ISA
PROJECT

Treasure Trash

Turning Waste into Wealth

How creativity and smart management can transform discarded materials into valuable resources

Sustainability · Recycling · SDG Goals

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What is Waste?

Definition

Any material no longer needed and discarded after use — solid, liquid, or gaseous. Economically, waste is misplaced resources: value lost for one person but potentially held by another.

Waste Management

The process of collecting, transporting, processing and disposing of waste safely and in an environmentally friendly manner — minimising harm while maximising reuse and recycling.

Every piece of waste has potential!

Biodegradable
Food, leaves, paper, wood

Non-Biodegradable
Plastics, glass, metals

How We Classify Waste

Waste can be classified to two main categories;

BIODEGRADABLE

Definition: Organic materials that can be broken down naturally by microorganisms (like bacteria and fungi) into simpler substances.

Examples:

- **Kitchen Waste:** Fruit peels, vegetable scraps, eggshells.
- **Garden Waste:** Dried leaves, grass clippings, flowers.
- **Paper Products:** Cardboard, newspapers, tissues.
- **Natural Fibers:** Cotton, wool, wood, cork.

The "So What?": These can be turned into **compost** or fertilizer, returning nutrients to the soil.

Degradation Time: Days to a few months.

NON-BIODEGRADABLE

Definition: Synthetic materials that cannot be broken down by natural biological processes. They remain in the environment for a very long time.

Examples:

- **Plastics:** Bottles, bags, synthetic fibers (polyester).
- **Metals:** Aluminum cans, tin, scrap metal.
- **Glass:** Bottles, jars, windows.
- **E-Waste:** Old batteries, circuit boards, phone parts.

The "So What?": These cause **pollution** and fill up landfills. Most must be **recycled** or repurposed to protect the environment.

Degradation Time: Hundreds to thousands of years (or never).

Sources of Waste

Waste is generated from multiple sectors of society

Domestic

Food scraps, plastics, paper, old clothes, electronics

Commercial

Paper, e-waste, toner cartridges, furniture

Markets

Spoiled produce, nylon bags, cardboard

Industrial

Chemicals, metals, construction debris

Waste Management Methods

Reduce

Minimise waste at source

Reuse

Extend the useful life of items

Recycle

Convert waste into new products

Compost

Transform organic waste into manure

Incinerate

Controlled burning for energy

Landfill

Least preferred — burying waste

Best practice: Reduce first, then Reuse, then Recycle

Turning Waste into Wealth

Creative ways to profit from what others throw away

01	Bags, mats & shoes from nylon waste
02	Organic fertilizer from food scraps
03	Decorative items from bottles & cans
04	Recycling paper into notebooks
05	Selling recyclable metals & plastics
06	Artwork & crafts created for sale

"One person's trash is another person's treasure — and potentially, their business!"

Global Comparison

Waste management systems in Nigeria, UK, and India

Nigeria

System

Informal; cart pushers & scavengers

Recycling

Growing startups in plastics & scrap metal

Challenge

Open dumping, weak infrastructure

United Kingdom

System

Formal; curbside collection & strict regulation

Recycling

High rates (45%+); pay-as-you-throw model

Challenge

High landfill costs, Net Zero targets

India

System

Mix of formal & informal (ragpickers)

Recycling

High reuse culture; plastic roads & composting

Challenge

Managing huge urban waste volumes

Links to SDG Goals

Connecting waste management to global sustainability targets

SDG 11

Sustainable Cities

Reduce the environmental impact of urban waste on communities and cities worldwide

SDG 13

Climate Action

Reduce methane emissions from landfills — a major driver of global warming

SDG 12

Responsible Consumption

Promote prevention, recycling, and responsible reuse of all materials

SDG 3

Good Health & Well-being

Prevent disease spread through proper, hygienic waste disposal in communities

This project links to 4 of the 17 UN Sustainable Development Goals

Conclusion

Waste is not merely a problem — it is an opportunity.

With proper management and creativity, waste can:

- Generate jobs and income for communities
- Improve public health and living conditions
- Protect the environment for future generations

Governments · Communities · Individuals — all must collaborate for effective waste management