

+ SCRAPBOOK | COVER STORY | GREEN SCHOOLS

gobar times

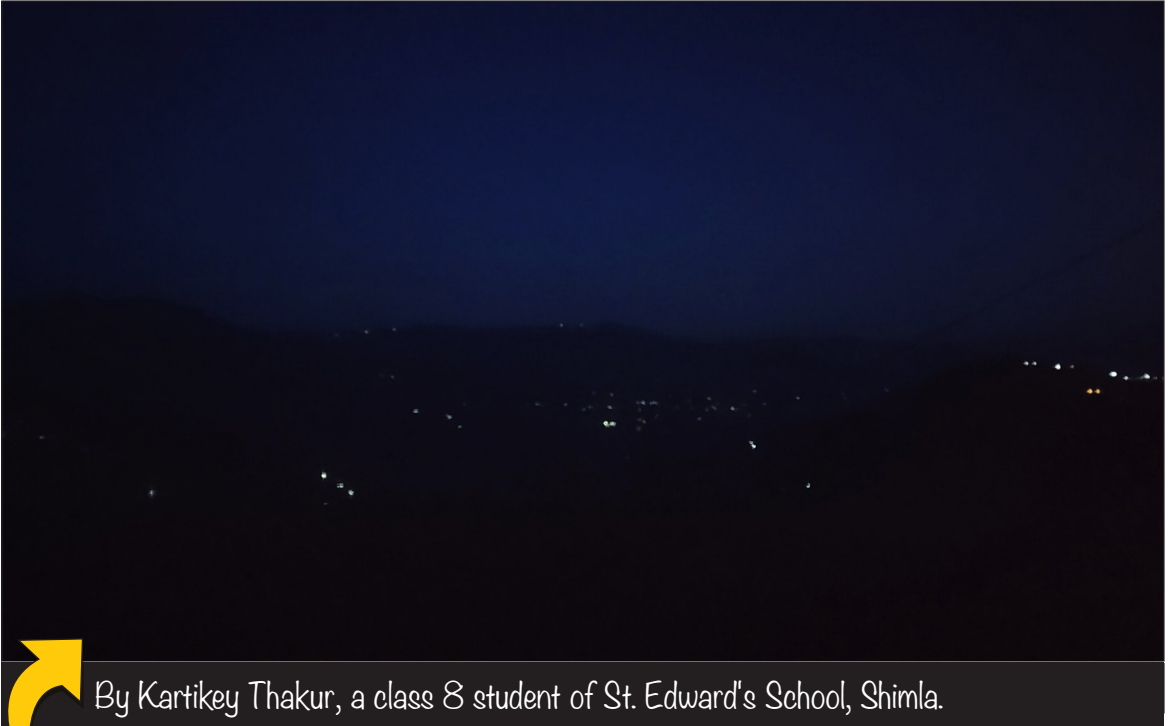
ISSUE NO: 247, November 1-30, 2022

A DOWN TO EARTH SUPPLEMENT FOR THE YOUNG AND CURIOUS

WEATHER WARNING!

Issuing an alert on 'Extreme Weather Events' with
an explainer on their what, why, and how.

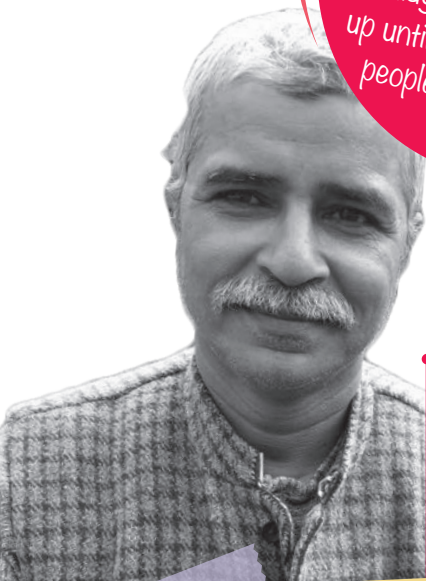




By Kartikey Thakur, a class 8 student of St. Edward's School, Shimla.

This photograph was received as an entry for the Window Lights—Mobile Photo Contest organised by the Young Environmentalist website in June 2021.

We have to save ecology and people's rights over the natural resources provided by the Himalayas... We will not give up until our rivers and our people get their rights.



Vimal Bhai,
environmentalist
and social reformer
(1962–2022)



Hunger Stones

In summers this year, some European rivers had dried substantially, causing drought in many parts of the region. It revealed to their surface, some ancient stones with intricate engravings on them. Their markings used to indicate the water-level of these rivers, which served as a common forecasting tool for famines. Such stones were called hunger stones. One such is disclosed at the banks of the Elbe River. Dated to 1616 AD, its rock is etched with a warning in German: "*Wenn du mich seest, dann weine,*" meaning, 'if you see me, then weep.'

Compiled by Tanisha Singh



Green School



Anu Bhatia

Waste Warriors

Entrepreneurial projects and learning-by-doing activities help build environmental consciousness among young school children.

Our surroundings are indispensable to our survival. Hence, environmental conservation has become a high priority the world over, owing to climate crisis, pollution, land degradation, etc. Environmental awareness can be attained by changing the attitude of our youngsters. They need to become skilled enough to understand the intricacies of environmental degradation with a problem-solving mind-set. Education institutes can play a vital role in skilling and inculcating a positive approach among them.

At St. Edmund's, we began working diligently in this direction since 2015, when we got associated with the Green Schools Programme of the Centre for Science and Environment (CSE), New Delhi. Their initiative engaged our young Edmundites and staff members in various projects and offered them a multi-disciplinary approach to understanding the environment.

One such project was about waste-to-wealth, which sensitized our children towards waste management. Children tried to visualise and analyse how different waste materials can be reused or recycled in different ways. They also developed an entrepreneurial instinct, under a school activity whereby they were encouraged to start an enterprise. They began their venture with a zero sum balance with each student contributing either old newspapers or plant saplings to the enterprise. They sold the newspapers to a rug shop and saplings to customers during a parent-

teacher's meeting, and collected almost Rs. 5,000. In this way, they learnt the importance of money and how to generate it. Such skills are encouraged under our courses on financial management and literacy, where students inculcate them through learning-by-doing. Funds generated through such activities are used for hosting community service projects, which orients the young minds towards social service.

The waste-to-wealth project fulfilled various learning objectives, like environment protection, practising green habits, money management, teamwork, and much more. That's how our children have become young waste warriors. Currently, we are also aiming to teach organic composting to them. Children who bring fruits or their peels in lunchboxes are asked to dispose them in a compost machine to make manure. The fruit seeds are used for growing saplings. Thus, subjects like Science, Biology, and Chemistry become more interesting and practical for them. Such experiential learning also eliminates the phobia about these disciplines.

With CSE's endeavour, our students have transformed into enlightened green ambassadors. Our teachers have benefitted from their Climate Change Course and our school has even won the prestigious Green School's Award. As this journey continues, we look forward to evolving new ways of combating the imminent environmental challenges.

The author is the Principal of St. Edmund's School, Jaipur.

Weathering Extreme Events



Flood, drought, rainfall, snowfall, heatwave, coldwave, storm, cyclone, cloudburst, forest fire... You name it, we have it! But the biggest question is how and why?

Rajit Sengupta

The modern life we have created is good for us but not for the environment. This energy-hungry human lifestyle is heating up the world at a rate that is not sustainable for the planet. In the past 170 years or so, industries have flourished and have made the Earth hotter by over 1°C. India, for instance, has recorded 11 of its 15 warmest years since 1901 (a period of 121 years till the present) between 2007 and 2021. The last decade (2012-2021) was the warmest ever.

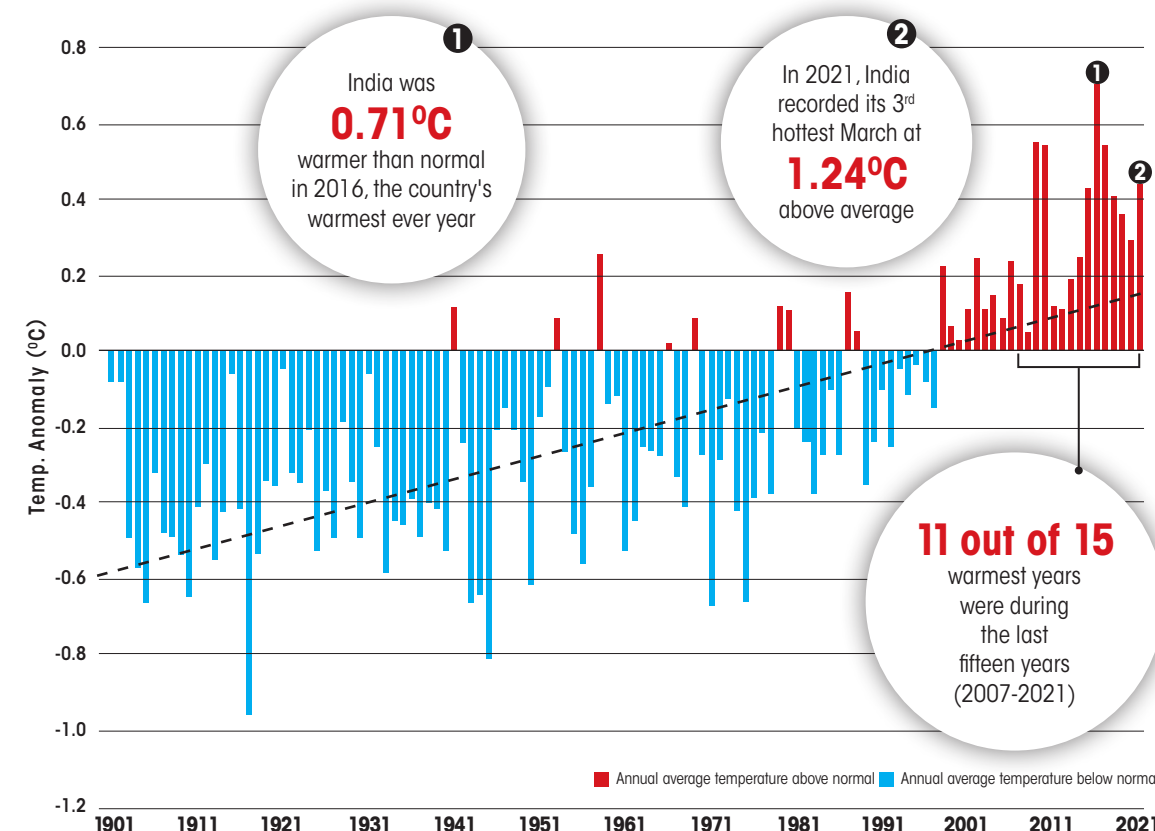
While one might think that a 1°C increase in temperature would not make any perceptible difference but the reality is that it has made our weather more extreme and unpredictable. Let

us look at India's weather this year to understand this not-so-hidden crisis.

See the graph (on the next page) showing the average annual temperature in India from 1901-2021. It shows an increasing trend of temperature rise averaging 0.63°C/100 years.

India recorded its warmest March this year, which triggered early heatwaves in New Delhi and its neighbouring states and Union Territories. That's extreme.

Another example of the havoc caused by temperature rise can be seen in the disruption of the pattern of the monsoon season (June-September) this year. This past, monsoon oscillated



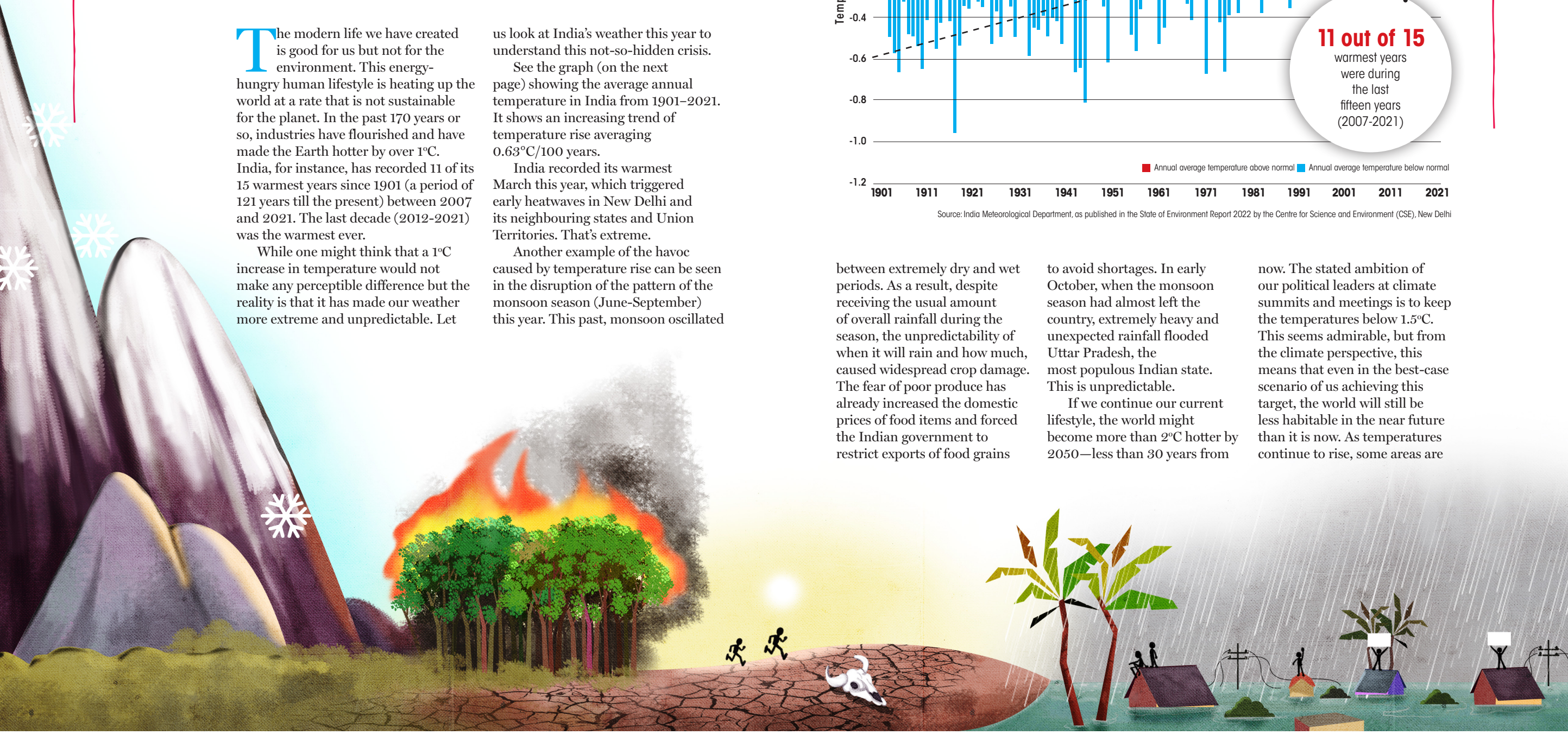
Source: India Meteorological Department, as published in the State of Environment Report 2022 by the Centre for Science and Environment (CSE), New Delhi

between extremely dry and wet periods. As a result, despite receiving the usual amount of overall rainfall during the season, the unpredictability of when it will rain and how much, caused widespread crop damage. The fear of poor produce has already increased the domestic prices of food items and forced the Indian government to restrict exports of food grains

to avoid shortages. In early October, when the monsoon season had almost left the country, extremely heavy and unexpected rainfall flooded Uttar Pradesh, the most populous Indian state. This is unpredictable.

If we continue our current lifestyle, the world might become more than 2°C hotter by 2050—less than 30 years from

now. The stated ambition of our political leaders at climate summits and meetings is to keep the temperatures below 1.5°C. This seems admirable, but from the climate perspective, this means that even in the best-case scenario of us achieving this target, the world will still be less habitable in the near future than it is now. As temperatures continue to rise, some areas are



Cover Story

getting wetter and others drier. A lot of people and animals are unable to adapt to this human-induced environmental change.

Humans are Heating the Planet

Except Earth, all other planets in the solar system are either too hot (close to the sun) or too cold (away from the sun) to sustain life on them. Our planet is different because it is surrounded by a blanket of gases, called the atmosphere, which traps some of the sun's heat hitting the Earth's surface and spreads it all around.

Our climate, which is simply the long-term weather conditions, naturally cycles through cold phases and hot phases, caused by the amount of sun's energy absorbed by the atmosphere. This transition of climate is slow and takes thousands of years. Over the past 6,50,000 years, the Earth has gone through seven Ice Ages and warming periods.

But this time around, the Earth is heating at an alarmingly fast rate, and scientists have proved without doubt that we are the ones triggering it. Many scientists have started to call the current geological period as 'Anthropocene' to signify how human activity now has the dominant influence on our climate and environment.

The climate crisis causes extreme weather events, which are, simply put, freak weather events that cause massive damages.

Human beings are heating up the planet in two ways. First, by releasing a lot of heat-trapping gases, collectively called greenhouse gases, into the atmosphere. And second, by destroying forests and other ecosystems that have the ability to absorb the excess greenhouse gases from the atmosphere.

During the past century and a half, oil, gas, and coal—collectively called fossil fuels—have powered our homes, cars, and factories. These energy sources release large volumes of carbon dioxide, the most

widely available greenhouse gas. Scientists have established that the climate is warming about 10 times faster than the average previous warming times and we are to be blamed for the same.

Disasters on the Rise

The climate crisis affects us more than the mere temperature rise. It heats up the oceans and land surfaces, and disrupts the global weather system. This increases the frequency and intensity of extreme weather events, which, simply put, are freak weather events that cause massive damages.

More areas are now at risk of **heatwaves**, defined as long periods of time with temperatures hotter than normal, and such events are becoming more common. The hilly state of Himachal Pradesh, for example, saw for the first-time heatwaves in March, April and May this year.

Heavy precipitation i.e., snowfall and rainfall, and **storms** are becoming more common and leading to flooding and other dangerous weather events. This has a direct impact on crop production. It is also increasing the severity and extent of **droughts** globally, making it harder to grow food.

As oceans are warming, **coastal storms** like



cyclones are becoming more frequent and damaging. Sea levels have already risen by about 8 inches in the past century or so because of melting glaciers and ice sheets. Its impact can be seen in the coastal regions that now get easily inundated and stand the risk of completely going under water in the near future. A warmer Earth is also increasing the incidence and intensity of **forest fires**.

The most visible impact of the rising extreme weather events is that it is threatening our habitats. While some species are moving to new habitats, others may struggle to adapt and become endangered or extinct. For example, oceans are turning acidic due to the absorption of excess CO₂ and this is triggering frequent **coral bleaching**.

The extent of crisis can be gauged from the fact that climate change, and not conflicts, have become the single largest reason for internal displacements globally. In 2021, there were 23.7 million new internal displacements globally due to disasters and 22.3 million of them were due to weather-related disasters such as floods, storms, droughts and others. It means a population roughly equivalent to that of Sri Lanka were displaced in 2021. India saw 4.9 million internal displacements in 2021, the third highest in the world.

Our Actions Matter

There is no denying that we have already vastly damaged our planet, but we still have time and resources to avoid some of the worst impacts. Everyone can play a part, including the government, businesses, and you. All you have to do is, follow the list given alongside.



Cover Story

- Revisit the vocabulary when discussing the climate crisis. In a 2015 essay, the poet and novelist Margaret Atwood wrote, 'It's not climate change, it's everything change.' This urgency can be captured if we move from the current neutral words such as 'climate change' and 'global warming' to 'climate crisis' or 'climate emergency' and 'global heating'.

- Talk to your friends, siblings, and parents about climate change. Initiate a healthy discussion around the topic to find locally sustainable solutions.

- Be mindful of the fact that every human action has an energy cost and, an indirect, climate cost. So, we should limit our purchases to the bare minimum. Inculcate the idea of recycling our resources.

- Reduce the electricity consumption at home and the use of cars and private vehicles.

We should move from the current neutral words such as 'climate change' and 'global warming' to 'climate crisis' and 'global heating'.

- Buy locally grown and in-season foods and products to reduce emissions from transportation.

The future of our planet depends on how we choose to act consciously. The good news is that we already know how to arrest the further heating up of the world, and there is still time for us to make a positive change.

The author is the Associate Editor of the Down To Earth magazine. For more info, check out our [Climate India 2022: An assessment of extreme weather events report](#) and [India's Atlas on Weather Disasters](#) launched by CSE.

STRANGE WORLD



One of the most obvious consequences of the increasing climate crisis is the destructive intensity, frequency, and impact of extreme weather events. Rising global temperatures are expected to worsen all this with more catastrophic and calamitous occurrences. A sea-level rise, for example, can trigger ruinous coastal storms and warming weather can cause actually stressful droughts.