



# THIRUVANANTHAPURAM MUNICIPAL CORPORATION

## Innovative projects in solid waste management

### 1. Green Protocol

Green Protocol was an innovative concept by Thiruvananthapuram Municipal Corporation to reduce the use of plastics. It was evolved through continuous consultations with stakeholders and arrived at a consensus to get rid of disposable plastics. The city started off with regulation on plastic carry bags which yielded positive results. The response from the public motivated the City to go for a blanket ban on plastic carry bags including non woven poly propylene bags w.e.f 1<sup>st</sup> March 2017. Attukal Ponkala, one of the largest religious festivals in the city where 3 million women participates for a day annually. It is an untamed world record for the number of women participation till date. The festival leaves behind 350-400 tonnes of waste on the festival day which is dominated by disposable plastic waste. The City attempted to implement green protocol in this event for the year 2016. The city mobilized stainless steel plates and tumblers from public and organizations for replacing disposable cups and plates. The City sent out appeal to the pilgrims and local organizers in advance to ensure minimization of use of plastics. This resulted in a sharp decline in waste – from 350 tonnes to 125 Tonnes! The result reiterated the importance of green protocol and the City tried implementing it in the major festivals like Onam Week Celebrations, State Youth Festival, District Youth Festival, Swearing in Ceremony of the State Government and so on. The Green protocol insisted to avoid the use of PVC flex banners, disposable cups, plates, bottled water, Styrofoam decoratives and food containers. It also encourage the use of eco friendly – locally available materials and services.

The Attukal Ponkala 2017 saw a further decrease in waste – 125 tonnes to 87 tonnes! Which was a break through. This was made possible with the persistent and strict organizing by the City involving volunteers and other stakeholders. The City Council also made it mandatory for all events in the city to be green events. Marriage / public halls / food catering organizations were given orders to follow green protocol. The Green Protocol efforts of the City have attracted the attention of rest of the world.





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### 2. Portable composting bins

People always had 'not in my backyard' attitude towards waste and waste management facilities. People have seen waste and waste management as something which is to associated with 'low class' or 'low caste'. This attitude prevented public participation in solid waste management programmes. More over failures of common waste management plants and waste dump sites have created a negative air about waste. Winning public confidence to tide over this attitude towards waste management is key in any solid waste management programme in the country.

The city devised decentralized cluster level composting of organic waste using the most effective technology of 'Thumburmuzhy Model'. To begin, the city established couple of units along the streets, but away from residential area. The next challenge was to eliminate the aversion of public for composting and to de mystify the myths around composting. For this the city conceived the idea of "Portable Composting Bins" which can be moved from place to place while functioning. A slightly small version of 'Thumburmuzhy Model' was built with steel frames. They were placed along the streets near the residential area with a guarantee to take it back immediately in case of failure. Portable Composting Bins were used for "trial runs" in many neighborhoods to win the public trust and to build confidence among public. The Portable Compost Bins were demonstrated in public programmes such as exhibitions and fairs where the bins were deliberately used for composting waste at source.

The Portable Compost Bins helped the City to construct permanent composting units across the city in the residential area. Currently the city operates 148 portable compost bins across the city.





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#### 3. Biocomposter (Kitchen Bin)

Biocomposter or Kitchen bin was a revolution in home composting. It was first conceived in Thiruvananthapuram and evolved into its current form with the feed back from the residents. A bio composter is a composting device which can be used inside the house in an urban environment where availability of space for composting is a challenge. The biocomposter is an efficient device which composts the organic waste generated in a household on a daily basis. The bio composter emits no bad odour, no leachate and no insects. The secret lies in the composting media – coir pith embedded with inoculum. The coir pith absorbs extra moisture, supplies adequate air and carbon, and the bacteria colony embedded in it ensures efficient composting. The device is designed as stackable three bins which can be mounted on another.

Bio composter is conceived as ‘micro-waste management plant’ of TMC which will be placed in households at no cost. It is the property of the City and the household have to pay for the maintenance, technical support and input supply. City have entrusted service providers in each location to provide the service to the households, who will report back to the health inspectors on the status of the bio composters.

Bio composter can take in about 2 kg of organic waste per day and which give about 12-15 kg of good quality compost per month. The compost from bio composter is a good medium for plants and hence the city encourages the public to utilize it to do organic kitchen garden in grow bags using the compost.

So far the city have supplied about 3000 bio composter and 12000 more units will be installed this year.





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#### **4.Green Army**

Green Army is part of the campaign wing of Thiruvananthapuram Municipal Corporation's "My City Beautiful City" project. Many NGOs, volunteering organisations, students, working professionals and retired officials form the mentors of Green Army. It is a platform where individuals & groups with similar vision work with school students to educate them about segregated waste management and other sustainable living practices in an urban environment.

Green Army provides orientation to school children on segregated waste management, green protocol and disposable plastics to start with. Further, mentors are allotted to each school to guide them further to take up green initiatives in their respective schools. Students are enrolled into Green Army units and they help the school neighbourhood to compost & segregate.

Members from organisations like Thanal, Sahridhaya, MAD (Make a Difference), Care Others Too (CO2), Prakruthi, Kerala Shashtra Sahithya Parishad, SARSAS (Save A Rupee Spread A Smile), Green Village, Indus Cycling Embassy, RecycleBin (a group of Architects) etc volunteer as Green Army mentors. More than 100 individuals are active as Green Army volunteers in the city.

Around 30 schools have been given basic orientation on segregated waste management, green protocol and disposable plastics. Many of them have started campaigning with those residential communities neighbouring their school. Green Army volunteers from these schools came forward to implement Green Protocol and Plastic arrest during all major public events and celebrations like: Onam 2017 weeklong celebration at Trivandrum (the annual harvest festival of Kerala), Vettucaud church annual celebrations (one of the prominent Christian churches in

Trivandrum), Bhima Palli annual celebrations (one of the prominent Muslim mosques in Trivandrum), District Inter school arts & cultural festival and several school annual day celebrations.

Thiruvananthapuram Municipal Corporation Mayor, Adv V K Prasanth, leads the Green Army. Krishna Kumar K K, a veteran in national literacy campaign and educational activist coordinates the activities with the help of Green Army Fellows and Green City Coordinators. Volunteers have taken mentorship of various schools in the city to guide their Green Army units. All 30 schools have taken steps to implement Green Protocol and shift from disposable plastics under the guidance of Green Army volunteers.

Green Army intends to make an impact in decentralised solid waste management at student households, schools, neighbouring community and with public at large.

