

The new face of PLASTIC

PM Narendra Modi has always stressed on the problem of plastic pollution and its resulting waste generation. Perhaps it's time India emulated the innovative ways in which scientists across the globe have been experimenting with plants to create a biodegradable plastic and creating new methods to use plastic floating around in our oceans

BIODEGRADABLE PLASTIC

Mexican scientist Sandra Pascoe Ortiz has developed a new kind of biodegradable plastic made from Prickly Pear cactus

Mexico's prickly pear cactus, which is emblazoned on the country's flag, could soon play a new and innovative role in the production of biodegradable plastic. A packaging material made from the plant and developed by a Mexican researcher is offering a promising solution to one of the world's biggest pollution conundrums.

The process

"The pulp is strained to obtain a juice that I then use," said Sandra Pascoe, who developed the product and works at the Atemajac Valley University (Guadalajara, Mexico).

That substance is then mixed with non-toxic additives and stretched to produce sheets which are coloured with pigments and folded to form different types of packaging. "What we are doing is trying to concentrate on objects that don't have a long life," she said, particularly "single-use" packaging.

Pascoe is still conducting tests, but hopes to patent her product later this year and look for partners in early 2020, with an eye towards larger-scale production.

The cacti Pas-



coe uses for her experiments come from San Esteban, a small town on the outskirts of Guadalajara, where they grow by the hundreds. San Esteban is located in Jalisco state where, starting next year, single-use non-recyclable plastic bags, straws and other disposable items will be banned. Mexico City and states such as Baja California have also introduced similar measures. AFP

According to the researchers, this new material begins to break down after sitting in the soil for a month and when left in water, it breaks down in a matter of days. This means that even if any of this material made its way into the ocean, it will safely dissolve.



In March, UN member states committed to 'significantly reduce' single-use plastics over the next decade, although green groups warned that goal fell short of tackling the Earth's pollution crisis.

OCEAN PLASTIC

Don't be surprised if you are told that the running shoes in your closet was once a plastic bottle

An increasing number of shoemaking companies are now directing their efforts to create lifestyle products from plastic waste retrieved from the oceans.

Adidas x Parley

When it comes to mainstream sportswear brands, Adidas is easily the most vocal about its sustainability efforts – and environmental organisation Parley for the Oceans has been its biggest collaborator.

The two brands teamed up for the first time in 2015 with a sneaker using yarn made from recycled ocean plastic and illegal deep-sea gill nets.

They officially launched products to the public in 2016. In 2017 and 2018 respectively, Adidas sold 1 million and 5 million pairs of sneakers made with Parley's recycled ocean plastic.



Nothing New

Nothing New sneakers are made with only recycled material. The upper (part that covers the foot) is made from 100 per cent post-consumer recycled plastic, while its other components are made from recycled cotton, rubber, cork and fishing nets.

According to a study by MIT, creating a typical pair of running shoes generates 13.6 kg of carbon dioxide emissions. This is equivalent to keeping a 100-watt light bulb on for one week.



Nike

In 2018, Nike was recognised by Textile Exchange as using the most recycled polyester in the industry for the sixth year in a row, and from 2010-2018, the brand transformed 6.4 billion plastic water bottles into recycled footwear or apparel.

The global sneaker market is valued at \$62 billion and is expected to reach \$90 billion by the end of 2022. And Nike, for example, typically sells 25 pairs of sneakers every second. WWW.WEFORUM.ORG



The inconvenient truth behind reusable cups...

...is that we simply forget about them eventually



Many of us give ourselves a pat on the back for remembering our reusable coffee cup.

However, the average person is not using their cup enough times before forgetting about it or throwing it away, according to Caroline Wood, a PhD researcher in food security at the University of Sheffield.

ply isn't convenient for people on the run to remember their cup, carry it around and wash it out between uses," Ms Wood wrote.

The alternative? Switch to china cups because...

1. Single-use coffee cups have become emblematic of our disposable modern culture. Due to a thin plastic lining, paper recycling mills cannot process standard coffee cups, most of which are sent to landfill or incinerated.

2. Compostable cups can seem like a good alternative but they need to be collected in special bins that are completely separate from non-compostable materials.

Ms Wood suggests people cut down on takeaway coffees and "rediscover the delight of dining in, with a proper china cup". EXTRACTS FROM THE INDEPENDENT

Research says

A reusable cup would need to be used between 20 and 100 times in order to have lower emissions than a disposable cup, she writes in a piece for 'The Conversation'.

This is because more greenhouse emissions are released when making a durable product, and also because they need to be washed between uses.

Despite the surge in popularity for reusable cups they only make up five per cent of total sales. "The unavoidable truth is that it sim-

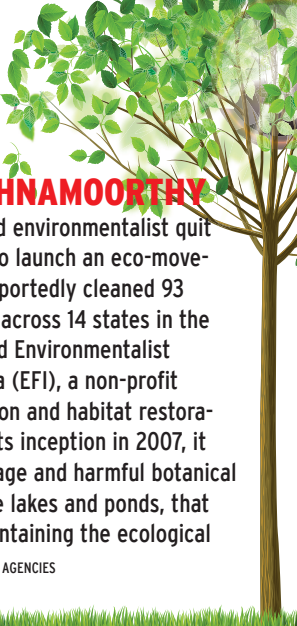
Researchers say that a reusable cup needs to be used between 20 and 100 times in order to have lower emissions than a disposable cup

ENVIRONMENTALIST OF THE WEEK



ARUN KRISHNAMOORTHY

This Chennai-based environmentalist quit his job at Google to launch an eco-movement which has reportedly cleaned 93 freshwater bodies across 14 states in the country. He started Environmentalist Foundation of India (EFI), a non-profit wildlife conservation and habitat restoration group. Since its inception in 2007, it has removed garbage and harmful botanical species from these lakes and ponds, that are crucial for maintaining the ecological balance of nature. AGENCIES



MANIPUR'S LITTLE VALENTINA: Government cut her Gulmohar trees, now bows down to her

Elangbam Valentina Devi, a nine-year-old resident of Hiyanglam Makha Leikai in Kakching district of Manipur, has become the 'Brand Ambassador' for the 'Chief Minister's Green Manipur Mission'.

On August 3, a video of Valentina crying and expressing her grief over the axing of two Gulmohar trees — which she planted four years ago when she was in Class I — took social media by storm. Valentina is now a Class V student of Amutombi Divine Life English school in Wabagai.

The video was filmed by her uncle who uploaded it on Facebook. Within a few hours



Elangbam Valentina Devi (right) with her uncle

of uploading, it went viral in the state. Her tears touched a chord with thousands of people on the internet.

On August 7, chief min-

ister N Biren Singh took to Facebook and Twitter to officially declare Valentina as the state government's 'Brand Ambassador' for

the 'CM's Green Manipur Mission'.

"My father brought 20 trees four years ago when I was in Class I. I planted 20 trees of which 18 couldn't survive; only two lived to grow up with me along Maramba Maril river. I loved them so much and admired them as my own brothers. That is why upon returning from school when I saw that my trees had been chopped down, I felt heartbroken. The sight of my fallen trees on the ground hurt a lot and I decided to plant 20 more trees," she added.

Now Valentina aspires to become a forest officer as "hilltops have gone bald due to massive deforestation". TNN



ON THE WATCHLIST

To save its national animal, the Huemul deer from extinction, Chile is taking the initiative of first raising the species in captivity, then releasing in the Huilo Huilo nature reserve in Temuco, Chile. The Huemul deer is also referred to as the South Andean deer. VIA REUTERS

ARTIFICIAL TREE

'BioUrban 2.0', an air purification system, comes from Mexican company Biomitech. This is an artificial which, through live algae, carries out a process of photosynthesis, which is equivalent to what 368 natural trees would do. AFP



Pop Quiz

IDENTIFY THESE SPECIES



ANSWERS

1. Green Amazon Parrot
2. Blue and Gold Macaw
3. South African Parrot
4. Rare White Parrot
5. Eclectus Parrot

ECO TIP OF THE WEEK

1. When washing your hands reduce the flow of the tap water when you apply the soap.
2. Is washing vegetables part of your chores? Then use a bowl in the sink when washing fruit, vegetables. You can then use the waste water to water your plants.
3. Use a watering can in the garden instead of a sprinkler or a hosepipe.
4. Use minimum amount of water to bathe.
5. Promote the conservation of water among your friends and family.

Got an idea to conserve the environment? Mail us at toinie175@gmail.com

TRENDING

Trapped raccoon goes viral

This furtive little adventurer became an internet star after coming off worse in an encounter with a storm drain. The mischievous mammal went viral after he was snapped by US firefighters managing to look simultaneously startled, and cute, during a bungled escape from a sewer. The rescue mission lasted two hours. AFP



Turtles decide gender by wiggling inside the egg

In sandy nesting burrows around the world, one key environmental element decides whether a baby turtle will turn into a female or a male — heat.

In warmer temperatures, females are created — so when it's very hot, there may be no males at all. But scientists have now discovered that turtles are not entirely powerless in this process. By wiggling around the egg, embryos can find the 'Goldilocks Zone' — this means they are able to shield themselves against extreme

thermal conditions and produce a balanced sex ratio, according to the study published in 'Current Biology' journal. Scientists found a single embryo could

experience temperature differences of up to 4.7C within its egg — and any shift larger than 2C can massively change the sex ratio of turtle offspring.

"This could explain how reptile species with temperature-dependent sex determination have managed to survive previous periods in Earth history when temperatures were far hotter than at present," said the study co-author Richard Shine, a professor at Macquarie University of Australia.

However, scientists say this behaviour would not protect turtles from the extremely high temperatures that are predicted as the climate changes.

"The embryo's control over its own sex may not be enough to protect it from the much more rapid climate change currently being caused by human activities, which is predicted to cause severe female-

biased populations," said Wei-Guo Du, a professor at the Chinese Academy of Sciences. "However, the discovery of this surprising level of control in such a tiny organism suggests that in at least some cases, evolution has conferred an ability to deal with such challenges," he added.

Researchers incubated turtle eggs under a range of temperatures in the laboratory and in outdoor ponds. In half of the eggs they added capsaizine, a chemical that blocked the embryo's temperature sensors. After the eggs hatched they found that those without thermoregulation had hatched as almost all males or almost all females, depending on what temperature they were incubated at. THE INDEPENDENT

Researchers believe other species might have discovered similar ways to buffer risk



NEARING EXTINCTION



Monarch butterflies are in trouble

Rapid development and climate change are escalating the rates of species loss, according to a May United Nations report.

For monarchs, farming and other human development have eradicated state-size swaths of native milkweed habitat, cutting the butterfly's numbers by 90% over the past two decades.

According to reports, monarch butterflies are among the struggling species that will be harder to protect as the Trump administration moves to weaken the Endangered Species Act. AP

Giraffes threatened with extinction

In Kenya, as well as across Africa, population of the world's tallest mammals is quietly yet sharply in decline.

Giraffe numbers across the African continent fell 40 per cent between 1985 and 2015, to just under 100,000 animals, according to the best figures available to the International Union for Conservation of Nature (IUCN).

But unlike the clarion calls sounded over the collapse of the elephant, lion and rhino populations, less attention has been paid to the giraffe's crisis. AFP

