

CHENNAI: TAMIL NADU

CITY REPORT

25TH FEB 2021



**46,46, 732
population**

**426 km²
area**

**4.68 million
residents**

**Tropical wet
and dry climate**

**Avg temperature
34° / 24°**

**Male literacy
rate is 93.7%**

**Female
literacy rate
is 86.64%**

**Tamil
Language**

**State:
Tamilnadu**

The city of Chennai has set commendable examples in optimum utilization of resources and ensuring systematic waste management, it has set its pace on the path to achieving the goals of a circular city. A circular city is a city that understands urban circular economy principles and has control over its policy tools in order to realize its vision of a future-proof city. It may involve the following elements: Regeneration of resources like that of energy, optimising resources to allow multiple users to utilize the product, optimizing the resources already in use, remanufacturing and recycling, moving away from physical to virtual products and lastly exchanging wasteful products for non-wasteful ones.



AREA AND DEMOGRAPHY

In terms of its geography, the city is the capital of the Indian State of Tamil Nadu, located on the Coromandel Coast of the Bay of Bengal. The city is also known as the 'Gateway to South India' and is located on a flat coastal plain known as the Eastern Coastal Plain. The city is also rich in terms of culture and is a major Commercial, Economic, Cultural and Educational Centre in South India. It is wide in terms of landmass and has a total area of 426 sq km, in terms of its population the total population is 46,46, 732 which includes 23,35,844 males and 23,10,888 females respectively. According to the provisional results of a 2011 census, the city had 4.68 million residents making it the sixth most populous city in India.

**23,35,844
males and
23,10,888
females**

**Solid waste
3000 tonnes per
day**

**6,404 tonnes of
garbage every
day**

**1,32,778 tones of
E-waste**



ADMINISTRATION

In terms of administration, the city has 3 Parliamentary constituencies namely, Central, North and South along with 16 assembly constituencies. The role of the Collectorate is of high eminence in the administration of the district. The Collector in the Cadre of I.A.S heads the district and acts as the District Magistrate for maintenance of Law. The collector also has the task of dealing with Social Security Schemes, Land Matters and arms licensing, etc. The Additional Collector/District Revenue Officer runs the Revenue administration under various enactments in the District. He/She is also designated as Additional District Magistrate. He mainly deals with civil supplies, land matters, mines and minerals, village officers etc. The District Revenue Officer (DRO) and Deputy Collectors assist the Collector in discharging their duties. The District Revenue Officer looks after all the branches of the Collectorate. The DRO deals mainly with general administration and is vested with supervision of day-to-day functions of the Collectorate.

ECONOMY

The city's economy has a broad industrial base in the automobile, computer, hardware manufacturing and health sectors. A major part of India's automobile industry is based in and around the city thus earning it the nickname "Detroit of India". The city is the second-largest exporter of Information Technology (IT) and Business Processing Outsourcing (BPO). Apart from this, the city has been designated as one of the fastest-growing cities in the world and the only Indian city to be rated in the "Forbes-Top 10 Fastest Growing Cities in the World". Medical tourism is another important part of Chennai's economy with 45 percent of total medical tourists to India making it to Chennai.

The city has numerous educational institutions. Certain prominent institutions include the College of Engineering and Technology, the Tamil Nadu Isai Kalluri Music College, the College of Arts and Crafts, and the teacher-training colleges. The city is the site of the University of Madras (1857), which has several advanced centres of research. Since the 1980s the city has emerged as one of the leading medical centres of the country. This was a result of the proliferation of private specialty hospitals, especially those which provide treatment for cardiac and eye ailments. Among the leading medical facilities in the city are the Apollo Hospital, the Madras Medical Mission's Institute of Cardiovascular Diseases, the Sri Ramachandra University Hospital, the Heart Institute of Chennai, and the Shankara Nethralaya ("Temple of the Eye"), an eye hospital.

CONTRIBUTION TO INDIAN GDP

The recent estimates of Chennai's Metropolitan Area in terms of the economy have ranged from **US\$79 to US\$86 billion** (PPP GDP), ranking it as the sixth most productive metro area of the country and the third-highest by GDP per capita. The metropolitan area doesn't include the nearby industrial zones of Sholinganallur, Siruseri, Oragadam and Sriperumbudur, due to which these regions' economy doesn't get included in the total economy of Chennai. If these regions are included, the economy of Chennai would be somewhere around \$167 billion to \$210 billion.

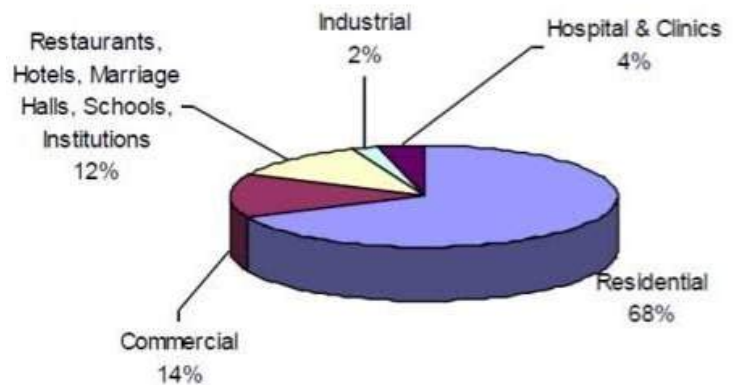


SWACHH SURVEKSHAN RANK

The city has also made its mark in securing effective sanitation and hygiene standards in the Swachh Survekshan Survey which is an annual survey of cleanliness, hygiene and sanitation in towns and cities across India. It was launched as part of the Swachh Bharat Abhiyan. It secured remarkable standards in the 2019 survey and secured the award for the fastest moving capital UT/city and was ranked 61 in the overall survey by securing an overall score of 3118 out of 5000.



Sources of Waste



WASTE GENERATION AND TREATMENT

The reasons for the city not being able to make it to the top 10 in the survey can be highlighted in terms of its waste generation and the high levels of pollution. These two evils continue to act as a major hindrance to the city's growth in terms of hygiene and sanitation. The Waste-to-Energy Research and Technology Council (WTER) stated that the city generates 6,404 tonnes of garbage every day with an average per capita of 0.71Kg. This is the highest in the country closely followed by Kolkata (0.66kg), Delhi (0.65Kg), and Hyderabad (0.65Kg), and Bangalore (0.5 kg). According to the Swachh Survekshan Report, 68% of the municipal waste generated in Chennai is residential, 16% commercial waste, 14% institutional waste, and 2% industrial waste. The majority of the garbage is green waste (32.3%), and inert materials (34.7%) like stone and glass

POLLUTION: AIR AND NOISE

Another major evil plaguing the city is pollution. The Central Pollution Control Board, in 2019 noted that many areas in Tamil Nadu's capital recorded 'very poor' air quality. **Velachery, Ramapuram, Manali, Kodungaiyur, Anna Nagar, Chennai Airport** clocked pollution levels as high as 341. The key sources of urban air pollution in the city have been identified as industrial, transport and open waste burning. The city also experiences high levels of noise pollution. The levels have been so high over the past few years that the residents have often remarked that 'living in the city is like living in a factory especially in terms of noise'. This certainly is not an exaggerated observation as the noise levels everywhere in the city are over 100 dB- more than a typical factory.

E-WASTE

The e-waste inventory in India for the year 2005 showed approximately 1,46,180 tonnes and is expected to exceed 8,00,000 tonnes by 2012 as projected in the "Guideline for Environmentally Sound Management of E-waste" published by the Government of India, MoEF, and the Central Pollution Control Board (CPCB) in March 2008. An assessment made in Chennai city in 2004- 05, on the e-waste generated from personal computers, televisions, and mobile phones revealed that about **26,183 tons of e-waste** was generated in the year which was estimated to increase to **1,32,778 tones by 2013-14**. Considering the rapid growth in the IT industry and the use of IT, especially in the major cities and towns in Tamil Nadu, it is obvious that a large part of the e-waste is generated in Tamil Nadu.

Keeping in mind the increasing levels of e-waste in the city, the government of Tamil Nadu introduced the E-waste policy in the year 2010. Objectives of the Policy include: minimize e-waste generation, utilize e-waste for beneficial purposes through environmentally sound recycling and ensure environmentally sound disposal of residual waste.

E-WASTE



WATER CONSERVATION PRACTICES

It would be wrong to not give credit to the city in terms of its innovative interventions in order to deal with the obstacles to a sustainable and clean environment. Various stakeholders have contributed to this intervention and have brought in new techniques of wastewater management, water conservation, waste management, etc. The city has an extensive wastewater system wherein the drainage system has been divided into five major zones. Zone I serves the Northeastern part of the city, Zone II covers the Central and Northern portions wherein the Western area is covered by Zone III and the Southwestern and Southern portions are covered by Zone-IV and V respectively.

When it comes to water conservation practices the city is highly dependent on rainwater harvesting and groundwater. As a water conservation measure, the government has given unprecedented thought to proposals such as Rainwater Harvesting. Keeping this in view, CMWSSB has decided to embark upon popularising the RWH techniques among the residents of Chennai city, as also in the neighboring areas. Considering the importance of Rainwater harvesting in conserving the precious groundwater resource, the Board has taken initiative to constitute a fully dedicated "Rain Water Harvesting Cell". The main objective of the Cell is to create awareness and to offer technical assistance free of cost to the residents and also to provide to the citizens 'cost-effective solutions'. Similarly, in order to arrest seawater intrusion, certain long-term measures have been undertaken which involve: construction of check-dams across River Koratalaiyar and construction of Injection wells in the Minjur Aquifer.

START-UPS TO MAKE CITY SUSTAINABLE

The most efficient use of technology has been demonstrated by the city with respect to waste management. The new waste management system involves the use of high technology in the collection of waste under the model developed by Urbaser Sumeet. Under this model, Battery Operated Vehicles (BOV) are used to collect waste. The BOVs do their rounds in three shifts to collect waste in the area. The shift timings are from 6 am to 2 pm, 2 pm to 8 pm and then again at 10 pm. The waste must be segregated at source by the residents, depending on the category it falls under. There are three categories - wet waste, dry waste and domestic hazardous waste (non-compostable and non-recyclable). For the model to be successful, it is of utmost importance that the residents take it upon themselves to ensure that segregated waste is handed over to the BOV's who further take it to the offloading site.



The civic body is largely engaged in waste and sets an example of good governance. The Greater Chennai Corporation launched the '**Zero Waste Initiative**' wherein civic workers are not only segregating but treating solid waste with the aim of **reducing plastic use and waste**. Under the initiative the GCC is segregating waste and is treating different solid wastes as per its composition, this could be a revolutionary step toward India's fight against plastic use. Consequently, Tamil Nadu's Chief Minister Edapaadi K Palaniswami's announcement on June 5th 2018 (International Environment Data) for a Plastic Free Tamil Nadu took effect from January 2019, the step was taken as the city generates **429 tonnes of plastic daily** which would account for 9.54% of the total solid waste generated by the city. The benefits of banning plastics will not just be evident in the city's environment but of also in health of citizens and long-term economy of the state.

RECOMMENDATIONS

The city has a blooming informational and technology industry which can facilitate the establishment of several start-ups like that of the BOV, E waste generation continues to be high in the city due to its software and technological parks. Hence, there is an urgent need to address the issue of E-waste generation and bring the E-waste policy from paper to practice. Similarly, keeping in view the water crisis in Chennai, it is of utmost importance that the government focuses on steps like river interlinking, district-specific blueprint for water conservation and speedy approval for rainwater harvesting projects.

CONCLUSION

The article aimed at highlighting the various steps taken by various agencies both public and private with respect to Chennai's efforts towards a more clean and sustainable environment. The city has managed to move up the ladder in terms of its sanitation in the Swachh Survekshan Survey and has immense potential with its strong industrial base, there is a strong need to balance its rapid economic development with that of environmental sustainability. The city also acts as a guiding light for other cities by demonstrating how technology can be harnessed with respect waste management. The major reason for the success of its initiatives has been a strong citizen engagement which allows the policies to be converted into practice and ensures their efficiency.



ICCE is studying several cities in India on several parameters. This is an initiative under Circular Cities project.

Gracy Singh, (Research Intern, LSR)
with Shalini Goyal Bhalla