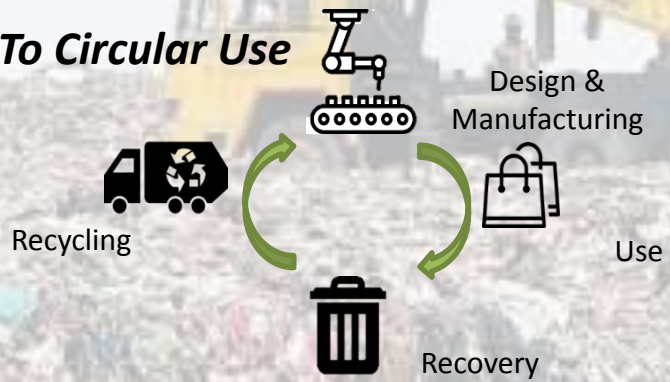
ZERO WASTE

From Linear Use

To Circular Use



BUSINESS PLAN ON COMPREHENSIVE WASTE MANAGEMENT & WASTE EXCHANGE

Team Members

BUSINESS PLAN ON COMPREHENSIVE WASTE MANAGEMENT

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Problem Statement

The business model for comprehensive waste management for Cities is not available and cities continue to process their waste without a **profit** motive.

Issues in Waste Management

1. Waste management is an ongoing challenge due to weak institutions, chronic under-resourcing and rapid urbanization. Also due to Lack of Public awareness and social education at school.
2. Legislation for a city level comprehensive waste management plan is not available for many cities.
3. Urban Local Bodies (ULBs) are restrained by various issues including infrastructure and capacity constraints in addressing the multi-dimensional problems of waste management.
4. Not much focus on secondary markets and niche segments for strengthening of waste markets.
5. Financial constraints for ULBs and lack of incentives to the public are acting as barriers for segregation at source, which is a vital component of waste management.

Process involved in creating a Waste Exchange and Business Model

Public service activities that collect the waste from Households and Industries

Processing activities that transform this waste to potential wealth

Marketing activities that enables processed material to re-enter the economy

The **Waste Exchange** and **business model** rests on an ability to combine these three distinct although mutually dependent types of activities

Main Objectives of Zero Waste Project:

Related to Processing and Marketing(We intend to use **Quintuple model**)

Public service activities that take in the waste from Households and Industries

Finding key drivers, challenges and opportunities for solid waste markets and regional secondary markets for recycled/reused waste. During First phase only **Plastic** and **wet waste** for **compost** will be focused.

Processing activities that transform this waste to resource

Bringing in more **private investment** in the waste management field and finding ways to fund ULB's waste management infrastructure.

Marketing activities that let processed material re-enter the economy

Finding ways to bridge the gap between demand and supply of products made out of processed waste by creating a **WASTE EXCHANGE**.

Other Objectives of Zero Waste Project:

- Public service activities that take in the waste from Households and Industries
- Processing activities that transform this waste to resource
- Marketing activities that let processed material re-enter the economy

Related to Public Services:

Streamlining the existing waste management supply chain by suggesting the optimal and sustainable ways of collection, transportation, segregation and disposal of waste by bringing in best practices across India. Also Information and communication technologies**(ICT)** will be integrated with this.

Immediate needs for handling the waste being generated.

Long term need for reducing the generation of waste to ensure ZERO residue.

Livelihood needs of stakeholders directly and indirectly involved .

e.g. Rag pickers

Methodology for Main objective

Phase 2 : Related to Processing and Marketing the waste products in **Quintuple model**

How?

1. **Acting as a platform** to bring stakeholders including

   - ✓ Environmental experts,
   - ✓ Academic experts,
   - ✓ Private players including MNC's, Fertilizer companies,
   - ✓ Startups,
   - ✓ NGO's,
   - ✓ Market experts,
   - ✓ Economic experts,
   - ✓ Ministry of Urban Affairs,
   - ✓ Ministry of Environment
   - ✓ Department of Agriculture
   - ✓ International Organizations etc

together to chart out effective strategy to

1. Creating Waste Exchange (one stop solution for waste management issues)
2. Create market for processed waste and waste products
3. Create a Business model for comprehensive waste management .

Methodology for other objectives

Phase 1 : Related to Public service.
Streamlining the existing waste management supply chain

HOW?

Based on city waste profile and cities waste management practices improved ways will be devised for

- ✓ Effective collection ,
- ✓ Segregation at source
- ✓ Transportation
- ✓ Processing and Disposal

By bringing in,

1. Best practices across India and Abroad
2. Brainstorming with experts from (Research Institutes, Academic Institutes, NGO's, Ministry and other experts in respective cities)
3. Knowledge gained through field visits in best performing cities including Indore, Ambikapur

Funding Options

- Mobilizing CSR funds (companies will be interested because of Social cause and brand marketing related to it)
- Channelizing fund from international bodies including World Bank, UNDP's program for "Integrated Material Recovery Centers" and other institutions.
- Bringing Private players
- Exploring option of "Municipal Bonds" to fund waste management infrastructure.

Marketing Options

- Using Department of Agriculture, Fertilizer companies to buy compost directly from cities.
- Selling quality compost directly to farmers.
- Channelizing non recyclable plastic waste to Fertilizer and cement companies
- Finding suitable market for other wastes.

Steps taken by our group

For Processing Facilities:

1. Communication has been established with the Head of **UNDP**'s "**Integrated material recovery centers**" program for setting up material recovery facility.

For Streamlining of Waste collection and recovery:

1. Expert team including **TERI, JNU, IIT Madras, Bits Pilani, BIMTEC , MoHUA, MoEFCC** along with **NGO's** including **Sahaas, Chintan,** has been formed to come up with optimal and sustainable solutions for waste management processes at city level.
2. Communication has been established with informal economy in waste processing field, Startup's to understand the challenges in secondary market.

For Creating Business plan:

1. Same expert team along with Economic experts from **IIM-A** has been formed to create a business model.
2. Literature review of other existing business models in abroad is being studied.

Deliverables

- **Waste Exchange** for creating a circular economy.
- **Business Model** for comprehensive waste management which can be scaled up across India and abroad
- **Digital Tool** which act as platform for ULB's to connect directly with Public and Private players involved in CSR activities at city level to mobilize funding , which could be scaled up across India.

Things to be considered while creating the Digital tool

- ✓ Willingness of Private players to share CSR related activities
- ✓ Cities interest to bring private companies together for social activities
- ✓ Time needed to create it will completely depends on stakeholders interest

Eligibility assessment of Cities as Pilot Entities

List of Parameters considered:

1. Cities interest in hosting this project
2. Availability of Data
3. ULB's Capacity (Fund and Manpower)
4. Public Awareness
5. Informal Economy around Waste
6. Secondary Market Availability
7. Existing Initiatives by Academicians
8. Activities of NGO's
9. Projects Under Smart City Mission
10. Quantum of Waste Generation
11. Environmental Impact related to location.

From 100 Smart Cities we have narrowed down to the following cities by estimating with the list of given parameters

1. Indore
2. Chennai
3. Bangalore
4. Coimbatore
5. Madurai
6. Puducherry
7. Tiruchirapalli
8. Port Blaire

From this one city will be chosen after consulting with respective city.

Tentative Timeline (Subjective to changes post City selection)

Activities	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Literature review												
Discussion with mentors												
City Field visit												
City Selection												
Discussion with selcted City												
Stakeholder interactions to find bottelneck												
Finding ways to optimise existing system of waste management												
Awarness Drive initiation												
Analysing secondary markets												
Finding ways to moilise funds												
Creating Business Model for City waste (Plastic , Compost)												
Implementing the Model												
Post case analysis												


THANK YOU