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# INVEST IN OUR PLANET AND OUR HEALTH

**Neha Tripathi**

The theme for the Earth Day 2022 (22 April) is “Invest in our Planet”. The more activities we persist with that impact the climate, the more we endanger our health too. The more visible impact of climate change is unusually harsh summers. How does one prepare oneself for such hot summers?

**W**E live happily in a vicious circle. The Summer season is on, and so are our air conditioners, refrigerators, fans, inverters, stabilisers, etc. Our cooling appliances will protect us from the harsh summer season. But, the more we use such appliances, the more carbon we emit into the atmosphere. This leads to more hot summers and heatwaves.

Every year the hot summer season sets new records. The situation is now critical. The latest Intergovernmental Panel on Climate Change Report on

impact, adaptation and vulnerability warns us that many of the impacts of global warming are now simply irreversible, and that if emissions are not cut rapidly, heat and humidity will create conditions beyond human tolerance. The ability of humans and that of nature to adapt to climate change is at risk.

The report also assesses the impact of climate change on Asia. “As the most populous continent, Asia is faced with a unique set of challenges that vary across its climatic zones. Asian countries are experiencing a hotter summer climate,

resulting in increase of energy demand for cooling at a rapid rate, together with the population growth.”

In the Indian context, the report warned that Mumbai could face flooding due to sea-level rise while Ahmedabad was at risk of facing a serious heatwave. The panel said that rising sea levels and groundwater scarcity will have a direct impact on the Indian agriculture sector. Production of wheat, pulses, coarse and cereal yields could fall almost 9 per cent by 2050 in the country.

The first part of the report published in August 2021 warned that



Image credit: Public domain pictures

by 2040, 1.5 degree Celsius warming is likely. If global temperatures rise by more than 1.5 degree Celsius above pre-industrial levels, some of the environmental changes could become irreversible. These are of course, not immediate consequences. But the bottom line is: We are running out of time!

## Highest Temperature Records in India

(Source: India Meteorological Department)

- Phalodi, in the state of Rajasthan recorded the country's highest ever temperature of 51 degrees Celsius on 19 May 2016.
- It breaks the previous record of 50.6 degree Celsius set in 1956 in the northern town of Alwar.
- Both are almost six degrees cooler than the global high temperature set in Death Valley in 1913.

## How will Summer 2022 be for India?

The India Meteorological Department forecasts the seasonal temperature every year. "This year being a La Niña year, temperature over north west India is expected to be above normal. Northwest India and central India usually experience heat wave conditions. In northwest India, temperature is expected to be above Normal in terms of minimum temperature.

In terms of maximum temperature, that is, the day temperature, mainly west central India like Rajasthan, Gujarat, Madhya Pradesh, and north Maharashtra the temperature is expected to be above normal and these areas will also experience heat waves. Areas that experience heat waves in the western part of the country are expected to have higher than above normal maximum temperature. The remaining parts where we usually experience heatwave conditions, like Indo-Gangetic plains, east central India, and northern peninsula, there temperature is expected to be normal or below normal," Dr Mrutyunjay

Mohapatra, Director General of India Meteorological Department says.

He further elaborated, "2021 was the fifth warmest year and the mean temperature of the country as a whole was above 0.44 degree Celsius above normal temperature. During different seasons, more warming was in the monsoon and post-monsoon season, not in the pre-monsoon season. It was 0.35 degree Celsius above normal during the monsoon season and 0.78 degree Celsius above normal in 2021."

Dr Vimal Mishra, Professor of Civil Engineering and Earth Science at IIT Gandhinagar anticipates that "Summer will have high temperature and spell of heat waves during the entire summer season. We have been witnessing this for the last 2-3 decades. If you look at the last 30 years, this is a trend in India. Heat waves have implications for public health; they also have significant implications in terms of energy demand. The entire problem is because of greenhouse gas emissions. The household sector contributes maximum to the carbon footprint. If you can minimise the release of greenhouse gases at household level, it will be a smart solution."

So, the only way out is long term investment in the environment. Science Journalist and author of several books Dr Dinesh C. Sharma says, "The investment process has to begin with the recognition that our actions are causing damage to the environment in multiple ways. Unless people and organisations realise and recognise this, we will not be able to move to the next stage – action. We can't afford to live in denial or continue to play the blame game."

What actions should we take or investments should we make?

## Ten Major Investments to Save the Earth

With the IPCC report in view, we need to act for protecting our planet Earth, right now. The motivation is already in place with the Earth Day 2022. The theme is 'Invest in Our Planet'.

Each one of us must ask this very intriguing question: What will I invest to preserve and protect our planet and

## World Statistics: Our Planet, Our Health

- Every year, environmental factors take the lives of around 13 million people.
- Air pollution in urban areas is responsible for an estimated 1.3 million deaths worldwide per year.
- Over 90 per cent of people breathe unhealthy air resulting from burning of fossil fuels.
- Transportation produces around 20 per cent of global carbon emissions.
- 19% of all cancers are caused by environmental factors such as outdoor air pollution, heating and cooking fuel and smoke.
- Nine out of ten people now breathe polluted air, which kills 7 million people every year.
- More than 90% of the world's children breathe toxic air every day.
- Less than 2 per cent of multilateral climate finance goes to health projects.

in turn protect ourselves? Let's take some creative and useful suggestions from experts in the field. The author spoke to:

- **Dr Mrutyunjay Mohapatra**, Director General, India Meteorological Department
- **Dr Avantika Goswami**, Deputy Programme Manager, Climate Change and Renewable Energy, Centre for Science and Environment (CSE)
- **Dr Neha Bharti**, Associate Fellow, Earth Science & Climate Change Division, The Energy & Resources Institute (TERI)

- **Dr Vimal Mishra**, Professor, Civil Engineering and Earth Science, IIT Gandhinagar
- **Dr Dinesh C Sharma**, Science Journalist and author of several books.

Their insights helped list down 10 investment points for our planet, including individual investments:

1. Every household should have solar rooftop, which can help pay for the energy we use. Power your home at the lowest price per watt and take control of your monthly electricity bill.
2. Use eco-friendly construction materials for homes. Bricks that give better insulation to houses from high and low temperatures can be used. Heat-reflecting glasses have metallic coating which lets the sunlight pass through them, but solar heat is reflected back out.
3. During the daytime, don't close the doors and windows and turn on the lights. Don't turn on the AC and put on blankets and quilt. AC should work at 25 degrees Celsius and not at 16 degrees Celsius.
4. Use sensors in appliances so the sensors can start and stop the appliances based on their usage.
5. Embrace climate-friendly food options and plant-based food items which require minimum resources.
6. Avoiding food waste and segregating overall waste is important. Less food waste means less greenhouse gas. Many people may not know this, but the more food we waste and do not consume, the more greenhouse gases are emitted to transport and biodegrade the waste.
7. Large scale investment in distributed renewable energy to address the goals of decarbonization and energy access.
8. Mode of transport must be shifted from private cars to public transport like buses and trains.
9. Promote electrified mass transportation.
10. New and affordable cooling technologies have to be developed. Even simple steps like developing cool roofs for the poor can go a long way. Improving energy efficiency of buildings to promote thermal comfort while reducing the operational need for active cooling systems. This should include addition of sunshades to any exposed glass in the facade, cool roofs and capping of thermostat of building Heating, Ventilation and Air Conditioning (HVAC).

## Our Planet, Our Health

Environmental damage is directly linked to consumption. So, minimising comfort levels and adopting green habits will help protect our planet and our health. What we expect from our planet is clean air, clean water, green plants, food supplies and renewable sources of energy. These are essential for survival, personal health and wellbeing. The planet gives us all this and much more.

But, when in return we give back toxic air, contaminated water, deforestation, wastage of food, excessive use of energy, and misuse of renewable energy sources, this makes our planet sick. Unfortunately, India is one of the most vulnerable countries as

per the Global Climate Vulnerability Index.

The extremes of air and water pollution in India have led to increased burden of illnesses and deaths ranging from respiratory, cardiovascular, vector-borne & water-borne illnesses, food and nutrition insecurity and mental health illnesses.

## The Impending Harsh Summers

Renowned cardiologist and physician to three Presidents of India, Padmasree Dr Mohsin Wali helps us shortlist a few health issues directly related to the summer season, which may further exacerbate due to hot summers owing to the climate change scenario.

- **Exposure to sun increases in harsh summers, heat rashes, prickly heat, boils, lesions, etc. are common.**
- **Sweating in summer leads to skin and scalp dryness and diseases.**
- **Summer season has dry air leading to difficulty in breathing, especially for people with asthma.**
- **Dehydration is another factor, especially in diabetic people as they need to urinate often.**
- **Infection in summer season is also high.**

Early warning signs that you should keep in mind for your health include intense sweating, cold, clammy skin, thirst, headache, nausea and vomiting, skin rashes or blisters, muscle cramps, tiredness, dizziness and fainting, lists Environmental Health expert Poornima Prabhakaran, Head, Environmental Health & Deputy Director of Center for Environmental Health at Public Health Foundation of India.

Dr Arvind Kumar, Chairman, Institute of Chest Surgery, Vedanta Hospital adds to the list, "There is an increase in vector-borne diseases due to climate change, for example, malaria, dengue and many other similar diseases.



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Extreme heat causes heat strokes, dehydration, respiratory symptoms, and cardiac symptoms. It also impacts food issues, food supply chain related issues leading to food problems that will lead to problems like malnutrition and various other problems. These may lead to mental issues like depression, anxiety, excessive heat causing irritability, increase in mental stress. From respiratory diseases, cardiac diseases, nutrition related diseases, heat strokes, vector borne diseases to mental diseases...we may face a plethora of health issues because of extreme heat as a result of climate change."

So, what are the urgent actions we need to take when faced with unusually harsh summers? Poornima differentiated the actions into urgent and preventive. "As immediate steps, one should move to a cooler place, loosen any tight clothing, use wet wipes to lower the body temperature and drink lots of water. As preventive measures, one should avoid stepping out on extreme heat days, wear protective or loose clothing to avoid skin rash or sunburn, cover the head with a cap or hat or use an umbrella, keep regularly hydrated, avoid intense exercise schedules and watch out for warning signs."

Dr Wali suggests actions like avoiding sudden exposure to sun, ultraviolet rays and pollution; covering the head and body parts properly; using sunscreen for skin protection; eating

less spicy food; taking a balanced diet and including foods with more water content.

According to Dr Arvind, the action plan should be at two levels. "First, address the cause and second prevent the climate change from occurring. Solution lies in drastically reducing the carbon load in the environment by decreasing the use of fossil fuels and encouraging the use of renewables for our energy production. The current pace of execution is such that by 2050 we are going to have an increase of 1.5 degree celsius temperature because of the carbon we have already deposited into the environment. Even if we have to reduce it significantly, the already deposited carbon is enough to cause problems. People are now taking carbon absorbing measures so that whatever has already been added in the environment, instead of adding more we take away the carbon from the outer atmosphere to prevent climate change."

A world where clean air, water and food are available to all is achievable but it is a slow process. There is a need to focus on urgent actions to keep humans and the planet healthy.

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