

Organic Waste Converter (OWC) System

Decentralized Organic Waste Management

for

**Industries, Markets, Clubs & Resorts, Institutional Campus
Canteen, Township, Residential Housing Complex, Hotels,
Hostels, Hospital, etc.**

TECHPRO ECO GREEN PRODUCTS Pvt. Ltd.

www.techproecogreen.com

Classification Waste

Waste

Municipal Waste

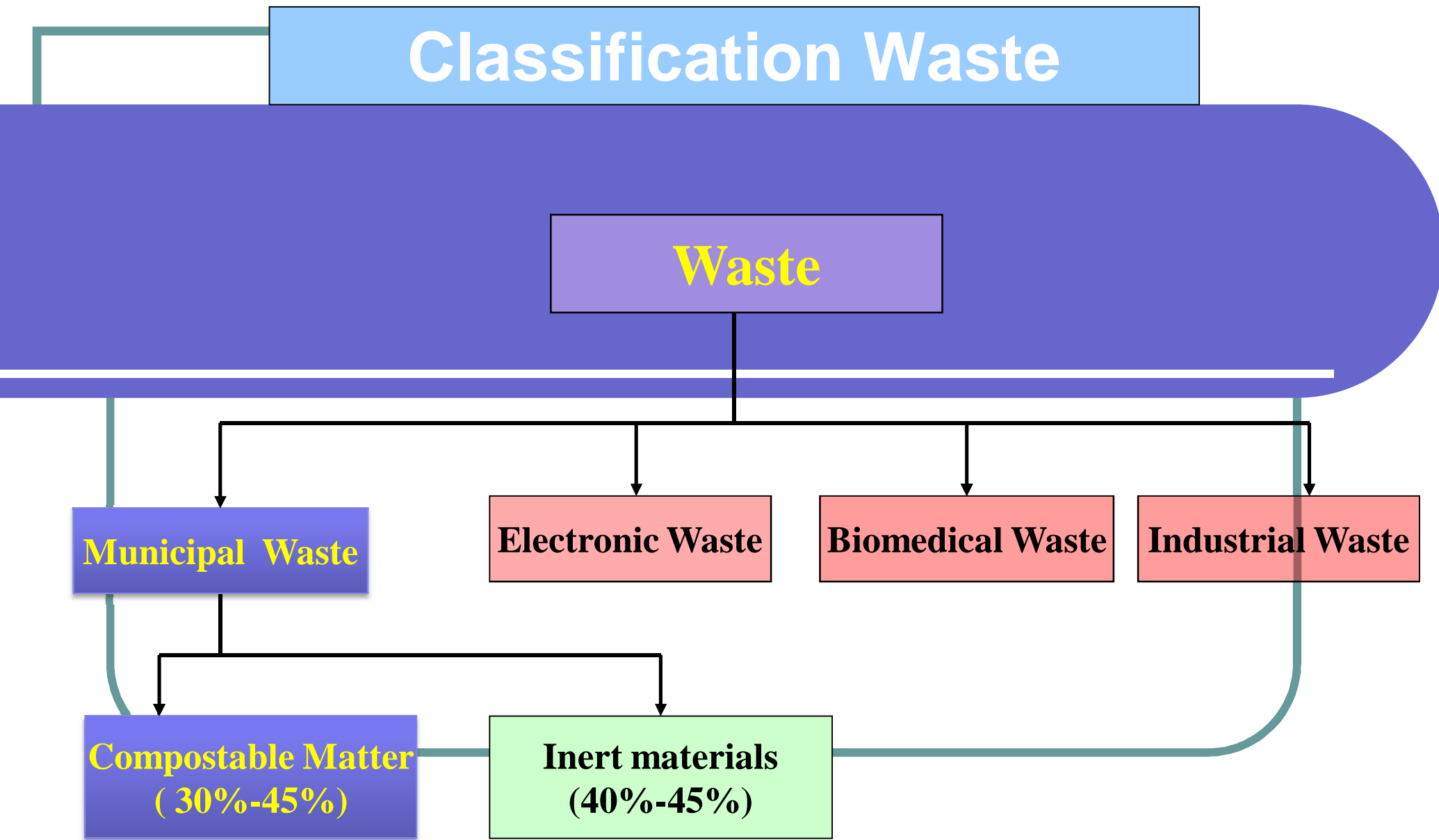
Electronic Waste

Biomedical Waste

Industrial Waste

**Compostable Matter
(30%-45%)**

**Inert materials
(40%-45%)**



Characteristics of organic Waste

“Waste is any material or substance that is of no further use or can use it by recycling and convert it into useful form”

- Compostable / Bio-degradable matter: 30% - 55%
- Inert material: 40% - 45% (to go to landfill)
- Recyclable materials: **5%** - 10% (Recycling)

(These percentages vary from city to city depending on food habits)

Main Components of Organic Waste

Food Waste

Horticulture Waste

Flowers from Temple etc.



The Problem

20-50 percent of generated refuse is not collected



Uncollected waste accumulates on the streets and clog drains when it rains



Wastes carried away by runoff water to rivers, lakes and seas, affecting those ecosystems



Residents dump their garbage at the nearest vacant lot, public space, creek, river, burn it etc



Open dumping of solid wastes generates methane, which causes health hazards, fire and explosions, and contributes to global warming. It also produces strong leachates, which pollute surface and ground water.



Fires periodically break out in open dumps, generating smoke and contributing to air pollution



Plastics render the land less fertile or even uncultivable, yet cities continue to dump on the outskirts . These discarded piles become no-man's land



Biodegradation of organic materials may take decades, which may limit the future use of the land on which open dumps are located



Food leftovers and kitchen wastes attract birds, rats, flies and other animals which transmit diseases to humans living in the vicinity

What Problems related to organic waste?

- Foul Odour
- Unhygienic & ugly looking vicinity
- Germs & insects breeding
- Diseases
- Attract flies, mosquitoes, rats, birds and animals
- Limitation of land for garbage dumping



“The good news is that it’s not my problem.”



Techpro Eco Green Products Pvt. Ltd Initiative

COMPOSTING

- Composting is nature's way of recycling .
- Composting biodegrades organic waste. i.e. food waste, leaves, grass trimmings, paper, wood, crop residue etc., and turns it into a valuable mature organic fertilizer.
- In this process, various microorganisms, including bacteria and fungi, break down organic matter into simpler substances
- The effectiveness of the composting process is dependent upon the environmental conditions present within the composting system i.e. oxygen, temperature, moisture, material disturbance, organic matter and the size and activity of microbial populations.

ORGANIC WASTE CONVERTER

At-Source waste solution

**An Techpro Eco Green Products Pvt. Ltd.
Initiative**

WHAT IS THE SOLUTION?

VARIOUS O.W.C. MODELS



Waste batch size: 25kg
Power: 4HP 3Phase



Waste batch size: 50kg
Power: 8HP 3Phase



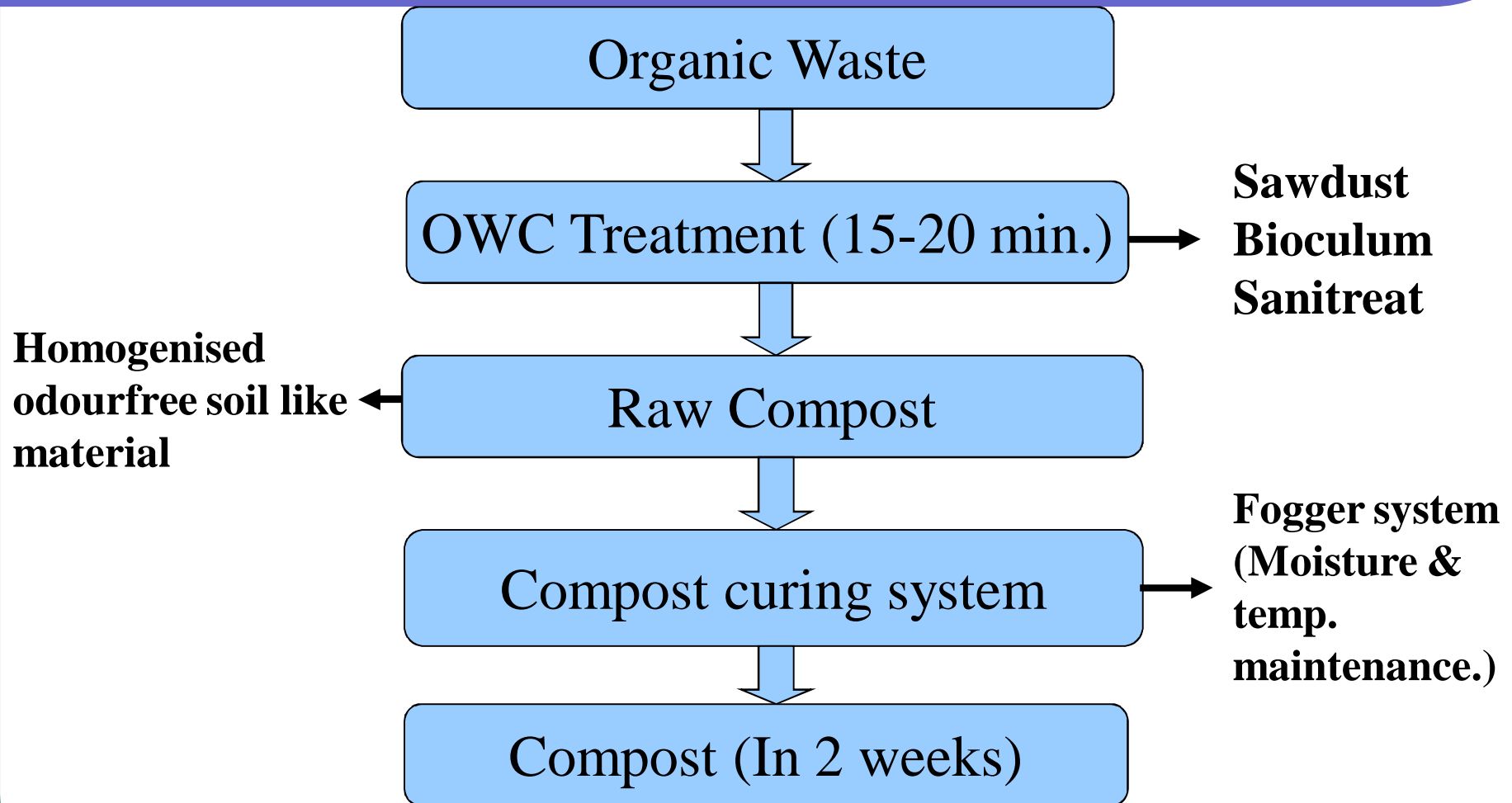
Waste batch size: 125kg
Power: 13.5HP 3Phase

THE ACCESSORIES



Curing System Double 200kg/day capacity

OWC PROCESS FLOW CHART



Natural process of composting duration: 2-3 months

OWC process of composting duration: 10-15 days.

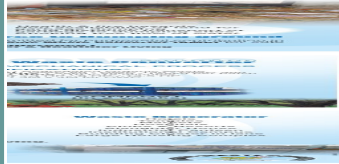
Requirement

Waste Quantity	Requirement	Space Requirement	Electricity Connection	Water Consumption	Manpower Requirement	Operation Cost
300 Kg.	OWC-60	300 Sq. Ft	4 HP/3 Phase, 25 Amps	200 Lit/day	2	Rs. 1.50
600 Kg.	OWC-130	600 Sq. Ft	8 HP/3 Phase, 32 Amps	500 Lit/day	3	Rs. 1.40
1200 Kg.	OWC-300	1200 Sq. Ft	13.5 HP/3 Phase, 40 Amps	1000 Lit/day	4	Rs. 1.25
2500 Kg.	OWC-500	2500 Sq. Ft	16 HP/3 Phase, 64 Amps	2000 Lit/day	6	Rs. 1.10

Role of materials used in process

- **Sawdust/ready manure/dried garden waste :** Absorbent (to decrease the moisture content)
- **Bioculum:** Blend of different microorganism (for enhancement of composting rate.)
- **Sanitreat:** Odour masking agent (to mask smell)
- **Sanitizer :** To maintain clean and hygienic condition in treatment area.

The Process



Large volumes of food waste from pre-cooking, leftover after meal. (25/ 50/ 125 kgs)



The output from device is uniform Colored coarse powder in appearance and is without any bad smell.



A mixture of **Mesophilic** and **Thermophilic** micro-organisms identified to be more effective in speedy decomposition of organic waste will be used as an **Inoculum**



Saw dust



Paper

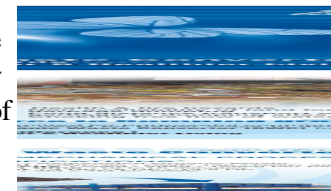
As Absorbent

Organic Waste Converter homogenizes organic waste with appropriate additive & bio culture.

Homogenized odour free output (IN 15 MINS)



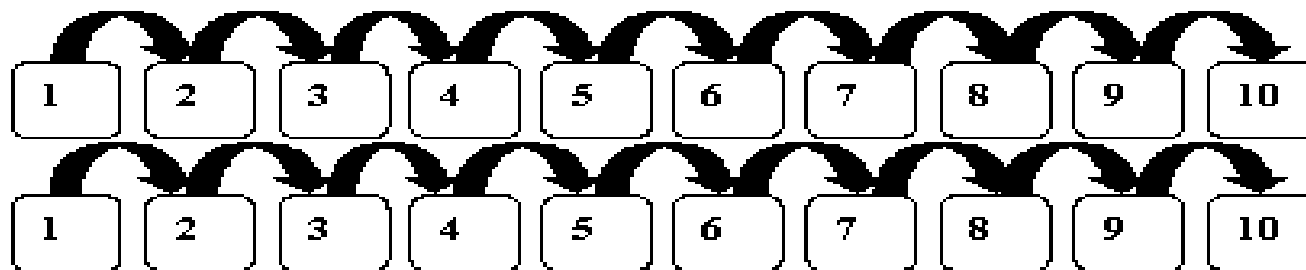
Thus treated material can be composted into good quality organic manure in 10 days of **Curing period.**



COMPOST
(IN 10 days)



PROCESS AT CURING SYSTEM



- The crate should be arranged vertically.
- 2nd day the crate is shifted one step ahead and the fresh material will come at the position of crate "1" and this will continue till the crate "1" reaches to crate "10" position.
- It is 10 days cycle.
- Apply moisture 45 Sec. each time or according to the requirement keeping in mind the changing ambient.

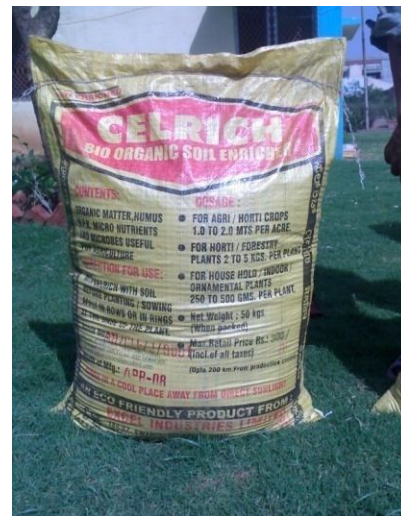
MANURE QUALITY

Colour	:	Dark Brown
Odour	:	Earthy smell
pH (5%) solution	:	7 to 8
Total Nitrogen (as N)%	:	1 to 2%
Total Phosphates (as (P ₂ O ₅))%	:	± 1%
Total Potash (as K ₂ O)%	:	± 1%
Organic Carbon %	:	20 – 25%
C:N Ratio	:	Around 20:1
Microbial Count	:	

Moving towards Decentralized treatment...



Moving towards Decentralized treatment...



The Technology

Salient features

- **Quick waste disposal solution**
- **Easy to operate, fast, takes very less space and makes waste odour free.**
- **Useful for industrial canteen, restaurants, temples, markets, housing complexes**
- **OWC uses bio Cultures to start decomposing waste into black manure in 20-25 minutes and completes the process within 10 days**
- **It helps to maintain hygiene and create cleaner, greener and healthier environment.**

Benefits to the Society

- Health & hygiene improvement so reduce absenteeism
- Saving of transport & treatment at landfill, as reduction in organic waste
- GHG emission reduction so better environment.
- Reduced Cycle.
- No foul odor
- Does not attract diseases carrying vector.
- Good Quality of Organic Manure.

SECTORWISE SUPPLY DATA

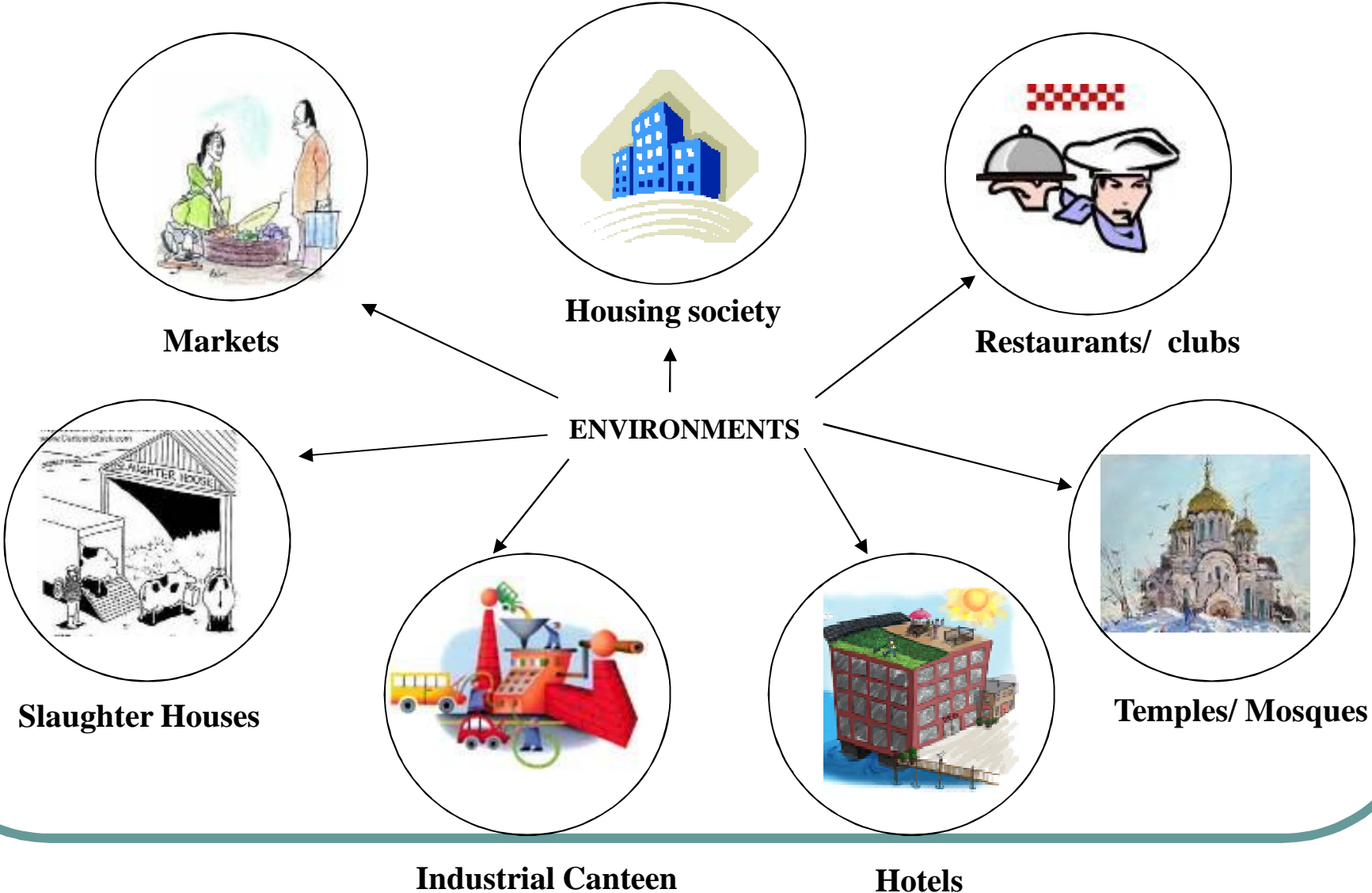
SECTOR	QUANTITY
REALTY	5
HOTEL/TOURISM	7
APMC	1
DEFENSE	3
MUNICIPALITY/COMMUNITY MODEL	2
INDUSTRIAL CANTEEN	8
CORPORATE OFFICES/GOVT. ORGANIZATIONS	5
TEMPLE	2
EDUCATIONAL INSTITUTIONS	1
SHOPPING MALL	1
TOTAL	35



Garbage to Garden



The potential users





Thank You

*Together, we can make a difference for
cleaner, Healthier & Greener living.
Techpro Eco Green Products Pvt. Ltd.*