ENVIRONMENTAL SUSTAINABILITY

CLAIRE FONTAINE® **Organic Waste Transformer**

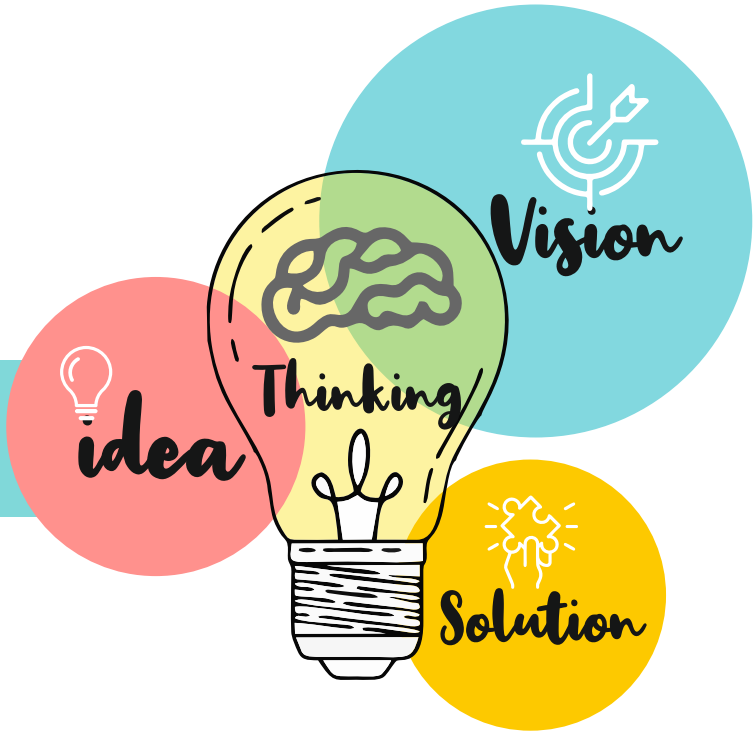
An out of the box Scientific Composting System

Have you heard of the Science behind Composting?

Footprints of Innovation

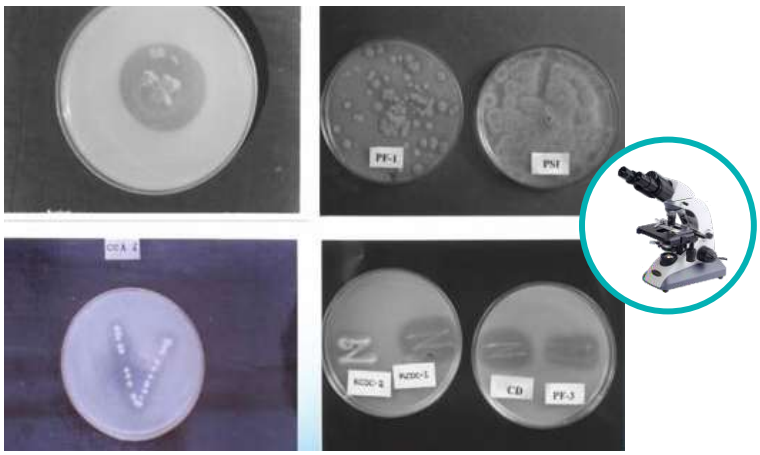
The **Team**

A team of leading scientists, alumni and practitioners from leading Institutions worked on the challenge.



IISc | Auroville Foundation

Data **Mining**



4 A rich exclusive scientific lab data base of treating waste for 4 decades from the source of waste generation.

Experience in handling centralized waste of humongous quantity in millions of tons.

Rich hands on data of the degradation of different kinds of waste on a time horizon under the microscope.

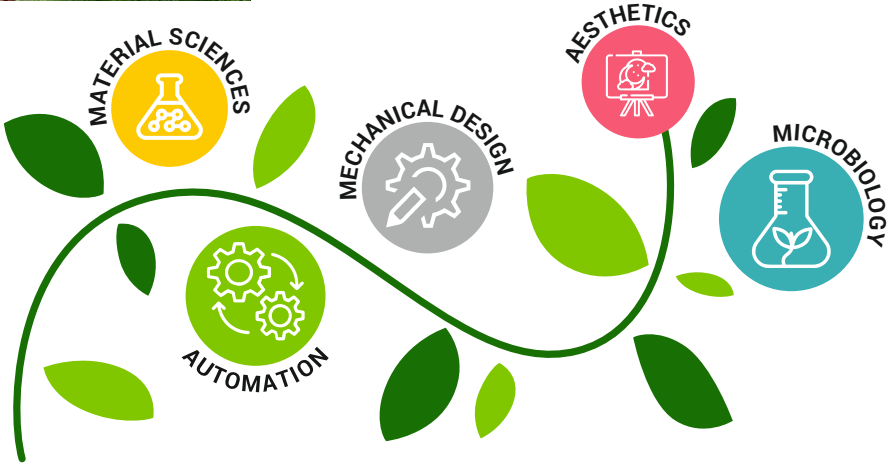
Natural **Process**

Ancient wisdom of farmers over the centuries using a natural system is expedited by providing the right environs for microbes to populate.

Optimization through innovation is the key, with the rigors of the science of composting never compromised.

Leverage on **Domain Knowledge**

The developed system synchronizes facets of technology of material sciences, mechanical design, microbiology, automation, aesthetics and others. The challenge is to be transparent in a system, with checks & balances, to ensure controls for monitoring the processes is thorough.

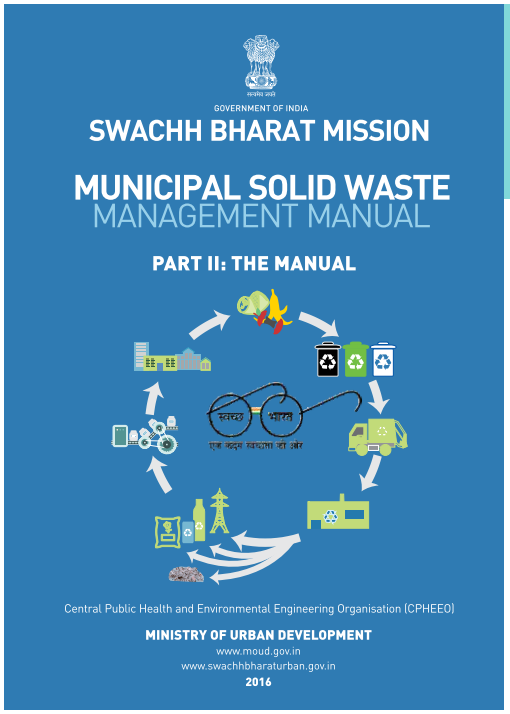


Needs of the **Market**

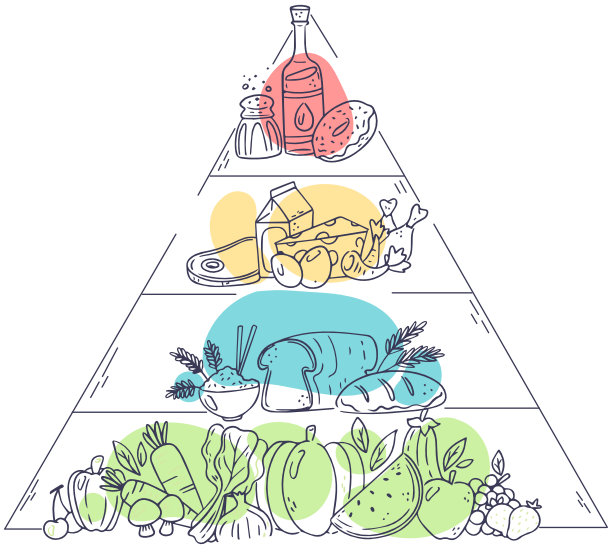
Turning of compost piles done in municipalities incorporated in our system

The system developed in a synergistic manner overcomes all the weaknesses of operation, maintenance and recurring expenses faced by the legacy systems.

Nutrient **Maximization**



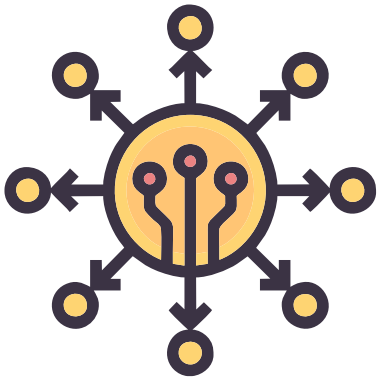
Organic manure extraction in both solid and liquid form, thereby enhancing productivity of recovery. Liquid fertilizer is used in diluted form as a nutrient spray.



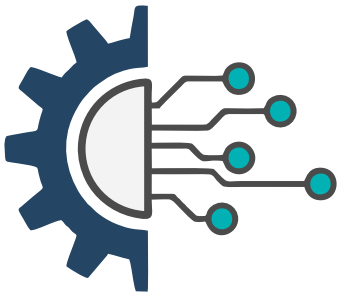
Decentralized **Systems**

Makes the community responsible and sensitive for waste generated in one's backyard. Avoids transportation of wet waste to a centralized location.

On-line monitored scientific systems is required for micro composting.



Automation



System has variants to operate even on a manual mode. Can capture of data on a digital device. Power usage and labour inputs are negligible.

Circular **Economy**

> "We Have Borrowed the Earth from the Future Generation and it is Our Duty to Protect it and Return it Without Damage."
>
> - Red Indian Saying

Just disposing waste by charring serves a very limited purpose.

Our focus is on reuse of quality manure back to the soil.

Dangers of **Semi composting**

Our focus is on Comprehensive Pathogenic Removal. It is 100% safe for the farmers to handle the manure. Our manure is fully sanitized with helminth eggs eliminated.

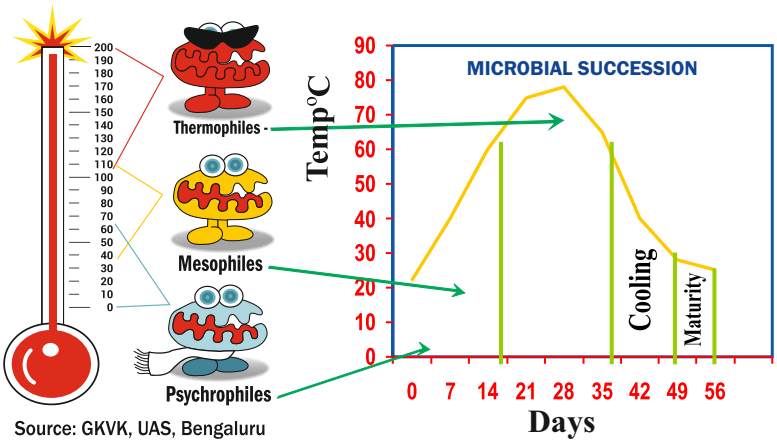
We have a strict "No Permission List "to induce artificial heating nor suppress liquid fertilizers via infusion of suppressants like saw dust.

Sustainable **Development**

SUSTAINABLE DEVELOPMENT GOALS

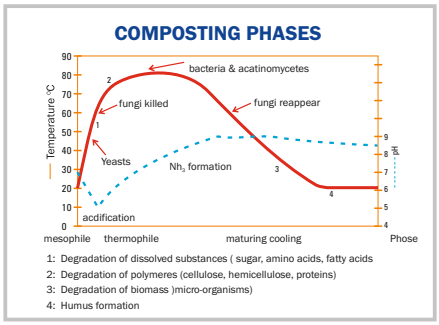
Our contribution in following the science of composting ensures that apart from saying No to landfills, we contribute to Sustainable Development Goals of United Nations.

Composting **Protocol**



Source: GKVK, UAS, Bengaluru

Typical time for windrow method



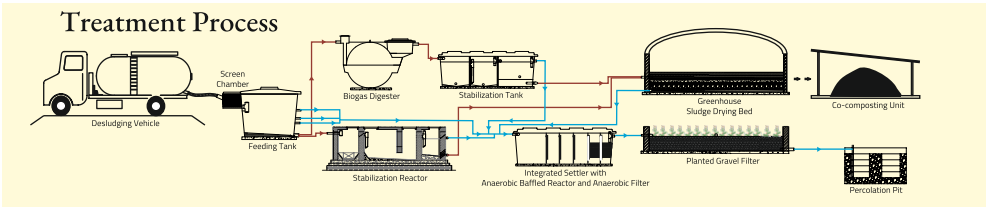
- Aerobic composting
- Thermo Management
- Humification

Playground for **R&D**

Oldest decentralized waste management center in India since 1988.

Innovation was tested to do away with the composting pits.

Co-composting system at Devanahalli Municipality.



Bruhat Bengaluru Mahanagara Palike

CEE Centre for Environment Education

BORDA

BILL & MELINDA GATES foundation

Modular **Concept**

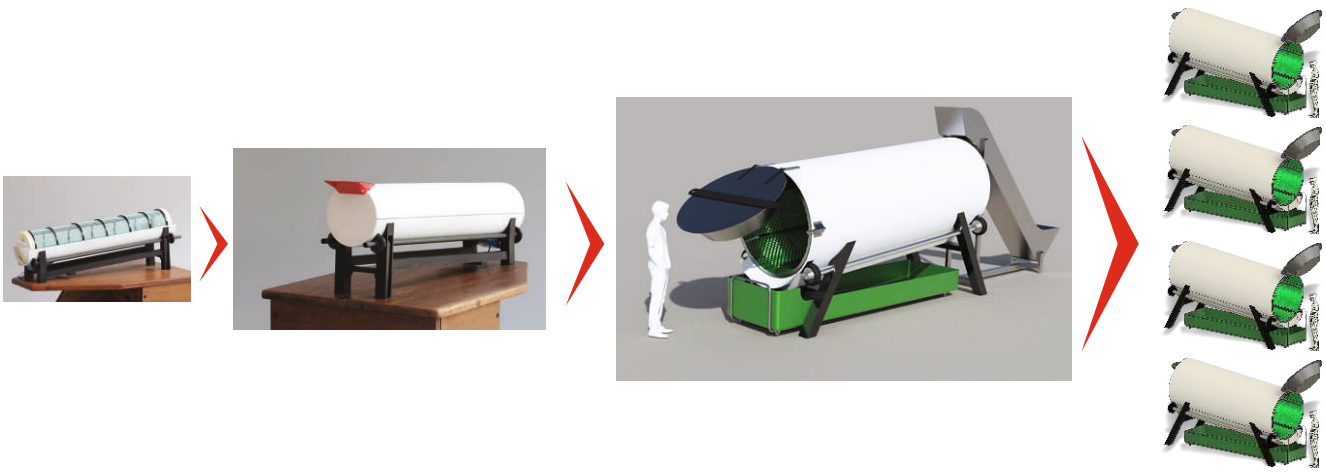
Building Blocks of Scalability.

Core processor handles critical requirements, which are the building block for subsequent treatment.

Without the patented Core Processor, further processes would be imperfect.

The Core processor ensures complete pathogenic removal for benefit of farmers.

Larger decentralized capacity of 200 tons per day with lowest capacity of 10 kgs per day.



Process **Features**

Stage 1
Weighing, Shredding & Transferring Station.

Stage 2 Homogenization Station
Psychrophillic bacteria.
Churning - Air infusion.
Harnessing liquid fertilizer.

Stage 3 Sanitization Station
Thermophillic bacteria
Pathogen removal

Patented

Stage 4
Annelids Bio Reactor
Optional Vermi compost

Stage 5
Compost Harvest

VALIDATION

Various inputs at different stages from inception in the drawing board stage and calibration until its final testing and validation was done along with experience of international academia and practitioners from University Agricultural Sciences (UAS),Gandhi Krishi Vignan Kendra (GKVK), Bangalore; Indian Institute of Science (IIS),Bangalore & Indian Institute of Technology (IIT).

Technology process was approved in the list of "evaluated in - Situ Technologies for processing of wet waste"

Karnataka State Pollution Control Board

National Green Tribunal

ENVIRONMENTAL SUSTAINABILITY

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