

TRASHONOMICS – TAKING TRASH TO SCHOOLS



Project Overview

Solid waste management (SWM) problems in Chennai city have assumed unmanageable proportions. This is due to mismanagement of solid waste by civic bodies and poor civic and environmental responsibility of citizens towards safe and hygienic disposal of their household waste. While the former is a problem of governance, the latter can be pinned down to lack of civic education which is currently, largely absent among the city's young people. The convenience of the 'use and throw' culture has become so deeply ingrained in everyday lives of citizens, that it seems almost impossible to think of another way of life. Children are inheriting this culture and sustainable waste management is an essential life skill that needs to be imparted at school.

The city's young inhabitants congregate in schools and colleges – which offer a fertile learning and testing ground for new and innovative ideas. While civic education is part of the curricula in some schools, it has not been made mandatory across all boards of education. Further, there is a need for civic and social studies to be more application based, rather than a theory-based subject as it is currently conducted. This has the potential to increase awareness and active participation among students.

This project would aim towards building civic consciousness amongst school children in Chennai by using the book "Trashonomics" that has been developed by Solid Waste Management Roundtable (SWMRT), Bangalore. The book is application based and includes several activities like burying different types of waste to identify and understand which waste are bio-degradable. The goal is to educate Chennai's young citizens about the risks their city faces, mainly relating to Solid Waste Management (SWM), and to encourage a culture of environmental awareness and citizenship.

About Trashonomics

This book aims to empower children to lead the change not just by imparting knowledge problems associated with mismanagement of waste, but by involving students in simple, hands-on activities depicted by colourful illustrations, slogans and facts. This book has already been translated into Kannada, Hindi and Odia. Each chapter also has its own set of activities and games, for instance, Chapter 01 deals with current problems in waste management and types of waste generated while Chapter 03 explains the value and life cycle of organic waste and how it can be converted into a valuable resource such as compost or biogas.

The primary method of dissemination of the book and its content is through training programmes. Teachers and volunteers will be trained on the contents of the book. The recommended activities are simple, fun, practical and result driven, which gives students the opportunity to see the outcome and also carry

their learning back home. Also, having a glossary at the end of every chapter makes it easy for a quick review and understanding of the chapters.

Objective and Contribution to City's Resilience

The objective of the project is, to educate Chennai's school children about solid waste management (SWM) and its associated risks and, to encourage a culture of environmental

awareness and citizenship, prevention and collective action to lessen SWM problems in the city. The project will initially train teachers on the trashonomics material and then facilitate sessions with students.

Chennai joined the 100 Resilient Cities Network in 2014 with the aim of building resilience to short term shocks and long terms stresses that include both urbanisation related pressures such as solid waste management and traffic and, climate related impact such as droughts and floods. Consequently, one of Chennai's resilience goals is to address the city's solid waste related challenges more effectively. The city's strategy proposes to do so by engaging with different sections of society (contractors, citizens, children, commercial establishments, manufacturing companies) to make them understand their roles and responsibilities in the solid waste cycle. This effort of "talking trash in schools" is one such attempt to build, much needed civic consciousness amongst school children in a fun and hands on manner, so that they can induce behaviour change on SWM in their homes and communities.

Linkages with existing projects or policies and strategies (global, national, state, local level) and dependence on any other projects

In India, SWM is governed by the Solid Waste Management Rules, 2016. The new rules have mandated source segregation of waste into bio-degradable, dry and domestic hazardous waste. These rules also empower local bodies to impose a spot fine for non-compliance. Apart from these rules, the Swacch Bharath Abhiyan (SBM) programme also has a component for SWM with a viable gap funding of 20%.

"Talking trash in schools" will work within the framework of these existing laws and policies of the government. This project will be a good compliment to the 100 RC's Urban Horticulture project, which will also be implemented in Chennai city schools. The Urban Horticulture project, another 100RC initiative aims to make children get involved in rooftop gardening to create awareness of values and benefits of waste segregation at source (composting, recycling) and water conservation (drip irrigation, rain water harvesting).

Precedents

Efforts to educate children about waste and recycling may be done independently at a school level or by organisations such as Exnora. The Trashonomics concept was conceptualised by SWMRT in Bangalore and is now being brought to Chennai. In the 100RC network, cities such as Bristol, Bangkok have proposed to introduce awareness programmes for their citizens on sustainable solid waste management. However, CityWorks' project aims to address SWM in a fun and hands-on way for children by conducting workshops and activities where children see for themselves, for instance, how different materials decompose and so on.

Cost and Financing

The project will first be implemented in three schools will cost approximately ₹50,000 for running the course. This cost includes printing of books, teacher training cost,

transportation and facilitators time. In addition to this, an administration charge of ₹5,000 (approx.) would be incurred. The project will initially be funded by 100RC and will be scaled up to 15 schools for which CSR funding will be identified.

Schools are not expected to pay for these programmes and instead make space available and nominate their teachers to attend the training workshops. The full cost of the programme is likely to be covered by corporate sponsors who are yet to be identified.

Implementation

Agencies involved:

- Enabler / Facilitator: City Works
- Participants: Trained volunteers / teachers, school administration

Operational plan:

The main aim of this course is to ensure sustained and continued learning and practice. While there are three structured sessions with the students as part of the book, the activities and conversation should be continued. We want the students to spread their knowledge and lead similar activities in their homes and communities.

Approximately 3 schools in Chennai will be selected to undergo the Trashonomics training sessions. In an effort to integrate related initiatives, the schools where Resilient Chennai's Urban Horticulture Project will likely be implemented, will also be chosen for this project. Sessions and workshops will be taught in Tamil and English. Students from classes 5 to 7 will be selected to undergo this course. Prior to the students training, a set of volunteers and teachers from each school will need to be trained.

- Training volunteers: Volunteers and teachers will undergo a 'Train the Teacher Workshop' which will explain the content of the book and the methodology for teaching the program. The training workshop will be a single 5 hour session and will be conducted in each of the selected schools.
- Teaching students: The book will be taught in a minimum of 3 sessions (table 1)

Table 1: Workshop schedule

Sessions	Chapter	Time required
Session 01	Chapter 1 and 2	1 hour
Session 02	Chapter 3	1 hour
Session 03	Chapter 4 and 5	1 hour

Each session will be taught by two volunteers/teachers in a minimum of 1 hour for a class of approximately 50 students. The sessions can also be extended if needed. Each chapter has

its own set of activities and since some of the activities require a few days to complete and implement, it is recommended to have at least a week’s gap between sessions.

Once the sessions have been completed, it is important to ensure that the school is continuing to practice and implement the lessons that have been taught, and that the students also sustain the efforts. An audit will be conducted to ensure the same.

In order to sustain the efforts and make it more exciting and challenging for students to continue to engage with their civic issues, certain long-term plans need to be in place and these include:

- a) Interested students from the school can collaborate and form Eco clubs and introduce small scale initiatives within their campus, such as, plastic straw ban etc. Subsequently, two to three student champions can be identified from each school and together with student champions from neighbourhood schools, they can form clubs which work towards continuing the efforts by organizing events, workshops for the student community and also to engage residents and ward level officials in raising awareness and implementing simple waste management solutions at a neighbourhood level.
- b) Events and workshops can include composting and urban gardening, leaf collection and composting, site visits to nearby dump yards, movie screenings, exhibitions of student made upcycled products etc. This creates an exciting environment for students to engage with their peers and local communities while sharing the knowledge gained.

City works will facilitate the formation and initial organization of these clubs and their activities. In schools where a similar club already exists, it will provide more direction and structure to the clubs as needed. Table 2 provides the overall timeline of activities outlined above.

Table 2: Detailed timeline of activities

	Numbers	Short term Time line	Long term time line
Train the teacher workshop	2 teachers / class (approx. 6 - 10 teachers in total)	5 hours / workshop and 1 workshop per school	1 month
Sessions in school including practical work and follow up	3 sessions (minimum)	1 hour / session (minimum)	2 month (minimum)
Club formation	2 -3 student champions/ school		3 months
Community work			4 months

- Design / Materials required: Every teacher / volunteer is given an Activity Kit, contents of which help with execution of the projects and games. Each kit contains -
 - 2bin 1bag kit
 - Compost bin
 - Compost brick
 - Posters

Monitoring:

Practical work / sessions follow up: At the end of the three (minimum) sessions, CityWorks will facilitate periodic follow ups with the schools to ensure that teachers and students are continuing to practice and implement lessons taught. Schools can also set up small scale initiatives such as – plastic straw ban on campus etc.

Following this, work on the formation and organization of clubs will be facilitated. Longer term community activities in the neighbourhood / ward, will also be facilitated.

Potential challenges to implementation:

While most of the suggested activities in the book will be explained and demonstrated during the teaching sessions, some of them require follow-up by the teachers / volunteers to ensure that the system is working well and that the school and students are continuing to execute the projects.

Despite periodic follow up initially, long term responsibility to sustain efforts is left with respective schools.