

HARIT KHABAR

March, 2022



The monster of Climate Change is haunting the planet earth and the constant decline of forests poses a huge threat to our future. Read more about the decline of forest cover in the northeast and the alarming IPCC report on pages 4 & 5.



WORLD COMICS INDIA

An initiative of HCL Foundation and World Comics India



What is responsible consumption?

Recycling waste is critical for environmental protection, however, it too requires resources and energy production. Is there a way we can overcome the need to recycle and save that extra cost? Yes, there is and it's called Responsible Consumption.

One of the 17 SDGs of the UN, Responsible consumption is a way of consuming resources parallel to sustainable development. This form of consuming resources aims to benefit both the economy and society. It revolves around three major aspects, which are –

Buying better: buying environment-friendly products,

Consuming better: not wasting any resources

Throwing away better: recycling the residue of the product safely.

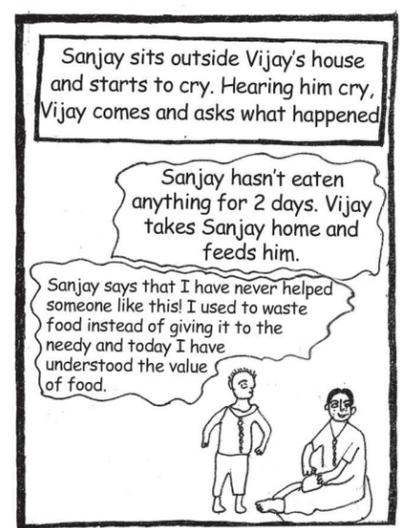
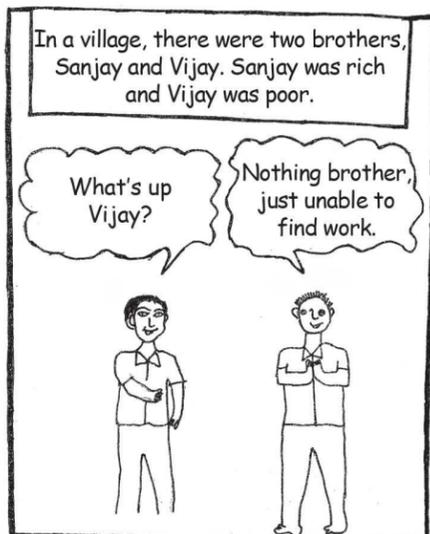
Criteria to be in line with responsible consumption can be only buying a commodity that has a low carbon footprint, manufacturing of the commodity should not have affected the environment, the commodity is made in good working condition without any forced labour or child labour, the commodity should be in line with the acknowledged standards, and it must not degrade the environment in its entire life cycle.



Image: UN

The Value of Food

NAME - Soumya CHETNA N60



Food Waste Is Lethal Than You Know

According to the UNEP Food Waste Index Report 2021, India is the second biggest food waste generator after China, wasting around seven crore tons of food every year. When food waste is dumped into the landfill sites and as it starts to rot, it produces methane, a major greenhouse gas that is 26 times more harmful than carbon dioxide. Estimates according to the United Nations suggest that 8-9% of total greenhouse emissions are associated with food waste.



Photo: iStock

FOA (Food And Agriculture Organization, UN) has seen a clear pattern around food wastage. Middle and higher income group countries are more likely to waste food at consumption levels, whereas developing countries are more likely to waste food due to a lack of proper nutrition infrastructure and food keeping techniques. With every food item we waste, we also waste the time, energy, water and labour required to produce it.

Clean Energy / Renewable Energy Facts

Photo: iStock



- India is currently running the world's most extensive renewable energy expansion programme, where a potential 175 GW of energy can be generated every year. It is planned to be completed in 2022.
- In Iceland, 100% of their energy is supplied through geothermal and hydropower sources.
- Solar energy can become the world's leading power source by 2050.

Source – Ministry of New & Renewable Energy, ovoenergy.com

Carbon Footprint Explained

The term carbon footprint refers to the sum of greenhouse gasses, such as carbon dioxide and methane, released into the environment directly or indirectly due to our actions. It is the main reason for human-induced climate change. The amount of carbon dioxide produced by us depends on our life choices and activities like travelling, consuming food, consuming electricity and many more. Canadian author Alexandra Shimo-Barry has developed a formula to determine your carbon footprint.

There are nine steps to follow in order to calculate your carbon footprint:

1. Multiply your monthly electric bill by 105
2. Multiply your monthly gas bill by 105
3. Multiply your monthly oil bill by 113
4. Multiply your total yearly mileage on your car by 0.79
5. Multiply the number of flights you've taken in the past year (4 hours or less) by 1,100
6. Multiply the number of flights you've taken in the past year (4 hours or more) by 4,400
7. Add 184 if you do NOT recycle newspaper
8. Add 166 if you do NOT recycle aluminium and tin
9. Add 1-8 together for your total carbon footprint

A carbon footprint between 6,000 to 15,999 is considered ideal, and 16,000 to 22,000 is considered normal. Anything beyond 22,000 is not good for the environment.

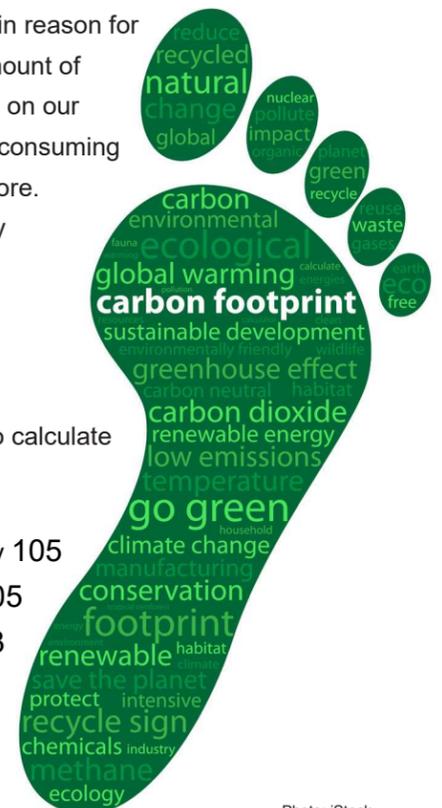


Photo: iStock

Open Defecation Free - A Distant Dream?

Open defecation has been a huge problem throughout history in our country. It is mainly associated with people with the lowest incomes or no incomes at all and is witnessed not only in rural areas but urban areas as well.

According to Unicef, In 2015, nearly half of India's population did not have access to toilets and a proper sanitation system. As a result, people are forced to defecate in fields, railway tracks, forests and other public spaces. Moreover, Unicef also highlights that half of the world's population with no choice but to defecate in the open belong to India. What is more appalling is that one in every fifth school in India does not have clean working toilets made for girls. Thus, lack of hygiene and proper sanitation has led to a high neonatal mortality rate of 24 deaths for 1000 live births.



The ill-effects of an Hazardous Practice

Due to open defecation and poor sanitation practices, tons of faeces are introduced daily into the environment, leading to chances of direct contact of faeces with people.

Without proper sanitation, the risk of spreading diarrheal and waterborne diseases has become huge and as a result, according to an estimate by Unicef, nearly 100,000 children under the age of five have died due to diarrheal conditions.

Poor sanitation practices have also affected the sanitation workers as they suffer from many diseases while working. They are not provided with proper gear like gloves, masks and suits and when they enter dumps and drains, they are exposed to toxic gases and fumes that ultimately leads to their death.



My Hindon Initiative - Neer Foundation

NEER Foundation, based in Meerut, Uttar Pradesh, was started in 2004 to manage and protect the environment and society. Since then, NEER Foundation has worked in the field of mass awareness, community action, and grassroots level activities.



As per the Uttar Pradesh Water Department, 1215.43 MLD of sewage is released from Saharanpur, Muzaffarnagar, Baghpat, Budhana, Meerut, Noida and Ghaziabad, out of which, only 450 MLD is filtered and treated through city treatment and the remaining sewage is discharged into the Hindon river. To tackle this problem, the NEER Foundation launched a 15 km Hindon River cleanliness drive which involved hundreds of volunteers and officials from the local departments. Volunteers cleared unwanted plants and waste from the river which lead to a clear flow of the river and an overall rejuvenation. This was a 50-day long campaign implemented under the Nirmal Hindon Initiative.

Tertiary Treated Water - Transforming Water Usage

Mohali will get tertiary treated water for irrigation and cleaning cars. The aim is to reduce the consumption of potable water. The cost of setting up this treatment plant is estimated to be around 85 crores. The Mohali treatment plant is inspired by a similar treatment plant set up by Chandigarh Municipal Corporation, which has provided tertiary water to the residents of Chandigarh for 100 rupees per month. This water can be used for all purposes that do not require potable water. This initiative can be a game-changer as 80% of India's potable water is used in irrigation activities.

An Institution for Quality Drinking Water

The central government is opening up a first-ever institute that will solely work for uplifting the quality of drinking water and sanitation levels of India. The National Centre For Drinking Water, Sanitation and Quality will open in Kolkata, West Bengal. This state of the art institute will find and implement ways to use health engineering to better the water quality and sanitation activities. A committee of eight members, including people from public health departments and health engineering, has worked extensively to build the roadmap and vision of these apex institutes.

Sorkha, an urban forest developed with the ceaseless efforts of the HCL Foundation and Give Me Trees Trust, is now home to various species of birds. Let us know about some of the residents of Sorkha.

CATTLE EGRET



This bird is named for its association with cattle as it can often be seen with livestock. According to a study conducted in Australia, feeding upon insects, these birds significantly reduce the number of flies that peck cattle off their skin and benefit farmers

by protecting cattle from infestations of ticks and can be called the farmer's friends. One of the main threats to the Cattle egret population is the loss and destruction of their habitat and agricultural fields.

GREEN BEE-EATER



The name "bee-eater" comes from the item the bird eats most often - bees. They are natural-born killers of bees. One of the most interesting facts about them is that they have a distinguishing predator-avoidance behaviour. If a potential predator looks at the bird's nest,

the Green bee-eater will not enter it until the predator looks away.

This remarkable behaviour shows that the bird is aware of what the predator is looking at, but also suggests an awareness of a predator's mental state.



ORIENTAL MAGPIE-ROBIN



This species has a long tail that is held upright while they are seen hopping along the ground. The scientific name of this bird is Copsychus saularis. The word 'copsychus' is coined from the ancient Greek word 'kopsukhos' or 'kopsikhos', which means 'blackbird'. The Oriental magpie robin is also recognized as the national bird of Bangladesh.

LARGE GREY BABBLER



They are gregarious birds that forage in small groups of six to ten birds, a habit that has given them the popular name of "Seven Sisters" in urban Northern India, and Saath Bhai in Bengali. Their eggs are bright blue-green and they do not need to migrate. They like their territories. Every treetop, bush, park, the rooftop is within their watch. They know what plants you grow in your garden, and what your dog eats for lunch.

Constantly Declining Forest Cover - North East India

The forest cover of northeastern states has reduced by 1,020 square kilometres in the past two years. Arunachal Pradesh has lost 257 sq km of forest cover, the highest out of all north-eastern states according to the forest report of 2021 released by Ministry of Environment, Forest and Climate Change.

Satellite data highlights that the north-eastern region alone accounts for 76% of the vanished forest cover of India in the past 20 years and Assam alone accounts for 14% of it. Constant floods and growing cultivation are the ones to blame and, as a result, 269 sq km of forest cover has been lost from 2000 to 2021 in Assam.

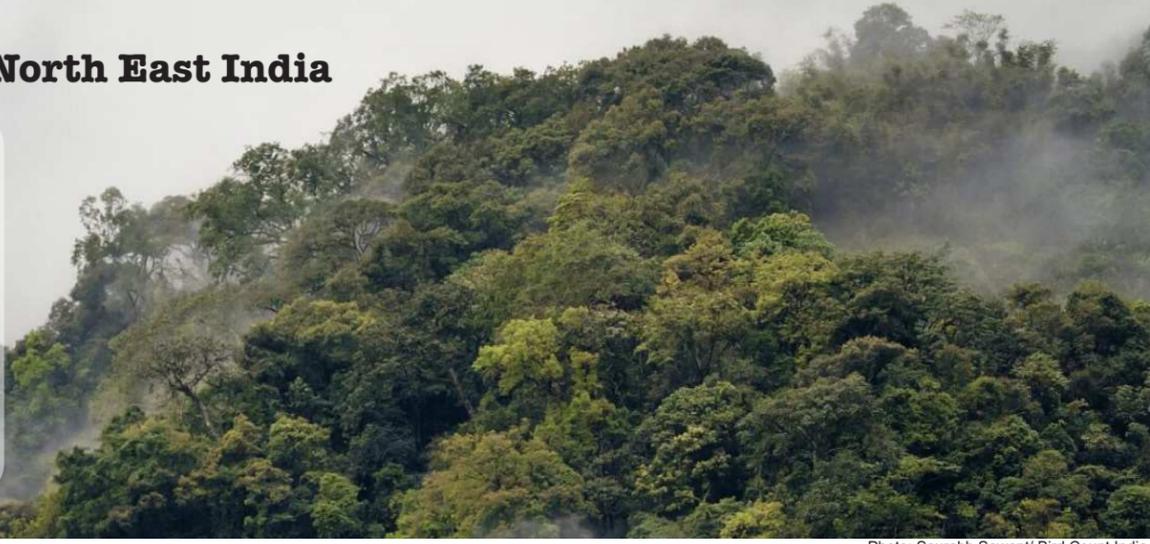
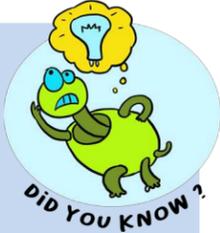


Photo: Saurabh Sawant/ Bird Count India

Forest cover loss is different from deforestation. Forest cover can refer to trees planted by humans as well as natural forests. Forest cover loss is the removal of tree canopy through human or natural causes, including fire, floods or extreme weather conditions whereas deforestation is straight cutting down of trees.



The Flooded State of Assam

With heavy rainfall and ten rivers flowing through its area, the state of Assam is prone to regular floods. Assam has a history of witnessing massive floods as it was flooded 11 times between 1954 to 2020. Although annual rainfall in Assam is declining, sudden and extreme rainfall is the cause of the floods in the area.

Photo: DNA India



Floods in 2020 were the most destructive floods the state has ever faced through the years. It caused landslides in the area and took the lives of at least 21 people. Moreover, 2,63,203 hectares of crops were destroyed. Around 45,000 cattle were either lost or abandoned as people left their farms and villages due to floods and a total of 315 villages were submerged. Covid and floods combined pushed 70% of the population of Assam into poverty. Floods also reached important sanctuaries and world heritage sites like Kaziranga National Park and Pobitora Wildlife Sanctuary and as per a news report by Huffpost India, around 125 animals including 12 rhinos died in these regions, while authorities rescued about 150 animals.

Disastrously Yours - The Brahmaputra river

A long time ago, weak floods of short duration used to be more beneficial than destructive for the state of Assam. One significant advantage of these weak floods was that they used to bring sediments and deposits with them. These new sediments and deposits rejuvenated the land and made it more fertile. However, it has been completely changed over time.

With more frequent and intense floods, the area has witnessed huge catastrophes and 4.27 lakh hectares of land (7% of total land) in Assam have been eroded by the Brahmaputra river and its tributaries in the last few decades according to Assam Government's website. On average, 800 hectares of area is eroded annually in the state.

The website also highlights that due to riverbank erosions, the width of the river Brahmaputra has increased up to 15 km at some places, and the area occupied by the river has increased drastically over the years. In 1975, the area of the Brahmaputra river was 4,850 sq km, however, according to a recent survey, it has expanded to 6,080 sq km. If the embankments are not regularly serviced or cleaned, they get choked as the river carries plenty of deposits and sediments. As a result, the river starts to overflow, and the embankments in place often fail to restrict the flow of the river. When these embankments fail, riverine agricultural land is lost in erosion, which further impacts the rural and agricultural economy.

Photo: Hemanta Kumar Nath/India Today



A DREAMLOST

SHIVAJYOTI DAS BARUAH.



Photo: Bikash Kumar Bhattacharya

Jadhav Mulai - The Forest Man of India

Mulai forest is one special forest in Assam as it was made alone by Jadhav Mulai Payeng in a span of 30 years. His work for environmental protection has earned him the title of 'The Forest Man Of India' and he has also been awarded the Padma Shri by the Government of India in 2015.

Mulai Kathoni, or Mulai forest, is spread across 550 acres in Kokilamukh, a village in the Jorhat district of Assam. The mixed-species forest is now home to many animal species like the Bengal tiger, One-Horned Rhino, and Asian Elephants. The forest planted has also helped to reduce soil erosion caused by rivers in Assam. This man-made forest is as sufficient as any other natural forest in conserving wildlife and preventing soil erosion.



Photo: Jitu Kalita

Irreversible Harm Of Global Warming: IPCC Report



Photo: Climate Clock

According to the latest Intergovernmental Panel on Climate Change (IPCC) report, climate change's current speed and the problems caused by it can become irreversible if immediate action is not taken by world authorities.

The report emphasises that 40% of the world population, that is 3.6 billion people, are highly vulnerable to climate change. They are living in a constant threat of harsh climatic conditions and potential natural disasters. UN secretary-general Antonio Guterres termed it as "an atlas of human suffering".

Rachel Warren, a lead author who worked on the report, said, "what has come out is a really strong message. At global warming of 2°C, the risks are several times greater than at 1.5°C. Many things become much more difficult to manage at 2°C than 1.5°C." If we somehow manage to cut the speed of global warming, farsighted losses can be far less. "Delay is death", she said.

With the oaths, commitment and promises made at COP-26 last November, we haven't managed to cut down the speed of climate change and we have a very short window to undo the activities that are constantly degrading the earth.



Photo: UN

Rise in Wet-bulb temperature will make environment dangerous to inhabit

In the second part of the recently published IPCC sixth assessment report, regional analysis of cities and countries is reported for the first time. According to the report, India falls in the category of countries where people will be strongly affected by the increasing sea level.

The report alerts that by the year 2050, about 35 million people in India may face annual or constant floods. This figure can go up to 45 to 50 million by the end of this century.

"Globally, heat and humidity will create conditions beyond human tolerance if emissions are not rapidly eliminated; India is among the places that will experience these intolerable conditions," the report says.



Photos: IPCC

The report focuses on the wet-bulb temperature, a measure of the mixture of humidity and heat. If the wet-bulb temperature goes beyond 31°C, the environment becomes very dangerous to inhabit for animals and humans. On the other hand, being in the wet-bulb temperature of 35°C or more for 6 hours is entirely unsurvivable for human beings.

According to the IPCC report, wet-bulb temperature is mostly around 25 to 30°C and hardly crosses 31°C. In case current carbon emissions are not reduced, northern and coastal India may face wet-bulb temperatures that are inhabitable for humans at the end of this century.

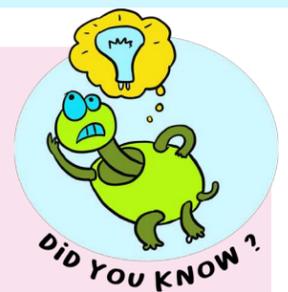
The report also said Patna and Lucknow are among the places that are likely to reach the extreme wet-bulb temperature of 35°C if emissions are not reduced. Mumbai, Chennai, Indore and Bhubaneswar are the cities at risk of reaching the wet-bulb temperature of 32 to 34°C if emissions remain constant in these locations.

Anxious or stressed? Climate Change could be the reason!

Climate Change 2022: Impacts, Adaption and Vulnerability Report by IPCC emphasised how extreme climate conditions can cause mental health problems. "The pathways through which climatic events affect mental health are varied, complex and interconnected with other non-climatic influences that create vulnerability," the report mentioned. The report also details direct or indirect exposure to harsh climate or extreme weather periods with a long continuity that can cause mental health issues.

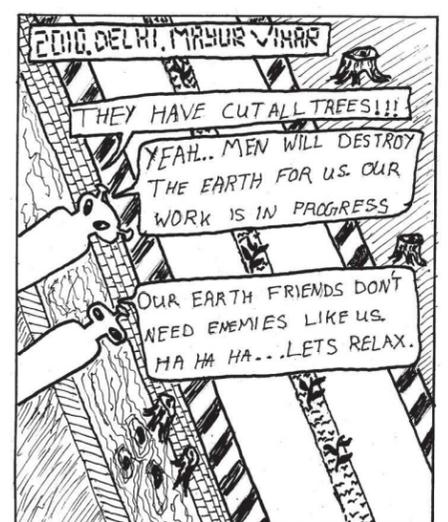
History of IPCC

The Intergovernmental Panel On Climate Change (IPCC) was jointly formed by the United Nations Environment Programme and World Meteorological Organization in 1988. The focus of establishing a panel like IPCC was to prepare reviews and suggestions to the world based on measures and the science of climate change. From its inception in 1988 to 2022, IPCC has published six extensive reports on climate change and related issues.



ENEMY OF EARTH

BASKARAN.M
26/9/10



Conundrums of Clean Energy

In Glasgow, during the COP 26 climate talks in November last year, emphasis on clean energy was on the agenda for many countries. World leaders of more than 50% of countries present in Scotland agreed and pledged to adopt clean technologies during this crucial decade. Shifting to clean fuels and technology is essential and better for the environment, however, is it an easy task ahead? Let's find out about Clean Energy and the conundrums it unfolds!

What is Clean Energy?

Clean Energy is a form of energy that does not emit carbon while in use or after use. You may ask what is carbon and why reducing carbon emissions matter? Carbon is a greenhouse gas, and like all other greenhouse gases, if it is frequently emitted into the environment, it can result in devastating unrepairable effects like climate change, global warming and depletion of the ozone layer. Hence using clean energy has become extremely important in today's world. Wind energy, Hydro energy, Solar energy, etc. are various types of clean energy.



Photo: iStock

But does the story stop here?

No, there are also some forms of clean and renewable energy that, for some reason, still harm the environment even if they are not emitting carbon. For example, hydropower is a clean form of energy, but obtaining this energy often requires heavy infrastructural activities like building dams. Hydropower dams are often built on rivers after removing human settlements and clearing land for its formation. Clearing lands here ultimately leads to deforestation which further adversely affects the environment. So Hydropower, which is a form of clean energy can still harm the environment and cannot be called 'Green Energy'.

Solar Waste - A Sunny Challenge!

Solar power is considered to be one of the cleanest sources of energy that doesn't pollute the environment. However, the story is incomplete at best. Every source of energy needs proper waste management and it is no different in the case of Solar Power.

While the solar power potential of India is getting better and better each day, the amount of solar waste generated by our country is also increasing. The waste generated by solar power plants are mostly solar panels and these panels consist of heavy toxic metals like lead, arsenic and cadmium. If dumped in landfills, these metals can disrupt the ecosystem and degrade the groundwater that we all consume directly or indirectly.

Solar Panels have produced 2.85 lakh tonnes of waste so far and it is predicted by the International Renewable Energy Agency that the amount of solar waste can go up to 78 million tonnes by 2050. Considering that solar panels have a life cycle of 25 years, this problem is definitely going to grow.



Photo: The Hans India

Do Electric Vehicles really provide a solution?

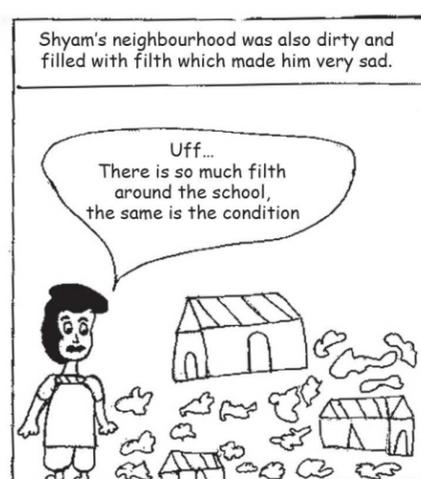


Photo: Bureau of Energy Efficiency, Ministry of Power, GOI

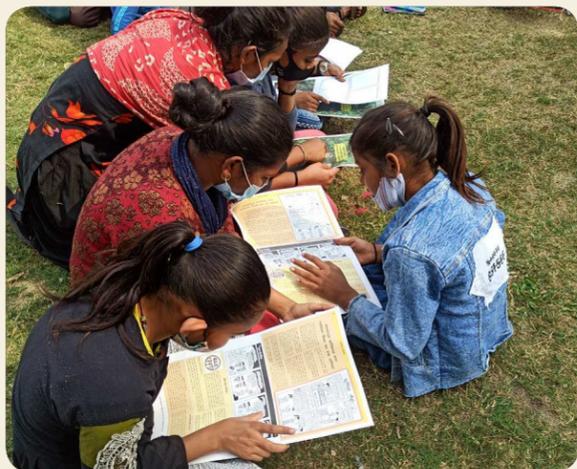
Electric Vehicles or EVs run on rechargeable electric batteries and use an electric motor instead of a conventional combustion engine. These vehicles can be charged anywhere with a stable electricity supply. The last ten years have seen a big jump in the popularity and demand for electric vehicles due to technological advancements and climate change. Using hybrid and electric vehicles can help reduce a large amount of carbon footprint when adopted by the masses. When in use, EVs do not emit any greenhouse or any kind of pollutant but it is only one side of the story.

There is a lot of indirect pollution associated with Evs though. They do not emit any pollution from the tailpipe, however, the batteries intact in the vehicles can still release toxic fumes. In addition, most of the electricity supplied for EVs is generated through non-renewable resources or fossil fuels that emit tons of carbon. In a country like ours, where majority of its electric supply is generated from coal thermal power plants, finding a better and cleaner way to generate electric power is essential before jumping to any conclusion about EVs.

Unity in Cleanliness



Environment Education through Visual Stories & Interaction



World Comics India collaborated with Chetna, an HCL Foundation partner organization and organized a Grassroots Comics exhibition on Environmental Education in Barola, Noida on 23rd February 2022. The exhibition witnessed the participation of 55 children aged between 8 – 14.



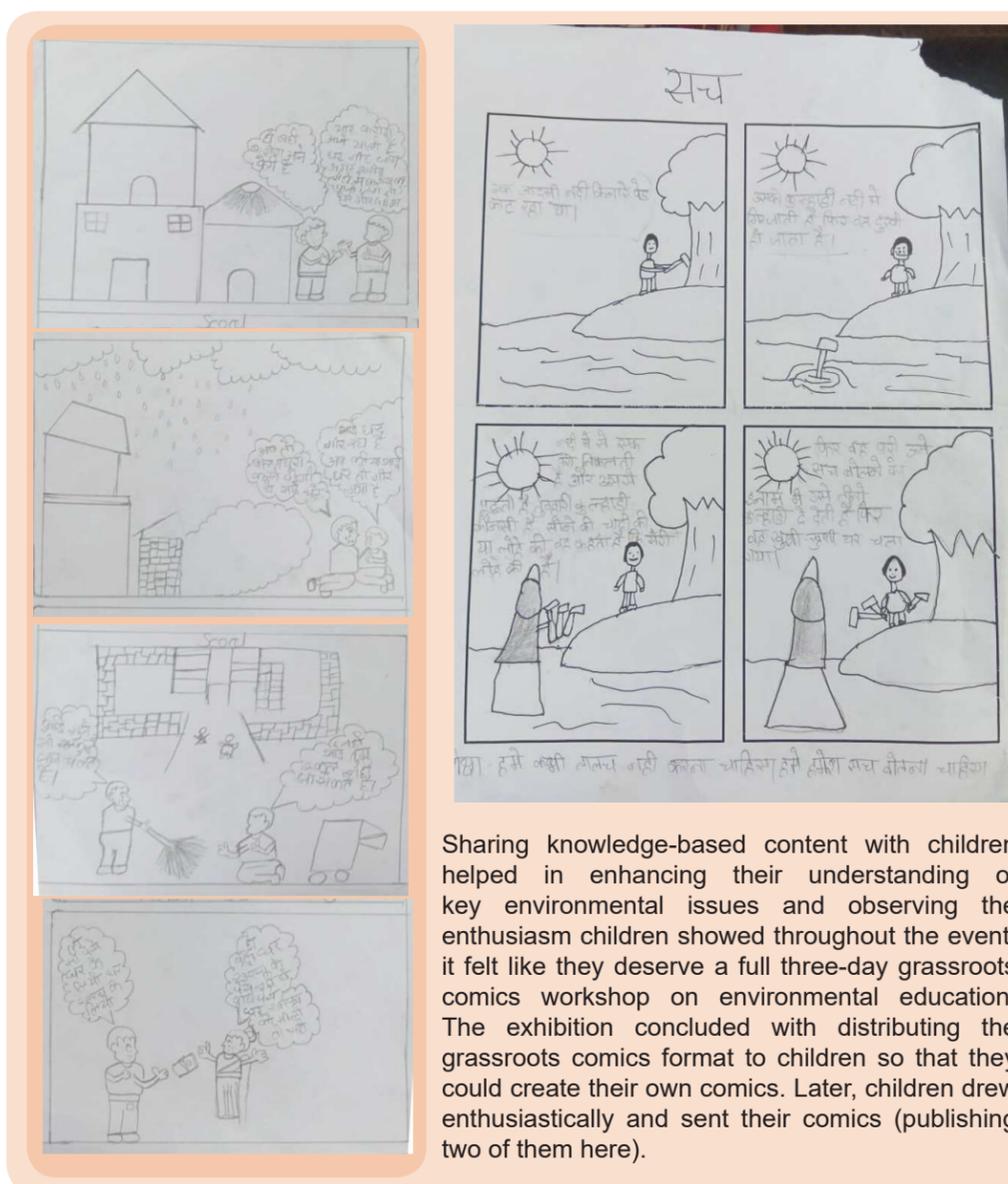
Children participated enthusiastically and read the comics that were exhibited and since Grassroots Comics are based on people's real-life experiences, children could relate to the comics and also understand them easily. With every comic they read, discussions were started on critical issues such as water conservation, the importance of trees, waste management, etc. With every comic story they read, discussions were started on critical issues such as water conservation, the importance of trees, waste management, etc. As children's curiosity rose, they wanted to go beyond just reading the stories to sharing the issues that came to their minds. They talked about the medicinal use of some plants, conserving rainwater, showing empathy to animals, etc.

Distribution of Harit Khabar

Meanwhile, copies of our monthly newspaper – Harit Khabar was also distributed to children and as we expected, children immediately started to read the comics in them. The power of the medium was clearly visible to us as our Hindi newspaper steered its way into the community and helped in raising discussions on environmental issues.



Ms Lalita was also glad and proud to see her comic being used in November's edition of Harit Khabar. Harit Khabar then truly reflect democratic values as it is of the people, by the people, and for the people.



Sharing knowledge-based content with children helped in enhancing their understanding of key environmental issues and observing the enthusiasm children showed throughout the event, it felt like they deserve a full three-day grassroots comics workshop on environmental education. The exhibition concluded with distributing the grassroots comics format to children so that they could create their own comics. Later, children drew enthusiastically and sent their comics (publishing two of them here).

Time to E-rase your E-waste



Photo: iStock

water and wildlife. Sometimes these toxic waste parts are dumped in a landfill and then they further reach the ground and to the groundwater.

When exposed to heat, e-waste releases all the toxic elements it contains into the atmosphere, damaging the air very severely. There is also the problem of data breaches associated with e-waste. If not disposed of or recycled correctly, data theft is possible as sensitive data can be obtained through e-waste. Over time this has become a severe problem. Surprisingly, India only collected 3% of the total e-waste generated in 2018 according to the Central Pollution Control Board (CPCB) report.

Technology is supposed to solve all humankind's problems including dealing with climate change. But does it have no adverse effects on the environment? Let's find out more about technology and its connection with the environment through E-Waste.

Electronic waste or e-waste consists of old, unwanted, faulty and obsolete electronics. These electronics can be home appliances like ovens, toasters, refrigerators, and communication devices like telephones, tablets and smartphones. Other examples are obsolete VCRs, computers, radio sets, fax machines, speakers and printers. As technology advances rapidly, perfectly running electronics become obsolete and are rendered waste. E-Waste is not just those electronics that do not work but also those that are replaced by their receptive new and fresh models, which are presented to the public by big brands every few months.

The challenge is to find a method to properly dispose of the electronic waste produced each day. While in working condition, these electronics are safe, however, unfortunately, most electronics contain toxic substances like Beryllium, Mercury, Cadmium, and Lead which can harm our soil, air,

Snow-Fake in the Winter Olympics



Photo: iStock

Have you ever wondered how is the Winter Olympics held despite the melting of glaciers and global warming? The answer lies in technology and artificial snow.

Artificial snow is made with chemicals mixed with water. Pressuring that water through snow cannons, this water is shot up in the air and as it falls, it becomes artificial snow. Artificial snow, with time, has become an important requirement for hosting the Winter Olympics. This trend was started in 1980 at Lake Placid Winter Games, New York and has continued since then.

In the recently organised 2022 Beijing Winter Games, all of the snow on which the athletes competed was 100% artificial. A vast amount of energy and water resource is required to make snow slopes and snow pitches for the games and forty-nine million gallons of water was used to make artificial snow used in the Beijing Olympics. Artificial snow has caused massive water wastage in China when 82% of its glaciers have already melted and 20% of its ice cover has been lost since 1950 according to a Greenpeace report in 2018.

Mind the Spam!

Photo: iStock



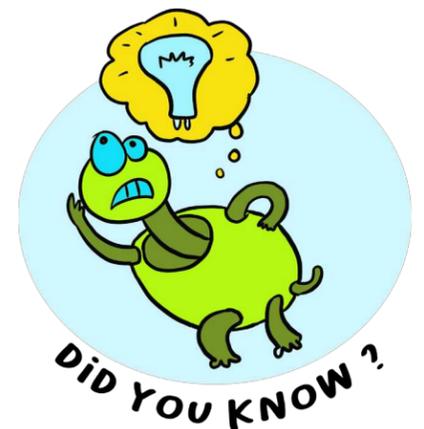
You might be surprised to know that your unwanted, unread and spam emails too contribute to environmental degradation through carbon emissions.

This data is stored and backed up in data

centres that run on electricity and if we delete our unwanted emails, we can directly reduce the load on these data centres. According to goodplanet.org, each mail accounts for 0.3 grams of CO₂ and if all 3.9 billion email users (as of 2019) delete their ten unwanted emails from their inbox, it would reduce 39,035 metric tonnes of carbon emissions which is equivalent to carbon dioxide released from burning 19356 tonnes of coal.

Upcoming E-waste Management Park in Delhi!

The Delhi Government is planning to set up the country's first e-waste management park in the city. The site will be used to boost e-waste management and eco-tourism as well. At present New Delhi produces around two lakh tons of e-waste annually. The park, after its completion, will help the national capital in recycling and remanufacturing activities with the obtained e-waste.



About the publication

HCL Foundation and World Comics India's collaborative initiative 'Harit Khabar' is a monthly newspaper that aims to educate people on environmental issues and challenges and raise community participation towards the cause of the environment.

This publication has been launched to provide a platform to various partner organizations working in collaboration with the HCL Foundation's distinct flagship programme HCL Harit - The Green Initiative to showcase their work and accomplishments and also to create a network between them.

Through Harit Khabar we aim to stir meaningful debates on critical issues concerning our environment and ecosystem, accessibility to environmental education and public participation in decision-making processes in the country.

About HCL Foundation

HCL Technologies implements its Corporate Social Responsibility agenda through its CSR arm, the HCL Foundation. Various flagship programs and special initiatives of the Foundation endeavor to contribute toward national and international development goals, bringing about lasting positive impact on people and the planet through long-term sustainable programs.

About World Comics India

Advancing Grassroots Comics as an alternate tool of communication to local communities, World Comics India has been continuously working for the past 20 years. Many successful mass campaigns have also been organized using this medium of communication.

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Editorial Board: Dr Santanu Basu, Hitesh Sitaram Jalgaonkar, Ravi Kumar Sharma, Aishwarya Balasubramanian, Sarthak Mehra, Imran Khan

Editor: Sharad Sharma | Cover Page Illustration: Garima Sharma

web: www.hclfoundation.org | www.worldcomicsindia.com

email: hclfoundation@hcl.com | wci.hcl@gmail.com

Twitter: HCL_Foundation | Facebook: HCLFoundation