



## Creating Zero-Waste Cities through Waste-Care Composters

### Introduction

EarthCare Designs provides eco-friendly design and technology solution using renewable energy for deepening sustainable living practices amongst urban and rural populace. We are engaged in strengthening energy security and reducing the generation of waste through simple technology that runs on renewable energy. We are committed to find sustainable solutions through design, dialogue and partnership in the context of changing climatic conditions, without depleting our natural resources. We have designed a 'home composter unit' for small households and large composters for apartment buildings and corporations. The composter turns waste into good quality compost for urban gardens and farms.

### Problem

Nashik (India) generates around 350 tonnes of solid waste daily which goes into landfills. For fast-growing city like Nashik (20% annual growth) with a population growth rate of 64% in the last decade, the projected quantity of solid waste in 2015 will be 750 tonnes—a huge amount needing urgent solutions. As per municipal body's estimates, nearly 40% of the waste is compostable, but its capacity to do so is only 2-3%. The annual amount spent on waste management is about 600 million rupees, which can be used for other social purposes easily reduced by the home-composter designed for families. As the city grapples with increasing amount of waste and finding an appropriate system of waste management with emphasis on centralized system and huge budgetary requirements, time has come to find alternative ways. An idea of involving the citizens to participate in reducing and managing waste cannot be over-emphasised.

### Solution

Our approach has its philosophical underpinnings on the Gandhian concept of 'swaraj', meaning self-rule. The prevalent consumerist culture promotes management of household waste at a huge public cost. Our innovation is in designing a self-regulated mechanism as a first step to deal with household waste in making Nashik a *zero-waste city*, through providing composting units to diverse segments, from individual households to hotels and industries. Our Waste-Care Composter turns bio-degradable waste into compost in 60 days through an aerobic process. Citizens of Nashik are motivated to join the waste-care movement by accepting a specially designed composter unit and regular visits by our team ensure a continuing dialogue with them for training and maintenance. Through this process, a family is able to recycle all their kitchen and garden waste and generate about 70 kg of compost within two months, and earn about \$60 a year, thus taking a critical step towards 'swaraj' in managing waste at the source itself! This is part of our zero-waste vision to motivate families in becoming self-reliant citizens instead of depending on external agencies to manage their waste.

We aim to reach 500 families in the first year and 10,000 in the next five, which is about 5% of the total population of Nashik. This will reduce ten to fifteen tons of waste on a daily basis besides adding nearly \$300 to the family income. Though the coverage is small in number at the start, it has the potential to demonstrate that home composting is a viable option. The impact is in generation of quality compost, its ability to bring return on investment for the families and showcasing a sustainable model to make zero-waste cities. Since we will maintain a database and provide training to the families on compost care and maintenance, there will be a regular dialogue to record progress and provide remedial measures. The contact with families will be once a fortnight, gradually reducing to once in three months. Each visit will



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be systematically documented. Another aspect of the impact we hope to achieve is filling the gap that exists in the market of good organic compost for farmers. The linkage with farmers is a critical step in connecting urban citizens with food-growers for a sustained dialogue and relationship essential for healthy living and co-creating an eco-conscious world.

## Costing Plan

The cost of a Waste-care home composter is \$ 70/ The plan for Nashik-city is as follows:

No	Particulars	Target: households in Nashik	Amount in \$	Total cost for five years in \$
1	First year	500	35000	
2	Second year	1500	105000	
3	Third year	2000	140000	
4	Fourth Year	3000	210000	
5	Fifth year	3000	210000	7,00,000

The Waste-Care Composter is valued at \$ 70 which we hope to distribute to 500 families in Nashik in the first year. This would raise about \$ 35000. The Campaign for a Zero-waste City, appeals to its citizens to engage and contribute by being responsible waste-care managers. The composter also promises to recover the invested amount within a year by selling the compost to the farmers, thus building a symbiotic relationship between the existing demand and supply.

## Support/ expectation from the Donor

We at EarthCare Designs who are envisaging to make cities free from waste and create opportunities for the urban families to manage their waste and also in return generate some income from it, are in need of financial capital to produce the waste-care composter in large quantity so that we are able to reach out to diverse segments of the populace residing in the city of Nashik. Some of the ways in which the donor can support us is as follows:

- Finance the first year target composters (500) and in return the composters can bear the logo the insignia of the donor. Cost implication - \$ 35000/. This sum can be in phases.
- Support the part cost of the total budget – we are ready to raise matching funds.
- Offer your customer the choice of buying the composter in easy installments and the donor stands as security
- Any other support is welcome.

## Conclusion

The waste-care composter is a conscious designed intervention and a model that can be easily replicated in other cities as well. It is a concept in tune with saving our precious environment as waste management has become an important feature of governing large urban settlements for creating a healthy life for its citizens. For citizens too it is an opportunity to engage in making life choices that will go a long way to make our cities clean and better governed. For any donor associating with such ideas is a good investment as well.