



CAG

Citizen consumer and civic Action Group

Efficacy of Single-Use Plastic Ban in Chennai



Sumana Narayanan, Senior Researcher
Vamsi Sankar Kapilavai, Senior Researcher

CAG | 2021
www.cag.org.in

Acknowledgements

The authors would like to thank the volunteers who ensured timely collection of field data. Our thanks to CAG colleagues for their support, especially Savitha Tirunavukkarasu and Keerthana Thangavel for coordinating the field work and contributing to data collection.

Background

Plastics are considered a miraculous material and a marvel of the modern world. Thanks to its unique physical and chemical properties obtained by adding various additives it can be put to a multitude of uses. This has led to the huge commercial success of plastic, such that one can no longer imagine a life without it. Unfortunately, this has led to its indiscriminate use and disposal, resulting in a serious threat to the health of humans and the environment. India generates 9.46 million tonnes of plastic waste annually and nearly 40% of this waste remains uncollected.¹ A major share of this uncollected plastic waste is made up of single-use plastics. So, what are single-use plastics? Simply put, single-use plastics are types of plastics which are meant to be disposed of right after use, often in mere minutes. The most common examples are straws, plastic cups and glasses, carry bags, and plastic-coated paper plates.



Single-use plastics banned by Tamil Nadu with effect from January 1, 2019

Single-use plastics represent the epitome of today's throwaway culture. Single-use plastics are generally not recycled and end up in landfills, oceans and waterways, and the environment. Once they end up in water bodies, marine life often mistake them for food and consume them. A 2020 study by the US conservation group Oceana looks at data over the past decade to paint an alarming picture, noting that humans are seeing only the tip of the iceberg when it comes to the problem of plastic pollution and that plastic production must be curbed if we are to tackle this issue.² This contamination doesn't go away and these plastics can be found in some of the fish we eat, the water we drink, and even the air we breathe. A recent study by WWF has found that

¹ [India Wants Manufacturers to Manage Plastic Waste: Here's How the Proposed Rules Fall Short](#)

² <https://www.bbc.com/news/world-us-canada-55006333>

on average, people could actually be ingesting approximately 5 grams of microplastics every week, the equivalent of a credit card³. The high volume of production, short usage time and poor end-of-life recoverability of single-use plastics have posed a huge challenge for the environment, public health, and local governance.

To tackle this problem on the occasion of World Environment Day, June 5, 2018, the government of Tamil Nadu announced a ban on single-use plastic items to be implemented in Tamil Nadu from January 1, 2019.⁴ Gearing towards a plastic free new-year, the end of 2018 saw all local bodies release a list of 14 items (cling film for food wrapping, plastic sheets used on dining tables, plastic & thermacol plates, plastic-coated paper plates, plastic-coated paper cups, plastic tea cups, plastic tumblers, thermacol cups, water pouches/packets, plastic straws, plastic carry bags of all thicknesses, plastic-coated carry bags, plastic flags, non-woven polypropylene bags)⁵ that would fall under the purview of the ban. The government notification in 2018 exempted products that are packed before they reach the market. However, on 5th June 2020, the Government of Tamil Nadu removed this exemption.⁶

The Government of Tamil Nadu also created a steering committee to oversee implementation of the ban. The 10-member committee, headed by the Chief Secretary, has representatives from key government departments such as the Pollution Control Board, Education, Health, and Environment.⁷

Study Rationale

CAG has, for several years, been researching and advocating for better solid waste management. CAG has worked with the Greater Chennai Corporation (GCC), as well as other key stakeholders such as media and citizen groups to encourage source segregation of waste, composting, and recycling of waste. CAG has also studied the health impacts of indiscriminate dumping of waste through a survey of health conditions reported by citizens living near the Kodungaiyur dumpyard in Chennai⁸ as well as a laboratory test of groundwater in the area for microplastic contamination.⁹

Therefore, in June 2019, six months after the ban came into force, CAG decided to assess the efficacy of the ban in Chennai. The 2019 study followed the same methodology detailed below and found that while the GCC had conducted a number of raids which were reported in the media, and several shops/traders had been fined for continuing to use banned plastic, this did not last long. By the time of the study in mid-2019, the impact of the ban was not seen, plastics

³ [No Plastic in Nature: Assessing Plastic Ingestion from Nature to People](#)

⁴ <https://www.plasticpollutionfreetn.org/pdf/PLASTIC%20BAN%20NOTIFICATION.pdf>

⁵ <https://www.plasticpollutionfreetn.org/bannedplastic.php>

⁶ <https://www.plasticpollutionfreetn.org/pdf/Plastic%20Ban%20Gazette%20dt%205.6.2020.pdf>

⁷ <https://www.plasticpollutionfreetn.org/pdf/STEERING%20COMMITTEE.pdf>

⁸ <https://www.cag.org.in/database/human-rights-and-human-rights-impact-assessments-kodungaiyur>

⁹ <https://www.cag.org.in/database/toxicity-physical-environment-kodungaiyur>

continued to be widely used. The one positive outcome that the study found was that there was an increased demand for sustainable cutlery (leaf plates, etc). However, manufacturers of these alternatives had not been prepared to meet the demand, pointing to the need for systematic planning and implementation of the ban complemented by promoting an ecosystem for sustainable alternatives.

In 2021, two years after the ban came into force, CAG decided to revisit the study to gauge if the teething troubles in implementation had been resolved.

Objectives

1. To assess the efficacy of the plastic ban in Chennai and provide actionable recommendations to the GCC and to the state plastic ban steering committee to regulate the use of plastic packaging by businesses in the city;
2. To sensitise citizens on plastic pollution from the results of the study.

Scope

The study was limited to plastics used in restaurants and fresh produce outlets although single-use plastics are wide across other sectors as well.

Methodology

Three spaces were assessed to estimate the efficacy of the plastic ban in Chennai – food and beverage (F&B) outlets, wholesale markets, and retail shops. The F&B outlets were chosen across the city to cover various price points as well as type of food served. The categories as per price point were – roadside shops; restaurants with an approximate cost of INR 500 for a meal for two; restaurants where a meal for two costs around INR 1000. In terms of food served, the categories were - fast food restaurants; juice shops; coffee shops; pubs/bars; restaurants serving full meals; and dessert parlours. In addition, the Greater Chennai Corporation's subsidised canteens (Amma Canteens) were also chosen for the study. A canteen within the GCC's office was also to be assessed. However, this canteen had temporarily been closed due to the COVID-19 pandemic. In addition, the retail alcohol shops run by the state government agency (TASMAC) were to be assessed but due to COVID-19 precautions, this could not be carried out.

In each category under F&B outlets, different modes of service (home delivery, takeaway, and dine in) were covered except in a few cases where the restaurants do not offer a certain mode of service. For example, pubs do not offer home delivery services. Every meal was logged photographically to capture all the plastic used.

In the wholesale food market space, the markets below were assessed. On average volunteers spent four hours in each market at different time periods (when supplies are loaded and unloaded) to note the use of single-use plastics.

1. Koyambedu market
2. Pondy Bazaar market
3. Kothwal Chavadi market
4. Adyar flower market
5. Thiruvanmiyur market

The retail shop space, consisting of grocery and vegetable/fruit/flower shops of varying sizes was assessed for the presence of single-use plastics such as clamshell boxes and cling film. However, data collected in this space was limited to 10 shops in central and south Chennai.

Results

Single-use plastics were assessed in a total of 182 meals of which 71 were dine in, 61 takeaway, and 50 home delivery. A total of 901 pieces of single-use plastics were logged including cutlery, carry bags, containers, plate liners, sachets, and sticky tape.

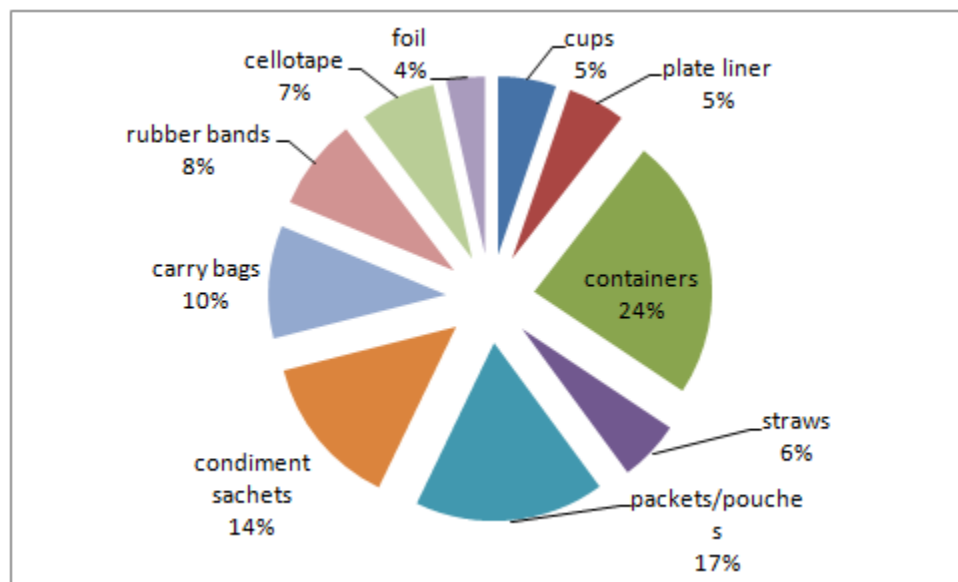


Figure 1: Top 10 single-use plastics

Of the 901 pieces of single-use plastic, the maximum (by number of pieces) was of containers (plastic boxes of various shapes and sizes) in which meals came packed. This was followed by pouches – either clear plastic or silvery packets that resemble aluminium foil – which is also popular for packing liquid items. The third highest category was sachets used for condiments such as oregano, chilli flakes, and ketchup. Carry bags (of varying thickness) were fourth at 10 per cent. Interestingly, cutlery i.e forks, spoons were just one per cent of single-use plastics. It

was observed that many restaurants either did not provide cutlery at all in takeaway and home delivery, or they gave wooden spoons and forks.

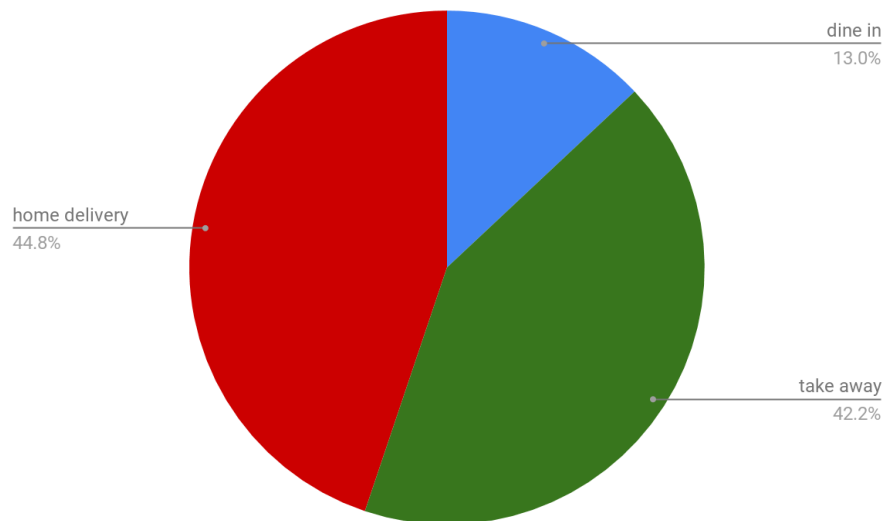


Figure 2: Percentage of plastic found in each mode of service

When comparing single-use plastics across modes of services, as expected dine-in generated the least amount of plastics – 13 per cent; while takeaway (42 per cent) and home delivery (45 per cent) took the honours. Of the 182 meals, 33 were ‘green’ meals generating no single-use plastics. Of these 33, 29 were dine-in, 3 takeaway, and 1 home delivery. The takeaway and home delivery here were of juice provided in glass bottles and /or food that was packed in leaf and paper. Overall we noticed that many outlets, especially high end ones, eschewed the carry bag by using paper bags, but made up for it by having more sachets, foil, containers, etc.



Figure 3: Examples of the single-use plastics found in one of the home delivery meals

The GCC's subsidised Amma Canteens were assessed for their plastic use. Three Amma Canteens were visited. Amma Canteens do not offer home delivery and therefore dine-in and takeaway options were exercised. The Canteens do not use any plastic in either mode. Takeaway is not allowed unless customers bring their own utensils and bags.



Figure 4: Amma Canteen providing details of menu and price. At the bottom, it states that parcel service (takeaway) is not provided. However, as mentioned, takeaway is possible if the customer brings their own utensils and bag.

Wholesale Markets and Retail Shops

In the wholesale markets, the presence of single-use plastics was noted. Of the 1936 shops surveyed across the 5 markets, carry bags and plastic covers were found in use in all of them. Plastic and nylon sacks were found in the vegetable shops and to a lesser extent in fruit and flower shops. Other kinds of plastics assessed included plastic crates, twine, nylon nets, clamshell boxes, and sellotape. All of these were found to varying extents.

In 2020, a similar exercise had been carried out, assessing 3455 shops. The plastic covers were seen in 51 per cent of the shops last year while carry bags were seen in all shops surveyed.

Due to COVID-19 restrictions, retail shops could not be assessed as in 2020. Only 10 retail shops were surveyed in 2021. The shops surveyed were in Central and South Chennai and consisted of

small flower shops, medium to large vegetable and fruit shops. All had banned items (such as cling film, plastic trays, clamshell boxes, and carry bags) and many were prominently displayed.

Conclusion

The study clearly shows that the plastic ban has not been effective. Single-use plastics continue to be widely used. If the state is to actually move towards the goal of Plastic-free Tamil Nadu some key changes are required as elucidated below.

The COVID-19 pandemic has also complicated the single-use plastic narrative globally and in India. The use of single-use masks, PPE kits has increased tremendously (the numbers are yet to collated on this). For ordinary citizens, away from the frontline of battling the pandemic, lockdowns and the need to be masked has led to a surge in demand for single-use masks, N95 masks (in spite of authorities pointing out that cloth masks are adequate). In addition, fears of stepping out has meant that citizens have switched to e-commerce sites to buy even essentials leading to greater use and throw of plastic packaging material. With restaurants shut for several months or functioning under limited seating restrictions, takeaway and home delivery have become very popular. In 2020, during the India-wide lockdown, a large number of migrant labour were left stranded and government agencies, civil society organizations, and concerned citizens worked to ensure basic needs of those stranded were met. In addition there were drives to ensure food and water reached the homeless and frontline workers such as conservancy workers. All of this, of course, meant that food and water were packed in disposable single-use plastic containers and bags. It remains to be seen how much COVID-19 has increased our use of single-use plastic.¹⁰

In addition to increased use of single-use plastics, COVID-19 has also disrupted the functioning of plastic recycling systems and therefore even the limited recycling of plastics that was in place before the pandemic has reduced drastically.¹¹

Enforcement

Except for some enforcement drives in the immediate aftermath of announcing the ban, enforcement has been poor. Regular checks on commercial establishments by the pollution control board is required to ensure shops and consumers make the shift to alternative packaging.

The removal of the exemption in 2020 (exempting products that are pre-packed in single-use plastics) is a welcome move. However, this too needs to be properly enforced and monitored.

¹⁰ <https://www.sciencedirect.com/science/article/pii/S2405844021004485>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7430241/>

¹¹ <https://swachhindia.ndtv.com/plastic-pandemic-covid-19-trashed-the-recycling-dream-51422/>
<https://www.reuters.com/investigates/special-report/health-coronavirus-plastic-recycling/>

Promote alternatives

One of the hurdles faced by consumers and small shops is access to and cost of alternative packaging. The government needs to ensure adequate support is given for a sustainable packaging ecosystem that would give an impetus for change.

Such an ecosystem would require supporting plastic manufacturers to switch to making packaging from sustainable alternatives. This too would require support from the government in terms of infrastructure, removal of barriers in setting up infrastructure, etc.

A key point to note is that plastic is cheap because the environmental and health costs are borne by the citizenry. If the government were to factor this in and manufacturers had to perforce bear that cost, plastic would not be a good option and this would give impetus to switching to sustainable, reusable alternatives

R&D

Packaging manufacturers need to invest in research and development on alternatives. The scale of production, cost of production on alternatives need to match that of plastics if we are to make this switch from plastics to sustainable packaging.

Data, data, data

Currently the government has no mechanism to track the amount of plastic produced or discarded. Manufacturers must be required to share data in a transparent manner on plastic production as well as their progress in developing alternative packaging.

Finally, awareness among consumers is varied with a lot of misinformation available. The messaging on single-use plastics must be clear, cohesive, and provide workable solutions for the consumer.

There is no silver bullet to solving the plastic problem; all these measures must be taken simultaneously and continuously if we are to become Plastic Free Tamil Nadu.