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WHAT A WASTE!

A BEGINNER'S HANDBOOK ON SMART WASTE MANAGEMENT

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WHAT IS WASTE?

Today's newspaper after you have read it, that abandoned DVD of your last year's favourite film, vegetable peels that remain after preparations for a meal are made, torn jeans that you can no longer use, the aluminum foil in which your tiffin is packed... All these and more is 'waste'.

Left over, useless materials that remains after any activity is waste.

TYPES OF WASTE



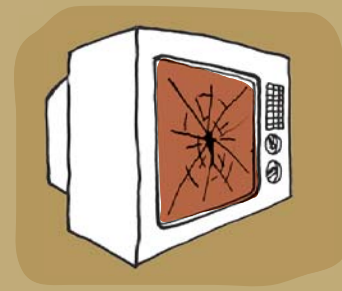
municipal

Household waste vegetables, fruits, preservatives, dairy products, wood, plastics, kitchen waste, waste from our toilets.¹



industrial

Raw materials like wood, cotton, fruits, vegetables, spices, metals, processed commodities like paper, sugar, chips, masalas, metal sheets, pens, cds, computers etc.²



electronic

Old used computers, remote controls, switches and plugs, tv sets etc. Components of electronic waste such as lead, mercury and cadmium are extremely dangerous.³

Facts to think about » In urban areas each person produces about 500 g of waste per day, whereas in rural areas each person produces 100 g of waste per day⁷» 7 million tonnes of hazardous waste are produced every year in India, mostly from the states of Andhra Pradesh, Bihar, Uttar Pradesh, and Tamil Nadu⁸» According to a 1999 data India generated 1.5 kg of medical waste per bed per day. This figure is now almost three times that amount⁹» About 73 to 96% of the typical family's waste

Everyone and everything generates waste. Our homes, industries, schools, hospitals, cars, offices, even your picnic with your friends produces waste. Interestingly, every item travels a journey before it reaches the waste bin...



medical

Leftover bits of cotton, band aid, disposable syringe, phial of medicine etc. Hospitals also generate a lot of other extremely harmful waste that can spread diseases to others who handle this waste. ⁴



construction

Products like cement, concrete, wood, iron and other metals from various kinds of buildings and structures. ⁵



hazardous

Types of waste those are harmful to human health, or to the environment, either immediately or over an extended period of time. Radioactive, toxic and infectious waste like batteries etc that contain chromium, arsenic, uranium etc. ⁶

comprises bio-degradable material in the lower income groups while in higher income groups, it is only about 26%¹⁰»» A large portion of the untreated waste that industries generate is liquid and it ends up in our water bodies - rivers, ponds, lakes etc»» A study conducted by Toxics Link says that Mumbai alone generates 19,000 tons of e-waste every year.¹¹



21

BANANA PEEL



31

PAPER



155

COTTON CLOTH



5,475

WOOD



18,250

TIN CAN



1,82,500

ALUMINIUM CAN



36,50,0

PLASTIC BAG



INFIN

THERMOCOL

IMPACT OF WASTE

Every item of waste that lands up in our dust-bins affects our planet and us in some way. Sadly, most of our waste affects us and the planet adversely.



You can use leaves to make a nutritious "tea" for your plants. Simply wrap a small pile of leaves in burlap and immerse in a garbage can or large bucket of water. Leave for three days, then remove the "tea bag" and dump contents into the compost. Scoop out the enriched water with a smaller bucket and use to water your plants and shrubs. ¹²

NUMBER OF DAYS THAT DIFFERENT WASTE MATERIALS TAKE TO DECOMPOSE

0,000

ITE



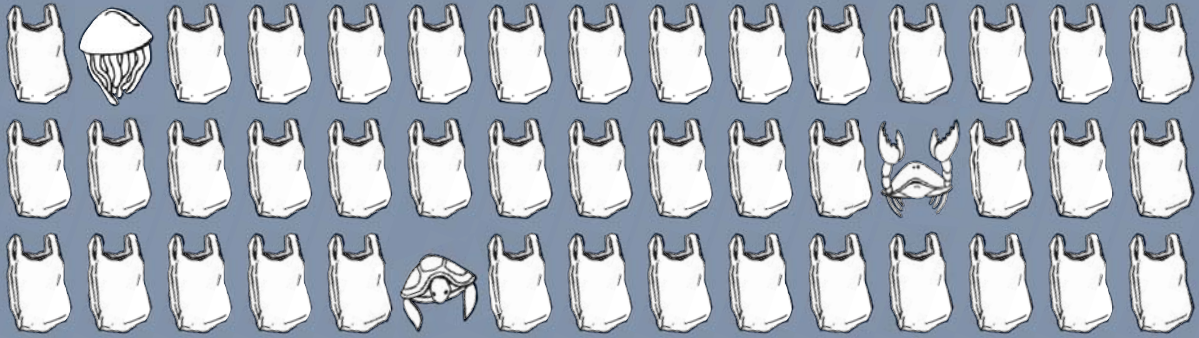
ONLY ABOUT 72.5 % OF ALL THE SOLID WASTE THAT YOUR CITY GENERATES IS SYSTEMATICALLY COLLECTED AND DISPOSED (TERI 1998)



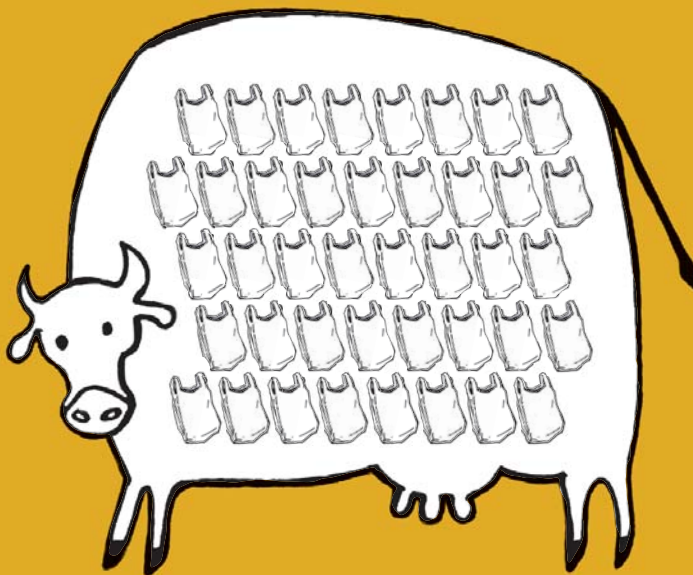
A LARGE QUANTITY OF LIQUID WASTE IS UNTREATED AND DUMPED DIRECTLY INTO RIVERS, PONDS OR LAKES THROUGH SEWER LINES

DUMPING WASTE IN LANDFILLS IS KNOWN TO CONTAMINATE GROUND WATER OF THE SURROUNDING AREAS BY LEACHATES FROM THE LANDFILL. LEACHATE IS A DEADLY MIX OF TOXIC CHEMICALS THAT IS CAUSED BY MIXING AND CORROSION OF COMPONENTS OF A LANDFILL





45000 TONS OF PLASTIC IS DUMPED IN OCEANS EVERY YEAR. THIS PLASTIC KILLS THOUSANDS OF SEA CREATURES AND CAUSES ENORMOUS DAMAGE TO OUR NATURAL RESOURCES ¹³



IN 2007, 35,000 PLASTIC BAGS WERE FOUND IN THE STOMACH OF A DEAD COW IN DELHI.

4000 PLASTIC BAGS WERE FOUND INSIDE THE STOMACH OF A DEAD COW IN BHUJ. ¹⁴



REUSE! ENCOURAGE YOUR FRIENDS AND FAMILY MEMBERS TO REDUCE THEIR USE OF EXCESSIVELY PACKAGED PRODUCTS.

CARRY A HANDBAG TO THE MARKET TO REDUCE THE AMOUNT OF POLYBAGS USED AT THE VEGETABLE, FRUIT, MEAT AND MEDICAL SHOPS.

SHARE YOUR IDEAS WITH YOUR NEIGHBOURS, FRIENDS AND RELATIVES AND SPREAD THE WORD.

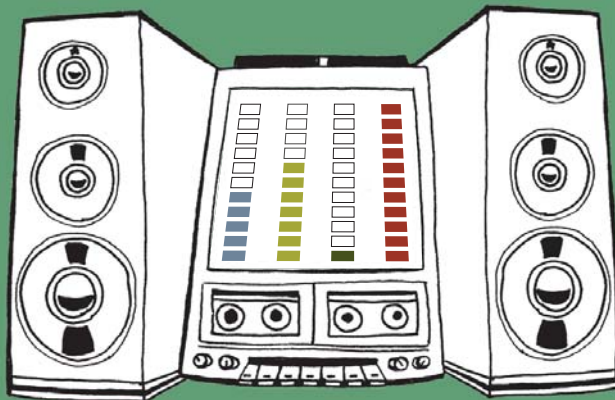
CONTRIBUTORS OF E-WASTE



IT PRODUCTS • 27% STEEL • 5% COPPER AND BRASS • 4% ALUMINIUM • 3% LEAD • 4% OTHER METALS • 8% GLASS • 40% PLASTIC • 2% OTHERS



VIDEO PRODUCTS • 22% STEEL • 3% COPPER AND BRASS • 7% LEAD • 10% OTHER METALS • 27% GLASS • 20% WOOD • 11% PLASTIC



AUDIO PRODUCTS • 21% STEEL • 30% OTHER METALS • 3% WOOD • 47% PLASTIC



AND HOW IT AFFECTS YOU

PLASTICS & PVC from cabling and computer housing affects the reproductive system, immune system and leads to hormonal disorders

LEAD from printed circuit boards and computer monitors causes damage to the nervous system, circulatory system and kidney and also affects brain development in children

BROMINATED FLAME RETARDANTS from electronic equipment and circuit boards disrupts the endocrine system

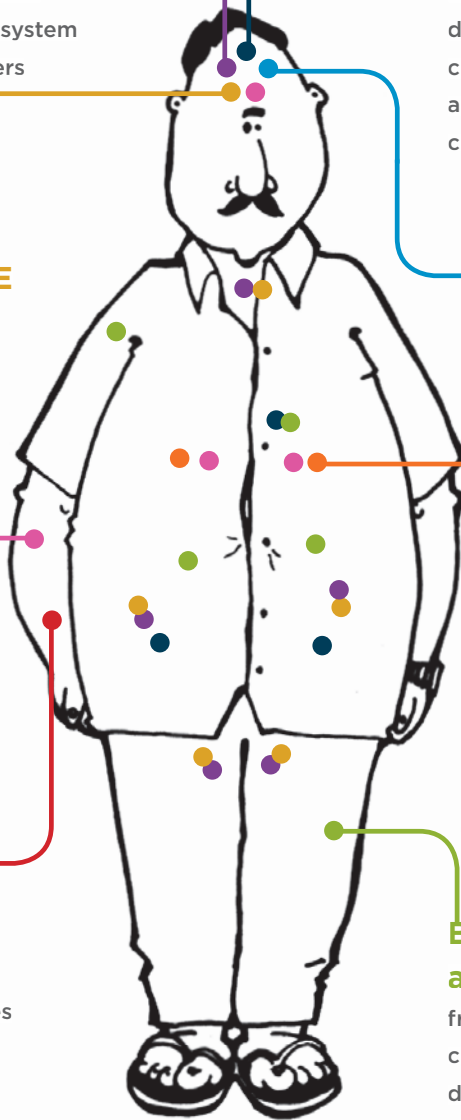
CADMIUM from chip resistors and semiconductors causes neural damage

MERCURY from relays and switches causes chronic damage to the brain and respiratory & skin disorders

CHROMIUM from galvanized steel plates and decorator or hardener for steel housing causes bronchitis

BERYLLIUM from motherboards is carcinogenic in nature, causing skin diseases

BARIUM, PHOSPHORUS and HEAVY METALS from front panels of cathode ray tubes causes muscle weakness and damage to heart, liver and spleen



RECYCLE BATTERIES, GLASS BOTTLES, PLASTICS, E WASTE (LIKE YOUR OLD COMPUTER, TELEVISION, WALKMAN ETC), CLOTH, WOOD AND PAPER

GET OTHERS INVOLVED. HOLD RECYCLE MELAS IN YOUR SCHOOL AND COLONY AND FORWARD ALL THE ITEMS COLLECTED TO AN E-WASTE RECYCLING UNIT AND OTHER SPECIFIC UNITS SEPARATELY.



WASTE IN INDIAN CITIES



ORGANIC MANURE



ALTERNATE ENERGY



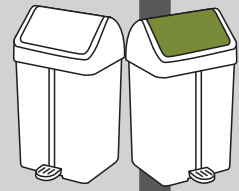
NEW PRODUCTS

GRASSCYCLING is the natural recycling of grass by leaving clippings on the lawn when mowing. Grass clippings will quickly decompose, returning valuable nutrients to the soil. It also reduces the amount of yard waste disposed in landfills. Research has shown that lawns can generate approximately 300 pounds of grass clippings per 1000 square feet annually. This can be as much as 6 1/2 tons per acre each year! Grass clippings are too valuable to throw away, and this allows this green material to be reused in our urban landscapes. ¹⁵

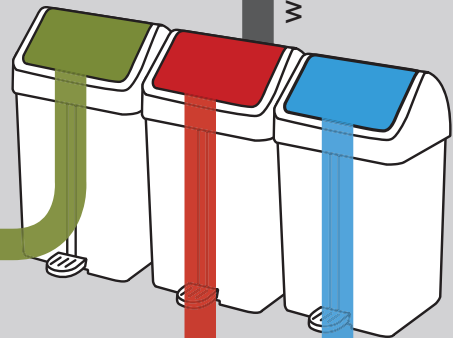


WASTE COLLECTED

1



WASTE SEGREGATED



COMPOSTING



SANITARY LANDFILLS

2

BIODEGRADABLE

3

NON-RECYCLABLE



RECYCLING

4

RECYCLABLE



PHOTO COURTESY: TOXICS LINK

SUCCESS STORY

Managing Waste successfully- the Defence Colony Story¹⁶

Residents of Defence Colony's A- Block, with initial inputs from Toxics Link, a Delhi based organisation, developed an efficient waste management system for their locality. This has now been replicated and sustained for the entire colony. The simplicity and efficacy of the Defence Colony model can be easily replicated by other residential colonies.

The Defence Colony Zero Waste initiative is unique in its approach- it brings together and recognizes the importance of all stakeholders in the waste management process: door-to-door waste collectors, sanitation staff employed by the Municipal Corporation of Delhi (MCD), the Resident Welfare Association and all residents.

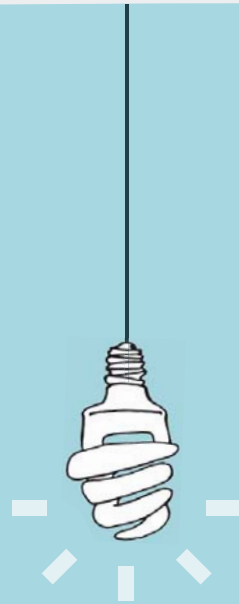
Waste is collected from each household by waste collectors employed by the RWA (Resident Welfare Association). They segregate the waste and sell the recyclable

and reusable dry items to the Kabariwala. The wet waste is composted to transform waste into useful manure. Initially there were four compost pits, which have now been augmented to sixteen compost pits.

The longevity and sustainability of the Zero Waste initiative in Defence Colony is owing to attention paid to health of waste pickers and an economically sustainable model. A small fee of Rs. 50/- per kitchen is collected from 1600 households within the colony towards upkeep of the waste management system. Revenue is also generated through sale of recyclable items and from the compost sold at Rs. 6/- kg or Rs. 5/- for bulk orders.

Like the residents of Block A, Defence Colony, we can all become SMART using simple and effective ways to reuse and compost components of our waste.

WHAT'S YOUR STORY?

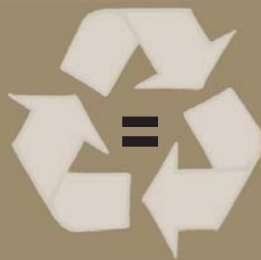


REDUCE! DON'T BUY FOODS OR BEVERAGES IN ALUMINUM, PLASTIC OR THERMOCOL TO REDUCE THE AMOUNT OF WASTE WE GENERATE.

GET SMART. BUY PRODUCTS THAT ARE LESS TOXIC OR CONTAIN LESS PACKAGING, USING REUSABLE CONTAINERS AND REUSABLE ITEMS AND BUY PRODUCTS MADE FROM RECYCLED MATERIALS.

RECYCLE ALUMINUM

IT IS POSSIBLE FOR A USED ALUMINUM CAN TO BE RECYCLED AND BE BACK ON THE GROCERY SHELF AS A NEW CAN, IN AS LITTLE AS 60DAYS! RECYCLING ONE ALUMINUM CAN SAVES ENOUGH ENERGY TO RUN A TV FOR THREE HOURS (ENOUGH TO WATCH A MOVIE OR MORE!) OR THE EQUIVALENT OF A HALF A GALLON OF GASOLINE. THERE IS NO LIMIT TO THE NUMBER OF TIMES ALUMINUM CAN BE RECYCLED.¹⁷



RECYCLE GLASS

THE ENERGY SAVED FROM RECYCLING ONE GLASS BOTTLE CAN RUN A COMPUTER FOR 20 MINUTES OR A COMPACT FLUORESCENT BULB FOR 20 HOURS. RECYCLING ONE GLASS BOTTLE CAUSES 20% LESS AIR POLLUTION AND 50% LESS WATER POLLUTION THAN WHEN A NEW BOTTLE IS MADE FROM RAW MATERIALS. EVERY GLASS BOTTLE IS RECYCLABLE!¹⁸



RECYCLE PAPER AND PLASTIC

PLASTIC BAGS AND OTHER PLASTIC GARBAGE THROWN INTO THE OCEAN KILL AS MANY AS 10,00,000 SEA CREATURES EVERY YEAR! THINK HOW MANY OF THEM WE CAN SAVE BY RECYCLING IT INSTEAD. FOR EVERY TONNE OF RECYCLED NEWSPAPER, 17 TREES ARE ALSO SAVED.¹⁹



RECYCLING

BUILDS A STRONG ECONOMY

Done on a nationwide scale, recycling has a huge impact in our economy in terms of jobs, energy cost reduction and resources conservation.

CREATES JOBS

Incinerating 10,000 tons of waste creates one job; landfilling 10,000 tons of waste creates six jobs; recycling 10,000 tons of waste creates 36 jobs.

IS ENERGY EFFICIENT

Recycling could translate into huge reductions in energy costs. As mentioned before 20 aluminum cans can be made from recycled material using the same energy it takes to make one new can.

IDEAS

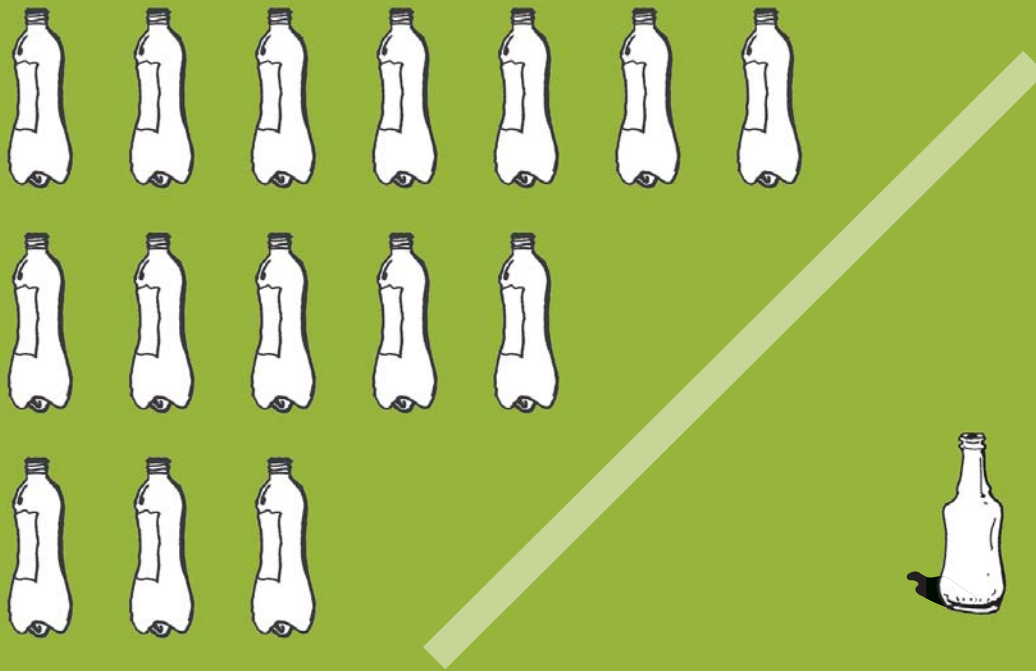
Interesting Lamp Shade can be made out of old/unused helmets, iron, and glass bottles. A bundle of old newspapers can be used to make interesting craft item at home by turning it to paper mache. Garbage Bins or pen holders can be made from degradable plastic or empty cartons.



DONATE CLOTHES THAT YOU DON'T USE ANY MORE. DONATE OLD STATIONERY, TOYS AND OTHER PRODUCTS THAT CAN STILL BE USED BY OTHERS.

SET AN EXAMPLE FOR OTHERS TO REUSE BY SELLING OR GIFTING SOME OF THE CREATIVE THINGS YOU MADE FROM HOUSEHOLD ITEMS!

ORGANISE A COMPOST PIT IN YOUR NEIGHBORHOOD AND TAKE TURNS WITH YOUR FRIENDS AND NEIGHBORS IN LOOKING AFTER THE PIT. DISTRIBUTE MANURE FROM THE PIT TO ALL HOUSEHOLDS WHO HELPED EQUALLY.



REDUCE SAY NO TO GOODS THAT YOU DON'T NEED



REUSE LOADS OF COMMODITIES CAN BE REUSED



RECYCLE WE CAN MAKE AN EFFORT TO SEPARATE METALS, PAPER AND OTHER SUCH RECYCLABLE ITEMS AND GIVE THEM TO THE LOCAL KABADIWALA FOR PROPER RECYCLING

SET A TREND. BOTTLES OF SOFT DRINKS LEFT OVER FROM THE LAST PARTY, ALUMINUM FOILS THAT KEEP YOUR SANDWICHES WARM, OLD CLOTHES, STATIONERY ETC CAN ALL BE REUSED INTERESTINGLY.

GET SAVVY. PACKETS OF CHIPS, SINGLE-USE PENS, PLASTIC BAGS, GADGETS ETC ARE ALL EASILY AVOIDABLE.

GET CREATIVE! MAKE KITCHEN RAGS WITH OLD CLOTHES. MAKE FLOWER VASES WITH OLD PLASTIC BOTTLES. MAKE SCRIBBLE PADS FROM ONE SIDED PAPER.





- › **ACT**
- › **PARTICIPATE**
- › **ORGANISE**

BECOME A PART OF THE SOLUTION

Share this booklet and any interesting facts you like with your friends and peers. Everyone you tell will be aware, they will rethink too.

CREDITS

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