



# SINGLE USE PLASTIC FREE SECRETARIAT



Prepared by

Tamil Nadu Pollution Control Board

JUNE 2023



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## Executive Summary

The Government of Tamil Nadu, in exercise of the powers conferred under Section 5 of the Environment (Protection) Act, 1986, notified a ban on manufacture, store, Supply, transport, sale or distribution of use and throwaway plastics, plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups and plastic tumblers, water pouches and packets, plastic straws, plastic carry bags and plastic flags irrespective of thickness and the said ban has been in effect since 01.01.2019. The Government also ordered that all Government departments shall strictly implement the ban on “use and throwaway plastics” and send a compliance report on the same, vide G.O. (D) No.265 dated 20.09.2018.

As part of initiatives towards making important public places or Government offices Single Use Plastic free, Government of Tamil Nadu initiated a study towards making High Court and Secretariat Single Use Plastic free. In line with this, Tamil Nadu Pollution Control Board sent a team of officials to carry out a baseline study to understand the Single Use Plastic consumption in Secretariat and to identify the sources of Single Use Plastics that are used in the Secretariat premises.

The overall plastic use and Single Use Plastic use in the Secretariat premises are detailed out in the various sections of this report. It was observed during the study that disposable plastic use within the premises are generated primarily from sources within the Secretariat which include various canteens and shops that use single use disposable plastics, and plastics that reach Secretariat from outside are primarily composed of plastic carry bags and packaging material mostly as part of the parcel packaging for food that visitors buy from restaurants (these are limited).

Based on various observations and consultations carried out during the visits, the estimates of total plastics used in the Secretariat is 8 kg per day of which the banned Single Use Plastic accounted for 1.34 kg which is 16.7% of the total plastic waste. The plastic consumed inside the buildings majorly due to meetings in all the floors was roughly estimated to be as 2.65 kg (majorly PET bottles) in total.

The types of plastic waste generated on the campus include food packaging waste like tonner wrapper sheets, water bottle wrapper sheets, PET Bottles, food containers, oxo biodegradable carry bags, some plastic carry bags, chocolate wrappers, MLP covers etc. with the 80% contributed from 4 types of plastic which include PET bottles, plastic pouches, plastic carry bags and plastic sheets. The usage of eco-friendly alternatives like banana leaf for food packaging, wooden spoons, paper packaging for snacks, Aluminium cups, Areca plats and Manjappai (cloth bag) was observed, which shows that the transition to usage of eco alternatives has already started in the Secretariat campus.

Towards the vision of a greener and cleaner Secretariat, the study covered all single use and disposable plastic use and waste generation within the premises and puts forward suggestions to avoid use of banned Single Use Plastics and better manage the overall plastic waste generation so as to avoid littering within Secretariat premises. The recommendations also cover various awareness and information dissemination methods and sustainable practices to promote general public, vendors and employees to limit use of plastics and shift to sustainable alternatives or practices.

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## 1. Introduction

The Government of Tamil Nadu, in exercise of the powers conferred under Section 5 of the Environment (Protection) Act, 1986, notified a ban on manufacture, store, Supply, transport, sale or distribution of certain use and throwaway plastics, and the said ban has been in effect since 01.01.2019. Vide G.O.(D) No.265 dated 20.09.2018, the Government also ordered that all Government departments shall strictly implement the ban on “use and throwaway plastics” and send a compliance report on the same.

The 14 items banned by the Tamil Nadu Government are:

- Food processing and packing plastic used in hotels.
- Plastic sheets used for table mats and tablecloths.
- Thermocol plates used for serving food.
- Plastic coated paper plates.
- Plastic bags used for gifting during special occasions.
- Plastic coated tumblers used in TASMACH, small vendors, serving coffee, tea, water on occasions.
- One-time usable plastic coffee and teacups used in shops and homes.
- Normal plastic made tumblers in commercial use.
- Thermocol tumblers and cups.
- Plastic coated paper bags which are used in shops for packing products for the buyers.
- Water packets selling by small vendors around Tamil Nadu.
- Plastic straws used for serving cold drinks, milkshakes in shops, theatres and hotels.
- Plastic carry bags used for everyday usage by people.
- Plastic printed flags in sale in shops.

The notification also prohibits manufacture, import, stocking, distribution, sale and use of plastic carry bags having thickness less than seventy-five microns with effect from 30th September 2021, and having thickness less than thickness of one hundred and twenty microns with effect from the 31st of December 2022.

Moreover, the following identified single use plastic items, which have low utility and high littering potential, have been prohibited by the Central Government, with effect from 1st July 2022, vide Plastic Waste Management Amendment Rules, 2021:

- Ear buds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice- cream sticks, polystyrene [Thermocol] for decoration.
- Plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping or packing films around sweet boxes, invitation cards, and cigarette packets, plastic or PVC banners less than 100 micron, stirrers.

As part of the initiatives to make important locations Single Use Plastic free, Additional Chief Secretary to Government, Environment Climate Change and Forests Department, Tamil Nadu Pollution Control Board (TNPCB) initiated action to make the Secretariat campus, Single Use Plastic free and in connection with this, a team was sent to the Secretariat to carry out a study.

## **2. Objective of the study**

The study was initiated as a first step to establish a baseline for making Secretariat Campus Single Use Plastic free. The objective of the study was to understand and assess the plastic consumption and plastic waste generation within the Secretariat campus, awareness levels of people visiting the Secretariat including employees and the dissemination of information about the ban in the Secretariat campus and the plastic waste management system followed within the premises.

## **3. About Secretariat**

The Tamil Nadu Secretariat is one of the oldest and most iconic buildings in Chennai housing the entire government administrative structure's head offices, including the office of the Hon'ble Chief Minister, Ministers of the State Government, and the Chief Secretary. Which is situated in the historical Fort St. George, is a fortress in the coastal city of Chennai, India. Founded in 1639, it was the first English (later British) fortress in India. The Secretariat complex under the control of the Government of Tamil Nadu accommodates 38 departments and there are around 4500-5000 number of employees in the building and the building also caters to a floating population of more than 1000 people per day. The Single Use Plastic Free Secretariat

study was carried out around the area of St. Fort George Building (Lat: 13° 4'46.66"N Long: 80°17'15.05"E) and Namakkal Kavignar Maaligai Building (Lat: 13° 4'50.67"N Long: 80°17'12.10"E) and covers the area of 37,400 Sq. Mts.

#### **4. Details of visit**

As part of the study, the team from TNPCB visited the Secretariat campus on 31<sup>st</sup> January 2023, 14th, 15th and 17th February 2023 and 9th and 14th to 17th March 2023. During the first visit in February, the team undertook consultations with key stakeholders including employees, vendors/ shopkeepers, visitors, waste management agencies etc. to understand the on ground existing efforts related to waste management. In addition, the various means by which disposable plastics (especially banned Single Use Plastics) enter the campus were also observed by making visual observations and collecting data regarding the use of plastic packaging during lunch breaks, meetings etc.

In addition, to understand the plastic waste management system within the Secretariat, the team visited all the waste generation and collection points within the Secretariat campus including every floor of the Namakkal Kavignar Maaligai and Fort St. George Building to observe the waste generation and collection points in and around the premises including hotspots of plastic waste litter.

The second phase of visit to the Secretariat was more focused on quantification of the plastic waste generation in the Secretariat based on targeted survey questionnaires for the preidentified hotspots based on the primary visit.

#### **5. Consultations conducted**

The team met the Under Secretary, Public Department and as per his guidance understood the details of plastic consumption and waste management aspects in the Secretariat. Further to this, the team carried out consultation with other stakeholders involved in waste management and management of meetings/ events for their respective departments. The team carried out the consultations with the following stakeholders:

**Table 1- Consultation with Stakeholders**

S. No.	Name/ Type of stakeholder	Number of stakeholders
1.	Assistant Supervisor, Public Maintenance Department	1
2.	Supervisor, India security services	1
3.	Supervisor, Neat and Clean service providers	1
4.	Interactions with shop owners, both utility shops and	18
5.	General public and employees in the Secretariat campus	75
6.	Housekeeping staffs from both India security services and neat and clean service providers	10
7.	Personal secretaries of ACS/ Secretaries/ HODs of 6 departments	6

The details of the consultations conducted by the team with the above-mentioned stakeholders in the Namakkal Kavignar Maaligai and Fort St. George Building within the Secretariat campus are as given below.

## 5.1 Consultations with Stakeholders in Namakkal Kavignar Maaligai Building and Fort St. George Building

**Table 2 - Discussion points and aspects covered during stakeholder consultations in Namakkal Kavignar Maaligai and Fort St. George Building**

Aspect discussed	Namakkal Kavignar Maaligai	Fort St. George (Building 2)
Waste Management Agency	<ul style="list-style-type: none"> <li>Neat and Clean Service providers (Outsourced local company)</li> </ul>	<ul style="list-style-type: none"> <li>India security services (Outsourced local company)</li> <li>Inhouse Government employed staff</li> </ul>
Waste Management Agency strength	<ul style="list-style-type: none"> <li>Waste Management Agency team – Four Supervisors, 80 Staff</li> </ul>	<ul style="list-style-type: none"> <li>India security services - 20 staff and Two Supervisors</li> <li>Inhouse Government employed staff- 30 staffs</li> </ul>
Waste Management Agency representative	Nil	<ul style="list-style-type: none"> <li>Mr. Sreenivasan, Supervisor</li> <li>Mr. Rajendran, Assistant Supervisor, Public Maintenance Department</li> </ul>
Floors managed	<ul style="list-style-type: none"> <li>Nine floors out of 11 floors</li> </ul>	<ul style="list-style-type: none"> <li>India security services (Outsourced local company)- 2<sup>nd</sup> and 3<sup>rd</sup> floor</li> <li>Inhouse Government employed staff- Ground and 1<sup>st</sup> floor</li> </ul>
Plastic waste collected	<ul style="list-style-type: none"> <li>5 kg of PET bottle per day (approx. 500 bottles)</li> <li>The plastic waste generated through online food ordering is minimal (5 to 10 plastic delivery trays per day)</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 200 PET bottles per day</li> <li>The plastic waste generated through online food ordering is minimal (5 to 10 plastic delivery trays per day)</li> </ul>

Aspect discussed	Namakkal Kavignar Maaligai	Fort St. George (Building 2)
Trainings for Staff	<ul style="list-style-type: none"> <li>No trainings provided for the staffs on segregation of waste</li> </ul>	<ul style="list-style-type: none"> <li>No trainings provided for the staffs on segregation of waste</li> </ul>
Tie up with recyclers	<ul style="list-style-type: none"> <li>They do not have any partnerships with Recyclers</li> </ul>	<ul style="list-style-type: none"> <li>They do not have any partnerships with Recyclers. The collected plastic bottles are sold to aggregators / traders who come to the campus.</li> </ul>
Inspections if any	<ul style="list-style-type: none"> <li>No inspections for are done to stop Single Use Plastics entering the campus</li> </ul>	<ul style="list-style-type: none"> <li>No inspections are done to stop Single Use Plastics entering the campus</li> </ul>
Current plastic waste collection plan	<ul style="list-style-type: none"> <li>The waste is collected together as mixed waste and sent to collection point (building 2)</li> <li>The Plastic bottles collected are traded to recyclers and traders</li> <li>The paper waste is stored in the paper godown warehouse</li> </ul>	<ul style="list-style-type: none"> <li>The waste is collected as mixed waste and sent to collection point (near building 2)</li> <li>The plastic bottles collected are cut and sold to recyclers</li> <li>The paper waste is stored in the paper godown warehouse</li> </ul>
Major source of plastic waste generation	Meetings being the primary source for PET bottle waste and even though meetings take place on all floors, significantly a large quantity of PET bottle waste is collected on 1 <sup>st</sup> , 3 <sup>rd</sup> , 4 <sup>th</sup> and 10 <sup>th</sup> floors	<ul style="list-style-type: none"> <li>Meetings conducted more on the 2nd floor in the CS Conference Hall and the old conference hall</li> </ul>
Challenges faced by WMA	The staffs need to be made more aware of the segregating the waste. The PET bottles are often oily and will be difficult the clean and will be mixed with other wastes.	<ul style="list-style-type: none"> <li>Due to continuous meetings held in the Secretariat and with limited time interval between successive meetings, segregated waste collection from the meeting halls is challenging and waste are collected without segregation</li> <li>Apart from Plastic waste the WMA was facing issues with respect to management of sanitary pads waste as the incinerators are not properly functioning and gets mixed with the other waste</li> </ul>

## 5.2 Consultations with Vendors and Shopkeepers within the Secretariat Campus

The team further carried out survey among the various commercial outlets within Secretariat campus. The various outlets in the campus could be broadly classified into food outlets and utility shops. The number of such surveys carried out under each category of commercial outlets are as provided below.

**Table 3 - Consultations among shops on the Secretariat premises**

S. No.	Types of shop	Number
1.	Canteens	7
2.	Snack bars	4
3.	Utility shops	7

The details of the survey and key observations are as given below;

The team visited all the commercial outlets in the Secretariat to understand and further estimate the quantity of various types of Single Use Plastics used. The details of the Single Use Plastics used as well as the good practices with respect to use of alternatives to plastic and waste management were noted during the reconnaissance survey. The preliminary survey was conducted based on a defined questionnaire prepared prior to the visit for different category of shops like food stalls, snack bars, utility shops etc.

**Table 4 - Shops surveyed and the key observations**

S. No.	Commercial space	Key observations	Single Use Plastics used
1	Aavin	Paper cups without plastic linings are used	Aavin branded plastic bottles Plastic straws
2	Co-optex	<ul style="list-style-type: none"> <li>Primary plastic packing is used for sarees/shirts</li> <li>Co-optex has adopted Manjappai carry bags across their outlets</li> <li>They also use covers made of paper as packaging</li> </ul>	Not used
3	Xerox- lucky e services	<ul style="list-style-type: none"> <li>Plastic document sheets and covers are used</li> </ul>	Not used
4	Professional couriers	-	Not used
5	Jai hind Tele links	-	Primary plastic packaging for snacks, Stock of Single Use Plastic carry bags
6	Hotel Jai hind	Uses banana leaf for serve food Primary plastic packaging for snacks Caters to around 150 food takeaways daily and use compostable carry bags for these	Primary plastic packaging for snacks Plastic straws Plastic spoons
7	Tea board of India	Uses ceramic cups Primary packaging with PET tray (MLP) for Biscuit	Not used
8	Cooperative society	-	Not used
9	Tamil Nadu Secretariat employee's hotel	Uses carrier containers for parcel. 120 parcels per day	Primary plastic packaging for snacks,
10	Small snack shop	Primary plastic packaging for snacks, 20 parcels per day	Plastic carry bags
11	Bharath Hotel	Uses compostable plastic bags (Adsum eco solution private limited)	Not used
12	Fancy store inside New welcome hotel		Uses banned carry bags
13	New Welcome hotel	20 parcels per day and used oxo biodegradable carry bags (Akash poly plast)	Uses oxo biodegradable carry bag

S. No.	Commercial space	Key observations	Single Use Plastics used
14	Sar guru Vani Bhavan	10 to 25 parcels per day Uses banana leaf and paper for packaging while banned plastic carry bags are used	Uses banned Single Use Plastic carry bags
15	Tan tea	Uses plastic coated paper cup Uses butter paper for primary packaging for snacks	Uses banned paper cups
16	Jai Hind grocery store	Primary packaging is the only source of plastic waste generated by this store. They used newspaper for secondary packaging.	No Single Use Plastics- only products in primary packaging with MLPs were sold
17	Tamil Nadu Urban Livelihood Mission	Paper cups for selling tea Plastic pouches for snacks	-
18	Tea stall in 5 <sup>th</sup> floor (Tamil Nadu Urban Livelihood Mission)	They have paper cups without plastic coating and paper plates for selling snacks and tea.	No Single Use Plastics- only products in primary packaging with MLPs were sold

## 6. Key observations from the study

### 6.1 Plastic consumption within the premises

The plastic items consumed on the premises are primarily for food/ water consumption. It was observed that most employees bring their own food while 16% of people/employees don't. Bulk food orders are placed only for some special events, meetings, or retirement functions. During special events/meetings banned plastic trays were seen to be used for food packaging along with packaged drinking water.

There are a total of 11 canteens/ snack bars and 6 utility shops in Secretariat. Major areas of disposable plastic use or distribution within Secretariat premises were observed to be from the canteens and snack shops in the Secretariat. Of these, three food/refreshments outlets, Tamil Nadu Urban Livelihood mission tea stall, Tea stall in 5<sup>th</sup> floor and Tan tea, which are present inside the Namakkal Kavignar Maaligai and the Fort St. George building respectively were observed to have major share of disposable plastics consumption. The key disposable plastics used in these canteens include

- PET bottles
- Plastic coated paper cups
- Plastic pouches for snacks
- Small plastic packs for side dishes



Another prominent form of Single Use Plastic usage in the Secretariat is the plastic packaging used for food ordered for various functions held within the Secretariat such as retirement functions, events, meetings etc.







It was observed during the visit that banned plastic meal trays were being used in one of the functions. PET plastic bottles, which are single use in nature though not banned, are widely used for various meetings and function and significantly contributes to the overall consumption of Single Use Plastic in the Secretariat.

Apart from the above Single Use Plastic used in the three food outlets within the buildings, other major disposable plastic used in or distributed through the various commercial outlets within the Secretariat premises include,






- a) Plastic carry bags for parcels,
- b) Oxo Bio-degradable carry bags
- c) Sheet covers for packaging liquid food items,
- d) MLP wrappers of biscuits/ chocolates,
- e) PET bottle
- f) Plastic cutlery like spoons, fork, plastic coated paper cups etc.
- g) Polystyrene thermocol for decoration
- h) Multilayer food packaging with PET/PP tray (Biscuit)
- i) Primary packaging plastic covers for curry/side dishes
- j) Plastic Air Bag for Toner Cartridges (transparent and black) and TNPL A4 sheet packing wrappers

The detailed list of Single Use Plastics found on the Secretariat premises are as given below in the table.

**Table 5 - Banned Single Use Plastics**

S. No	Banned Single Use Plastics	Banned by	Photo evidence
1.	Plastic Carry Bag	Government of Tamil Nadu	
2.	Plastic straw	Government of Tamil Nadu, Government of India	
3.	Plastic coated Paper Cup	Government of Tamil Nadu	
4.	Plastic Spoon	Government of India	
5.	Disposable Food packaging trays	Government of India	
6.	Polystyrene [Thermocol] for decoration	Government of India	

**Table 6 - Other plastic wastes**

S. No	Plastic waste	Photo evidence
1.	Oxo Bio-degradable carry bags <sup>1</sup>	
2.	Disposable Plastic Food Container	
3.	PET bottles (mostly, 250 ml & 300 ml water bottles and Buttermilk bottles),	
4.	Primary packaging plastic covers for curry/side dishes	
5.	Multilayer food packaging with PET/PP tray (Biscuit)	

<sup>1</sup>Oxo biodegradable bags are not certified by Central Pollution Control Board (CPCB) and Government of Tamil Nadu has banned all types of plastic carry bags irrespective of thickness and size

S. No	Plastic waste	Photo evidence
6.	Plastic Air Bag for Toner Cartridges (transparent and black)	
7.	Water Bottle packing plastic wrappers	
8.	TNPL A4 sheet shrink film packaging	

## 6.2 Plastic waste management practices

### 6.2.1 Plastic waste segregation and collection:

- **Waste management team:**

The waste management of Fort St. George building and Namakkal Kavignar Maaligai Building is collectively carried out by three waste management teams responsible for the cleaning, collection and sanitation. The teams are headed by, Assistant Supervisor, public maintenance department for ground floor and 1st floor of Fort St. George building, India Security Services Supervisor for 2nd floor, and 3rd floor of Fort St. George building and neat and clean service provider Supervisor for the Namakkal Kavignar Maaligai Building (cleaning and maintenance). In total there are around 130 sanitary workers and 6 Supervisors as part of the three teams.

- **Waste collection within buildings:**

Garbage bins are kept in each floor of various building, with at least 2 to 3 bins in each floor (1 common bin and 2 to 3 in washrooms).

- **Waste collection from various buildings and shops/ canteens:**

Currently the waste generated in the buildings are collected by a combination of outsourced agencies and Government employed staffs. The paper document waste is collected separately and stocked in the paper godown (warehouse). The PET bottles are segregated, cut and stored separately and are later on sold to aggregators. A few PET bottles are sold to local detergent manufacturers for reuse. All other wastes are collected without segregation from dustbins placed at each floor (corridors, meeting rooms, officer cabins, department, washrooms) and 35+ bins placed at various locations across the premises and are disposed at 8 main dustbins at the collection point. It was observed that the waste disposed in these bins are not segregated in nature. Greater Chennai Corporation is responsible for collection and removal of all the waste disposed at the collection point of the Secretariat premises. It is to be noted that efforts towards waste segregation have been undertaken in the past but has not been very successful.

### **6.2.2 Disposal of sanitary waste**

- Sanitary waste is currently being disposed in the dustbins that are placed in the women's washrooms. As per the random checks done by the team it is observed that there were no incinerators placed in the washrooms of the Namakkal Kavignar Building.

### **6.2.3 Plastic waste hotspots inside the Secretariat premises**

- There was one spot behind the Namakkal Kavignar Building where Construction and Demolition (C&D) waste along with thermocol, woven plastic bags, PET bottles, discarded furniture etc. has been dumped. This location is on the same lane as Jai hind hotel and the image of the same is attached in annexure.

### **6.2.4 Manjappai Vending Machines and Reverse Vending Machines**

- Currently there are no Manjappai vending machines inside the premises.
- TNPCB and Government of Tamil Nadu had setup a reverse vending machine inside the Secretariat campus near the Fort St. George building. However, the machine was found to be not working.

### **6.2.5 Grievance redressal for sanitation with Secretariat premises**

- There is no specific grievance redressal system for sanitation on the campus. The day-to-day grievance regarding waste management and sanitation are taken up with the sanitary staff directly.






## **6.3 Sustainable Practices**






Some of the sustainable practices followed within the campus include,

- a) Some of the canteens use paper and banana leaves to give parcels.
- b) Sustainable cutlery like ceramic cups and plates, stainless spoon, paper cups, bagasse bowls, paper plate, areca spoon are used to serve snacks during meetings on campus. The teashops also use wooden stirrers.
- c) The paper waste from the Secretariat is collected and given to Tamil Nadu Newsprint and Papers Limited (TNPL) for recycling.




- d) Many eco alternative products have been used in some of the canteens and food stalls and especially Manjappai (yellow carry bags) seen in Co-optex. The detailed list of products is given in the table below.

**Table 7 - Eco alternative products practicing in Secretariat Campus**

S. No	Eco alternative product	Photo evidence
1.	Banana leaf	
2.	Manjappai (Cloth bag)	
3.	Brown kraft paper Bag	
4.	Butter paper for snacks packing	
5.	Wooden (Areca) Plate	

S. No	Eco alternative product	Photo evidence
6.	Wooden (Areca) spoon	
7.	Wooden ice-cream sticks	
8.	Paper straws	
9.	PLA coated paper cups	
10.	Aluminium foil cups	



S. No	Eco alternative product	Photo evidence
11.	Ceramic cups	
12.	Colour paper Decorative item	
13.	Paper box without packing plastic film around the box	

#### 6.4 Signage in the premises

Signages/ posters for creating awareness on the Single Use Plastic ban were not observed within the Secretariat premises. It was observed that one of the notice boards elaborating the banned Single Use Plastics was unutilised and discarded.

### 7. Methodology for assessing plastic consumption, waste generation in Secretariat and awareness levels among the public

The methodology followed to assess the plastic consumption, waste generation and the awareness levels regarding the Single Use Plastic ban within the Secretariat are as elaborated below.

## 7.1 Marking the Boundary

The study focused on two buildings:

- i) Namakkal Kavignar Maaligai (Building 1)
- ii) Fort St. George (Building 2)



**Figure 1- Boundary marked for the Area under study**

An area around 37,400 Sq. mts which includes the two buildings and the 18 commercial shops/ canteens were included as a part of the study, as depicted in the map shown above.

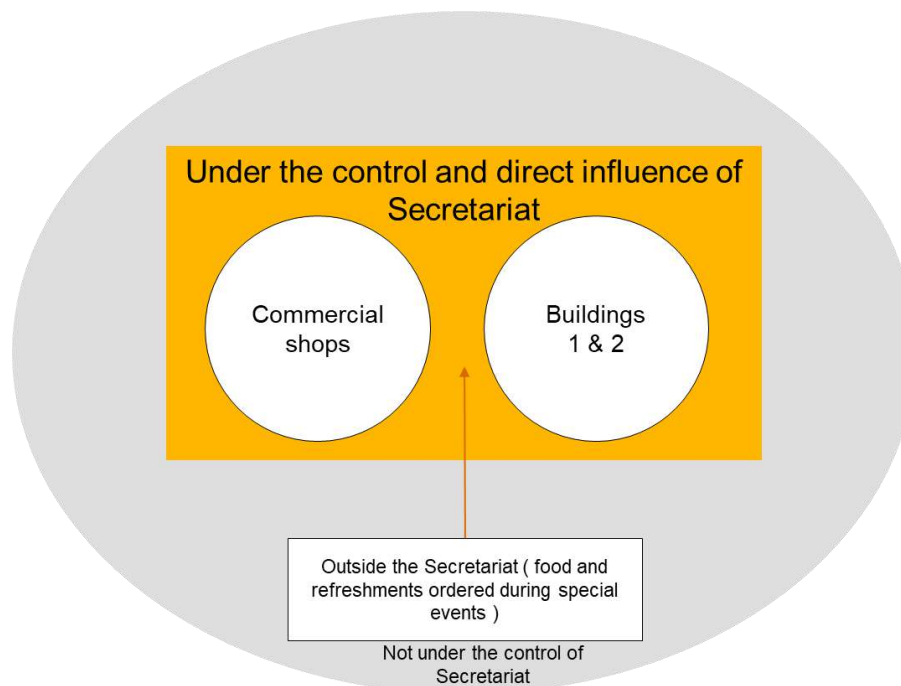
## 7.2 Reconnaissance survey

A reconnaissance visit was made and a visual observation of the area under study was carried out during the visit to have a preliminary understanding of the sources and types of plastic used in the Secretariat and to prioritise the locations for detailed survey following the visit.

## General approach for the study:

Plastic consumption and plastic waste generation in the Secretariat premises were studied separately. All plastics which are of single use type and disposed soon after immediate consumption have been considered for the purpose of this study, (including disposable items which are not banned).

Based on the level of influence on the various disposable plastics used in the Secretariat, the following figure depicts the overall categorisation and approach towards the estimation of disposable plastic consumption in the Secretariat.



**Figure 2- Methodology for study**

### 7.3 Methodology for estimating plastic consumption within the Secretariat premises

For estimating plastic usage within Secretariat two major categories were considered

- i. Disposable plastic use in or distribution from commercial shops and canteens
- ii. Use of disposable plastics in inside the buildings 1 and 2 as described earlier

### **7.3.1 Methodology for estimating single use plastic used by commercial outlets within the Secretariat premises**

An estimation of the total quantity of Single Use Plastic items sold or used by the 18 stores (food shops (11) and utility shops (7)) was done through primary survey based on predetermined category-wise questionnaires and interaction with the shopkeepers. The types of Single Use Plastics used and the average number of each type of Single Use Plastics used by the various shops and canteens inside the campus on a daily basis were understood through estimations based on the responses to the interactions and surveys. Standard weights of each type of Single Use Plastics were further used to derive the total quantity of single used plastics used by various commercial outlets.

### **7.3.2 Methodology for estimating of single use plastic used in the two buildings for meetings and other events**

An estimation of the total quantity of Single Use Plastics used during the meetings held in the conference halls in each floor of the two buildings was done. The Personal Secretary to ACSs/ Secretaries/ Head of the departments that use the conference halls in each floor for meetings were consulted for Namakkal Kavignar building and the Public Maintenance department were consulted for the Fort St. George building for this purpose. Predefined questionnaires were used to understand the frequency of meetings that occur in each floor and the quantity of Single Use Plastics used to serve refreshments and water in these meetings. These details were further used to estimate the plastic waste consumed inside the two buildings. The food ordered during special events like retirement parties were not included in the daily plastic consumption estimate because they only take place occasionally and not on a daily basis and the packaging used are not under the direct control of the secretariat.

### **7.4 Methodology used for determining waste generation within Secretariat premises**

The total waste generated in the two buildings namely, Namakkal Kavignar Maaligai and Fort St. George building was assessed by measuring the weight of the waste collected in every dustbin in the two buildings with the help of Greater Chennai Corporation and the sanitary workers. The weight of plastic waste alone could not be captured as the waste was not obtained in a properly segregated manner.

## 7.5 Methodology for assessment of the awareness levels and behavioural practices of the visitors, shop vendors and employees in the Secretariat

A primary survey of the visitors and employees in the Secretariat premises was carried out to gather insights about (i) their habits in relation to use of disposable plastic and (ii) their awareness of the Single Use Plastic ban and initiatives of the state with respect to curtailing use of banned Single Use Plastics. The following indicators were used to assess the level of awareness:

- Do they carry their own water bottle when they step out? (Helping in avoiding purchase of PET water bottles)
- Do they get lunch to office? (Helping in avoiding plastic packaging for food to some extent)
- Do they have a cloth carry bag with them right now?
- Are they aware of the ban on Single Use Plastics (28 items)?
- Are they aware of the Meendum Manjappai campaign?
- Are they aware of the Manjappai Vending Machines and the Reverse Vending Machines installed in the city?
- Which type of bag do they prefer to use? (to understand the most convenient and preferred alternative plastic)

## 8. Analysis of data collected and estimation of plastic consumption

### 8.1 Plastic consumption in Secretariat

#### 8.1.1 Estimation of plastic consumption resulting from sources within the Secretariat

There are 11 shops within the premises which sell disposable plastic items-

- Snack shop near Bharath hotel
- Tan Tea
- Aavin canteen
- Tamil Nadu Urban Livelihoods Mission
- Jai Hind hotel
- Bharat hotel
- New Welcome hotel
- Shri Sar guru Vani Bhavan
- Teashop in 5th floor of Namakkal Kavignar building
- Tea Board of India
- Lucky Xerox shop

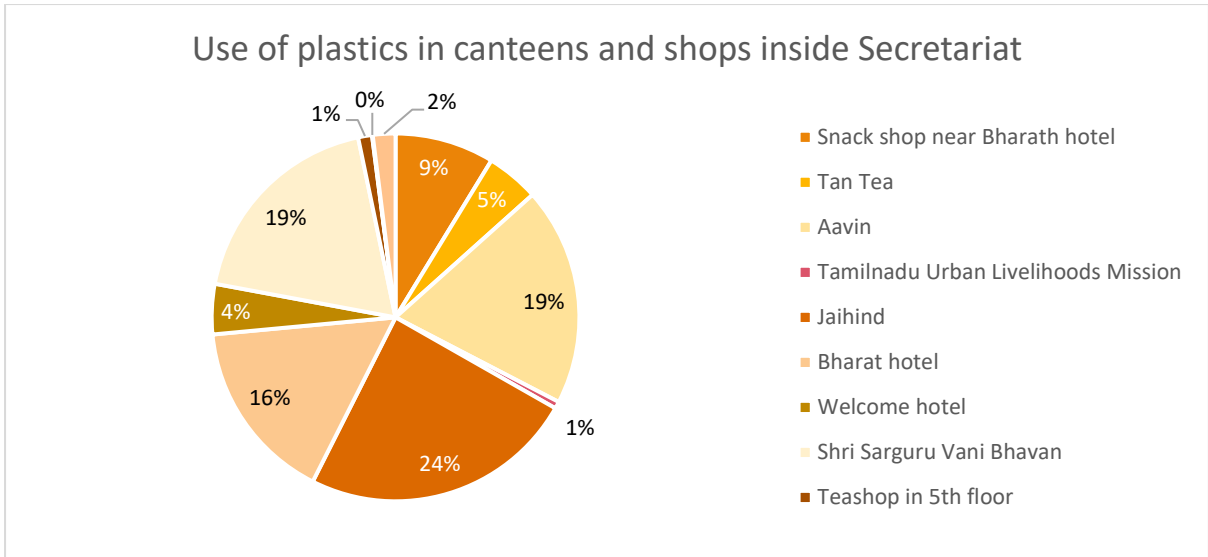
The details of plastic sold by these shops per day which could end up as plastic waste generated within the premises are covered in the table below.

**Table 8 - Total Plastic Consumption quantity from sources within the Secretariat**

Name of shop	Total weight of items (gram)																	Total weight of plastic (grams)
	Normal plastic carry bag	Oxo-biodegradable plastic carry bag	Plastic pouch	Oxo-biodegradable plastic pouch	Plastic-coated paper cups	Tetra pack (Including plastic straw)	1 litre PET bottle	500 ml PET bottle	Plastic spoon	500 ml Milk packet	Boost/Horlicks sachet	200 ml PET bottle	Ice-cream cup	Silver paper	Plastic bowl	Gift wrapper	Biscuit packet	
Snack shop near Bharath hotel	264	0	100	0	0	150	190	0	0	0	0	0	0	0	0	0	0	704
Tan Tea	0	0	0	0	200	0	174.8	0	0	0	0	0	0	0	0	0	0	374.8
Aavin canteen	0	0	0	0	0	500	0	0	0	400	0	250	400	0	0	0	0	1550
Tamilnadu Urban Livelihoods Mission	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
Jaihind Hotel	0	0	192	0	0	0	0	288	125	0	0	0	0	770	576	0	0	1951
Bharat Hotel	0	384	0	38.4	0	0	874	0	0	0	0	0	0	0	0	0	0	1296.4
New Welcome Hotel	0	160	120	0	0	0	76	0	0	0	0	0	0	0	0	0	0	356
Shri Sarguru Vani Bhavan	160	0	40	0	0	0	874	441.6	0	0	0	0	0	0	0	0	0	1515.6
Teashop in 5th floor	0	0	19.2	0	50	0	0	0	0	0	9.99	0	0	0	0	0	0	79.19
Lucky Xerox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5
Tea Board of India	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160	160
<b>Total</b>	<b>424</b>	<b>544</b>	<b>521.2</b>	<b>38.4</b>	<b>250</b>	<b>650</b>	<b>2189</b>	<b>729.6</b>	<b>125</b>	<b>400</b>	<b>9.99</b>	<b>250</b>	<b>400</b>	<b>770</b>	<b>576</b>	<b>5</b>	<b>160</b>	<b>8041.99</b>
<b>Total weight of plastic consumed from sources within the Secretariat premises</b>																		<b>8041.99</b>

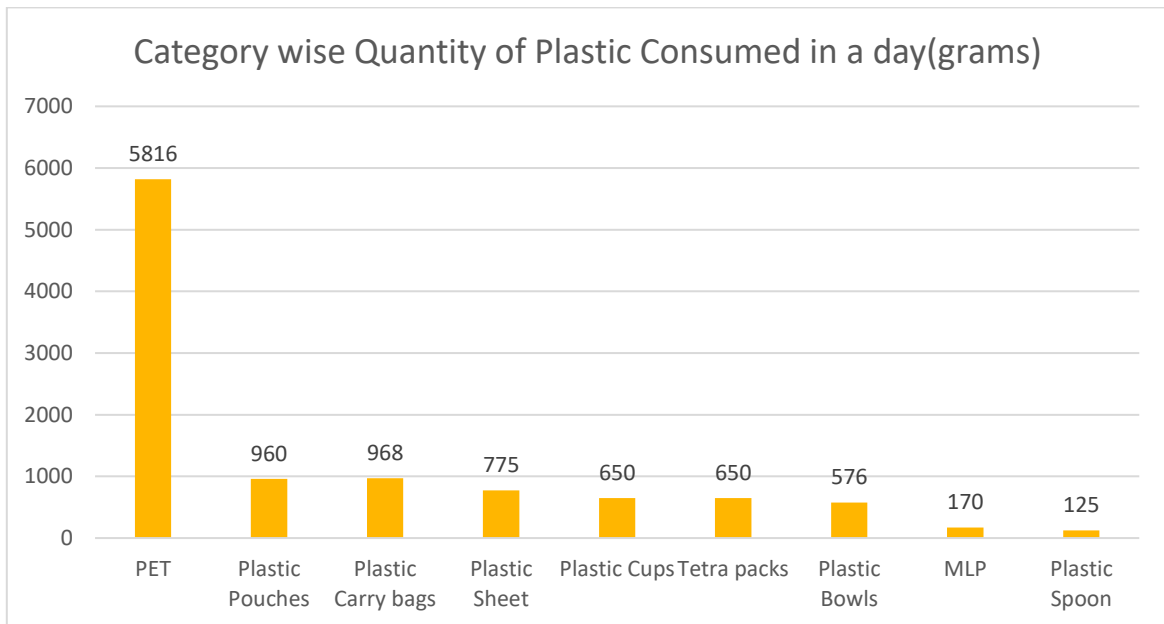
-Banned Single Use Plastic Items

- Other Single Use Plastic Items



**Figure 3: Share of use of plastics in various canteens and shops inside Secretariat**

These eleven canteens/shops cumulatively generate an estimated 8.04 kg of plastic consumption per day. Of these, only the plastic spoons, the wax-coated paper cups, plastic and oxo-biodegradable carry bags, and plastic straws (as part of the milkshakes sold in the Aavin canteen) are banned, and contributes to an estimated 16.6% (1.34 kg per day) of the plastic consumption per day from sources within the premises. However, the other types of plastic covered in the above table could also lead to generation of plastic waste within premises and hence has been included as part of the study. As can be seen in the graph above, around 24% of the plastic waste generated inside the premises is from the Jai hind hotel.



**Figure 4: Category wise disposable plastic consumption in a day**

### 8.1.2 Estimate of plastic consumption resulting from meetings

The only type of Single Use Plastic that is regularly consumed in the two buildings are the 300 ml PET water bottles that are served during meetings. There are 10 meeting halls in the Namakkal Kavignar building and 2 meeting halls in the Fort St. George building, and mostly, snacks and water are provided by TTDC during these meetings. The Namakkal Kavignar building uses 1.9 kg of PET water bottles per day, while the Fort St. George building uses 0.74 kg of the same, leading to a cumulative 2.6 kg of PET water bottles per day.

**Table 9 - Total daily plastic consumption from meetings**

S. No.	Type of plastic consumption	Weight (in Kg)
1.	Quantity of plastic consumption from meetings in Namakkal Kavignar building per day	1.9
2.	Quantity of plastic consumption from meetings in Fort St. George building per day	0.74
3.	Total daily plastic consumption from meetings	2.6

As per the data collected and further estimation, approximately a total of 10.6 kg of disposable plastic is consumed in the premises. 76% of it comes from the canteens and shops present inside the premises while 24% of it is from the PET bottles used during meetings. It is to be noted that PET bottles are the major waste generated from meetings.

**Table 10 - Total daily plastic consumption in the premises**

S. No.	Type of plastic consumption	Weight (in Kg)
1.	Quantity of plastic consumption in the shops/canteens	8.04
2.	Quantity of plastic consumption in meetings	2.6
3.	<b>Total daily plastic consumption in the premises</b>	<b>10.6</b>

### 8.2 Total waste generation

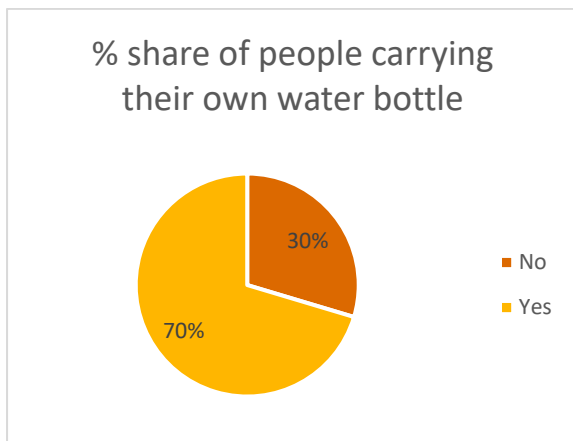
Based on the preliminary assessment of the waste collected in dustbins across the 2 buildings, the total waste per day may be estimated as  $336 \pm 70$  kg with a confidence interval of 95% and assuming the sample is normally distributed. It is to be noted that the plastic waste estimation could not be done in detail given the limitations in terms of permissions but based on the Supervisor's observations on the daily waste



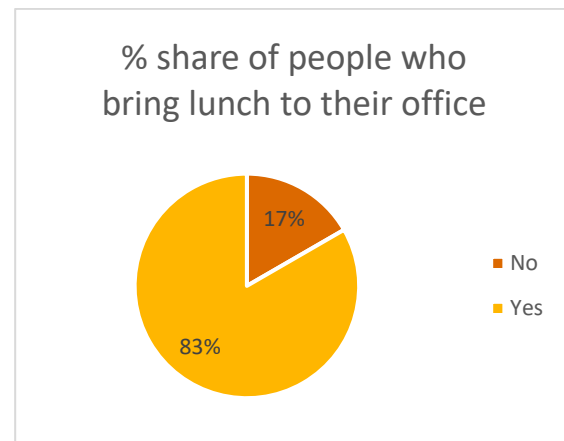
generation, an estimate of the quantity of disposable plastic waste in Fort St. George building was arrived at to be 3.3 kg of plastic waste<sup>2</sup>.

### 8.3 Insights from behavioural survey

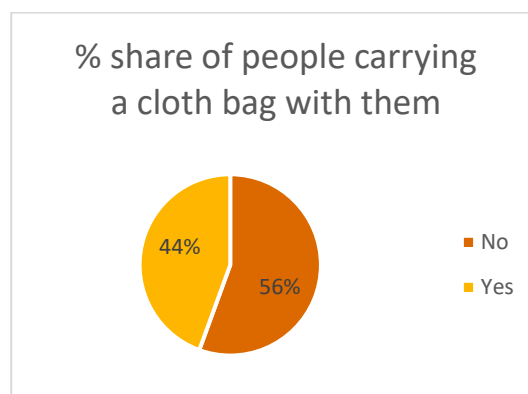
The majority of the employees and visitors do not consume major plastic items like plastic carry bags and disposable plastic water bottles inside the Secretariat premises. Only 35% of Government employees and visitors do not carry own water bottles when they travel. It is notable that nearly 83% of the Government employees and visitors are carry their lunch from home, which could help in reducing parcel packaging plastics into the Secretariat premises. However, only 44% responded that they always carry cloth bags with them, which is something that could be improved as a practice.



**Figure 5: % share of people carrying their own water bottle**



**Figure 6: % share of people who bring lunch to their office**



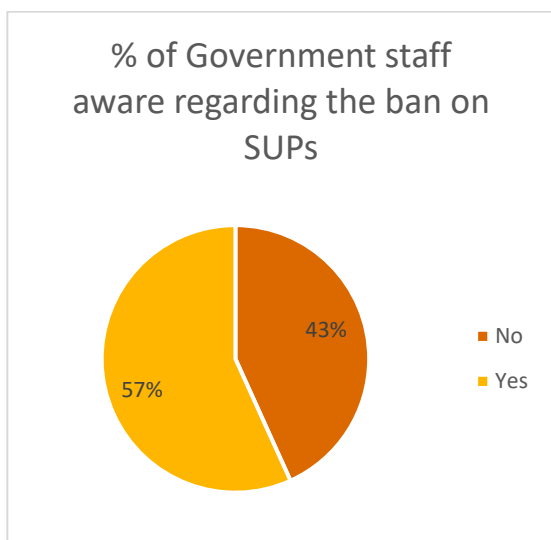
**Figure 7: % share of people carrying a cloth bag with them**

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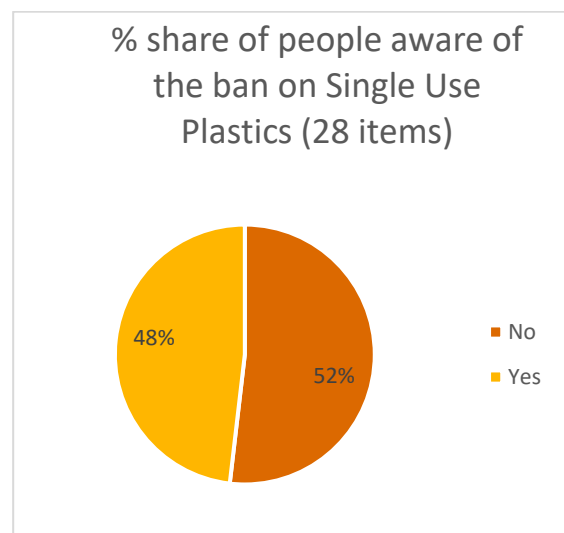
<sup>2</sup>Calculated using standard weight assumptions for plastic items based on supervisor's observation

The majority of Government employees and visitors were not aware of the state Government's ban with regard to certain Single Use Plastics, with only 48% of them reporting that they were aware of the same. While most respondents seemed to be aware that plastic carry bags have been banned, they were not aware of the 28 specifically banned items.

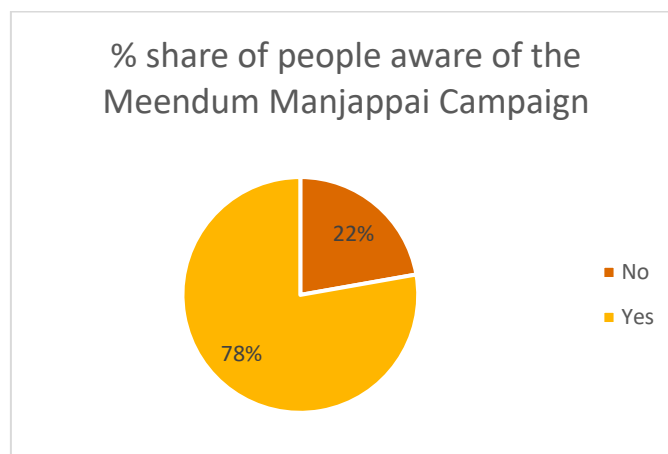
Moreover, a notable 43% of Government employees, who should be more aware of the regulatory environment in the state, were not aware of the ban. However, they were more aware of the Meendum Manjappai campaign, with 78% of them reporting that they were aware of the same



**Figure 8: % of Government staff aware regarding the ban on SUPs**

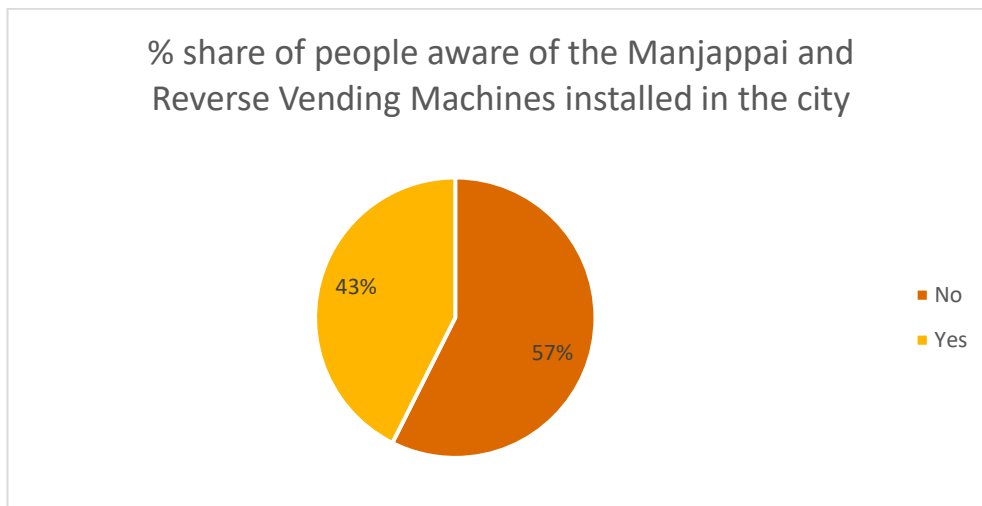


**Figure 9: % share of people aware of the ban on Single Use Plastics (28 items)**



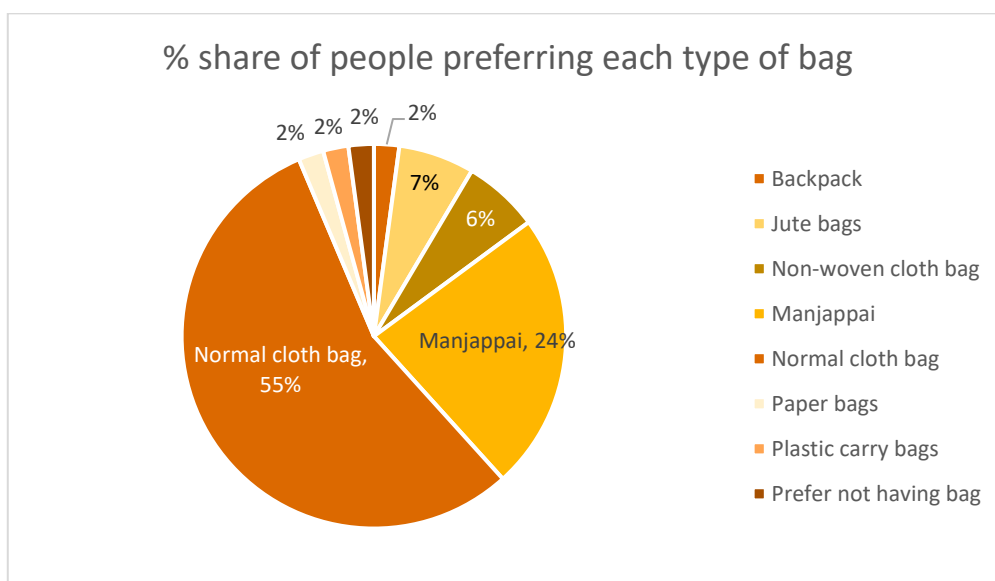
**Figure 10: % share of people aware of the Meendum Manjappai Campaign**

Most Government employees and visitors (57%) were not aware about the Manjappai Vending Machines and Reverse Vending Machines installed across the State, including the one Reverse Vending Machine installed in the Secretariat premises, which suggests the need for more signage boards and navigation boards. It is also observed that the number of awareness initiatives or hoarding or posters regarding the ban and the campaign are limited within the Secretariat premises.



**Figure 11: % share of people aware of the Manjappai and Reverse Vending Machines installed in the city**

The normal cloth bag is the most preferred bag of choice for general purpose use among the Government employees and visitors, with 55% preferring it, followed by Manjappai at 24%.



**Figure 12: % share of people preferring each type of bag**

## 9. Summary of Study

- The total quantity of disposable plastic consumed in the Secretariat premises on a daily basis is 10.6 kg.
- Out of this, banned Single Use Plastics such as plastic spoons, the plastic-coated paper cups, plastic and oxo-biodegradable carry bags, and plastic straws are found in the premises. The quantum of banned Single Use Plastic is approximately 1.34 kg/day, which is 16.6% of the total plastic waste generated.
- Within the Secretariat premises, Jai hind hotel is observed to have the highest consumption of Single Use Plastics. Bharat hotel has the highest consumption of banned Single Use Plastics.
- The majority of the Secretariat employees and visitors follow sustainable practices like bringing their own lunch and water bottles.
- The majority of the Secretariat employees and visitors are aware of the Government's initiatives on plastic waste management such as the ban on Single Use Plastics, the Meendum Manjappai campaign, the Manjappai vending machines and the Reverse vending machines.
- Even though most Secretariat employees and visitors were aware of the ban on plastic carry bags, they were not aware of the 28 specifically banned items. Moreover, nearly 43% of the employees seemed unaware of the ban.

## 10. Suggestions

### Awareness

- Posters displaying the banned plastic products and alternative options may be placed at the appropriate location within the premises such as the main entrances, lift area, on notice boards in the entrance of corridors(lift area).
- The location of the all the Manjappai vending machines and Reverse vending machines within the premises may be mapped in the map of Secretariat and boards displaying the directions to the vending machines may be placed.
- Display boards may be placed near the Reverse vending machines with detailed instructions on dos and don'ts of using the machine and the benefits of using them.
- Awareness posters may be placed near the location of waste bins on each floor regarding how to segregate waste as per three bin system (separate bins for wet waste, dry waste, and plastic waste).
- The plastic containers received while parcelling food may be washed after use (any food waste being deposited in the food waste bin), only after which the plastic containers/ other containers shall be disposed in respective bins.
- Instructions to be provided to major restaurants from where food is ordered to use eco-friendly alternatives to plastic packaging and cutleries.
- An internal newsletter with tips for sustainable lifestyle may be circulated among departments. Every issue can have one or two testimonials by officials who have adopted interesting ways of sustainable living.

### Waste management practices

- Segregation at source of the waste may be followed in all locations in the premises, with three bins kept separately for food, plastic & paper wastes on all floors of the premises. This shall help in raising awareness about recycling of plastic and need for the shift from Single Use Plastics.
- An internal team along with a dedicated inspector may be appointed to ensure segregation of plastic waste and checking of plastic waste hotspots, and their contact number/WhatsApp number can be displayed if anyone wants to complain or post pictures of banned plastic items.

## **Enforcement**

- Visual checking may be carried out for banned Single Use Plastic items at the entry gates. In the inspection counter for entry into the Secretariat Campus, physical checking may be carried out for banned Single Use Plastic items as well.
- A poster and circular may be published requesting inmates not to litter/ dispose any waste including discarded furniture/ C&D waste in any parts of the campus and the same can be coupled installing CCTV cameras and levying fines on violators.
- Aavin can be addressed to avoid banned plastics such as plastic straws and wax-coated paper cups.
- Tan- Tea shop, which is using wax coated cups shall be instructed to immediately stop using the same. An appropriate fine may be levied on this canteen.
- Internal circulars may be prepared and issued for setting norms for avoiding use of Single Use Plastics in distribution of snacks on functions and other events within the premises.
- Instructions may be provided to the stationery purchase sections to minimize the procurement of plastic products to the extent possible and encourage regular vendors to avoid plastic packaging.
- Circular may be issued to TNPL to prevent use of plastic shrink film sheet covers and plastic straps for packaging of stationary sent to Secretariat.
- Directions may be issued for using milk packets and disposing it responsibly. It is to be made sure that the tip of the milk packets should not be snipped off totally. PET bottle caps should also be disposed responsibly, and Reverse Vending Machines may be used for the purpose of collection and be eventually recycled.
- Circulars may be issued to remove any existing plastic displays and plastic posters used by departments immediately, and these shall be replaced (if any) with eco-friendly materials.

- Internal guidelines may be issued banning use of plastic or thermocol decorative items for internal celebrations or functions. The guidelines can include an attachment on the eco-friendly decorative items available in the market. Appropriate fine may be levied for use of such decorative items.

### **Sustainable practices**

- Disposable bottles served during meetings may be replaced with water served in tumblers or steel bottles.
- Circular to be sent to the sanitary workers to dispose PET bottles in the reverse vending machines.
- A composting pit may be constructed within the premises for composting organic waste, especially dry leaves, which forms a major portion of the total waste.
- Placing of additional Manjappai vending machine and Reverse vending machines in the recommended locations. The locations that can be considered for placement of the machines are as given below;

**Table 11: Probable locations for placing the Manjappai Vending Machines and Reverse Vending Machines**

Machine type	Location
Manjappai Vending Machine (5 No.)	<ul style="list-style-type: none"> <li>• Three entrances or nearby lift exit areas of the Ground Floor Namakkal Kavignar Maaligai Building               <ul style="list-style-type: none"> <li>○ Main lift (near the reception area lift (left side of the NKM)) – 1 no.</li> <li>○ Main entrance/nearby the lift (NKM building) - 1 no.</li> <li>○ Right side entrance, near the main entrance of NKM – 1 no.</li> </ul> </li> <li>• Nearby the CM Cell office – 1 no.</li> <li>• Nearby/in between Aavin and Co-optex shop Secretariat—1 no.</li> </ul>
Reverse Vending Machine (3 No.)	<ul style="list-style-type: none"> <li>• One machine may be installed behind the Fort St. George Building (Ground Floor)</li> <li>• One machine may be installed in front of the Namakkal Kavignar Maaligai Building</li> <li>• One machine should be installed in a mostly public accessed area of the Secretariat campus (may be the checking area of the public entrance (this possibility may be checked) or in-between the Bharath Hotel and Canara Bank or the nearby New welcome hotel).</li> </ul>

## Probable Locations marketed in Google Map



### Operation and maintenance

- The existing Reverse Vending Machines need to be maintained and emptied regularly. An official could be appointed to look into this continuously.
- An incinerator may be placed in all ladies' washroom for depositing sanitary waste.

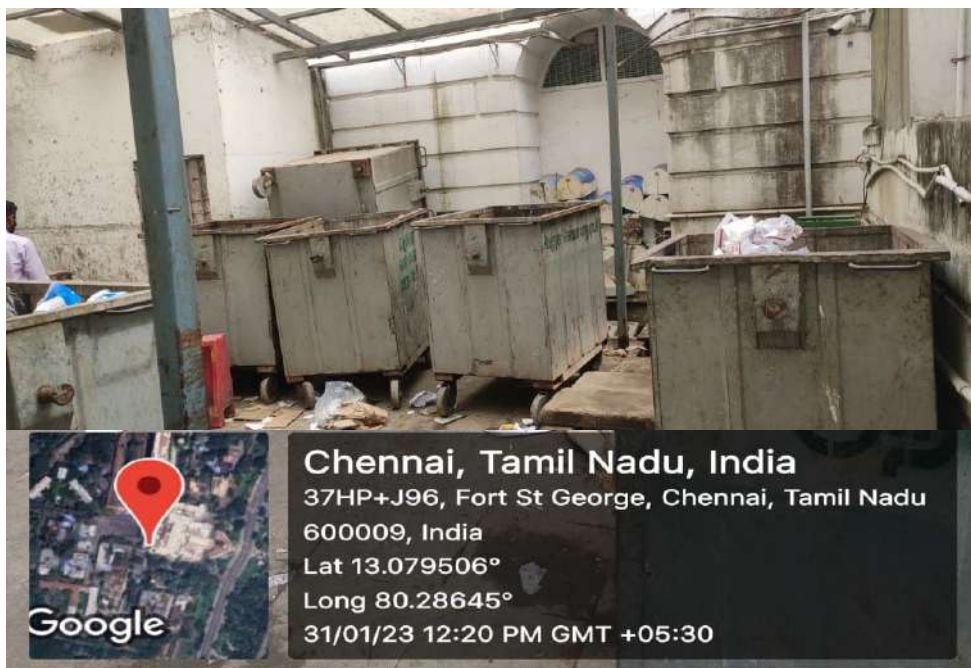
## 11. Photographs

Photographs of Waste dumping points and waste generation Hotspots Shops/canteen marked at Secretariat premises





**Figure 13: Construction and demolition (C&D) waste dumping/ collection point (beside of Namakkal Kavignar Maaligai)**



**Figure 14: Waste collection point, Secretariat (beside the Fort St. George Building) from here GCC have collecting wastes**



**Figure 15: Canteen area behind Namakkal Kavignar Maaligai**



**Figure 16: Tea shop- Tea board of India using ceramic cups**



**Figure 17: Banned plastic carry bag spotted at a hotel in Secretariat**



**Figure 18: Banned Single Use Plastic items used for takeaway items while eco-friendly items are used for dine-in**



Figure 19: Spotted Polystyrene [Thermocol] decoration item in Secretariat



Figure 20: Co-optex adopted Manjappai (cloth bag) across all their outlets



**Figure 21: C&D waste dumped behind the Namakkal Kavingnar Building**



**Figure 22: PET bottles dumped behind the Namakkal Kavingnar Building**



**Figure 23: Reverse Vending Machine placed next to the Tamil Nadu Urban Rural Mission tea stall**



**Figure 24: Clogged Reverse Vending Machine placed next to the Tamil Nadu Urban Rural Mission tea stall**



**Figure 25: Old furniture dumped behind the Namakkal Kavingnar Building**

## 12. Annexure

### 12.1 Team members:

1. Mr. Raubbin (PWM Cell)
2. Mr. Rahul Sivanunni (PwC)
3. Mr. Abhinav K.S. (PwC)
4. Sai Shruthi. B (PwC)

### 12.2 Single use plastic waste survey

Please define outcome in a measurable one sentence

#### 12.2.1 Questionnaire for Commercial food shops

i.	Name of the shop	
ii.	What kind of food served	
iii.	What material is used to serve dine in food?	<input type="checkbox"/> Plastic tray <input type="checkbox"/> Steel plate <input type="checkbox"/> Ceramic plates <input type="checkbox"/> Banana leaf <input type="checkbox"/> Any others
iv.	What is the daily footfall?	
v.	What percent of these customers takeaway food?	
vi.	Are plastic carry bags being used?	<input type="checkbox"/> Yes <input type="checkbox"/> No
vii.	What is the carry bag made of?	<input type="checkbox"/> Plastic <input type="checkbox"/> Paper <input type="checkbox"/> Compostable <input type="checkbox"/> Biodegradable <input type="checkbox"/> Oxo biodegradable
viii.	What packaging is used for packing main dish?	<input type="checkbox"/> Aluminium foil <input type="checkbox"/> Plastic sheets <input type="checkbox"/> Aluminium coated paper sheets <input type="checkbox"/> Banana leaf <input type="checkbox"/> Others, if specify
ix.	What packaging is used for packing side dishes?	<input type="checkbox"/> Plastic pouches <input type="checkbox"/> Silver pouches <input type="checkbox"/> Plastic container
x.	What quantity of the items is procured in a month?	<input type="checkbox"/> Carry bags _____ <input type="checkbox"/> Primary Packaging of main dish _____ <input type="checkbox"/> Packaging for side dishes _____
xi.	(Visual inspection) Are the primary packaging of the snack items made of plastic >50 microns and is it printed	<input type="checkbox"/> >50 micron <input type="checkbox"/> <50 micron
xii.	Quantity of snack products sold per day or how often do you procure the snack products?	
xiii.	Do customers bring their own boxes (what %)	
xiv.	Do customers bring their own carry bags (what %)	
xv.	If plastic is being used what are the challenges faced in changing to eco alternatives?	
xvi.	Do you segregate waste?	
xvii.	How is the waste managed? Plastic waste managed?	



### 12.2.2 Questionnaire for Utility shops

i.	Name of the shop	
ii.	Do you use Single use plastic for delivery or packaging?	
iii.	Are the products procured by the shops packed in plastic?	
iv.	What do you do with the bulk packaging?	
v.	What is the daily footfall?	
vi.	What are the different plastic packaging products used?	
vii.	Are plastic carry bags being used?	<input type="checkbox"/> Yes <input type="checkbox"/> No
viii.	What is the carry bag made of?	<input type="checkbox"/> Plastic <input type="checkbox"/> Paper <input type="checkbox"/> Compostable <input type="checkbox"/> Biodegradable <input type="checkbox"/> Oxo biodegradable
ix.	Do customers bring their own carry bag (what %)	
x.	If plastic is being used what are the challenges faced in changing to eco alternatives?	
xi.	How is the plastic waste managed?	

### 12.2.3 Questionnaire for departments

i.	Department Name	
ii.	Number of employees	
iii.	Who handles the waste generated in the office?	
iv.	Do you use plastic files and document holder?	
v.	Is two bin system followed in the department?	
vi.	Do you use Water dispenser/ filter?	
vii.	Number of meetings held in the department on an average	
viii.	How are beverages served in meetings?	<input type="checkbox"/> Plastic cups <input type="checkbox"/> Paper cups <input type="checkbox"/> Plastic coated paper cups <input type="checkbox"/> Ceramic cups <input type="checkbox"/> Terracotta cups
ix.	How is water served in meetings?	<input type="checkbox"/> Packaged drinking water <input type="checkbox"/> Paper cups <input type="checkbox"/> Plastic coated paper cups <input type="checkbox"/> Ceramic cups <input type="checkbox"/> Terracotta cups
x.	If packaged drinking water is used, what quantity of packaged drinking water bottles is procured per month?	
xi.	Number of meetings held in the department per day on an average in the conference hall	
xii.	How often do the department have events where lunch is arranged?	
xiii.	How often is waste collected from the office?	
xiv.	Do you follow source segregation?	

## 12.3 Floor-wise waste estimation

S. No	Bin/ Floor	Total Weight (Kg)	Bin Weight (Kg)	Total Quantity of Waste (Kg)	Total Plastic waste (Kg)	Common observation
1.	1st Floor					
2.	2nd Floor					
3.	3rd Floor	5.3	1.15	4.15		
4.	4th floor	5.64	1.15	4.49		
5.		6	1.15	4.85		
6.	5th Floor	4.45	1.15	3.3		
7.	6th Floor (1)	4.5	1.15	3.35		
8.	6th Floor (2)	8	1.15	6.85		
9.	6th Floor (3)	2.5	1.15	1.35		
10.	6th Floor (4)	8.5	1.15	7.35		
11.	6th floor (5)			0	2.15	Two days PET Bottle waste
12.	7th Floor (1)	17.2	8.5	8.7		
13.	7th Floor (2)	5.3	1.15	4.15		
14.	8th floor	4.25	0.85	3.4		
15.	8th Floor	5.2	1.15	4.05		
16.	9th Floor					
17.	Ground Fort St. George building	4.3	0.85	3.45		
18.	Fort St. George building				0.6	
19.	2nd floor Fort St. George building	6.4	0.42	5.98	0.7	Water bottle (PET)
20.	Ground Floor Fort St. George building	3.35	1.25	2.1		Paper waste
21.	Ground Floor Fort St. George building	1.3	0.55	0.75		Paper plate, Aluminium Foil, PET water Bottle
22.	1st Floor (CM Chamber)	6.7	2.2	4.5		Paper waste, 10 PET bottles, Aluminium Foil cups and 5 nos. of corrugated paper box
			<b>Total</b>	<b>72.77</b>	<b>3.45</b>	



# Report on **SINGLE USE PLASTIC FREE SECRETARIAT**

Analysis of plastic waste generated from canteen and shops



Prepared by

Tamil Nadu Pollution Control Board

MAY 2023



# Analysis of plastic waste generated from Canteens/Shops in Secretariat Premises

## 1. Introduction

The Government of Tamil Nadu, in exercise of the powers conferred under Section 5 of the Environment (Protection) Act, 1986, notified a ban on manufacture, store, supply, transport, sale or distribution of use and throwaway plastics, plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups and plastic tumblers, water pouches and packets, plastic straws, plastic carry bags and plastic flags irrespective of thickness and the said ban has been in effect since 01.01.2019. Vide G.O.(D) No.265 dated 20.09.2018, the government also ordered that all government departments shall strictly implement the ban on “use and throwaway plastics” and send a compliance report on the same.

As part of the initiatives to make important locations SUP free, Additional Chief Secretary to Government, Environment Climate Change and Forests Department, Tamil Nadu Pollution Control Board (TNPCB) initiated action to make the Secretariat campus, Single Use Plastic (SUP) free and in connection with this, a team was sent to the Secretariat to carry out a study.

As part of this study, permission was taken from the Station Headquarters to analyse the plastic waste generated from the canteens under the control of the military.

## 2. Objective of the study

The study was initiated as a first step to establish a baseline for making Secretariat Campus SUP free. The objective of the study was to understand and assess the plastic waste generation from canteens and shops within the Secretariat campus and the plastic waste management system followed within the premises.

## 3. Consultations conducted

During the first part of the study, the team undertook consultations with key stakeholders including employees, vendors/ shopkeepers, visitors, waste management agencies etc. to understand the on ground existing efforts related to waste management.

In addition, the various means by which disposable plastics (especially banned Single Use Plastics) enter the campus were also observed by making visual observations and collecting data regarding the use of plastic packaging during lunch breaks, meetings etc.

In addition, to understand the plastic waste management system within the Secretariat, the team visited all the waste generation and collection points within the Secretariat campus including every floor of the Namakkal Kavignar Maaligai and Fort St. George Building to observe the waste generation and collection points in and around the premises including hotspots of plastic waste litter. Weighing of the overall waste generation in the Secretariat was also done.

Now, as the final part of the study, Dr. R. S. Raubbin (PWM Cell) and Mr. Rahul Sivanunni (PwC) from TNPCB, along with Mr. Mappillai, Sanitary Officer, Zone 5 GCC, and Mrs. Painthamizh Selvi, Assistant Engineer, TNPCB visited the canteens and shops in the Secretariat premises on 16<sup>th</sup> May 2023. The team visited the following places

- |   |   |
|---|---|
| 1. Co-optex                                   | 11. Fancy store inside New                                  |
| 2. Xerox- lucky e services                    | welcome hotel   |
| 3. Professional couriers                      | 12. New Welcome hotel                                       |
| 4. Jaihind Telilinks                          | 13. Sarguru Vani Bhavan                                     |
| 5. Hotel Jaihind                              | 14. Tan tea   |
| 6. Tea board of India                         | 15. Jai Hind grocery store                                  |
| 7. Cooperative society                        | 16. Tamil Nadu Urban  |
| 8. Tamil Nadu secretariat<br>employee's hotel | Livelihood Mission  |
| 9. Small snack shop                           | 17. Tea stall in 5 <sup>th</sup> floor<br>(Tamil Nadu Urban |
| 10. Bharath Hotel                             | Livelihood Mission)   |

An inspection was carried out to check if banned plastic was being used in the canteens, shops and quantification of the plastic waste generation was done for the canteens and shops which had a dustbin of their own.

## Summary

The details of the canteens/shops which were found with banned SUPs during the inspection and the quantity of SUPs seized and fines levied by Greater Chennai Corporation are detailed below:

<b>Canteen / Shops</b>	<b>Banned SUPs found</b>	<b>Fine Collected (in Rs.)</b>	<b>Quantity seized (in kg)</b>
Jai hind Hotel	Plastic carry bags, Plastic spoons, Plastic-coated packaging sheets	1000	45
Tan Tea	Plastic-coated paper cups	1000	
Welcome Hotel	Plastic carry bags, Plastic spoons, Plastic-coated packaging sheets, Fake compostable carry bags	1000	
Bharath hotel	Plastic carry bags, Plastic-coated paper cups	1000	
Tea stall in 5 <sup>th</sup> floor	Plastic-coated paper cups, Plastic spoons	100	
Aavin	Plastic straws, Plastic-coated paper cups	1000	
<b>Total</b>		<b>5100</b>	

The details of the canteen/shops from which plastic waste generated are weighed are given below:

<b>Canteens/Shops</b>	<b>Quantity of Plastic waste (Kg)</b>	<b>Overall quantity of waste (Kg)</b>
Jai Hind Hotel	0	3
Welcome hotel	5	35
Bharath hotel	5	45
Tamil Nadu Secretariat employee's hotel	1	13
Aavin	2.5	3.5
Tan Tea	0.5	0.5

## Photographs



**Enforcement raid**





**Banned plastic spoons**



**Banned plastic carry bags**



**Banned plastic coated paper cups**



**Seized plastic coated paper cups and plastic carry bags**



**Challan issued**



**Inspection of Tea Board of India canteen**





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