, metalized layers or aluminum foil, either in the form of a laminate or co-extruded structure;]

²⁰ "Virgin plastic" means plastic material which has not been subjected to use earlier and has also not been blended with scrap or waste;

²¹ Rule 6 (b) recycling of plastics shall be carried out in accordance with the Indian Standard: IS 14534:1998 titled as Guidelines for Recycling of Plastics, as amended from time-to-time;

²² Plastic" means material which contains as an essential ingredient a high polymer and which at some stage in its processing into finished products can be shaped by flow;

²³ Plastic waste" means any plastic product such as carry bags, pouches or 7 [multilayered plastic pouch or sachet etc.], which have been discarded after use or after their intended life is over;

²⁴ asparliament:plastic waste management rule,2018 (26thApril 2018) see more at:

<http://www.iasparliament.com/current-affairs/daily-news/plastic-waste-management-rules-2018>

²⁵ Manufacture and use of non recyclable multilayered plastic if any should be phased out in 2years time.

²⁶ Manufacture and use of multi-layered plastic which is non recyclable or non energy recoverable or with no alternative use of plastic if any should be phased out in 2years time.

movetantamount to revoking a complete ban, which it had implied earlier. This type of plastic was supposed to be banned by March 2018, but it is nowhere near a phase-out.²⁷

Rule 15²⁸Explicit pricing of carrying bags has been omitted in the amendment. It earlier required every vendor, who sold commodities in a carry bag, to register with their respective urban local body and pay a minimum fee of Rs 48,000 annum.

Addition of 2 more definition: alternative use²⁹ and energy recovery³⁰

The section13 (2)³¹ now requires all brand owners and producers to register or renew registration with the concerned State Pollution Control Board (SPCB) or Pollution Control Committee if operational only in one or two states or union territories. They have to do the same with the Central Pollution Control Board (CPCB), if the producers/brand owners are operating in more than two states or union territories. Earlier, only the producers had to register to CPCB or SPCB regardless of their extent of the area of operation. CPCB claims that a centralized registration system will evolve from this.

²⁷ Richa agrawal: waste Centre amends Plastic Waste Rules, but misses out on strengthening implementation,(17thapril 2018) see more at:

<https://www.downtoearth.org.in/news/waste/centre-amends-plastic-waste-rules-2016-but-still-60084>

²⁸ Explicit pricing of carry bags.-

(1) The shopkeepers and street vendors willing to provide plastic carry bags for dispensing any commodity shall register with local body. The local body shall, within a period of six months from the date of final publication of these rules in the Official Gazette of India notification of these rules, by notification or an order under their appropriate state statute or byelaws shall make provisions for such registration on payment of plastic waste management fee of minimum rupees forty eight thousand @ rupees four thousand per month. The concerned local body may prescribe higher plastic waste management fee, depending upon the sale capacity. The registered shop keepers shall display at prominent place that plastic carry bags are given on payment.

(2) Only the registered shopkeepers or street vendors shall be eligible to provide plastic carry bags for dispensing the commodities.

(3) The local body shall utilize the amount paid by the customers for the carry bags exclusively for the sustainability of the waste management system within their jurisdictions.

²⁹ Section2(ab) “alternate use” means use of material for a purpose other than for which it was conceived, which is beneficial because it promotes resource efficiency.

³⁰ Section 2(ga) “energy recovery” means energy recovery from waste that is conversion of waste material into usable heat, electricity or fuel through a variety of processes including combustion, gasification, pyralisation, anaerobic digestion & landfill gas recovery.

³¹ Every producer or brand-owner shall, for the purpose of registration or for renewal of registration, make an application in Form-I to

i. “The concerned State Pollution Control Board or Pollution Control Committee of the Union territory, if operating one or two States or Union Territories”; or

ii. “The Central Pollution Control Board, if operating in more than two States or Union Territories”.

The 2018 amendment doesn't explain the concept of Extended Producer Responsibility. Even with plastic being a major concern worldwide, this amendment gives no direction on the principles of its minimization, switching to alternatives and reduction³². By making the legislation weaker, the amendment is thus likely to only escalate the gravity of the environmental crisis surfacing in India.

- **Constitutional vis-à-vis Environment Protection**

The constitution of India is not an inert but a living document which evolves and grows with time. The specific provisions on environment protection in the constitution are also result of this evolving nature and growth potential of the fundamental law of the land. The preamble to our constitution ensures socialist pattern of the society and dignity of the individual³³

The Constitution of India under part III guarantees fundamental rights which are essential for the development of every individual and to which a person is inherently entitled by virtue of being human alone. Right to environment is also a right without which development of individual and realization of his or her full potential shall not be possible. Articles 21³⁴ of this part have been used for environmental protection. In *M.C.Mehta v. State of Orissa*³⁵, court observed that there cannot be any right without the duty. So if there is insanitation in the environment it will severely affect the life of citizens and hence it is the violation of fundamental rights of citizens. Hence, it is the duty of the citizen to see that the rights which are provided to them under the constitution are fulfilled by the state.

Fundamental duties under the Indian Constitution clearly impose duty on every citizen to protect environment. Article 51-A (g)³⁶, says that It is the duty of every citizen of India to protect and improve the natural environment. In *Rural Litigation and Entitlement Kendra v. State of UP*³⁷, the Hon'ble Supreme Court observed that protection of environment is not only a duty of

³² Swati Singh Sambyal, Programme Manager, Centre for Science and Environment (CSE), New Delhi
<http://citizenmatters.in/indias-plastic-waste-management-rules-industry-fmcc-environment-moefcc-6329>

³³ Pooja P. Vardhan, Environment Protection under Constitutional Framework of India
<http://pib.nic.in/newsite/PrintRelease.aspx?relid=105411>

³⁴ No person shall be deprived of his life or personal liberty except according to procedure established by law.

³⁵ AIR 1992 Ori 225

³⁶ To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;

³⁷ AIR 1985, 652 SCR (3) 169

the state under Article 48-A, but the citizens of India are also duty bound to protect the environment under Article 51-A (g) of the Constitution. Originally fundamental duty incorporated in the Constitution was not directly enforceable. However, with the passage of time and through judicial activism, necessary stimulus was provided to achieve the objective behind the incorporation of fundamental duty in the Constitution for the protection of environment. In *L. K. Koolwal v. State of Rajasthan and Ors*³⁸, the court explained the ambit of Article 51-A. It is true that it is the duty of the citizen to protect the environment under Article 51-A (g) of the Constitution but this Article also creates a right in the favour of the citizen to move to the court for the enforcement of the Article 51-A(g).

The Directive principles under the Indian constitution directed towards ideals of building welfare state. Healthy environment is also one of the elements of welfare state as provided in Article 48 – A.³⁹

Though Constitution law safeguards and provides for regulations to state through fundamental rights and duties to the citizens it is duty of state to provide and citizen to look that proper implementation is there or not. If today the law would have made according to the constitutional validity all law should have included plastic as major drawback of environment thus governing strict laws for plastic ban but constitution is not looked while implementing laws in India for protection of environment.

- **Indian Penal code and environment protection**

Chapter XIV of IPC containing Sections 268 to 290 deals with offences affecting the public health, safety, convenience, decency and morals. Its object is to safeguard the public health, safety and convenience by causing those acts punishable which make environment polluted or threaten the life of the people.

South Africa was the first country to issue a ban after declaring the plastic bag had become their ‘national flower’. This was due to the amount of bags turning up in trees and bushes as litter. In

³⁸ AIR 1988 Raj 2; 1987 (1) WLN 134

³⁹ The State shall endeavor to protect and improve the environment and to safeguard the forests and wild life of the country.

2003 South Africa announced fines of 100,000 rand or a 10-year jail term to show they were serious about the issue.⁴⁰

Plastic being a major threat to environment has not been penalized separately in India but included under large ambit of environment protection and protection of life. This would be a major setback because of which still India could not ban plastic.

III International strategies to curb plastic waste

Washington, D.C.⁴¹

Policy: The U.S. capital was one of the first cities to lead the way on ending plastic pollution by implementing a tax on plastic bags. The revenue collected from this 5-cent tax goes to the Anacostia River Clean Up and Protection Fund and distributes reusable bags to low-income and elderly communities in DC.

Impact: Since the policy was implemented in 2009, there's been an 85% reduction in plastic bag consumption. Before the ban, DC locals consumed 22.5 million bags per month. That number has now dropped to 3.3 million bags per month.

United Kingdom⁴²

Policy: As of October, 2015, stores in the UK began charging five pence per single-use plastic carrier bag. Consumers can avoid this charge by bringing a reusable bag to carry their goods. The plastic bag charge applies to any business that has more than 250 employees.

Impact: Since the bag tax's introduction in 2015, officials estimate that plastic bag consumption has been reduced by more than 80%. The UK government also predicts significant economic benefits from the ban, including £60 million reduction in litter clean-up costs and £13 million in carbon savings.

⁴⁰ Natasha Christian , Taxes, fines and jail time: The strictest plastic bag laws around the world (4th april 2018)

See more at:

<https://www.sbs.com.au/news/taxes-fines-and-jail-time-the-strictest-plastic-bag-laws-around-the-world>

⁴¹ Global efforts to end plastic pollution: Single-Use-Plastic. See more at:

<https://www.earthday.org/plasticban/>

⁴²Ibid.

San Francisco, CA⁴³

Policy: San Francisco was the first city in the U.S. to completely ban plastic bags back in 2007. This policy pushes San Francisco residents even further to use reusable bags by placing an additional 10-cent fee on single-use compostable or recycled paper bags that customers need at the checkout.

Impact: Since 2010, this policy has led to a 72% reduction in plastic bag pollution

Kenya⁴⁴

Policy: In 2017, Kenya implemented a country-wide ban of plastic bags that also falls on the distributors and producers of single-use bags. They even went as far as to implement significant repercussions for disobeying the law, which can include either a four-year jail sentence or a 40,000 fine for the sale or use of plastic bags.

Impact: While it is too soon to measure the impact, this policy was passed with the goal of aiding and protecting Kenya's agricultural, tourism, and fishing sectors.

Ireland⁴⁵

Policy: Ireland was the first country to place a significant tax on plastic bags — now 22 euro cents — at checkout in 2002. For the few bags that are used, the government has ensured that the revenue from the tax goes into different programs aimed at environmental protection.

Impact: The country saw a significant impact almost instantly with plastic bag consumption dropping by 94%, making the practice of using plastic bags unacceptable by the end of the year. Having inspired other countries to address this issue, Ireland proves to be one of the leading countries tackling plastic bag consumption.

⁴³Ibid.

⁴⁴Ibid.

⁴⁵Ibid.

India⁴⁶

Policy: India, the host of World Environment Day in 2018, used the platform to announce their commitment to ending the consumption of single-use plastics by 2022. As a sign of their commitment, the country also joined the UN Clean Seas campaign. Already throughout the sub-continent there have been several efforts to stop plastic pollution, like in Karnataka and most recently in the city of Mumbai.

Impact: This is expected to assist with India's plastic pollution problem, as only 40% of the country's plastic is recycled. With 10 regional policies already in place, a country-wide ban could further reinforce the existing rules and ensure that all regions are doing their part to end plastic pollution.

China⁴⁷

Policy: The Chinese government responded to widespread plastic pollution by banning distribution of single-use plastic bags in grocery stores and shops around the country. Companies face a strict fine of 10,000 Yuan, or roughly 1,593 USD, for illegal plastic bag distribution.

Impact: The NRDC estimates that China has seen a 66% reduction in plastic bag usage since the rollout of the ban. In response to inconsistent enforcement, 600,000 regulators have been sent to grocery stores around the country to make sure that they comply.

Australia⁴⁸

Policy: The Australian Capital Territory (ACT) banned plastic bag usage in 2011. Banned plastic bags include all single-use polyethylene polymer bags that are less than 35 microns thick. The Australian government encouraged citizens to bring reusable bags when shopping to reduce their environmental impact.

Impact: The ban has been widely successful, eliminating 1/3 of plastic waste sent to landfills prior to the ban. It has also become popular among Australian citizens. Rather than feeling

⁴⁶Ibid.

⁴⁷Ibid.

⁴⁸Ibid.

inconvenienced by the ban, they support it. A study conducted by ACT shows that roughly 70% of citizens do not support the ban being rescinded.

IV Conclusion

Plastic entered the mass market in India in the 1960-70s as the preferred material for everyday consumer goods, it was a powerful and tangible sign of modernity⁴⁹ and during world war II it gained massive growth⁵⁰ later in 1960s first reports of cancers in workers in plastic factories, caused by exposure to vinyl chloride, one of the gases used to make plastic resins and even people living near plastic plants, or garbage dumps filled with decaying plastic, started worrying.⁵¹ and thus need arose to let people get aware of malignant effects of plastic to life and environment. Ban on plastic have been announced across India, from as far back as 1997 when a magistrate in Kottayam in Kerala banned transparent plastic bags⁵². Currently, cities including Delhi, Mumbai, Karwar, Tirumala, Vasco and states including Rajasthan, Kerala, Punjab and Madhya Pradesh have the ban on plastic bags in place. But, the disparities in environmental policy and legislation, enforcement and effective implementation is an issue. Though each and every one law on plastic pollution reduction is a major step forward in the fight to remove plastics from the ocean and our natural environments. However, proper legislation is often slow to come to fruition, especially regarding environmental concerns.

Currently in India, there is only one law that is in place – No manufacturer or vendor can use a plastic bag which is below 50 microns as thinner bags pose a major threat to the environment due to its non-disposability⁵³. The usage of plastic bags is still high as the ban is not implemented on all plastic bags. Many big brands and vendors have started charging the customers for the

⁴⁹ Poulomibanerjee, Plastic pile-up: What was life like before plastic was invented and how did it become so much a part of our lives?: hindustan times, (11th September, 2018) see more at:
<https://www.hindustantimes.com/india-news/plastic-pile-up-what-was-life-like-before-plastic-was-invented-and-how-did-it-become-so-much-a-part-of-our-lives/story-bnz3iLcyuYXAwVgJVbg9K.html>

⁵⁰ Vikram Doctor, ET Bureau, Why it requires more than simple bans to stop plastic menace :the economic times, (30th march 2018)

Read more at:

[//economictimes.indiatimes.com/articleshow/63550140.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst](http://economictimes.indiatimes.com/articleshow/63550140.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

⁵¹ Ibid

⁵² Ibid

⁵³ Section 4(c) of plastic waste management rules 2016

polybags in order to commercially discourage them, but it is so far not been effective as there is no law or guidelines that says shopkeepers should charge money from the customers for the polybags. That seems to be the crux of the problem with implementing the plastic ban – the lack of enforcement by government authorities.

Over the past 15 years, bioplastics have been promoted as potential alternatives. They are classified as oxi-biodegradable plastics, hydro-biodegradable plastics and just biodegradable plastics⁵⁴. Another avenue that is increasingly being presented as a solution to the plastic waste problem is substitution of plastic with other biodegradable materials such as reused cotton or paper⁵⁵. A 2017 study published in *Environmental Science & Technology*, a global journal stated that three of the world's ten rivers which carry 90% of plastic to the world's oceans are in India – the Indus, the Ganga and the Brahmaputra.⁵⁶ Moreover, India is also the 12th biggest plastic polluter in the world⁵⁷. As the adverse effects of plastic consumption if continue to grow and choke our planet, as citizens, the need of the hour and duty is to switch to green alternatives and adopt the -friendly way of living.⁵⁸

⁵⁴ Shreeshan Venkatesh, Ishan Kukreti, India's plastic consumption increases at over 10 per cent year-on-year, (8th June 2018) see more at:
<https://www.downtoearth.org.in/news/waste/breaching-the-threshold-60748>

⁵⁵ Ibid

⁵⁶ Anisha Bhatia, Free India From Plastic: Bid Goodbye To These 10 Plastic Items And Adopt Their Eco-friendly Alternatives, NDTV, (17th August 2018)
See more at:
<https://swachhindia.ndtv.com/independence-day-special-10-plastic-eco-friendly-alternatives-23213/>

⁵⁷ Ibid.

⁵⁸ Ibid.