



DOMESTIC WASTE  
MANAGEMENT

Read More...



# MACVISTA

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THINK THROUGH IT...

*There is no such thing as 'away'.  
When we throw anything away  
it must go somewhere.*  
– Annie Leonard, Proponent of Sustainability



It is very important that we manage the waste we generate.

**For if we don't manage it,  
it is our future that we are  
dumping in the garbage!**





# Domestic Waste – Where does it go?

Waste, litter, junk, garbage, trash – call it by whatever name, is generated every day in every household.

Do you know what happens to all the waste that is generated in households?



Let us look at what happens to the waste that occupies the largest volume in domestic waste generation – solid waste.

Usually waste or garbage is collected in the trash bin and handed over to the garbage collector who picks it from our doorstep. The garbage collector disposes it in the community bin. Some of us may dispose the garbage at the community bin directly.



## What happens after that?

The community bin is periodically emptied and the garbage is taken away. From there, the garbage is mostly taken to the dump site. The dump site is exactly what the name suggests – it is a site for dumping garbage. It is a land area, usually away from the populated parts of the city filled with huge mounds of garbage. That sounds like the end of the problem right?

For after all, what is out of sight is usually out of mind.







## Well ... actually no ...

It is this ever-increasing pile of garbage that actually gives rise to several serious issues. So serious that it cannot be evaded any longer.

Before we come to the problems that emerge from the ever-increasing pile of garbage, let us try to understand why this pile of garbage keeps increasing. A big part of the reason is the nature and composition of garbage that is dumped at these sites. Waste, if segregated and treated in the appropriate manner, is actually much easier to dispose.

Sadly, that is far from the case.

To understand just how far, check this –



## 62 MILLION

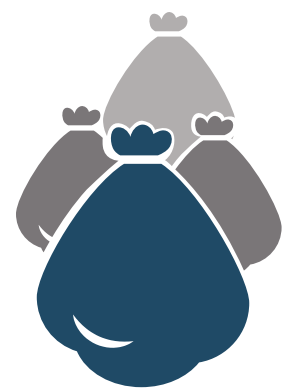
According to studies, India generates about 62 million tonnes of garbage every year. Of this, **45 million tonnes of garbage remains untreated.**

To grasp just how much of garbage that is, imagine this –



It will take around 3 million trucks to load the 45 million tonnes of untreated garbage. If these 3 million trucks stood end to end, **they would cover half the distance between the Earth and the Moon.**<sup>1</sup>

Given the current rate of garbage generation, by the year 2041, urban India is expected to generate 161 million tonnes of garbage.<sup>2</sup>



So what do we do to avoid being buried under garbage in less than 25 years?

The answer lies in segregating garbage today and it all begins at home – the place where the waste is generated.

Let us tune in to the segregation mantra with this song –

<https://youtu.be/DRLycXF55U>



<sup>1</sup> <https://swachhindia.ndtv.com/5-countries-revolutionised-way-tackle-trash-waste-5013/>

<sup>2</sup> Annepu RK. 2012. Cited in *Challenges and opportunities associated with waste management in India* Sunil Kumar, Stephen R. Smith, Geoff Fowler, Costas Velis, S. Jyoti Kumar, Shashi Arya, Rena, Rakesh Kumar, Christopher Cheeseman Published 22 March 2017. DOI: 10.1098/rsos.160764 in <http://rsos.royalsocietypublishing.org/content/4/3/160764>



## Types of Waste

Waste generated at the level of the household or domestic waste can be broadly of two types –

**biodegradable waste** and **non-biodegradable waste**.

Let us understand these two types of waste –

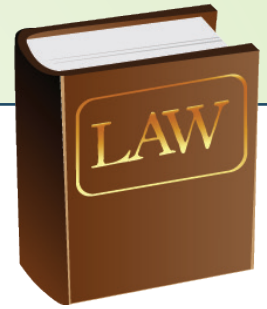
### Biodegradable Waste

Biodegradable waste is referred to as green waste, recyclable waste, food waste or organic waste. Observe the leaves shed by a tree. Even as they are exposed to the environment, they crumple, shrink, become a part of the soil and eventually are nowhere to be seen.

This is because when biodegradable waste is subjected to water, air, the Sun's rays, or worms, it breaks down into organic and safe waste materials.

#### Some examples of biodegradable waste are:

- Human and animal waste
- Plant products, wood, paper, food waste, leaves, grass clippings
- Remains from the death of living creatures



According to the Solid Waste Management Rules, 2016, every waste generator shall segregate and store the waste generated by them in three separate streams namely biodegradable, non-biodegradable and domestic hazardous wastes in suitable bins and handover segregated wastes to authorised ragpickers or waste collectors.





## Types of Waste

### Non-Biodegradable Waste

Non-biodegradable waste does not decompose into waste products that is environmentally safe. Such waste does not breakdown or decay for decades. It can be reused and recycled. If not recycled, it just piles up and pollutes the environment.

Check out this song on The Plastic War where the plastic just refuses to go away ...

[https://www.youtube.com/watch?v=U7bNOFJ2\\_w4](https://www.youtube.com/watch?v=U7bNOFJ2_w4)



**Some examples of non-biodegradable waste are:**

- Glass
- Metals
- Plastics
- Electronic devices
- Medical waste



The fundamental problem is that both types of waste – biodegradable and non-biodegradable, are dumped together at the garbage dump. This makes it difficult for the biodegradable garbage to decompose as well to recycle non-biodegradable garbage. That explains the ever increasing mound of garbage.



# Problems that emerge from garbage dumps

## Bad Odour

Dumps of garbage are usually located far away from most of our houses. So why should this ever-increasing mound of garbage be a problem?

To begin with, the waste in the dump does not just sit and grow. It gives rise to a foul smell. Even as the bacteria grows on the food waste, it rots and gives out a bad odour.

The bad odour of the garbage dump spreads its tentacles far beyond the land area where the garbage is dumped. The waste contaminates air with poisonous substances that include carbon dioxide, nitrous oxide and methane. This is the very air that we breathe. That is getting the bad odour right into our system.

This gives rise to various respiratory diseases as this toxic air is absorbed from lungs into other parts of the body.



## Spread of diseases

The garbage dump is visited by flies that then visit our home and insist on tasting our food. These are carriers of several illnesses that include food poisoning, typhoid, gastroenteritis and many more.





## Problems that emerge from garbage dumps

### Garbage Bombs

When organic material such as food scraps and green waste is put in the garbage dump, it is generally covered with other types of garbage. This releases methane, a greenhouse gas that is at least 21 times more potent than carbon dioxide. This is compounded by the indiscriminate dumping of hazardous waste such as batteries of electronic goods.

Together, they give rise to a thick gaseous haze hanging over the garbage dumps earning it the label of 'garbage bombs.' The smallest spark can cause a major fire not only endangering life and property near the garbage dump but also polluting the air and causing diseases far beyond the area of the garbage dump.



### Plight of waste pickers or ragpickers

The waste pickers, commonly known as ragpickers, are highly vulnerable at work while sorting unsegregated waste. This is because unsegregated waste can include broken glass, leaking batteries, rotting food that gives out toxic smells. Prone to cuts and wounds while sorting through the garbage, they often suffer from infections and other illnesses.

Let us have a closer look at the category of ragpickers to understand the human impact of mismanagement of domestic waste.





# Ragpickers – An inhuman cost

From toddlers to those bent with age, ragpickers constitute an informal sector of the economy. In other words, they do not have a regular job or a fixed salary. They definitely are not treated with the dignity that the job deserves.

And what is this job – sorting waste that is a mix of the sickening and hazardous – rotting vegetable peels, stinking food waste, used diapers, used bandages, broken glass, rusted metal, leaking batteries, the list goes on ...

To have an idea of the amount of waste, let us recollect that India generates around 62 million tonnes of garbage. According to studies, nearly 90% of India does not have a proper waste disposal system. It is this massive amount of garbage that is sorted and cleared by the ragpickers.

As a part of the informal sector while the category of ragpickers may be not be a part of any listed occupation, the number of ragpickers is huge. According to some studies, ragpickers in India are estimated to be anywhere between 1.5 million and 4 million. In other words, it is these millions of people who are directly exposed to high risk, unhealthy conditions of work simply because most of us do not segregate the waste that we generate.

A recent study of six Indian cities found that waste pickers recovered approximately 20% of waste, with around

80,000 people involved in recycling approximately three million tonnes. It is estimated that every tonne of recyclable material collected avoided the emission of 721 kg carbon dioxide per year. That translates as prevention of that proportion of harm to the environment as well as human health.

Some of the problems encountered by the ragpickers in picking up, handling and sorting overflowing garbage are:

- Direct contact with material such as broken glass and other sharp objects makes the ragpickers vulnerable to cuts and wounds. When exposed to the bacteria in the garbage dump, it results in skin and blood infections through open wounds.
- Breathing the foul air for several hours a day makes the ragpickers prone to several chronic diseases including respiratory problems. They also tend to suffer from illnesses and infections caused by attacks of animals that feed on the garbage dump.
- All this is compounded by the degradation, exploitation, poverty and abuse that they face from the very society that they help to clean.



Lack of management of domestic waste does not only have environmental repercussions, it has a disturbing **human cost** as well.



## Towards an improved domestic waste management system in India

We may not be the cleanest place on the planet. But we are well on our way to be more responsible towards the environment and lead a cleaner life. Check out some of the points under the new Solid Waste Management Rules, 2016, that mark the way ahead.



### Segregation of Waste

As per the new Solid Waste Management Rules, 2016, all waste generators should start segregating their waste into three categories – Biodegradable (vegetable peels and fruit peels, teabags, dry leaves), Non-biodegradable (plastic, paper, metal, wood) and Domestic Hazardous Waste (diapers, napkins, mosquito repellents, cleaning agents) before they hand it over to the collectors.

### Payment and Fines

Under the new rules, waste generators will have to pay some amount to the waste collectors for collection, disposal and processing of waste. The solid waste generated cannot be thrown, burnt or buried on streets, open public spaces and water bodies. Anybody found violating the rules can be fined on the spot.



### Guidelines to counter the ever-increasing garbage dumps

Properly managed engineered landfills should replace garbage dumps in India. This would significantly reduce the environmental impact of waste.

As per the new rules, the landfill site should be 100 metres away from a river, 200 metres from a pond, 500 metres away from highways, habitations, public parks and water supply wells and 20 km away from airports/airbase.

### Involvement of Ragpickers

The new rules help in the integration of ragpickers, waste pickers and kabadiwalas from the informal sector to the formal sector.



## Ways to manage Waste across the World

Let us look at some of the innovative ways in which waste is managed across the world.

### Please give us your trash.

Imagine a place that is actually asking other countries for their garbage so that it can keep its recycling plants running. Sweden has run out of trash! Less than one percent of Sweden's household waste goes into the landfill dump; the rest is recycled in different ways. The 32 waste management plants in Sweden produce heat for 810,000 Swedish households and electricity for about 250,000 private houses.

Sweden has adopted a recycling policy which diverts all the energy generated by burning waste into the national heating network. A cool way to heat homes through the cold winter months!



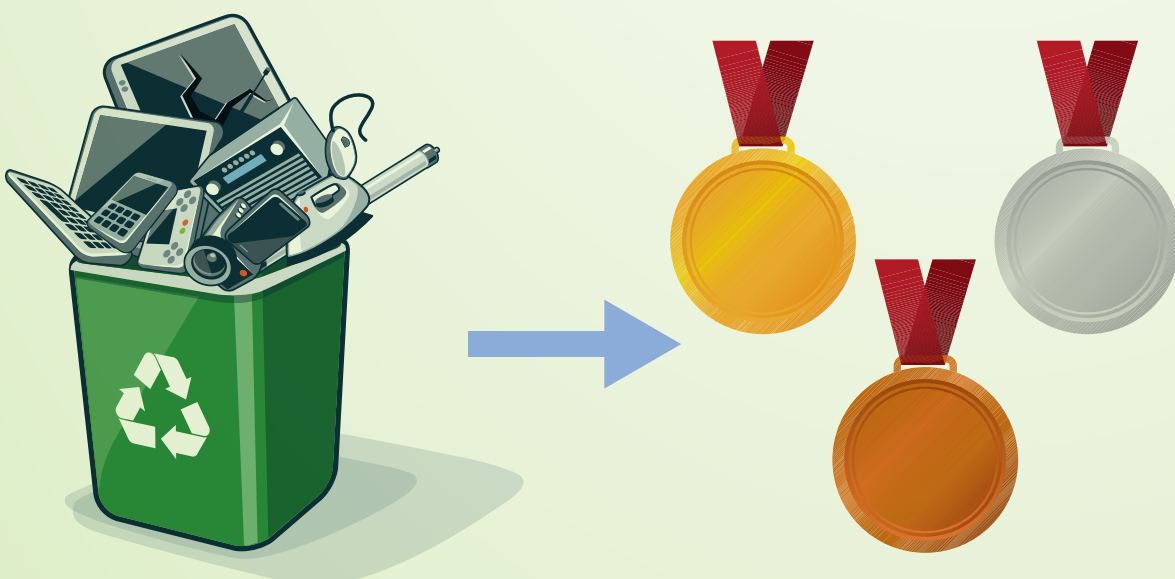
### Treasure in the trash!

In Amsterdam, residents are rewarded for recycling. Depending on the amount of trash they turn in, they receive a certain amount of green coins. These green coins can be used as currency in local businesses.

Columbia too has ECOBOT-vending machines, which give rewards such as movie tickets and vouchers and monetary compensation for every time someone deposits a plastic bottle or bottle caps. As for all the plastic that is collected, they are just sent to recycling plants instead of landfills.

### Waste to medal – on a winning journey

Tokyo, Japan will host the 2020 Summer Olympic games. The country has proposed that it will make the Olympic medals out of e-waste from objects such as smartphones and other electronics. The country believes they will have enough e-waste in order to make both the Olympic and Paralympic games medals.



Styrofoam is a type of light white plastic usually used in food packaging. As styrofoam cannot easily be recycled, it often ends up in the trash. A group of middle school students from Folsom, California, have come up with a treatment process in 2016 that uses bacteria to eat styrofoam that turns it into energy and biodegradable plastic.



# Ways to manage Waste across the World

## Dealing with waste is child's play!

Artist and environmentalist Ruganzu Bruno has created an amusement park for the children living in the slums of Kampala in Uganda, built entirely of waste. Bruno refashioned the waste to make swings and life-size board games. The goal of the artist is to make more than 100 such similar amusement parks in other parts of Uganda.

## A landfill filled with biodiversity

The word 'landfill' immediately brings to mind an image of a smelly mountain of rubbish, because that's what it usually is. Now prepare to get dazzled by a landfill that is a biodiversity hotspot that is home to flourishing mangroves, rich coral reefs and a plethora of birds and marine life. Welcome to the Semakau Landfill, Singapore's first offshore landfill and now its only remaining landfill.



Alappuzha, in Kerala, India, was recognised by the UN Environment report in 2017 in its list of cities that has successfully tackled solid waste management. This was achieved by the municipality at Alappuzha by separating biodegradable waste at the ward level, treating the waste in 'small composting plants' and ensuring it was supplied in the form of biogas to its 1.74 lakh population.



# ACTIVITY SHEET

## Activity 1

Think of five items of domestic waste that can be placed in the below given categories –

Biodegradable waste	Non-biodegradable waste



## Activity 2

Let's walk the talk. Roll up your sleeves and launch into the preparation of compost – the best organic fertiliser for your plants.

The preparation of compost involves the application of air, moisture and heat over biodegradable waste. Compost can be the superfood for your plants – natural, organic and safe. So let us roll up our sleeves and get started.

### Material Required:

1. An old flower pot or used wooden crate.
2. A base container on which the flower pot or wooden crate can sit.  
*(If the compost is prepared in a garden space, the flower pot or wooden crate can directly sit on the grass).*
3. Soil
4. Garden rake or long wooden stick
5. A lid  
*An old metal lid or even a worn-out carpet can be used. It will help to prevent the smell from spreading around the house.*
6. Household waste  
*This is usually categorised into green and brown waste. Green waste can include vegetable and fruit peels, cut plants, grass and weeds, used tea leaves, egg shells, flowers. Brown waste can include dry leaves, twigs, corn cobs chopped into small pieces.*



*Take care not to include cooked food, newspaper, cardboard with print and glue, painted wood, plastic, glass, leather, rubber, metal, oil waste, paints, animal feces.*



## Procedure:

Make sure the flower pot has holes in its base. This is to ensure that extra moisture gets drained as well to help in the circulation of air. Place the base container beneath the flower pot. The moisture that collects in the base container can be used as a fertiliser tonic for plants.

Place a layer of coconut husk as the first layer in the flower pot. This will prevent excess moisture leaking from the base of the pot. Cover it with soil.



Put the domestic waste (green and brown) accumulated through the day over this layer of soil. Spread another layer of soil. Cover with a lid. Repeat the process for a few days.

Stir the contents once or twice a week with a garden rake or a long wooden stick. This will allow circulation of air in a uniform manner.



If the mixture looks too wet, it may lead to growth of fungus. Adding some brown waste can help to absorb the excess moisture. Continue the process till the flower pot is full. The mixture will generate heat on its own.

The compost will be ready in 6-8 weeks.

Go ahead and nourish your plants. Watch the waste transform the plants into lush greenery.

Congrats on having completed the circle, for you have given back to the Nature what came from Nature.



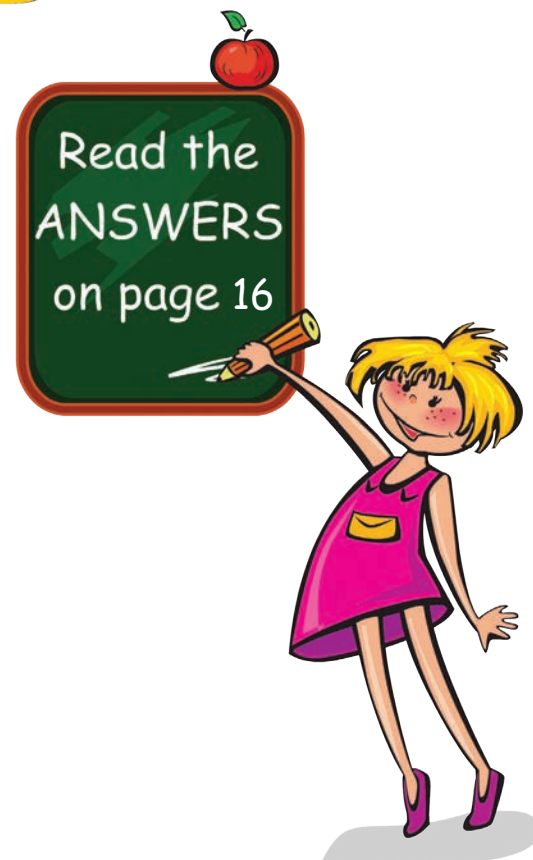
If you want to try your hand at vermicomposting check out the link given below –  
<https://www.youtube.com/watch?v=y0ux7mYJXcs>





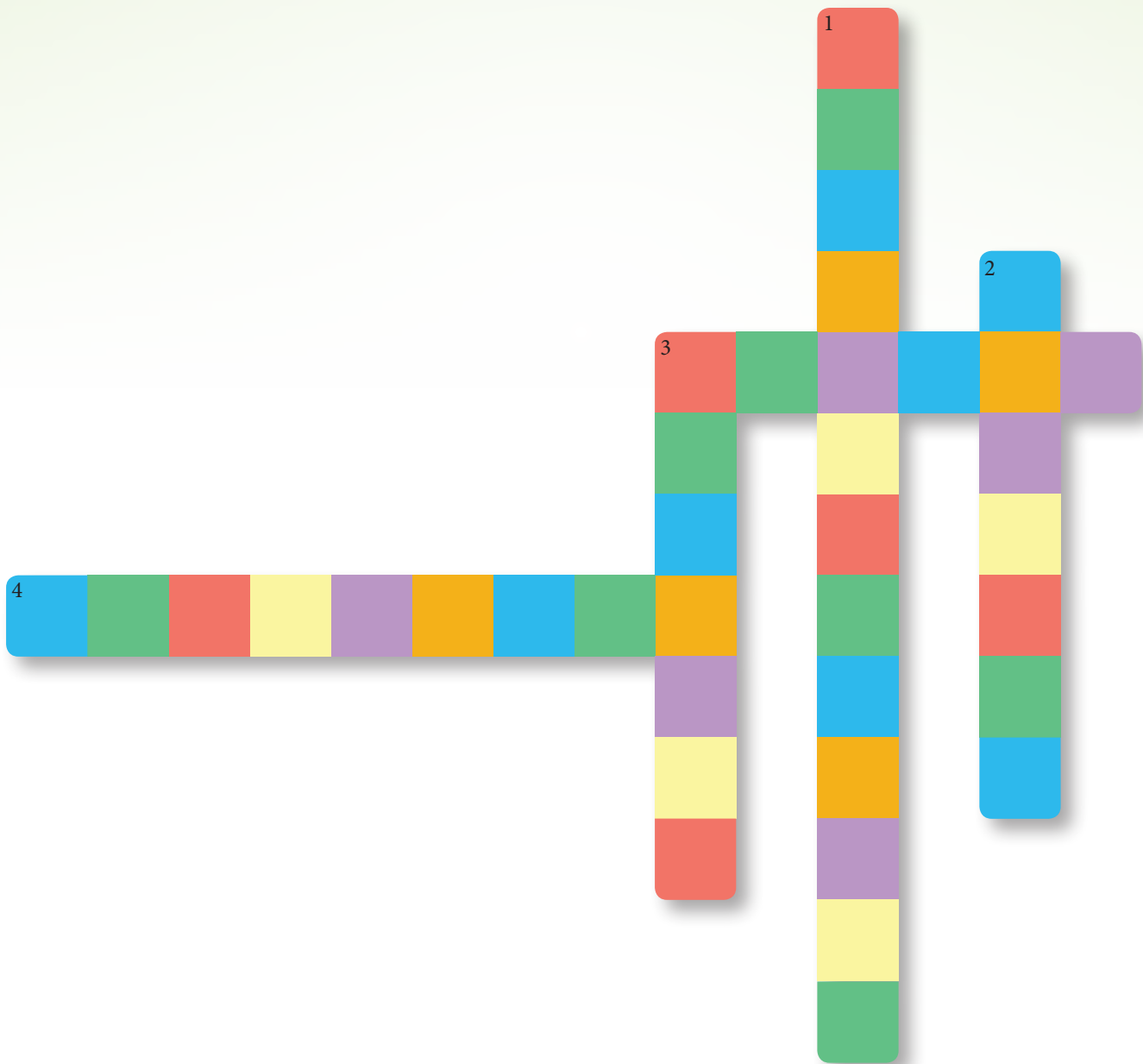
# RIDDLES

- ♣ If you have me, you want to share me. If you share me, you haven't got me. What am I?  
.....
- ♣ What word becomes shorter when you add two letters to it?  
.....
- ♣ I am easy to waste and unstoppable. What am I?  
.....
- ♣ I'm tall when I'm young, I'm short when I'm old. What am I?  
.....
- ♣ What gets broken without being held?  
.....





# CROSSWORD PUZZLE

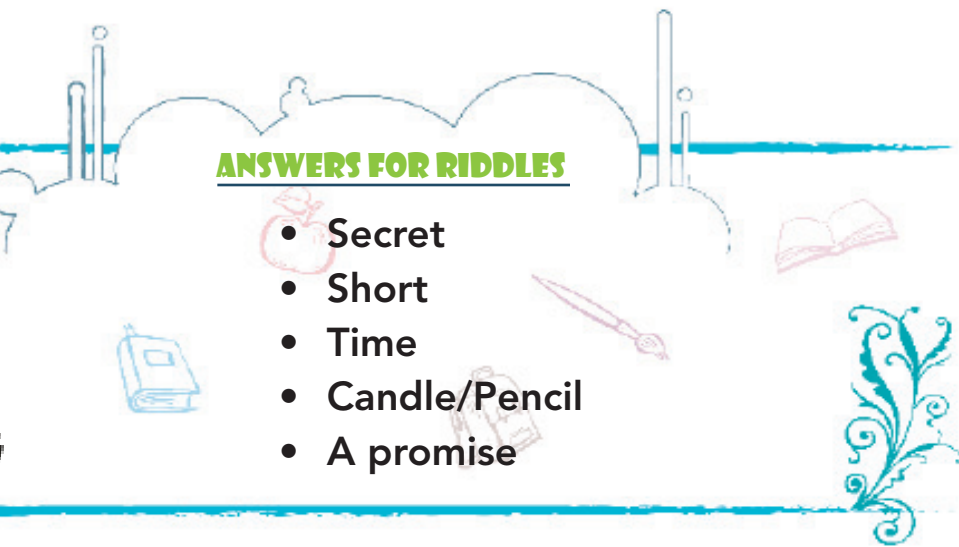



### Across

- 3. The country that diverts garbage to its national heating network.
- 4. The only city in India to be recognised by the UN Environment report in 2017 in its list of cities that has successfully tackled solid waste management.

### Down

- 1. Waste that breaks down into organic and safe waste material.
- 2. The greenhouse gas that is at least 21 times more potent than carbon dioxide.
- 3. Singapore’s first offshore landfill.



### ANSWERS FOR RIDDLES

- Secret
- Short
- Time
- Candle/Pencil
- A promise

- Crossword Puzzle Answer
- Across
- 3. SWEDEN
  - 4. ALAPPUZA
- Down
- 1. BIODEGRADABLE
  - 2. METHANE
  - 3. SEMAKAU





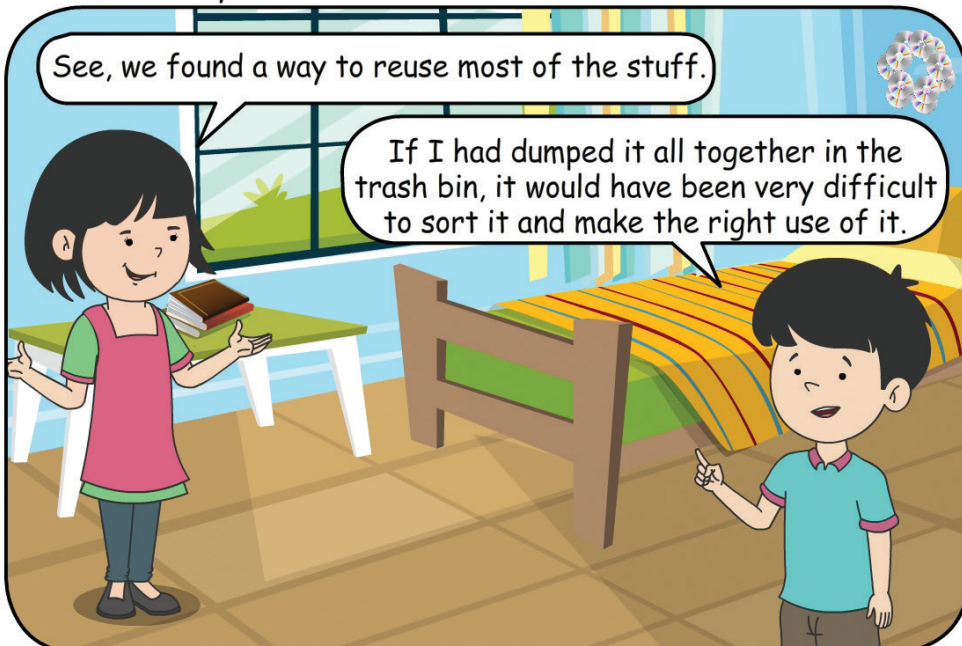
# Comic Strip



## BAIRA AND BELA



After 2 days...





## CURRENT EVENTS UPDATES

**2 April 2018**

South African anti-apartheid campaigner, former first lady and ex-wife of Nelson Mandela, Winnie Madikizela-Mandela passes away in South Africa at the age of 81.



**8 April 2018**

Prime Minister Viktor Orban wins the general elections in Hungary.



**10 April 2018**

Prime Minister Narendra Modi flags off India's first all-electric superfast train in Patna.

**11 April 2018**

Ilham Aliyev wins a fourth term as President of Azerbaijan.



**14 April 2018**

Prime Minister Narendra Modi inaugurates the first healthcare and wellness centre under Ayushman Bharat Yojana in Chhattisgarh.

**19 April 2018**

Cuba's new President, Miguel Diaz-Canel, begins his term. Diaz-Canel replaces Raul Castro.



**19 April 2018**

Swaziland's King Mswati III, Africa's last absolute monarch, officially renames the country as the Kingdom of eSwatini (land of the Swazis).

**24 April 2018**

Prime Minister Narendra Modi launches the Rashtriya Gram Swaraj Abhiyan to strengthen the Panchayati Raj system at Ramnagar in Madhya Pradesh.

**27 April 2018**

Senior advocate Indu Malhotra is inducted as a Supreme Court judge by Chief Justice of India, Dipak Misra. She is the first woman lawyer to be directly appointed as a Supreme Court judge.

**1 May 2018**

Eminent economist, Ashok Mitra, passes away at a private nursing home in Kolkata at the age of 90.

**2 May 2018**

Kottayam Pushpanath (C J Zachariah), author of detective novels in Malayalam, passes away in Kerala at the age of 80.

**3 May 2018**

Vinod Khanna is posthumously honoured with the Dadasaheb Phalke Award at the 65th National Awards in New Delhi.



**3 May 2018**

Sridevi is posthumously awarded the Best Actress National Award.



**7 May 2018**

Kathak exponent, Rani Karnaa, a Sangeet Natak Akademi awardee and Padma Shri recipient, passes away in Kolkata at the age of 79.



**10 May 2018**

Dr. S Santhakumar, eminent psychiatrist and founder-director of the Institute of Mental Health and Neuro Sciences (IMHANS) passes away in Kerala at the age of 87.

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## CURRENT EVENTS UPDATES

**15 May 2018**

Acclaimed Tamil writer Balakumaran passes away in Chennai at the age of 71. Balakumaran wrote the dialogues for Mani Rathnam's award-winning film 'Nayakan'. He also worked as the associate director under K. Balachander.

**23 May 2018**

H D Kumaraswamy takes oath as Chief Minister of Karnataka.



**24 May 2018**

The Union Ministry of Human Resource Development (HRD) launches an integrated scheme for school education called 'Samagra Shiksha'.

**29 May 2018**

Prof. Ganeshi Lal is sworn in as the Governor of Odisha.



**29 May 2018**

Kummanam Rajasekharan is sworn in as the Governor of Mizoram.



**9 June 2018**

Senior Congress leader and former Union Minister L.P. Shahi passes away in New Delhi at the age of 98.

**12 June 2018**

India cricket captain Virat Kohli receives the Polly Umrigar Award for being the best international cricketer for the 2016-17 and 2017-18 seasons at the annual BCCI awards.



**13 June 2018**

Noted social reformer and founder of Sulabh International Bindeshwar Pathak is honoured with Japan's prestigious 'Nikkei Asia Prize for Culture and Community' for his significant work in tackling poor hygiene and discrimination.



**16 June 2018**

Former West Bengal minister and CPI(M) leader Satya Sadhan Chakraborty passes away in Kolkata at the age of 85.

**19 June 2018**

Renowned mimicry and ventriloquism artist Nerella Venumadhav passes away at Warangal at the age of 85.



**20 June 2018**

Gujarat Forensic Sciences University (GFSU) in collaboration with the International Committee of the Red Cross (ICRC) Regional Delegation for India, Bhutan, Nepal and the Maldives launches the world's first International Centre for Humanitarian Forensics (ICHF).

**23 June 2018**

Noted litterateur, B Sujatha Devi passes away in Kerala at the age of 72. An acclaimed travel writer, she wrote under the pen name Devi.

**28 June 2018**

Former Punjab finance minister Surinder Singla passes away at New Delhi at the age of 78.

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