

trapped by waste

→ WASTE MANAGEMENT  
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XB  
2021-2022  
GEOGRAPHY ←



# Waste Management

01

Waste: any material that is discarded because it has served its purpose and is no longer useful.

## Waste Management:

the resolution of the impact of waste accumulation - spoilage of landscape, pollution, health hazards, effects on terrestrial, aquatic (fresh water + marine) life.

## Sources of Waste

depending on their source of origin, wastes are classified into the following broad categories:

### DOMESTIC WASTE:

- waste generated due to domestic activities.
- food leftovers, sewage, discarded clothes, bottles and cans, wrappers and packets, expired medicine, household cleaning chemicals.
- one of the biggest sources of environmental pollution, mainly food debris and plastic.
- domestic waste needs to be stored and segregated into dry, wet (biodegradable) and recyclable and disposed off only in the municipal system, not the environment.
- community fridges which can bridge the gap between hunger of some people and excess food in the hands of other people are a wonderful step in the right direction.

### INDUSTRIAL WASTE:

- material leftover as a result of the manufacturing process of various small and large scale industries.
- this can be chemical, solid and/or hazardous depending on the kind of industries.

# ① domestic waste

UK plastic waste being dumped and burned in Turkey, says Greenpeace

- By Kathryn Snowdon
- BBC News

17 May 2021

UK plastic waste is being exported to Turkey and then illegally dumped and burned, according to a report. Greenpeace said about 40% - or 210,000 tonnes - of the UK's plastic waste exports were sent to Turkey last year.

But rather than being recycled, investigators saw some of it dumped by roads, in fields and in waterways. The UK is a "global leader in tackling plastic pollution", the government said - after Greenpeace called for it to "take control" of the problem.

Greenpeace's report warned Turkey was becoming Europe's "largest plastic waste dump".

The charity said it had investigated 10 sites across southern Turkey and found plastic bags and packaging from UK supermarkets and retailers at all of them.

Packaging for a coronavirus antigen test was also found, indicating the waste was less than a year old, the report said.

- Where the UK's recycling really goes

The UK generates more plastic waste per person than any other country apart from the US, the report added. Turkey, Malaysia and Poland received the largest amounts of plastic waste exports from the UK in 2020.

Last year, the dumping of plastic waste in Turkey was the subject of a BBC investigation.

Correspondent Angus Crawford sorted through piles of plastic bags, bottles and packaging left by the roadside.

'Waste dump'

Turkey received nearly 40% of the UK's plastic waste exports in 2020 - an increase by a factor of 18 since 2016, when 12,000 tonnes were sent.

European Union member states also sent 20 times more plastic waste to Turkey last year compared to 2016.

Nihan Temiz Atas, biodiversity projects lead from Greenpeace, said: "Around 241 truckloads of plastic waste come to Turkey us."

"As far as we can see from the data and the field, we con Nina Schrank, senior plastics campaigner at Greenpeace overproduction, and urged the government to ban plastic by 2025.

The UK's Department for Environment, Food and Rural Affairs said it will handle more of its waste at home, and that's why we are non-OECD countries and clamping down on illegal waste through tougher controls.

"The UK is a global leader in tackling plastic pollution a responsibility for packaging, a plastic packaging tax and recycling rates, reduce waste and cut crime."



▲ A Tesco wrapper found among plastic waste dumped and burned in Adana province, Turkey Photograph: Caner Ozkan/Greenpeace

ra to Mainpuri the day his mother died — the state is still under partial lockdown and there is no public transport available yet. He got back around 1.30am the next day and reported to work for the morning shift.

In July last year, during Prabhat's previous stint as a Covid ambulance driver, his father had died of Covid-19. Then, too, Prabhat had gone home for a day, conducted the funerary rituals and hurried back. A shift is usually eight hours long but can spill over. Weekly leave is flexible but

the acute phase of coronavirus as soon as possible while the vaccine will be exported at a later stage to help prevent the spread of the virus." Efficacy of Sputnik V is 97.6% based on the analysis of data on coronavirus infection rate among those in Russia vaccinated with both doses of Sputnik V from December 2020 to March 2021, the company claims.

## Covid has orphaned 100

**Noida:** In UP, there are more than 100 children orphaned by the pandemic as numbers with far, 555 children living in the state.

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— examples:

textile industry waste: chemicals used for dyeing, synthetic fibres, etc.

power stations waste: sulphur dioxide, nitrogen oxides.

— other industrial wastes include paints, chemicals (lead, mercury, arsenic) sand, paper, paper products, fly-ash, metals, batteries, etc.

— industrial wastes that are most toxic and are finding their way into river basins, resulting in ecological and human health concerns include DDT (now banned), PCBs (polychlorinated biphenyl; man-made, electrical industries) and PBDEs (polybrominated diphenyl ethers; flame retardants used in building materials, plastics, textiles).

## AGRICULTURAL WASTE

— waste produced as a result of various agricultural operations.

— examples include manure and other wastes from farms, poultry houses and slaughter houses, harvest waste, fertilizer run off from fields, pesticides that enter into water, air or soils and salt and silt drained from fields.

— crop residue, husks and straws, wood waste, sawdust, molasses, tobacco waste, coconut waste products, nut shells, fruit and vegetable peels.

— most of the agricultural waste products are recycled as biogas (gobar gas) or manure.

— agricultural wastes not properly disposed become health hazards by propagating breeding of insects and rodents.

— the burning of rice & wheat stubble contributes to air pollution.

— Since, historically the U.S, India and China have been major agricultural producers, they are in the forefront of research for development of sustainable agricultural practices.



## 1,2 industrial waste

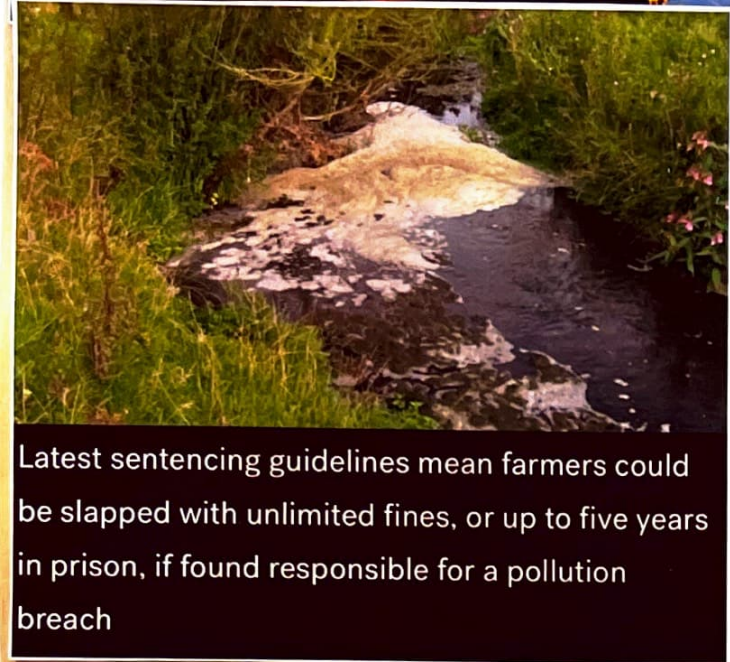
Non-compliance may lead to criminal action, loss of immunity for the likes of FB, Twitter

Surabhi.Agarwal@timesgroup.com

New Delhi: Social media platforms such as Facebook, WhatsApp, Google and Twitter run the

able for criminal action... not comply with the regulations that come in... Wednesday, officials... Significant social... mediaries were g... months' time to com... new Information Tec... les that were notified... The government ha... lion registered users... hold for defining a sig... al media intermedia

# ill Before the Storm



Latest sentencing guidelines mean farmers could be slapped with unlimited fines, or up to five years in prison, if found responsible for a pollution breach



Every year, we generate 450 - 500 million tonnes of agricultural waste. 240 million tonnes of this waste remains un-utilized, and is burnt in the fields.



Water pollution from unsustainable agricultural practices poses a serious risk to human health and the planet's ecosystems, a problem often underestimated by policymakers and farmers

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## MUNICIPAL WASTE:

- waste collected and treated by or for civic bodies such as municipalities. It covers commercial waste, waste from households including bulky waste and electronic waste, waste from institutions, garden and yard waste, street sweepings, the contents of litter containers

- the definition excludes waste from municipal sewage networks and treatment, as well as waste from construction and demolition activities. (construction rubble, debris, toxic chemicals).

- examples of commercial waste would include waste paper, packing materials, broken crockery, glasses, food wastes.

- electronic waste refers to various forms of electric & electronic equipment that have ceased to be of any value to its users because they have exhausted their utility value due to redundancy, replacement or breakage. examples: refrigerators, televisions, washing machines, microwaves, computers and mobile phones.

- e-waste is one of the fastest growing wastes, constituting five percent of all municipal solid waste.

- e-waste is valuable as a source for secondary raw material, but presents difficulties for recycling due to the complexity of each item and the potential toxicity of the components.

## MEDICAL WASTE:

- waste containing infectious (or potentially infectious) material, generated from biological & medical sources and activities such as the diagnosis, prevention or treatment of diseases.

- examples: syringes, needles, plastic bottles, bandages, gloves, masks, dead human tissues.

- awareness of medical waste management is present in a high percentage of doctors, nurses and lab technicians and about 85% of waste generated by health care is of the general, non-hazardous variety.

1,2 : municipal waste  
3,4 : medical waste



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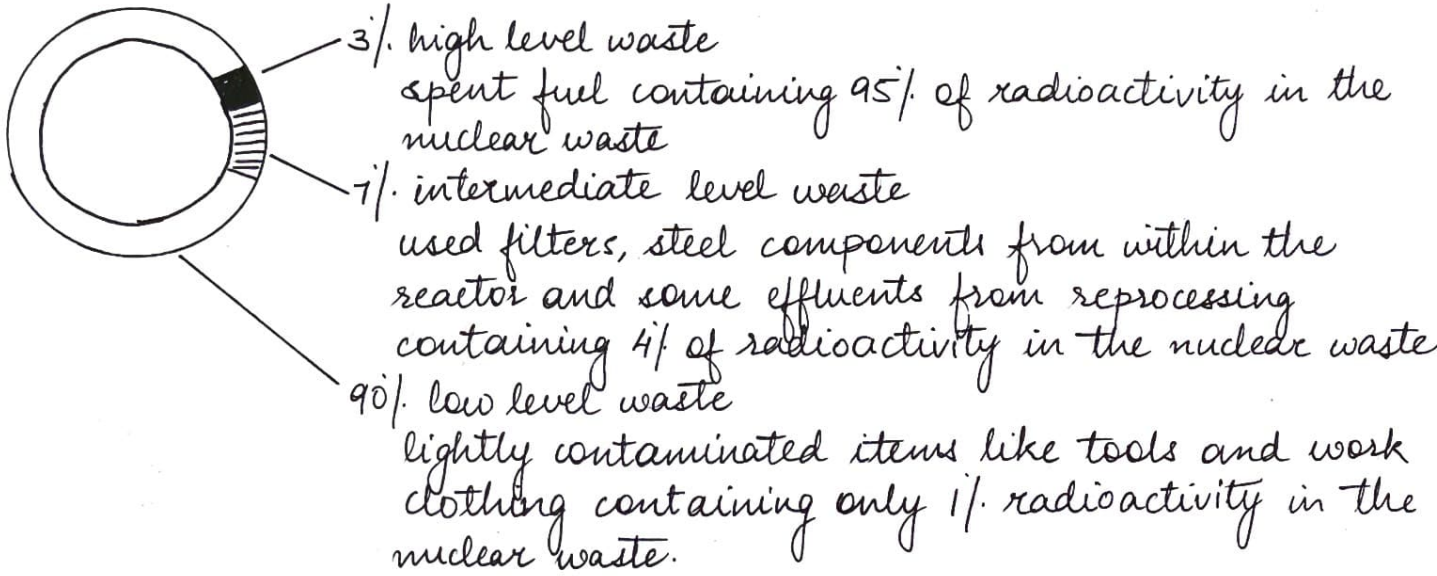


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## NUCLEAR WASTE :

- waste resulting from the use of nuclear energy.
- there are three types of nuclear waste, classified according to their radioactivity, low, intermediate and high level.



- nuclear fuel is very dense, so very little of it is required to produce immense amounts of electricity, especially when compared to other energy sources. As a result, a correspondingly small amount of waste is produced.
- unlike any other energy generating industry, the nuclear sector takes full responsibility for its waste.

### Need for Waste Management

- Waste has to be managed because it remains in our environment and with the rapid increase in human population its recycling at the hands of nature has become unsuccessful.
- Waste is moved from one place to another, instead of being eliminated completely due to several factors and this threatens our existence unless we relearn conservative use of our resources and recycling of our products.
- Dangers posed by global pollution due to accumulation of wastes, threaten the survival of the ecosystem & call for the need to manage waste.

1,2,3: need for waste management



### Renault-Nissan TN Plan



TEPCO-issued photo shows the company's nuclear power plant in Fukushima. Japanese waste incineration plants near Tokyo have found high levels of radiation in ash, and officials said Tuesday it may be from garden waste contaminated by the nuclear disaster.

What to avoid: The failed storage of nuclear waste in the disposal mine at Asse is one of the reasons why the search process for the permanent repository for high-level nuclear waste is such an intricate process. Photo: BGE.

### MUNICIPAL CORPORATION OF GREATER MUMBAI

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Department- General Manager, Deonar Abattoir

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## TRANSMISSION OF DISEASES VIA WASTE:


### On Land:



- accumulation of waste on land leads to spread of disease on an epidemic scale.
- the waste serves as breeding ground for vectors such as flies, mosquitoes, rodents & pet animals who then carry and transmit diseases.
- examples of common diseases spread by mosquitoes, flies, rodents and pet animals, when presented with decrepit environment:
  - housefly: typhoid, diarrhoea, dysentery, cholera, gastro-enteritis.
  - sandfly: kala-azar, sandfly fever.
  - tse-tse fly: sleeping sickness
  - mosquitoes: malaria, filaria, yellow fever, dengue, chikungunya, encephalitis, etc.
  - rodents: plague, salmonellosis, etc.
  - pet animals:
    - dog - rabies, hydatid disease
    - cat - dermatophytosis, anthrax



### In Water:

- accumulation of waste in water and water bodies, following improper management of the effects of industrialisation and urbanisation occurs in the form of:
    - sewage, which cannot be decomposed and contains pathogenic substances and organic matter substrates.
    - pollutants from fertilisers & pesticides 
    - metal salts, synthetic organic chemicals & even radioactive substances from industrial and commercial waste.
  - disease transmission in human beings by waste in water is brought about by:
    - drinking contaminated water
    - use of contaminated water for purposes of personal hygiene & recreation.
- Water borne diseases: viral - hepatitis, diarrhoea, protozoan: amoebiasis, diarrhoea, helminthic: roundworm, threadworm.



1. disease spread on land
2. disease spread in water due to waste accumulation



### municipal solid waste pollution

Municipal solid waste (MSW) on a beach. Such land pollution can contaminate the soil and water and is a health hazard to local communities.

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### Cops: No

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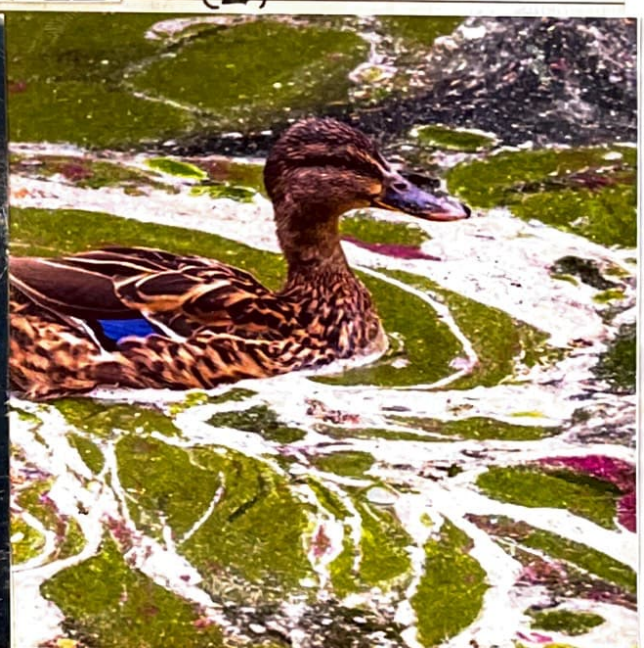
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The government had given  
the companies three months to  
comply fulfil the requirements  
with the deadline set to expire on  
Wednesday. Although some of  
the platforms had sought six  
months, the government cur-  
rently does not appear in any  
mood to relent.

Their failure to comply with  
the norms opens the global gi-  
ants to lose their status and  
protections as intermediaries and  
also makes them liable for crimi-  
nal action, sources said.

While Twitter declined to  
comment, Facebook did not re-  
spond to a query from TOL.



In Air:

the most critical emergency faced by our planet is a result of air pollution:

Greenhouse effect / global warming, so called because of the heating up of the earth being similar to the glass enclosed area getting heated in a greenhouse as a result of insulation from the rest of the environment.

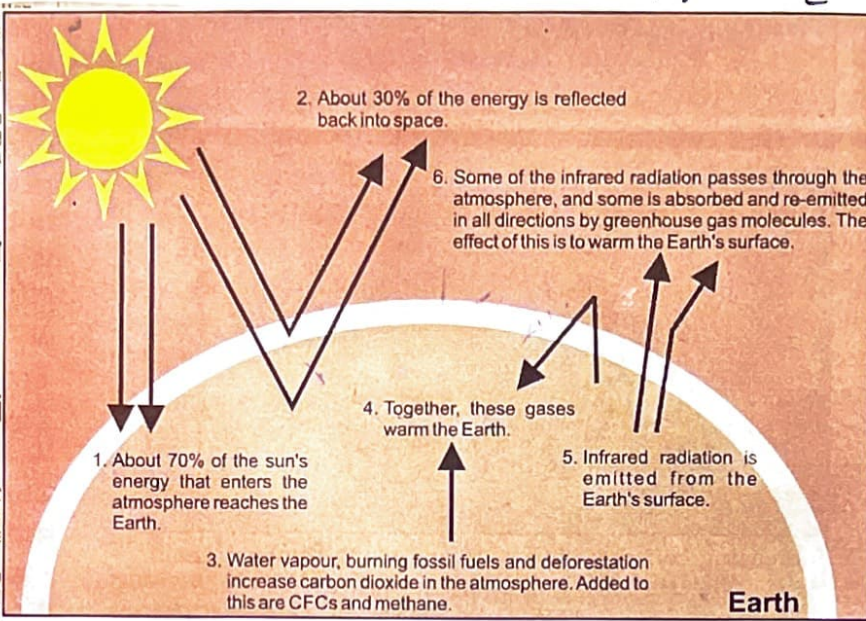
- Gases produced by emissions resulting from irresponsible growth of life activities on the planet, prevent the passage of infrared rays back into space & this concentration of solar radiation is global warming. These are called Greenhouse Gases and are as follows:
  - (i) Carbon dioxide ( $\text{CO}_2$ ), (ii) Methane ( $\text{CH}_4$ ), (iii) Nitrogen oxide ( $\text{N}_2\text{O}$ )
  - (iv) Chlorofluorocarbons (CFC), (v) Water vapour.
- Burning of fossil fuels increases the carbon dioxide content in the atmosphere. The increased concentration may bring about drastic changes in the form of Global Warming as follows:

1. global temperature is likely to rise by  $2^\circ\text{C}$  to  $5^\circ\text{C}$  during the next century.
2. due to a rise in temperature by  $2^\circ\text{C}$  to  $5^\circ\text{C}$ , there is a chance of melting of ice caps on the Earth's poles. This melting of ice will result in the rise of the sea level. Large stretches of low lying areas will submerge and many island countries will face deep encroachment by seawater. Some may disappear altogether.
3. as the increase in temperature will be uniform all over the surface of the world, there will be serious climatic changes. This will bring various changes in wind and rain patterns.
4. higher temperature will cause rise in transpiration, which in turn, will affect the groundwater table.
5. insects & pests will increase in the warmer climatic conditions. Thus, pathogenic diseases will multiply.

OUR FUTURE LIES ENDANGERED!

1. flooding as a result of global warming

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Greenhouse Effect



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## Rocne's Antibody Cocktail in India

**NEW DELHI:** Drug  
majors Roche India  
and Cipla on Monday  
announced launch of  
Roche's antibody cocktail in India  
priced at ₹59,750 per dose for the  
treatment of high risk Covid pati  
ents. "The first batch of the anti  
body cocktail (Casirivimab and  
Imdevimab) is available in India  
while a second batch will be made  
available by mid-June. In total they  
can benefit 200,000 patients as  
each of the 100,000 packs that will  
be available offers treatment for  
two patients," Cipla and Roche said  
in a joint statement. -PTI

## RDIF and Panacea Begin Production of Sputnik Vax

**NEW DELHI:** The  
Russian Direct In  
vestment Fund and  
Indian drug firm  
Panacea Biotec on Monday an  
nounced the launch of production  
of the Sputnik V coronavirus  
vaccine in India. The first batch of  
the Covid-19 vaccine produced at  
Panacea Biotec's facilities at  
Baddi in Himachal Pradesh will be  
shipped to the Russia's Gamaleya  
Center for quality control. Full  
scale production of the vaccine is  
expected to start this summer,  
RDIF and Panacea Biotec said in a  
joint statement. -PTI

## but Liquor Fast: USL

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for fiscal year FY21, sales de  
3%, or by ₹1,200 crore. Dia  
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## Cadila to Produce Up to 30 M Jobs

**NEW DELHI:** India's Cadila Health  
care is aiming to triple  
monthly production  
of a Covid-19 vaccine  
candidate to as many as 30 million  
doses, its managing director said  
on Monday, as the country battles  
a massive wave of infections. The  
virus has killed nearly 100,000  
Indians in May alone according to  
official figures, although experts  
say actual numbers are likely many  
times higher. India's Covid-19  
death toll surged past 300,000 on  
Monday, health ministry data  
showed. India is also facing a  
shortage of vaccines. - Reuters

— depletion of ozone layer

What is the ozone layer:

: a layer in the earth's stratosphere at an altitude of about 10 km, containing a high concentration of ozone, which absorbs most of the UV radiation reaching the earth from the sun.

Why is the ozone layer important to our planet:

: the ozone layer is responsible for the survival of life on the earth. Plants cannot grow and live in heavy UV radiation nor can the planktons that serve as food for most of the ocean life. With a weakening of the ozone layer shield, humans would be more susceptible to skin cancer, cataracts and impaired immune systems.

Interesting ozone fact:

: ozone layer in the stratosphere is a shield. But ozone in the troposphere, about 10 kms from the earth's surface, is a pollutant that can cause damage to lung tissues and plants. It is then a major constituent of urban smog.

Causes of ozone layer depletion:

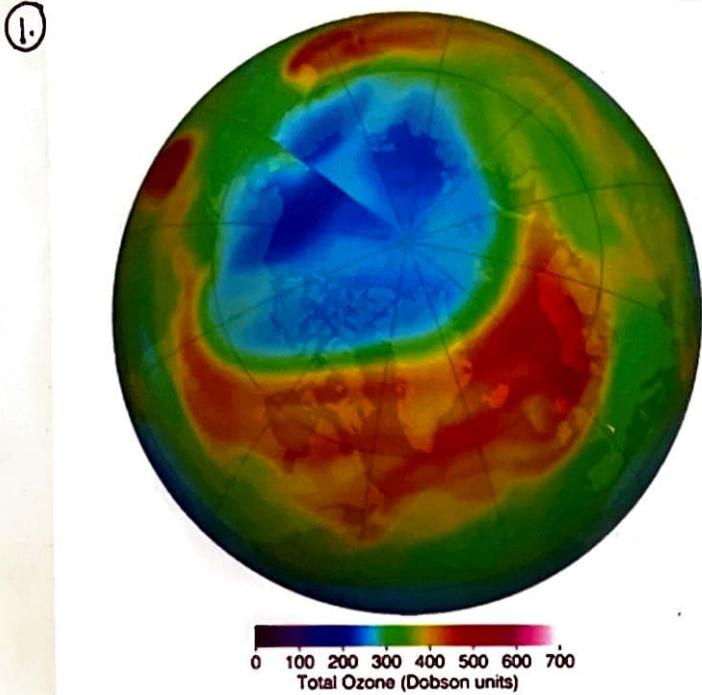
1) Nitrogen produced as a result of burning of fossil fuel, converts to its oxides, damaging the ozone layer.

2) Supersonic airplanes moving through the stratosphere also emit nitrogen gas, depleting the ozone layer.

3) Chlorofluorocarbons (CFCs) and CFC-type chemicals (HCFCs - transitional substitutes to CFCs) used as refrigerants in ~~air~~ air conditioning, paints, plastics, foam and thermal insulating materials in spray and packaging industries, gets dispersed into the atmosphere, causing damage.

○ Effects:

: In 1974, Mario Molina & Sherwood Rowland (1995 Nobel Prize winners) showed that the atmosphere had a finite capacity to absorb 'chlorine' atoms into the stratosphere. This damage of one atom of chlorine to as many as 100,000 ozone molecules, resulted in a hole in the ozone layer over Antarctica as discovered in 1985.



Arctic stratospheric ozone reached its record low level of 205 Dobson units, shown in blue and turquoise, on March 12, 2020. Credit: NASA's Goddard Space Flight Center

the cyclone with the chief ministers of Odisha, West Bengal and Andhra Pradesh and LG of Andaman and Nicobar Islands and asked them to ensure power back-up in all Covid-19 care centres, laboratories and vaccine cold chains, besides seeking safety of around a dozen oxygen generation plants dotting the eastern

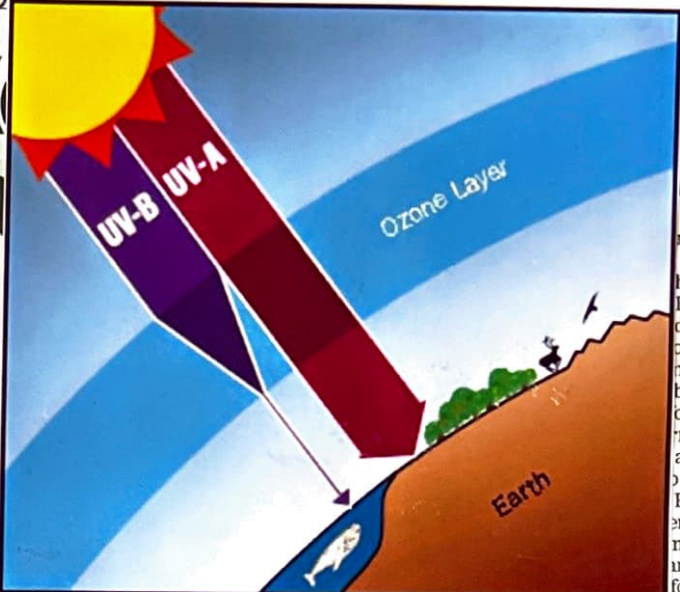
of patients, where necessary. The Centre has deployed 109 teams of the National Disaster Response Force (NDRF) across five states/UTs for evacuation and relief/rescue operations. NDRF director general SN Pradhan said 52 teams have been placed along coastal districts of Odisha, 35 in Bengal and rest in Andhra Pradesh

by the Prime Minister during the review taken by him on Sunday, Shah stressed on the need for timely restoration, electricity and water supply and telecommunication in affected parts of the states/UT, particularly as many Covid-positive persons are under home isolation. The safety of all shipping and fishing vessels, ports and



Preparedness May 26 noon

UV Protection by the Ozone Layer



meeting with major industry associations and officials from state and central governments to take stock of the preparations. The ministers urged all stakeholders to work in close coordination to see that there is no loss of life and the restoration work is taken up quickly after the cyclone. TNM

Port Blair airport shut for today

Scheduled commercial flight operations at Port Blair airport have been suspended on Monday (May 10) to heavy rains and 20-35 knots (37-65 kmph) winds, the Airports Authority of India (AAI) said.

There is a fallout of Cyclone Fani, it is expected to make landfall on the eastern coast on Monday. According to the IMD, Cyclone Fani is likely to intensify into a very severe storm. TNM

ordination and resolve the implementation issues. It said the decisions were taken at a meeting called by the ministry with various associations of the bullion trade, hallmarking centres, jewellers, trade and export bodies and officials.

Under the hallmarking scheme, jewellers are registered for selling hallmark gold jewellery. The hallmarking will enable consumers or jewellery buyers to make the right choice and save them from any unnecessary confusion while buying gold. At present, only 30% of Indian gold jewellery is hallmarking.

Police seize ₹11cr drugs from Ajmer

Jaipur/Ajmer: Jaipur police on Monday raided a godown at Transport Nagar on Beawar Road in Ajmer and seized 117 cartons of drugs, which are used as intoxicants. The whole consignment costs around Rs 11 crore, police said.

Jaipur police, who carried out the raid with the help of Ajmer's Ramganj police, claimed to have exposed a drug racket that was selling such drugs at several places across the state, targeting youths.

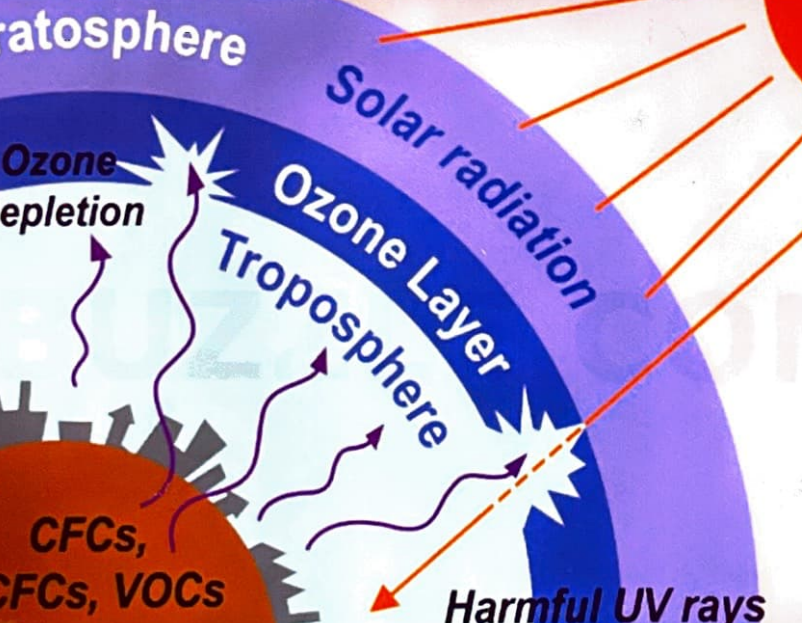
The seizure came a day after Jaipur police raided a chemist at Vishwakarma in the city and seized intoxicating drugs worth Rs 5 crore. Police reportedly received clues from this place about the stock in Ajmer. "So far, two people have been arrested while the

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protection in the face of threats from someone opposed to the relationship have led to the matter being referred to a lar-

ning their marital status and the other circumstances". "It appears that va-

claimed by a live-in couple from Punjab's Tarn Taran, saying it wouldn't be possible for

as right relationship

in couple from Haryana district, saying the fabric of the society is 'disturbed' if the couple is not married. The court is hearing the case of a live-in pair allegedly hounded by the girl's family. Justice Sudhir Mittal of the same court ruled on



### ◦ Attempts at reducing effects:

- recognition of the harmful effects of CFCs and other ozone depleting substances lead to the Montreal Protocol in 1987, a landmark agreement to phase out those substances that had been ratified by all 197 UN member countries.

Without the pact, the following effects of unfiltered UV rays would have snowballed

- skin cancers
- cataracts
- genetic disorders
- destruction of young cells & larvae of organisms in aquatic ecosystems.
- destruction of marine ecosystem from green algae & fish being affected.
- damage to physical & chemical properties of complex chemical substances manufactured for use.
- adverse effects on vegetation & plant life.

### ◦ Solutions:

- ozone depletion has declined in the Antarctic zone since 2005
- the UN projects that the ozone layer would heal completely in the (non polar) Northern Hemisphere by the 2030s, followed by the Southern Hemisphere in the 2050s & polar regions by 2060.
- the next generation of coolants, hydrofluorocarbons (HFCs) do not deplete ozone, but they are powerful greenhouse gases.
- the Kigali Amendment (2016) to the Montreal Protocol, which came into force in January 2019 aims to reduce the use of HFCs by more than 80 percent over the next three decades.
- companies and scientists are working on climate-friendly alternatives, including new coolants & technologies that reduce or eliminate dependence on chemicals.

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company's credibility and the confi-  
dence of its investors, the need of the  
hour must also be factored in while  
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the day position but also the in-  
traday peak position. The new  
system has been adopted over four  
phases.

These petitions are seeking the  
court's intervention to issue direc-  
tion to the government to extend  
the term of the members of the  
NCLT judges who shall be comple-  
ting their tenure by May and June  
2021 by five years (or any other pe-  
riod) or until they attain the age of

ment or members, especially  
where the existing strength is con-  
siderably lower than originally en-  
visaged will make it more snail-pa-  
ced. "The fact that the NCLT and  
Appellate Tribunal Bar Associa-  
tion has had to file a writ petition  
to the SC is a telling commentary

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For full report, go to  
[www.economicstimes.com](http://www.economicstimes.com)



cial media company Koo.  
"If they lose their immunity as  
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ting to companies claiming to be  
awaiting instructions from their  
headquarters in the US.  
As intermediaries, these plat-  
forms enjoy protection under Indi-  
an laws and are not held responsible  
for the content posted by users on  
their site. "But the day the interme-

tion," according to sources who  
questioned why it should take  
three months for the platforms to  
appoint a resident grievance offi-  
cer, chief compliance officer and  
nodal contact person.  
For full report, go to  
[www.economicstimes.com](http://www.economicstimes.com)

cost or input credit gets accu-  
mulated," said Bipin Sapra,  
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funded to the supplier, he said.  
For full report, go to  
[www.economicstimes.com](http://www.economicstimes.com)



## Acid Rain:

- definition: any form of precipitation with acidic components, such as sulphuric or nitric acid that fall to the ground from the atmosphere in wet or dry forms.  
this can include rain, snow, fog, hail or even dust that is acidic. (typical acid rain has a pH of 4, clean rain being 5-5.5)
- causes: human activities
  - power plants releasing sulphur dioxides & nitrogen oxide from burning of fossil fuels to produce electricity.
  - vehicular exhaust also releases sulphur dioxides & nitrogen oxides into the air.
- chemical reaction leading to acid rain:  
The gases produced by industries and exhaust mix with water, oxygen and other pollutants after rising high into the atmosphere forming more acidic pollutants.  
The compounds themselves, also dissolve very easily in water and are carried long distances by the wind.
- Precipitation that is highly acidic cannot be neutralised like regular rain by reaction with alkaline chemicals or non-acidic materials that can be found in air, soils, bedrock, lakes and streams. These materials could eventually be washed away by acid rain.
- effects of acid rain:
  1. destruction of forests and crops.
  2. corrosion of buildings, monuments, statues, bridges, fences and railings. eg. Acid rain produced by pollutants from the Mathura oil refinery turning the white marble of the Taj Mahal into yellow.
  3. threat to human health due to air and water contamination. eg. neurological diseases.
  4. threat to aquatic species.
  5. drying out and burning of leaves affecting plant growth.



1. effect of acid rain

# Not desilting, trees in city

# Won't arrest Pa till June 9, state

Sanjay Hadkar

## AI'S GREEN COVER



Bandra's 15th Road to the Reclamation area

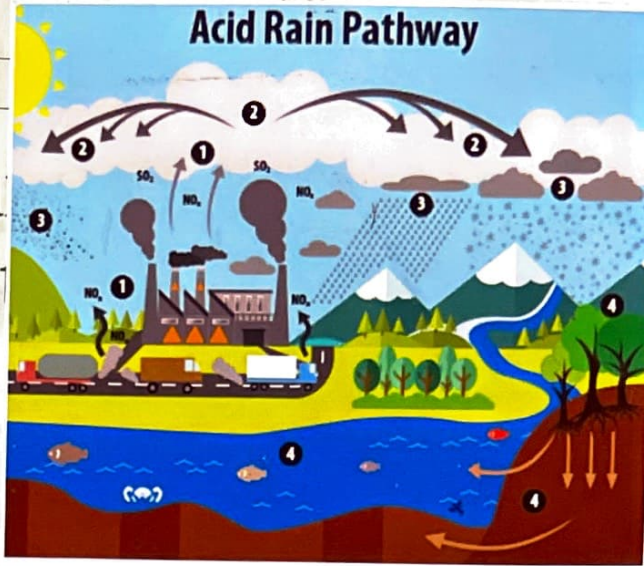
one Tawktae is the it extremely severe ic storm to have so close to Mumbai x 145km) since s were maintained inwards)

Some areas that recorded over 100kmph wind speed

Colaba	114kmph
Malad	101.4kmph
Reay Road	107kmph

Since a week I have been vng up with auies to clear the that fell outside building. They

At Motilal Nagar in Goregaon, fallen trees still block roads. I raised the issue with the ward office



This image illustrates the pathway for acid rain in our environment: (1) Emissions of SO<sub>2</sub> and NO<sub>x</sub> are released into the air, where (2) the pollutants are transformed into acid particles that may be transported long distances. (3) These acid particles then fall to the earth as wet and dry deposition (dust, rain, snow, etc.) and (4) may cause harmful effects on soil, forests, streams, and lakes.

ted from arrest, Singh would raise the plea for protection

## Power firms staff go on strike homes, hosp



n service, sources said. was arrested in March. is subsequently dismissed

ze was directly reported then Mumbai police issioner Param Bir who had alleged in his p the chief minister that ukh had asked Waze

Hiran. Shinde was already sentenced to life term in the murder of Chhota Rajan aide, Lakhan Bhaiyya. Last week, API Riyazuddin Kazi was dismissed. Sources said next is the turn of inspector Sunil Mane, who has also been arrested in the Hiran case. TNN



Check with the destination state for quarantine rules for travellers from Maharashtra.

rawn and was an un- e mistake. Senior coun- et Bali, who had joined Chandigarh in the vir- ing, for Singh, also la- gized for the "mistake" a. ure ready to hear and eased do not give the im- that HC is not heal- the bench. "They are

Travel without an e-pass is not allowed. For RT-PCR test rules for travellers, please check with the destination state. Where do I apply for an e-pass for travel to Maharashtra from Tamil Nadu? - Balakrishnan You need to apply through the Maharashtra police website. My laptop needs repair. I have

## Soil Health:

— combined barometer of air and land pollution.

What is soil health:

A state of soil meeting its state of ecosystem functions as appropriate to its environment.

Why is it needed:

It is the foundation of a healthy biosphere.

Enables favourable interactions of the ecosystem supported by it.

Causes of reduced soil health:

Pollution — acid rain, dry deposition of pollutants on land.

## Effects of soil health deterioration:

- Polluted soils combining with plant nutrients, finally being consumed by animals, affecting animal health.
- Polluted soils reduce mineralisation & decomposition process, also affecting biological nitrogen fixation in soil, eventually destroying fertility.
- Destruction of earthworms, nematodes, etc.
- Loss of soil structure causing erosion, eventually clogging streams & rivers with sedimentation & loss of aquatic life.

## Impact of Waste:

Accumulation of waste is probably the most visible form of pollution. Every year human beings dispose of billions of metric tonnes of solid waste.

Impact of waste on landscape as spoilage includes

- open dumps: scavengers, stray animals.
- landfills
- methane production

# 1.2. effects of soil pollution



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## 1. Who: It's pathetic

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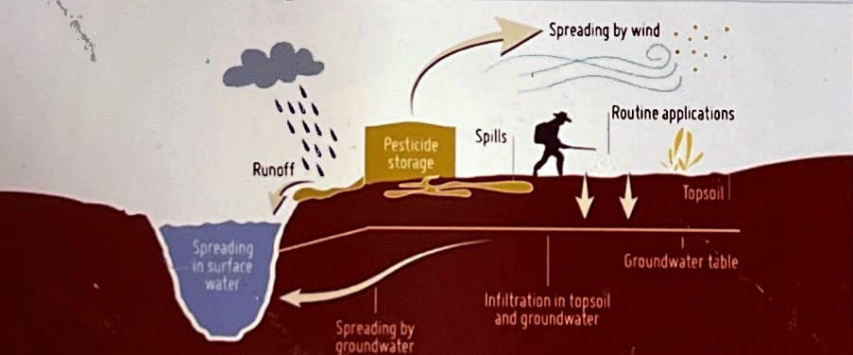
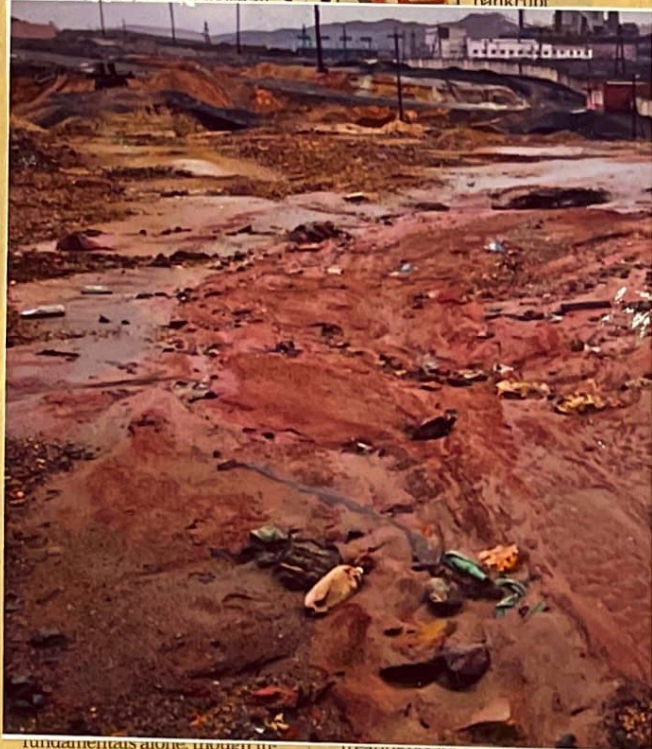
th financial intermediaries in the ix. Mastercard, PayPal and BNY ellon, among others, have proposed process crypto transactions, essentially acting as custodians of cryptos.

Businesses everywhere are recognising the power of artificial intelligence (AI) to improve processes, meet customer needs,



li. The yoga guru mocking allopaty and calling it a stupid and bankrupt

e Court's judgment that held 18 circular prohibiting banks yviding services to crypto ges to be illegal. Gol had earlier indicated that consider its proposal to ban cryptos after intense lobbying to stakeholders. The govern- many flip-flops have demonstr- at it has a woeful understand- how cryptos and blockchain d would rather ban some-



re will re act systems. work, to find. th ut with he tradi- gulation ven cryp- iver, rd. Only esirable

fundamentals alone, though in- corporating the ability to iterate on AI solutions with business users nearly doubles the number, to 39%. But it's the final stage of AI maturity, of successfully orchestrating the macro and micro interactions between humans and machines that really unlocks value.

alopathic hospitals are overtly indulging in profiteering and milking the situation to the hilt. The IMA ought to introspect the hospitals condescending to such a low level.

**DEEPAK SINGHAL**  
Noida

From "Are You Making the Most of Your Relationship with AI?"

Letters to the editor may be addressed to  
[editet@timesgroup.com](mailto:editet@timesgroup.com)

## Spoilage of landscape

Accumulation of heaps of garbage & waste that is dumped onto vacant land and left to decompose, ruining the natural beauty of the land and provides a home to rats & disease carrying organisms.

The land is degraded and the value of the biophysical environment is affected by a combination of human induced processes acting upon the land.

These effects are brought about by open dumps and landfills.

## Open dumps

Unattended waste dumped in the open is a serious health hazard, in that

1. being organic in nature, it undergoes fermentation and
  - produces inflammable methane gas & carbon dioxide gas
  - creates conditions favourable for the survival & growth of disease causing pathogens.
2. if the waste contains toxic substances, it can cause serious, irreversible illnesses.

## Landfills

System of disposal where waste is buried between layers of earth to build up low lying land. They are expected to be well engineered and managed facilities for disposal of solid waste & should ideally be classified and regulated according to the waste being disposed.

## Impact of waste on terrestrial life

Terrestrial life includes all organisms that live on land.

- human beings, plants and animals.

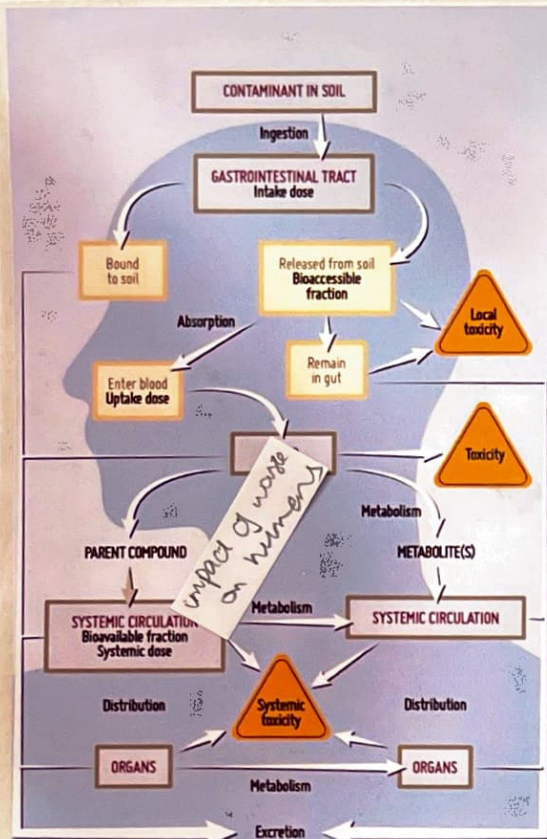
Impact of waste accumulation on human beings:

1. domestic waste: unesthetic, foul smelling, habitation of rats & other disease carrying vectors.
2. sanitary landfills: methane, carbon dioxide gases, detrimental to human well being.
3. hazardous wastes:
  - : lead → neurological diseases
  - : asbestos → respiratory diseases - asbestosis, lung cancer
  - : mercury → brain damage
  - : arsenic → cancer

4. radioactive wastes: serious health hazard, genetic disorders.

Water sources contaminated by waste can also result in all the above.

1. open dump
2. impact of waste toxins on humans.



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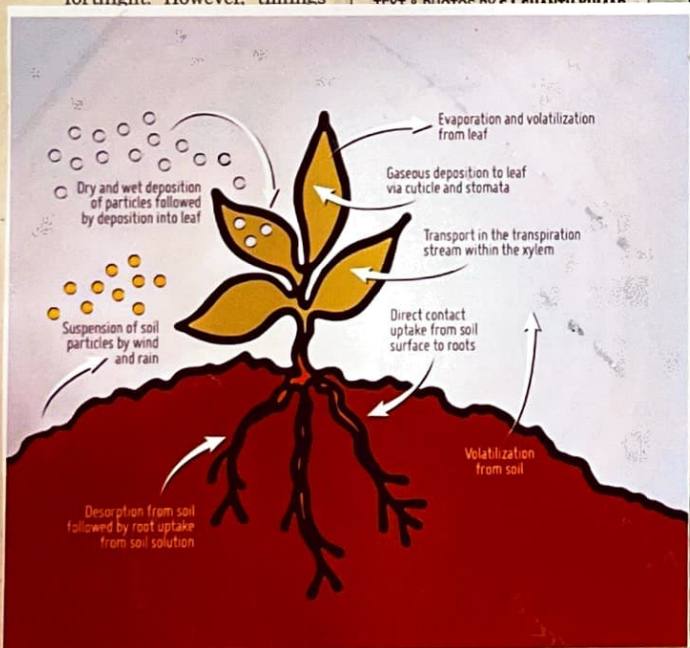
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1. **Lead:** Affects blood system, causes behavioural disorders and can also cause death.
2. **Cadmium:** Causes cardiovascular diseases and hypertension, kidney damage.
3. **Nickel:** Causes respiratory problems, lung cancer.
4. **Mercury:** Causes nerve and brain damage, kidney damage.
5. **Beryllium:** Causes berylliosis. Affects mucus membrane of eyes and lungs. Causes shortness of breath, weight loss, lung cancer and affects heart.
6. **Asbestos:** Causes asbestosis, shortness of breath and lung cancer.

istricts in the state which have a case positivity rate of over 10% and, according to norms, relaxations in these districts cannot be allowed," said an official. "However, a decision will be taken in consultation with the task force by the end of the week."  
The official added that there may not be too many changes as the government wants to 'wait and watch' for another fortnight. However, timings

education minister varsna Gaikwad on Sunday said a no-exam route needs to be examined though most other states are

## BATTLING KEEP COVID



Dog owners should be careful about the type of water that their dog enters. Stagnant water may transmit leptospirosis.





## Impact of waste accumulation on plant life

— direct deposition of harmful toxins from waste and/or exposure to toxins through soil and/or depletion of soil nutrients due to waste results in

leaf injuries, premature leaf fall, decrease in transpiration, reduction in the rate of photosynthesis, reduction in biological nitrogen fixation, blockage of leaf stomata by dust, reduction in root and shoot lengths, number of leaves and number of grains per spike of food crops (caused by smoke from burning of waste).

## Impact of waste accumulation on animals and birds

- a) scavengers and stray animals like dogs, rats, pigs and cows feeding on the waste for food, consume toxins or non-degradable substances such as plastic bags & die from choking
- b) the general and reproductive health of mice & scavengers feeding on waste is adversely affected by toxins.
- c) birds feeding on agricultural waste have thinner & weaker egg shells & increased mortality.

## Impact of waste accumulation on aquatic life

— waste accumulation causes significant damage to aquatic life, both fresh water and marine.

categories of this waste include

1) Agricultural waste: pesticides.

— direct death by changing water pH.

— covering the water surface & causing a reduction in dissolved oxygen.

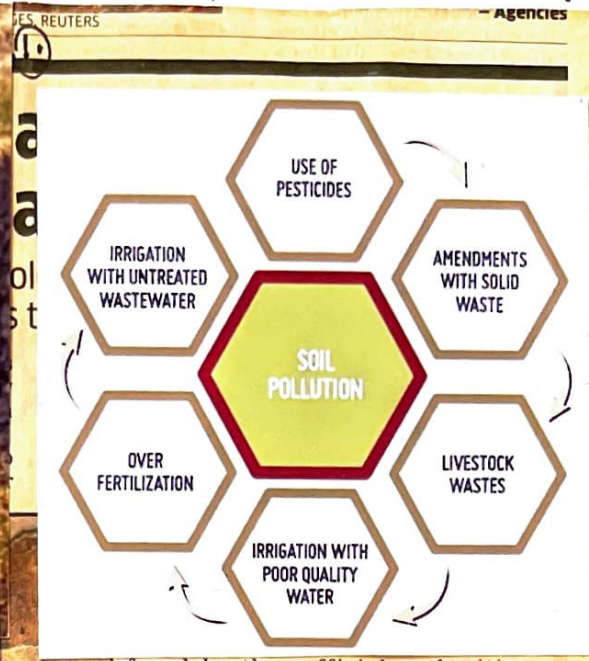
2) Industrial & domestic waste:

a. plastic waste — plastic waste is washed out from our beaches, streets and highways into rivers & streams and finally into the oceans.

this waste breaks into smaller pieces forming plastic debris. the debris is easily ingested by marine animals causing blockages in their digestive tracts and eventually death.



- 1. depletion of soil nutrients
- 2,3. impact of waste on aquatic life.



found by the police in 2012 in an illegal dig in Civita Giuliana, around 700 metres northwest of Pompeii, before thieves had time to take them away.

official authorities, archaeologists found the remains of two victims of the eruption of Mount Vesuvius, presumed to be of a young slave and his older master.

- AFP

2. terrorised her. She had pledged to reveal the details "when I'm an old lady and I write my book", and now she has: She writes that Prince summoned her to his macabre Hollywood mansion, chastised her for swearing in interviews, harangued his butler

3.

### 5 reasons to eat pineapple

1 Vitamin C in pineapples promotes the creation of collagen that gives structure, strength and



'Nothing U' made her nor said the er, Prince, not faze her at all. "As far as I'm concerned," she said, "it's my song." • - The New York Times



UNEP | Endocrine-Disrupting Chemicals can enter the environment through industrial and urban discharges, agricultural run-off and the burning and release of waste.

over one million marine animals including mammals, turtles, fish, sharks, etc. are killed each year due to plastic debris in the ocean.

particularly painful is the death of marine turtles after consumption of plastic debris, since they have downward facing spines which prevent the possibility of regurgitation.

### ~~B. Oil spills~~

## Processes that cause the impact of waste accumulation on aquatic life:

### EUTROPHICATION:

process of depletion of oxygen from water bodies. Domestic sewage and/or industrial waste and/or agricultural waste change the balance of nutrients in water bodies by increased nitrogen, carbon dioxide and phosphates. This results in increased growth of microscopic animals that feed on these (phytoplankton and algae) which reduces penetration of oxygen, light and heat into the water body. Aquatic plants are then unable to carry on photosynthesis which further reduces oxygen content of the water causing death of the rest of the aquatic organisms draining the water of all its oxygen.



### BIOMAGNIFICATION:

process of increase in concentration of various toxic substances along the food chain, bio-accumulation compounded.

a small amount of a toxic constituent that is neither excreted nor metabolised deposits in the organism in a concentration that is higher than that of the constituent present in the water body. When this organism is consumed by an animal at a higher trophic level, the concentration in the animal consuming the other will increase further. (this phenomenon of concentrated toxic deposition at the higher trophic level is called bioaccumulation). This process is severely damaging to the marine ecosystem.

1. eutropication
2. biomagnification

# MES CITY

THE TIMES OF INDIA, MUMBAI | TUESDAY, MAY 25, 2021

## ke jab onsent

## Zinc overuse within panc

Uma Kadam

Malathy.Iyer@timesgroup.com

### IE IN LEAD

Mumbai: The mucormycosis or black fungus crisis in India may not be driven only by the improper use of steroids.

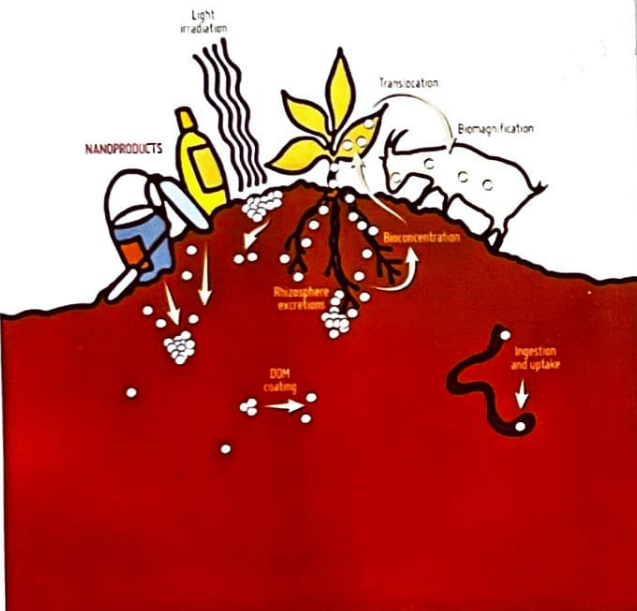
### LIKELY

- Higher in India co
- High or



mitting a letter from a gynaecologist and their own consent in writing. Lactating women don't need any of the above and can simply walk into vaccination centres and get their Covid shot, though they have to carry medical documents containing details of date and place of delivery. The BMC's order said if

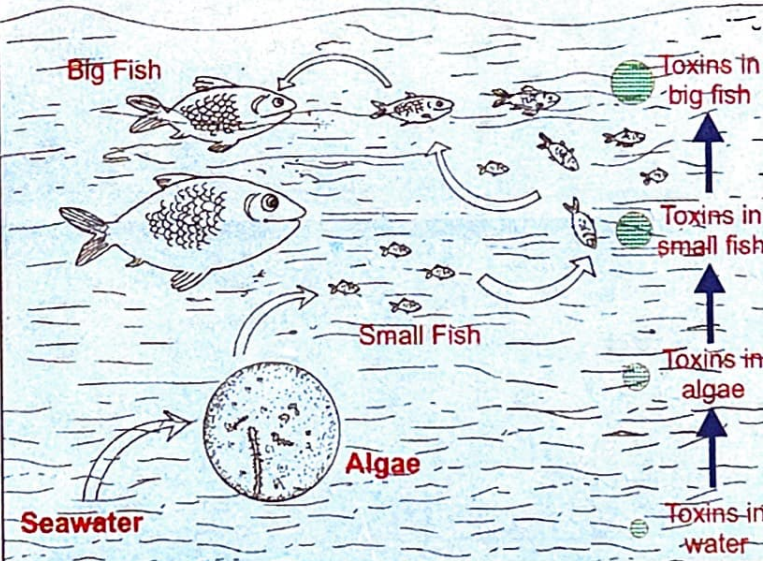
2	<b>Maharashtra</b>
	■ 18-44 vaccinated
	<b>Sunday: 6,634</b>
	<b>Total: 7,06,853</b>
	■ 45+ Vaccinated
<b>Sunday: 32,946</b>	
<b>Total: 1,58,11,586</b>	
■ Healthcare workers	
<b>Sunday: 1,376</b>	



### Covid-19 Update

	Maha
Cases	22,12
Deaths	36
Cases	56,02,01
Deaths	89,212
Discharged	51,82,59
includes	231 previous

risk factor, but a wo  
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As for lactating wo  
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The Federation  
and Gynaecologica  
India (FOGSD) too h  
favour of vaccinat



the choice to get vaccinated. The Centre, however, okayed vaccination of lactating women on May 19, while maintaining silence on vaccination of pregnant women. The Centre had sa

epidemiologist and member of NTAGI, told TOI vaccinating a pregnant woman involves two lives, so they must be given every tool to make an informed choice. "Pregnancy per se is not a

## 47 dead so far as low wa

Increasing concentration of toxins along the food chain

### Case Study:

Minamata Disease - Illness in fishermen from consuming fishes caught in the mercury contaminated waters of Minamata Bay in Japan (1956 & 1965)

cause of mercury contamination: industrial waste from paper and pulp industry, chlorine industry, pesticide industry.

effect: severe debilitating neurological illness.

The negative social & health consequences are far from abating after even more than half a century since the first appearance of the problem.

### Safe disposal of waste

SEGREGATION: dividing of waste into different categories like dry & wet or biodegradable and nonbiodegradable

Dry waste - waste that does not decay and is non biodegradable  
eg. wood and wood products, home & office furniture, household junk, aluminium foils, tetra packs, plastic products, broken crockery, steel utensils & glass.

Wet waste - waste that is organic in nature and is biodegradable

: benefits and initiative:

- Households should segregate wet and dry waste in separate dustbins and convert biodegradable waste into compost or gobar gas.
- Sweepings from gardens & public parks should be similarly segregated.
- Segregation of waste reduces the volume of waste that reaches landfills. Air and water pollution is also reduced and it becomes easier to effectively manage waste.

1. representation of distress for fishermen  
 2,3. waste segregation



the

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 25 MAY 2021

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# multi-million-euro offer dispute will

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Separating waste atop a mound of garbage at a landfill in Delhi last month. Saumya Khandelwal for The New York Times



preferred "reading  
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 n memo by one of  
 ech rich, Zhang said:  
 e of the skills that  
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actually managing people."  
 The 38-year-old added that he is  
 also "not very social, preferring  
 solitary activities like being  
 online, reading, listening to  
 music, and daydreaming about  
 what may be possible".  
 Zhang has also been under  
 enormous pressure to convince  
 the world that TikTok will  
 not hand data over to China's  
 Communist Party, while also  
 protecting his image at home..  
 News that he is stepping down  
 comes as Beijing clamps down  
 on the unprecedented influence

technology firms. (3)  
 Beijing has tight  
 screws on China's bo  
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 allegedly flouting mo  
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 their responsibilities to  
 With a net worth of \$36  
 Zhang is the fifth richest  
 in China, according  
 Forbes Billionaire Index  
 Liang Rubo, with wh  
 set up the firm, will tal  
 his role.

## Methods of Waste Management

### Dumping:

open dumping - waste is dumped in open low lands away from the city, since it is cheap and needs no planning.  
- causes environmental pollution, open dumps are a health hazard.

sanitary landfill - waste is dumped ~~in open low lands away from the~~ and packed daily at the site and covered with earth to prevent insects or rodents from entering into the landfill. the waste then undergoes the following five phases -

- 1) aerobic bacteria deplete available oxygen and raise temperature.
- 2) anaerobic conditions get established and lead to production of hydrogen and carbon dioxide.
- 3) decomposition of organic matter with production of methane.
- 4) stabilised methanogenic activity.
- 5) depletion of organic matter.

- a vegetative cover with the following specifications is required at a landfill site:

- 1) locally adapted non edible perennial plants, resistant to drought and extreme temperatures.
- 2) plant root structure to penetrate not more than 30 cms until the landfill is stabilised.
- 3) plants with ability to thrive in low nutrient soil.
- 4) sufficient density of plantation to minimise soil erosion.

### Municipal Waste Management:

COLLECTION : to prohibit littering, the following steps should be taken by municipal authorities

- organising house-to-house collection of municipal solid wastes.
- devising collection of waste from slums and squatter areas or localities including hotels, restaurants, office complexes and commercial areas.
- bio-medical wastes and industrial wastes should not be mixed with municipal solid wastes.

1. open dumping
2. burning of waste in open dumps
3. waste collection



Representational Image | A bulldozer at the Ghazipur landfill | Photo: Suraj Singh Bisht | ThePrint File photo

look at the team, even in the last couple of months with names that I have missed out, I am among the) top two/three goal scorers in the team. Missed out on vital games which as a player is pointing. But at the same time, I where near the level I know I can't the same time, in our season I he) one who is still producing the goals for the club.

o you look at Chelsea FC, a team that ed City twice this season? Will those s have any bearing on the final? e were disappointed to lose those games. But this is a final. Things completely different. You don't any motivation than being in the and being able to get your hands e Champions League. Those two s go out of the window. We focus

about him, like the are today. He's a legend. For someone to come in and try to replace him and fill into his shoes will be quite a big one

**Personally, what would a Champions League triumph mean to you?**

To win a Champions League will be a great accomplishment. As a kid you watch the league, and to be involved in one and have the possibility of winning one, you don't need any more motivation than that. The Champions League is something that is missing from my time at City. That's something me and the whole team would want to get hold of.

**How would you sum up your last five years at City?**

Trophies, trophies, trophies

anner is all work & top





- horticultural and construction wastes should be separately collected & disposed of.
- the waste should be segregated into biodegradable & non-biodegradable.
- waste (garbage, dry leaves) should not be burnt.
- stray animals should not be allowed to move around waste storage facilities.

#### STORAGE:

- storage facilities should be set up and established by taking into account quantities of waste generation in an area & its population density and should be so placed that it is accessible to its users.
- facilities should be so designed that wastes stored are not exposed to open atmosphere & are aesthetically acceptable & user-friendly.
- storage facilities or 'bins' should have 'easy to operate' design for handling, transfer & transportation of waste.
- manual handling of waste should be avoided.

#### TRANSPORTATION:

- vehicles used for transportation of wastes should be covered, so as to prevent them from being scattered, seen by public or exposed to open environment.

#### COMMUNITY PARTICIPATION:

- phased programs should be undertaken to engage community participation in waste segregation.

Composting: an aerobic method of decomposing solid waste wherein bacteria and other microorganisms breakdown waste matter to produce a safe, clean & soil like material called compost.

MANUAL METHOD (INDORE METHOD): layers of vegetable waste & night soils are alternated in a shallow hole dug in the ground, and the mixture is turned regularly for about 3 months to provide air to the mixture, after which it is left for 1 month without turning for the process to take effect.

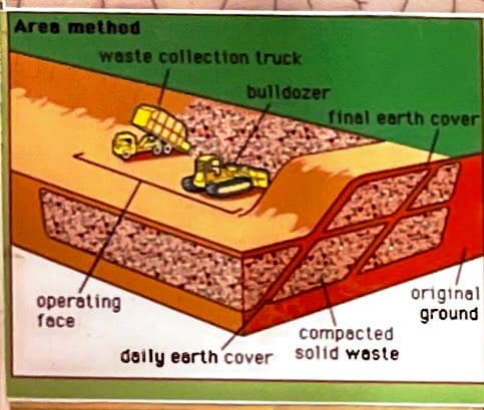
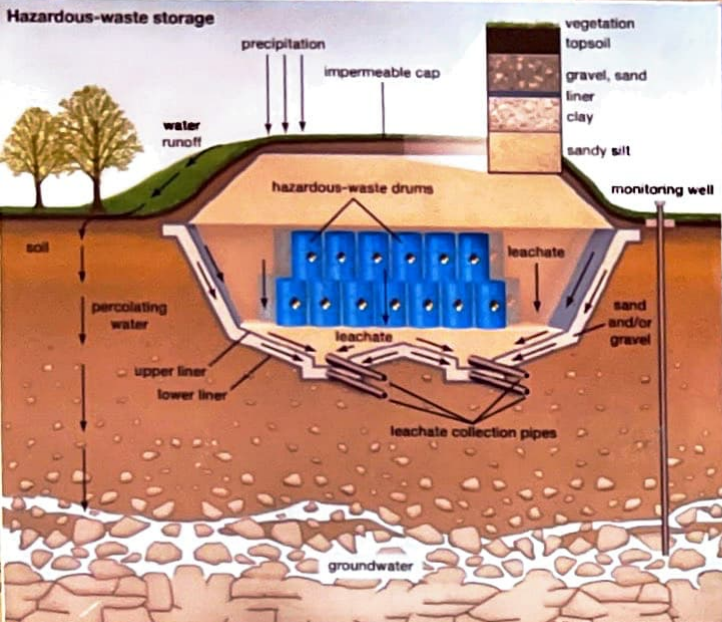
MECHANICAL METHOD (BANGALORE METHOD): waste material is placed in layers one metre deep, not turned at all and decomposes in about five months.

1. Landfill
2. composting

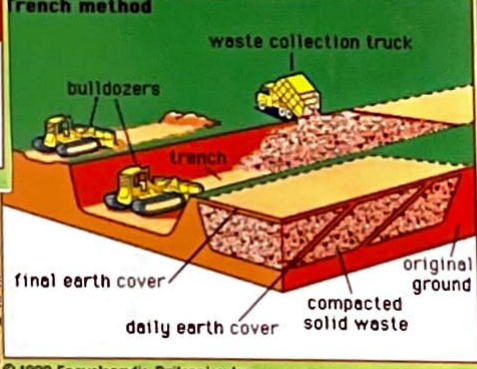


The final repository for low and medium-level radioactive waste "Konrad" in Lower Saxony (picture) is under construction but the search for a place to store the most dangerous nuclear waste has only just begun. Photo: BGE.

...ing final products is not the way out.



... but also...  
 ... manufacture of such products would also be refunded to the manufacturer. Zero-rating would, thus, remove all taxes on these products and will help lower prices.  
 While zero-rating of domestic supplies is not unknown internationally, it is generally limited to very few products and services that are



VIT & WISDOM  
 without action.

**Covid Fatalities**  
 India now bears more than a... fatalities globally. But, hope... declining sharply. Here's a l... regions since the beginning...  
 Global daily deaths. 7

advantages of COMPOSTING:

1. enhances soil nutrition and water retention capacity of soils and checks soil erosion and silting on embankments.
2. suppresses plant diseases and reduces fertilizer & pesticide cost.
3. rejuvenates poor soils by adding humus.
4. absorbs odours & degrades volatile organic compounds.
5. prevents pollution by preventing pollutants in storm water run off from draining into water resources.

Incineration: process of controlled high temperature oxidation of primarily organic compounds that release thermal energy and produce carbon dioxide and water. The waste is fed into an incineration chamber (a kiln) and combustion destroys the organic component.

ADVANTAGES: large quantities of hazardous wastes are taken care of, pathogens are killed and volume of waste reduced by 50%.

DISADVANTAGES: expensive, generates polluting ash & gases and consumes significant energy.

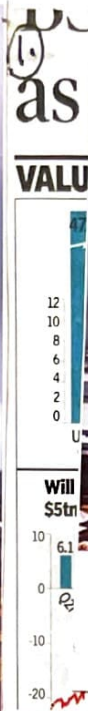
## Reduce - Reuse - Recycle - Repair

**Reduce**: Reduction of waste generation on the initiative of individuals, industries and government. This can be done by industries with change of manufacturing process by changing and/or efficiently using the input material. The government can reduce waste by waste concentration, employing precipitation & evaporation to reduce liquid waste, segregation of waste & incineration.

**Reuse**: Alternative use of discarded material on the initiative of individuals and industries.

individuals - reuse of old glass bottles, steel, tyres, tin cans to make articles of use, decorative articles made from waste by local artisans.  
eg. Rock Garden created by artist Nek Chand in Chandigarh from inorganic waste products.

industries - reuse of flyash from power plants to manufacture cement, make bricks, roads and to fill up low lying areas.



The fire at Eco Special Waste Management's Tuas plant on Feb 23, 2017. It broke out when a worker was discharging recovered liquid hexane from a product tank into a plastic intermediate bulk

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offers products that are focu-  
sed on retail banks, which in-  
tegrate mobile app, debit pro-  
cessing, credit processing and  
lending platform without  
changing the existing core  
banking systems.

Turakhia, a billionaire, laun-  
ched Zeta in 2015, after  
selling Directi in 2014,  
which he had co-founded  
with his younger sibling,  
for \$160 million. Subse-  
quently, they sold another  
venture to a group of Chinese  
investors for \$900 million.  
Originally from Mumbai,  
Turakhia currently is the  
founder and CEO at Flock,  
ringo.co and Radix.

On Monday, ANI  
of the leading broke  
in India — wrote to \$  
consider its circular  
margins and rationa  
levies so that broker  
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In July 2020, Sebi  
that between Decembe  
February 2021, trade  
maintain at least 25%  
ak (maximum) mar  
margin was raised to 5  
en March 2021 and Ma  
go up to 75% between  
and August 2021, and  
100% from September



...ctories in Tamil Nadu's  
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...cluster will remain silent  
...extension of production  
...ension. Hyundai India  
...nounced suspension of  
...duction for five days  
...ing Tuesday. Nissan  
...ult, which has its joint  
...t in Oragadam, meanwhile  
...cing a worker strike. **TNN**

duction is only around 30%  
of the output as we are doing  
only a single shift," an execu-  
tive told **TOI**.

M&M, which has key ma-  
nufacturing lines in Maha-  
rashtra, is also open, but sa-  
fety protocols and well-being  
of workers is taking prece-  
dence over output levels.

...heir factories are opera-  
...al. For example, while  
...o Moto had started pro-  
...tion at its Dharuhera,  
...ugram (both in Harya-  
...and Haridwar (Uttarak-  
...d) factories on May 17, it  
...med work at Neemrana

Maruti has started pro-  
duction at its factories in Ha-  
ryana, while work at parent  
Suzuki's facilities in Gujar-  
at is yet to begin. Company of-  
ficials say despite a heavy  
backlog of committed deli-  
veries, the closure of retail  
points and tough buyer sen-  
timent are concerns.

**Recycle** : treating of waste material before its reuse on the initiative of the industries.

: examples:

- bagasse from sugarcane can be recycled for manufacture of paper pulp and packaging material for dairy products.
- pieces of wood from furniture industry, discarded cloth and used paper recycled for the manufacture of paper.
- plastic, to make plastic bags.

The recycled plastic bags, however, are harmful, because the recycling process breaks some polymer chains of the plastic into hazardous smaller units.

**Repair** : the fixing and reconditioning of damaged material or worn material on the initiative of individuals and industries.

: examples : clothing, electronic goods, furniture, shoes, utensils and most household items of use.

**Environmental Warriors & Trailblazers that inspire me**

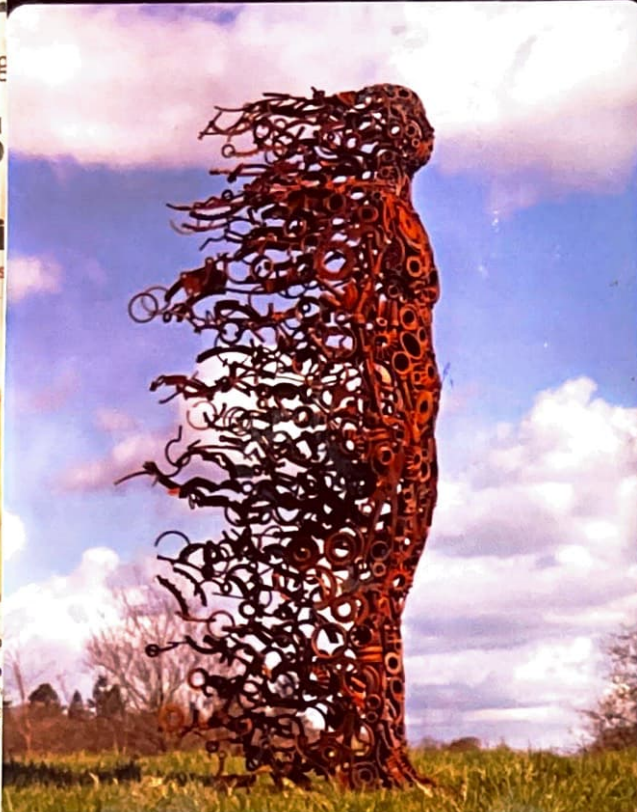


: Greta Thunberg.

: Lewis Pugh.

reduce, reuse, recycle, repair

You Blew Me Away 8' by sculptor Penny Hardy, sculpture made from upcycled scrap metal, to create a piece which signifies renewed life and energy #womensart



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Tableware made from agricultural biomass. Photo credit: BIO-SOLUTIONS

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A Road from Waste Plastic



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## Writs Seek Extensions for Retiring NCLT Judges

Salkat Das & Maullik Vyas

**Mumbai:** At least three petitions have been filed at the Supreme Court and the Madras High Court seeking extensions for the National Company Law Tribunal judges retiring in the next few weeks. The proposed extensions are aimed at preventing bankruptcy cases from piling up. The dedicated insolvency courts are already witnessing an acute shortage of judges.

The Supreme Court Monday listed the matter for hearing on May 31 as it accorded two weeks to the Centre to complete the process of selection of judges to NCLTs.



"due to a large number of unfilled vacancies, the members of NCLT have no other option but to handle multiple benches at once, due to which the smooth functioning of the tribunals is being affected."

Ketan Dalal, founder, Katalyst Advisors, said the delay in appo-

isation for Cipla. balise, it is important that their board's Laboratories has two in-ards and managements start reflecting that change. While celebrated industry experts Bruce LA Car-names on the board do increase a

Sebi introduced the concept of peak margin reporting in which stockbrokers will not only calculate margins based on the end of

# Waste Management is about sustainability and caring for OUR PLANET.

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"I only feel angry when I see waste. When I see people throwing away things we could use." Mother Teresa.

This earth, our earth is all we really have in common and that we share and the only way to care for it is for us to come together in commitment and thought that relies as much on science as it does on imaginative innovation.

"This earth will not continue to offer its harvest, except with faithful stewardship. We cannot say we love the land and then take steps to destroy it for use by future generations." Pope John Paul II

We have to be able to strike a balance between enjoying the life we envision and the impact we have on the world around us every single day. We must believe, it is up to us to make a difference and our choice what it will be. Sustainability will come from action & action from accountability.

"The earth is a fine place and worth fighting for." Ernest Hemingway

In order to retain a habitable place for generations to follow us, global citizens have put wheels in motion, apart from necessary activism at individual & government levels, that deserve mention. To guide us, inspire us, and to teach us that it is indeed manageable to manage waste, we know of the following:

- A new rule, affecting about 3000 of the largest warehouses in Southern California used by Amazon and other retailers, requires operators to slash emissions from the trucks that serve the site or take other measures to improve air quality.
- In India, a unique initiative, in the form of an app called Book My Junk enables people and organisations to get their waste collected and recycled responsibly. (WEEE: waste electrical and electronic equipment).
- Leaders with the Inuit Iqvitichin First Nation in Canada say the solar farm will displace 750 tonnes of greenhouse gas emissions each year.
- The Biden administration has announced America the Beautiful plan giving power to local communities to conserve and protect 30% of US land and water by 2030.
- A subway station in Seoul uses vacant spaces as vegetable gardens.

Each one of us, leaves on this giant tree of life, will flourish, if we respect the roots.

need for sustainability of our planet

12

COMFORTING THE AFFLICTED



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IN OUR HANDS



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region neighbours for prize cleanliness and pushing. No shoes in the g in public, no virus. planations were also low early death toll in ent in densely packed ng unsanitary food and ater allowed millions of

to lockdowns has had its admirers, who speculated that the country's "culture of conformity" would enforce safe behaviour. Besides, they said, Swedes were solitary types anyway, and an unusually high number of them live alone. This natural form of social distancing could "save Sweden" from the pandemic. Cases spiked anyway last fall



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Udupa

A couple of weeks back I

tion dazzled, administrators and people got enamoured and we saw the advent of Aadhaar and later the IndiaStack. This,

"AgriStack", mation collec will be m giving loans



## Acknowledgements

This project was made possible by the creative vision of my school. I would like to thank,

1. The ICSE Board, for the opportunity,
2. Mrs. Isaacs, Dr. Parmar and Mrs. Roberts for their leadership,
3. My teachers, for their knowledge, guidance and support,
4. My parents, for their consistent encouragement.

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