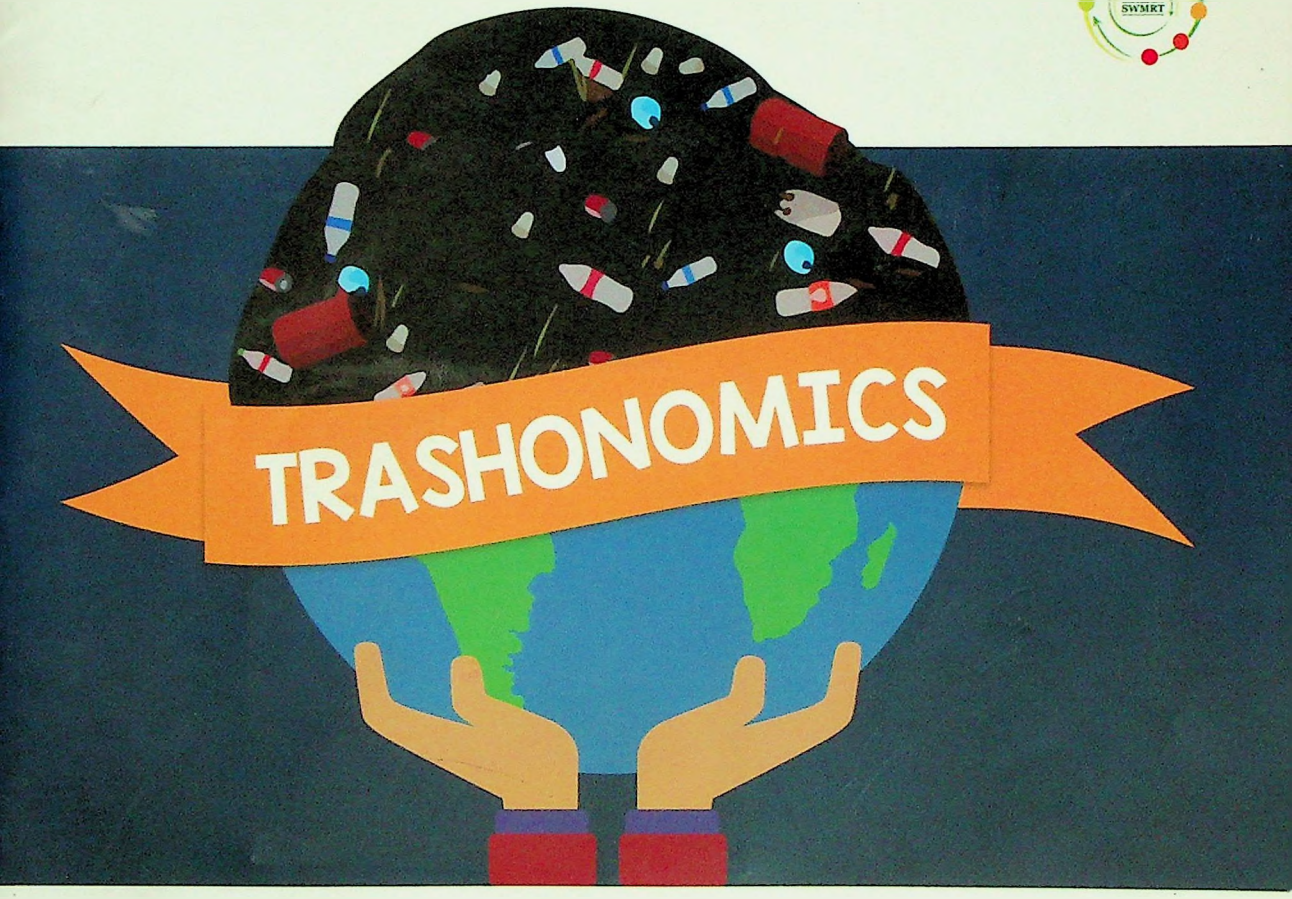


SOLID WASTE MANAGEMENT

A SIMPLE GUIDE FOR CHILDREN

PREFACE

Trashonomics by SWMRT, is a play on the words 'Trash' and 'Economics' and is about the study of solid waste and its environmental, health and financial impact.

We live in a world where it is becoming increasingly difficult to live a life of harmony with nature and our environment. The convenience of the 'use and throw' culture has become so deeply ingrained in our daily lives that it seems almost impossible to think of another way to be.

The Earth as we know it, is changing and it is imperative that children, tomorrow's citizens are able to revisit and rethink some of the flawed habits that brought us to the brink and to understand how our welfare is dependent on the earth and its well being. Children are the best changemakers and this book aims to empower them to lead the change by redefining the historical narrative on waste as something to be thrown away.

It will help them understand the importance of waste segregation and the absolute necessity of the three R's - Reduce, Reuse and Recycle - given the current obsession with disposables. It will also introduce them to the simple process of composting and help them see their food waste as a resource that can feed them as well as rejuvenate the earth . The activities are designed to further their understanding of the above in an experiential manner. Together let us mould GenNext to be sensitive and responsible inheritors who can make the flawed world that we are handing down to them, a better place.

The content in this book has been carefully researched and designed, keeping in mind the latest developments of Solid Waste Management (SWM).

SALIENT FEATURES OF TRASHONOMICS:

- **Clear and Simple content** structured in five chapters that can be taught in about two sessions each.
- **Practical solutions** that children can apply daily at home, school etc. and they can also educate their friends and family.
- **Colourful illustrations and photos** to hold the attention of the reader.
- **Fact Boxes** that help children grasp important facts.
- **Fun Slogans** that children can remember and inculcate in their daily lives.
- **Glossary** to help build up vocabulary pertaining to solid waste management.
- **Activity Note to Teachers** that will help children understand the concepts better through hands-on activities.

INDEX

CHAPTER ONE
PROBLEM

Do you ever wonder what happened to your chips packet that you threw away?

In this chapter, we will learn that disposing waste in a hazardous manner can affect our health and environment.

Follow me through the journey of your waste.

SOLID WASTE

Solid waste is garbage that we throw away everyday from homes, commercial establishments and industries. The volume of waste that we throw away and its harmful effects are increasing every year.

Once thrown, waste does not just disappear.

Various materials decompose at different times. Some materials like plastic are non-biodegradable and remain in the environment forever.

Source: http://socyberty.com/issues/strange-trash-facts

BLACK SPOTS

Littering - An act of making a place untidy with rubbish. Do not litter. Your small trash can turn into a 'Black Spot'.

When cows, dogs, birds etc. feed on trash, they also ingest harmful chemicals and materials.

Plastics ingested by these animals cannot be digested so it stays in the gut causing blockage and hence starvation.

Keep your street, city and planet clean just like you would your own home.

Fact:

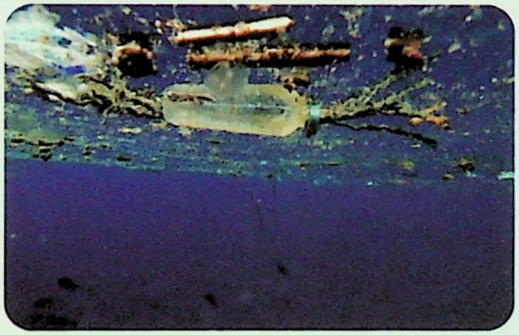
Karuna Society has performed more than 60 rumenotomy operations (surgically opening the stomach) on cows, bulls and other animals rescued on roads. The amount of plastic taken out was between 30-80 kg per animal, depending on the age of the animal. Imagine the plastic collection in slaughterhouses!
Watch 'The Plastic Cow' on YouTube.

Garbage harbours pests like mosquitoes, rats, flies etc. that carry harmful diseases.

Dengue, Malaria

Plague, Rat-bite fever

Cholera, Typhoid



The garbage dumped in coastal areas and rivers will eventually end up in the oceans, affecting marine and human life. An estimate of 20 billion tonnes of plastic is dumped every year in oceans.

MIXED WASTE

Unsorted waste thrown in plastic garbage bags is often disposed by dumping in landfills or near water bodies or burnt causing air, soil and water pollution.

Fact:

Most urban garbage is sent to unscientific landfills/open dumps that are affecting surrounding villagers. Bengaluru city is surrounded by 7 large official landfills.

Waste workers or Pourakarmikas try to segregate mixed waste to recover valuable resources. This is hazardous to their health. This worker lost her finger when it was cut by broken pieces of glass in a trash bag.

Unscientific Landfills - Hazardous dumping of mixed waste in empty pieces of land without protecting the surrounding air, water or soil.

Mixed waste thrown in plastic bags

Garbage truck picking up waste from our homes

Waste workers segregating mixed waste

Unscientific Landfill

Polluted/Unsafe Water

Chemicals and contaminants in solid waste can form a toxic soup called leachate. This leachate can contaminate groundwater and soil.

Polluted/Unsafe Food

Due to the contaminated soil and water, the food grown in these areas will also be unsafe.

Polluted/Unsafe Air

As mixed waste decomposes, it releases greenhouse gases like methane and carbon dioxide that contribute to global warming and climate change. These gases can catch fire easily.

WASTE GENERATED PER PERSON EVERY YEAR

INDIA
110 Kgs

RUSSIA
346 Kgs

USA
730 Kgs

Fact:

A city like Bengaluru generates about 4500 tons of waste per day. That is 560 trucks of waste per day.

BURNING WASTE

Burning of waste is not the answer since it releases hazardous materials into the environment.

PARTICLE POLLUTION:
It can aggravate asthma and bronchitis and has been associated with heart attacks.

DIOXINS:
These are highly toxic and can cause reproductive and developmental problems, damage the immune system and also cause cancer.

CARBON MONOXIDE and VOLATILE ORGANIC COMPOUNDS:
CO causes headache, fatigue, nausea and vomiting.
VOCs cause damage to liver, kidney and central nervous system.

ASH:
It contains toxic metals such as mercury, lead, chromium and arsenic. Rain can wash the ash into ground and surface water, contaminating drinking water and food.

GLOSSARY

Black Spots - Areas of garbage dumps mostly on roads.

Decompose - The natural process of breaking down into simpler parts or substances.

Unscientific Landfill - Hazardous dumping of mixed waste without protecting the surrounding air, water or soil.

Leachate - A soup that is formed when a liquid reacts with chemicals that it passes through.

Global Warming - Climate change due to emission of greenhouse gases, caused by irresponsible human activity.

Greenhouse Gas - Gas that behaves like a shield which does not let the heat escape from the earth.

Contaminate/Pollute - To make impure or unsafe.

ACTIVITY NOTE TO TEACHERS:

Activity 1 - Ask the students to bury the following in separate pots - banana peel, plastic bag, paper cup, chocolate wrapper. After a month, have the children dig it out and see which items decomposed.

Activity 2 - Have students research and write an essay on why these landfills closed – Mavallipura, Mandur.

CHAPTER TWO
SOLUTION

Did you know that most of your trash is a resource?

In this chapter, get to know your waste and learn a simple solution starting from your home that can make a big impact.

Our waste is our responsibility.

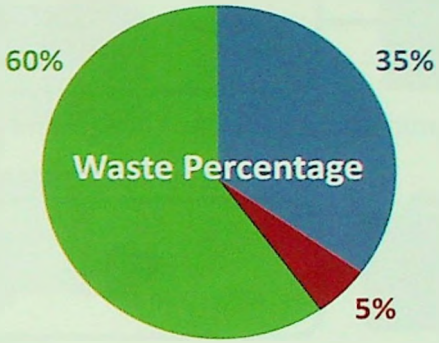
TYPES OF WASTE

Organic Waste Recyclable Waste Reject Waste

Organic Waste is material such as food and garden waste that can decompose naturally within few months and leaves no toxic residue.

Recyclable Waste is material that can be converted into new products.

Reject Waste is waste that cannot be reused or recycled.



Fact:

About 90-95% of your waste is a resource. The '2Bin1Bag.in' citizen movement, became the law in Bengaluru on Dec 17th, 2015.

WASTE SEGREGATION AT SOURCE

Waste Segregation at source, is the action of sorting waste in your homes, into similar categories. This is necessary since each of these categories require different methods of processing.

Can be composted into nutrient rich soil or converted to biogas.

Organic waste includes kitchen and garden waste.

Goes back into the recycling industry that will reuse materials to make new products.

Recyclable waste includes paper, plastic, glass etc.

5-10% of the household waste to be disposed only in government authorised landfills or incinerators.

Reject waste includes sanitary and medical waste.

Collection, transportation and processing becomes efficient once waste is segregated in every household into the three basic categories, following a standard colour-coded method.

THE THREE 'R's

Let's practice the three 'R's mantra for sustainable living:

•Reduce •Reuse •Recycle

REDUCE
- Most effective
- Waste is not produced in the first place
- Zero impact on the environment

REUSE
- Repair and use as long as possible
- Extend life of product

RECYCLE
- Convert waste to reusable material
- Eliminates the need for disposal

INCINERATE
- Recover energy from waste

LANDFILL
- Dispose waste to landfill
- Least favoured option

LEAST FAVOURABLE

GLOSSARY

Resource - Material that is valuable.

Organic - Relating to or derived from living matter.

Decompose - To break down naturally with the help of micro-organisms like bacteria.

Recycle - Process of making or manufacturing new products from a product that has originally served its purpose.

Incinerator - Technology to burn waste in a controlled and scientific manner. This needs to be done only by government authorised facilities in order to limit hazardous emissions. Landfilling and incineration are the least favourable options.

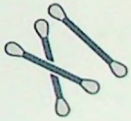
Sustainable Living - A lifestyle that uses as few resources as possible and causes the least amount of environmental damage for future generations to deal with.

ACTIVITY NOTE TO TEACHERS:

Activity 1 - Have students throw paper, plastic, food waste, earbuds, bandaids into one bin and ask them to separate later into the 3 main categories. Now have the students throw paper, plastic, food waste, earbuds, bandaids into the correct colour coded bins. Find out from the students which was easier to do - segregating mixed waste or just throwing waste in the correct bin.

EXERCISE

Colour the dustbin green for Organic, blue for Recyclable and red for Reject:

1. Leaf Plates 
2. Flower Petals 
3. Soda Can 
4. Egg Shells 
5. Broken Plastic Car 
6. Old Toothbrush 
7. Used Earbuds 
8. Apple Core 
9. Meat Bones 
10. Notebooks 
11. Diapers 
12. Used Band-Aid 
13. House Swept Dust 
14. Old Toothpaste Tube 

Answer (Green-G, Blue-B, Red-R): 1-G, 2-G, 3-B, 4-G, 5-B, 6-B, 7-R, 8-G, 9-G, 10-B, 11-R, 12-R, 13-R, 14-B

CHAPTER THREE
ORGANIC WASTE

Did you know that about 60% of your waste is organic?

In this chapter, get to know how to convert your organic waste into valuable compost or biogas

LIFE CYCLE OF ORGANIC WASTE

Organic Waste fed into the compost drum

Organic Waste can be converted to nutrient rich soil by composting.

Nutrient-rich compost

ORGANIC WASTE

Compost/Slurry used to grow food like vegetables and fruits

Organic Waste can be converted into biogas that can be used for daily cooking. Biogas is a clean and renewable fuel produced by the breakdown of organic matter in the absence of oxygen.

Organic Waste fed into biogas unit

Nutrient-rich slurry

COMPOSTING

Composting is nature's process of recycling organic materials into a rich soil known as compost. At home we can compost our organic waste with 3 simple methods: **Aerobic, Anaerobic, and Vermicomposting.**

Aerobic composting is decomposition of organic matter using micro-organisms that require oxygen.

- In your aerated compost bin, add Organic waste and dry leaves or cocopeat everyday.
- Add microbes for the first few days to kickstart the process. A spoon of sour buttermilk is a good source of microbes.
- Stir the pile every four to five days to ensure good aeration. Your compost will be ready in about 40 days.

Anaerobic composting is a two stage process.

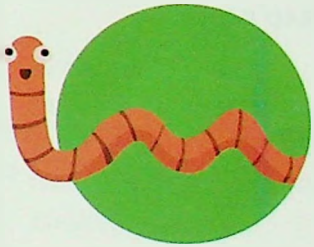
- The first stage involves fermentation of organic waste using anaerobic microbes that work without oxygen. Fermentation takes about 2 weeks once bin is full.
- In the second stage, the fermented organic waste will require oxygen and soil to get converted to compost. In this stage, the fermented organic waste will get converted to compost in about 30 days.

This method of composting is useful in urban scenarios like apartments and office spaces.

Vermicomposting is the process of composting using various worms, usually red wigglers and other earthworms. Organic matter is added to the compost bin for the worms to eat. The excrement of these worms makes a compost, rich in nutrients.

Earthworm Facts:

- Earthworms have no arms, legs or eyes.
- Earthworms can eat food upto one third of their body weight daily.
- If an earthworm's skin dries out, it will die.
- Earthworms are hermaphrodites. Each earthworm has both male and female organs.
- Earthworms love coffee powder and watermelon



COMPOSTING BENEFITS

- Reduces waste in landfills and saves on transportation fuel and cost.
- Improves soil health - Compost contains high nutrients and microbes. It is a living soil.
- Allows us to grow safe and healthy food without the need for harmful and expensive chemical fertilizers.
- Can also eliminate chemical pesticides since plants grown in compost are hardy and more resistant to pests.
- Conserves Water - It helps in absorbing water and releasing it slowly to the plants.
- Conserves Energy and Fuel - Composting and growing your own vegetables and fruits in your backyard saves on transportation fuel and packaging.

GLOSSARY

Slurry - A semi-liquid mixture that is left over after organic matter is converted to gas in a Biogas bin.

Fuel - Material such as coal, gas or oil that is burned to produce heat or power.

Nutrient - A substance that provides nourishment essential for the maintenance of life and for growth.

Microbes - In this chapter, microbes refer to microorganisms that are beneficial and trigger the process of fermentation.

Fermentation - The chemical breakdown of a substance by micro-organisms in an air-free container. This is similar to pickling.

Fertilizer - Natural or man-made substance applied to soil in order to supply nutrients essential for the growth of plants.

Pesticide - Natural or man-made substance to repel or destroy unwanted pests.

ACTIVITY NOTE TO TEACHERS:

Activity 1 - Have students take the 1 week compost challenge at home.

Visit *www.swachagraha.in* for details.

Activity 2 - Start an organic garden in school with simple vegetables like tomatoes, brinjals, chillies etc.

CHAPTER FOUR
RECYCLABLE WASTE

Did you know that about 35% of your waste is recyclable?

In this chapter, let's follow the journey of your recyclable waste.

JOURNEY OF RECYCLABLE WASTE

RECYCLABLE WASTE COLLECTION FROM HOMES

GOVT. TRUCK

DRY (RECYCLABLE) WASTE COLLECTION CENTRE

RAGPICKER

METAL RECYCLING PLANT

PRIVATE TRUCK

PLASTIC RECYCLING PLANT

PRIVATE TRUCK

E-WASTE RECYCLING PLANT

PRIVATE TRUCK

SCRAP DEALER (KABADIWALA)

OUR HEROES KEEPING THE CITY CLEAN

There are several invisible workers who labour tirelessly to keep our city clean. Pourakarmikas or municipal workers, waste collectors and wastepickers are some of the links that keep the chain of waste management functional through their invaluable services. If they don't work for a day, the city will be submerged in garbage.

Dry Waste Collection Centers (DWCC):
DWCCs are decentralised facilities for secondary sorting of recyclable waste.
Here the waste gets further sorted into about 35 different categories in order to be aggregated and sold to various recyclers. Each type of material has a different value. Every neighbourhood should have a DWCC in order to reduce transportation cost and fuel consumption.

Rates of different materials per kg at a DWCC

RAGPICKERS:

People who pick up resources by sifting through waste mostly dumped on streets or landfills are called ragpickers. These ragpickers are exposed to injury or infections due to the conditions they work in.

Ragpickers play an important role in the conservation and cleanliness of the environment by:

- reducing the burden of waste on the municipality.
- recovering valuable resources/ material for recycling.

Many cities are recognising and respecting their work by:

- issuing identity cards with the title of wastepicker or waste manager.
- giving them responsibility to manage DWCCs.
- hiring them for collection and transportation of segregated waste from communities.
- hiring them to manage composting solutions in communities.

Wastepicker who now runs a DWCC

Fact:

It is estimated that there are over 15 lakh wastepickers in India.

WHAT IS RECYCLING?

It is the process of making or manufacturing new products from a product that has originally served its purpose.

GLASS RECYCLING

Glass containers are 100% and infinitely recyclable

Empty bottles are placed in the recyclable (dry) waste bag.

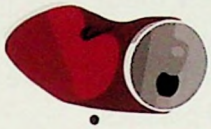
Glass is colllected from the DWCCs.

Glass is sorted into colours and crushed into cullet (broken pieces of glass) that is used to manufacture new glass.

Various food and drink companies fill the new glass containers with their products that will be purchased by consumers.

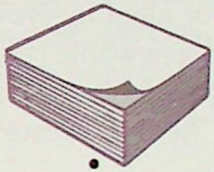
DON'T TRASH IT, RECYCLE IT!

RECYCLED PLASTIC BOTTLES ARE USED TO MAKE POLYESTER FIBRES, FURNITURE AND MUCH MORE.



RECYCLED TINS AND CANS ARE USED FOR NEW TINS AND CANS, SIGNS AND EVEN AEROPLANES.

RECYCLED GLASS IS USED FOR BUILDING MATERIAL, NEW BOTTLES, JARS AND MUCH MORE.



RECYCLED PAPER AND CARD IS USED FOR PACKAGING, NEWSPAPERS AND MUCH MORE.

Fact:

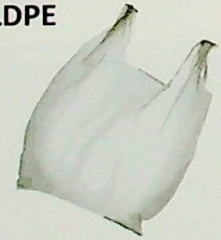
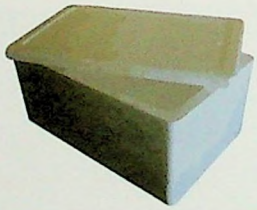
Not all materials can be recycled. Here are some examples:

- Chips packets with layers of plastic, paper and foil.
- Paper cups with thin layer of plastic in between.
- Styrofoam (Thermocol) cups and plates.

ABOUT PLASTIC

Plastic is a synthetic non-biodegradable material made from either petroleum, natural gas or plant by-products. In India, plastic is currently made only from petroleum that is a non-renewable resource. Plastics can only be 'downcycled' which means it can never be made into the same or a better product. Hence plastics should be avoided when possible. See 'Reduce Waste' chapter to learn how to avoid plastics.

TYPES OF PLASTIC:

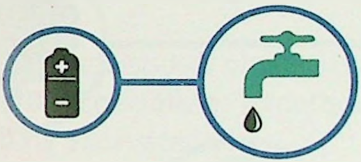
HIGH VALUE: Recyclers will pay more than Rs.5/kg.	**LOW VALUE:** Recyclers will pay less than Rs.5/kg.	**NEGATIVE VALUE:** Recyclers will not pay since the cost to recycle these is too high.
• PET  • HDPE 	• PVC 	• Polystyrene/Thermocol 
•PP  •Other 	•LDPE 	

E-WASTE

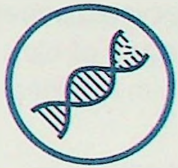
Electronic waste or e-waste consists of any electrical or electronic appliances which have become obsolete or dysfunctional and need to be discarded. For example, old CDs, cassettes, dead batteries, dysfunctional lights, phones, chargers etc., which have been damaged beyond repair.

IRRESPONSIBLE DISPOSAL OF E-WASTE CAN BE HAZARDOUS:

- Lethal toxins like mercury and lead leach into groundwater and contaminate the soil and water.

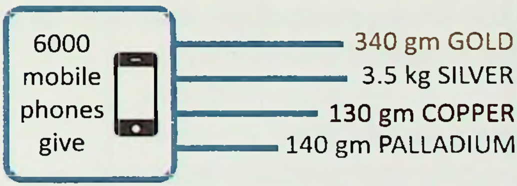


Chromium causes DNA mutation which becomes a trigger for different types of cancer.



E-WASTE RECYCLING:

Large amount of precious metals are recovered via processing electronic waste.



E-CYCLE YOUR E-WASTE:

Store your e-waste separately and safely at home. Hand over **only to authorised services or centers** that are certified by the Pollution Control Board.

WHY RECYCLE?

Our natural resources are limited and recycling is one of the easiest things to do to help the environment.

CONSERVES RESOURCES:

Reduces the demand for virgin raw material.

- Recycling one ton of plastic can save up to 3000 - 7000 liters of petroleum.

IMPROVES AIR QUALITY:

- A ton of recycled paper saves about 20 trees.
- Recycling a ton of cans will reduce 70% of CO_2 production in landfills.

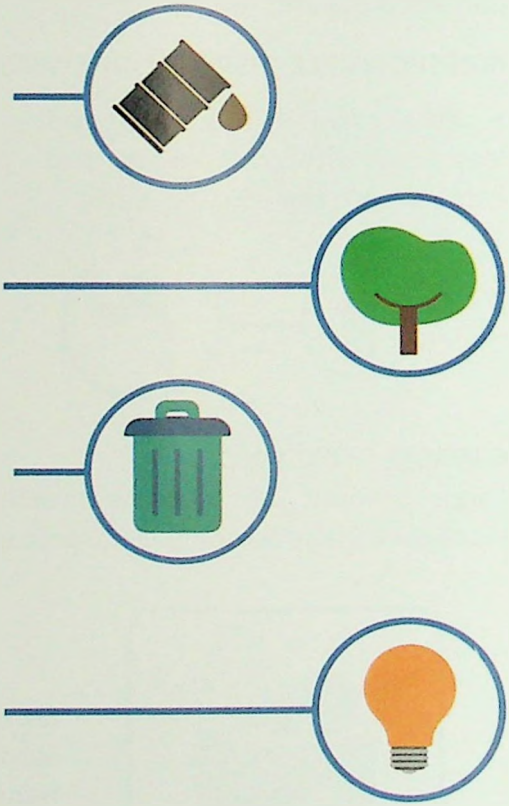
REDUCES LANDFILL:

- A ton of recycled paper eliminates 19 square feet of landfill space.

SAVES ENERGY:

Creating new products from virgin raw materials, consumes much more energy as compared to using recycled material.

- Recycling a glass bottle can power a computer for 25 minutes.
- Recycling one aluminum can saves enough energy to run your television for three hours.



GLOSSARY

Decentralised - To manage locally in order to distribute work and reduce transportation costs.

Manufacture - To make on a large scale using machines.

Resource - Material that is valuable.

Environment - The surroundings or conditions in which a person, animal, or plant lives.

Landfill - The disposal of waste material by burying it, especially as a method of filling in and reclaiming excavated pits.

Aggregate - Collect into groups.

Conservation - The act of preserving or saving something.

Wastepickers - Self employed workers who earn their livelihood from the collection and sale of recyclable scrap from solid waste for recycling.

Virgin Raw Materials - Resources extracted from nature in their raw form.

ACTIVITY NOTE TO TEACHERS:

Activity 1 - Visit a DWCC or a Scrap Dealer closest to your home or school and find out the value of 5 types of waste. Can be a group or an individual activity.

Activity 2 - Save your recyclables for a week and then chart the different types of recyclable material collected.

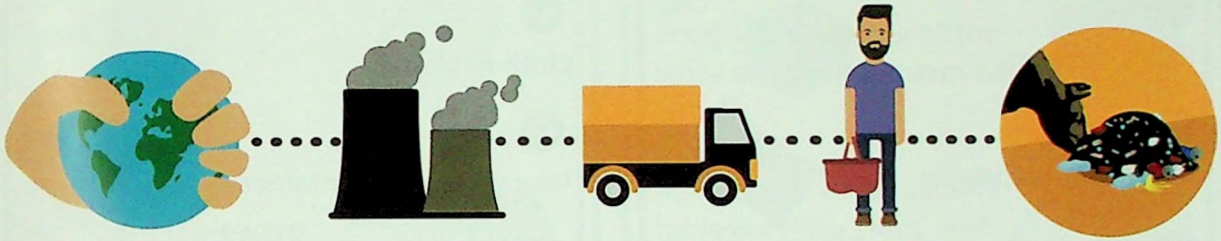
CHAPTER FIVE
REDUCE WASTE

About 5-10% of our waste is not recyclable and hence is a threat to our planet.

In this chapter, let's see how we can easily reduce and eliminate waste from our daily lives.

WHAT IT TAKES TO MAKE A PRODUCT

For the sake of convenience, our daily lives are flooded with 'single use and throw' and non-recyclable products. However, these products are harming us and our planet as these are used for a very short period and discarded.



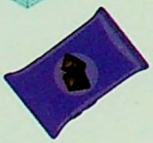
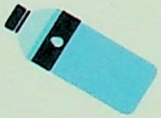
EXTRACTION PRODUCTION DISTRIBUTION USAGE DISPOSAL

Fact:

The 2009 tropical storm flooded Philippines due to blockage of drainage systems primarily caused by plastic bags. 2011 onwards many cities in Philippines have started imposing a ban on plastic bags and other non-essential plastics to reduce clogging of drains as well as overall garbage.

BEING A RESPONSIBLE CONSUMER

Avoid products that are 'single use and throw' or not recyclable and choose products that are reusable or compostable.

- Paper napkins 
- Multilayer packaging 
- Bottled Water 
- Polyester/ Rayon/ Viscose and other synthetic textiles 
- Plastic garbage bag 

- Cloth napkins 
- Take your own container 
- Take your own bottle 
- Natural fibres like cotton, hemp, bamboo, jute, linen 
- 2 Bins and 1 Bag 

- Plastic cutlery 
- Plastic bag 
- Plastic/ Paper/ Styrofoam tableware 
- Balloons 
- Plastic Straws 
- Disposable hygiene products 

- Steel/Wooden cutlery 
- Borrow a cloth bag at the store or Take your own bag 
- Reusable or compostable tableware like steel, leaf plates, ceramic, clay 
- Reusable or compostable decorations 
- Steel/bamboo straws or drink right out of the cup 
- Reusable hygiene products 

REUSE

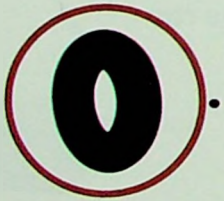
Reduce the waste you generate by reusing products. Here are a few examples:

EMPTY JAM JAR

USED AS STORAGE CONTAINER

EMPTY YOGURT BOX

USED AS POT FOR PLANTS



RUBBER TYRE

USED AS BASKET FOR CONSTRUCTION WORK

GLOSSARY

Resource Extraction - The act of removing raw materials from the earth, usually to convert it to man-made products. eg: Petroleum is used to make plastic.

Production - The act of making or manufacturing products from raw materials in a factory.

Distribution - Transporting products from a factory to stores where it can be purchased.

Disposal - The act of getting rid of used products.

Compostable - Material that can decompose naturally within a few months and leaves no toxic residue.

Fact:

Plastic MICROBEADS are tiny pieces of plastic that are added to everyday cosmetic products like exfoliating face wash, whitening toothpastes etc. These pollute our water bodies as they are too small to be caught by filters.

ACTIVITY NOTE TO TEACHERS:

- Make your own snack that did not come in a packet for 1 day.
- Take your own box and bag for shopping activity.
- Recycle chart – keep track of what you are generating, recycling and trashing.
- Celebrate your zero-waste birthday.

START AN ECO-CLUB IN YOUR SCHOOL:

- Create a plan to reduce waste in the campus.
- Implement segregation.
- Take up composting and gardening activities.
- Have a newspaper collection drive for charity.

Solid Waste Management Round Table, Bengaluru (www.SWMRT.com) is a voluntary group of individuals, bringing their expertise as SWM practitioners , waste management solution & service providers, representatives of waste-pickers & waste workers, individual activists working collectively towards the cause of sustainable decentralised waste management including policy changes in Bengaluru, since 2009. It is an initiative of TAICT.

Campaigns:

Bengaluru Recycling Habba 2011-2012 - The first ever city wide recycling awareness initiative.

Recyclathon 2011 - The first of its kind sustainability competition between communities, in order to promote better waste management.

www.2bin1bag.in - To promote three way segregation with colour coding that was widely adopted by citizen all across the city, which eventually became the law in Bengaluru in December 2015.

www.SwachaGraha.in - A city-wide campaign launched in January 2016, seeking to promote home composting and responsible waste management, that also seeks to engage stakeholders, highlighting the importance of saying "No to landfills and Yes to growing safe food.", thus leading to sustainable living.

Awards SWMRT Received:

- The 'Namma Bengaluru Awards' 2011 for the Best Community-based group
- The Rotary award for 'Best Social Community Organisation' of the year 2014
- The prestigious Karnataka State level - 'UNEP Environment Award' 2015 for Institutions, from the CM.

This book would not have been possible without the vision, passion and efforts of the following people:

Conceptualisation and Content: Meera Nair (Preface and Title)
Archana Kashyap (archana.kashyap@gmail.com)
Claire Rao (sanclair@hotmail.com)

Illustrations and Design: Sahil Kutty (leo238sahil@gmail.com)
with support from Smita Kulkarni

Support and Guidance: Entire team of SWMRT
Kasa Muktha Bellandur
We care for Malleswaram

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SWMRT, The Anonymous Indian Charitable Trust, W 202, Sunrise Chambers, 22, Ulsoor Road, Bengaluru, Karnataka 560043

TRASHONOMICS

Trashonomics by SWMRT, is a play on the words 'Trash' and 'Economics' and is about the study of solid waste and its environmental, health and financial impact.

This book will help children understand the importance of waste segregation and the absolute necessity of the three R's - Reduce, Reuse and Recycle - given the current obsession with disposables. It will also introduce them to the simple process of composting and help them see their food waste as a resource that can feed them as well as rejuvenate the earth . The activities are designed to further their understanding of the above in an experiential manner. Together let us mould GenNext to be sensitive and responsible inheritors who can make better the flawed world that we are handing down to them.

What's a book of knowledge without a friendly mascot to guide you through? Meet our avian 'Kaagey'. Why a crow, you may think. Did you know that the crow is a very intelligent bird and does not waste anything? So we couldn't think of a better fit to help children enjoy the untold story of waste and how better management of the same can save our planet.

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