

Be warned! It's climate weirding

There is no second Earth to go when we make our planet uninhabitable

In an Open Page article (*The Hindu*, November 25, 2012), I wrote about the looming environmental crisis facing our planet. This article is prompted by my reading of the potent (and depressing) book *Requiem for a species - Why we resist the truth about climate change* by Clive Hamilton (published in 2010 by Earthscan). And seeing many BBC documentaries on climate change presented by Professor Iain Stewart. The scientific evidence for human-induced climate change is so incontrovertible that you have to be an absolutely brainless person to deny it.

In the words of Tom Friedman, author of *Hot, Flat, and Crowded*, it is no longer climate warming but climate weirding. Spring flowers are blooming earlier than usual, at a time when their pollinators are not around. Migration patterns of birds and animals are changing. Tropical fish from the Caribbean islands are being sighted off the coast of England. Drought is hitting areas which have never experienced it, as a consequence animals are fast losing their traditional feeding grounds. Drought-stricken forests are burning down, which is doubly harmful because forests are natural carbon sinks.

Before you think that this will affect only the underdeveloped world, and leave the rich industrialised countries alone, think again. Sure, low-lying countries like Bangladesh and the Maldives may be wiped off the map. But the West is not going to be spared. In 2005, hurricane Katrina killed thousands in the city of New Orleans in the U.S. Its devastation was likely

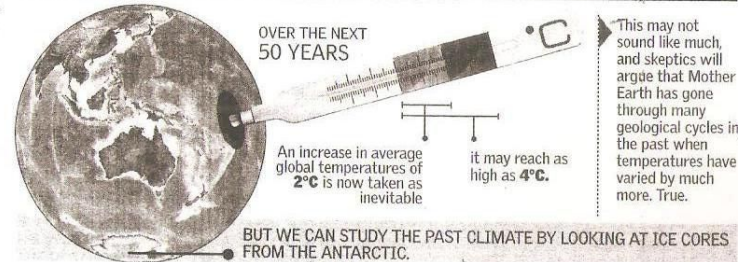
accentuated by the loss of nearby wetlands which would have absorbed much of the storm's energy. In 2003, an unprecedented heat wave across Europe killed more than 50,000 people. Super hurricanes and cyclones are expected to become more common as the oceans warm up. Strong storm surges during a hurricane are expected to flood most of Manhattan, putting at risk the millions who live there.

Engineers know of the phenomenon of *positive feedback*, where the system has a feature that accelerates the effect of something - a runaway phenomenon. The Earth's climate system has many such positive-feedback effects. One well known effect is the reflectivity of ice compared to water, known as its albedo. Ice is white and reflects the sun's energy. When it melts, it turns into dark water, which absorbs more of the sun's heat, which causes more ice to melt.

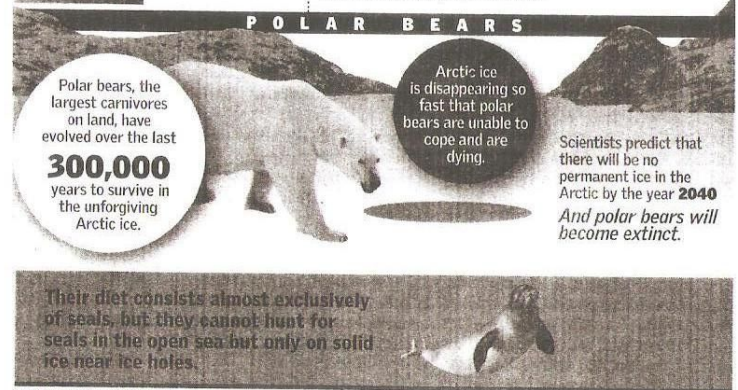
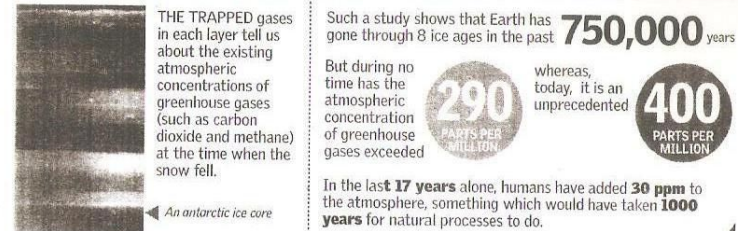
Point of no return

In addition, there are many tipping points that we are aware of, points beyond which there is no return. One such example is the greenhouse gases trapped within the permafrost in places like Greenland. Most of this is in the form of methane, a gas which molecule for molecule is 20 times more potent than carbon dioxide. When the permafrost melts (and it is going to melt in the near future) and all these gases are released into the atmosphere, it will cause catastrophic damage with 150 times the current rate of warming.

SMOTHERING MOTHER EARTH



BUT WE CAN STUDY THE PAST CLIMATE BY LOOKING AT ICE CORES FROM THE ANTARCTIC.



INFOGRAPHIC: SATWIK GADE

And it will only go downhill from then on.

We can delude ourselves into thinking that humans are ingenious and will adapt to any change. It is true that we have learnt to live in a wide range of climatic conditions from the equator to the poles. But the global cli-

mate change we are causing represents uncharted territory for us, plus we have nowhere else to go. Every civilisation in human history has died out for one reason or another, but it has at least thrived elsewhere where the conditions were different. But there is no

second Earth to go to when we make our planet uninhabitable. A sustained two-week drought in the Gangetic plain, if it comes at the wrong time, will wipe out India's food supply for hundreds of millions of people. What will we eat instead? Paper money?

As a species, we are doomed if we continue our current way of life. Humans will become extinct. And in doing this, we will take most big animals with us. But the bacteria that have lived for billions of years will not become extinct. Life on Earth will bounce back, but without humans. In the words of Iain Stewart, we are locked in a death struggle with our mother, and there is going to be only one victor, and we all know who it is.

Unsustainable lifestyle

The root cause of all this is our unsustainable lifestyle. Our value system that lays so much emphasis on money and material possessions.

Our dependence on fossil fuels for everything. Unless we change, we have no right to hope for a better world for our children and grandchildren.

Like an ostrich, we can bury our heads in the sand and deny that the problem exists.

But it is not too late if we take responsibility now. Individually. Politicians will not do it. Kyoto, Copenhagen, Rio, are all testament to that. As individuals, we can reduce or even eliminate our carbon footprint. Replace light bulbs with CFLs in our houses. Use solar energy for heating water. Use biogas for cooking. Conserve electricity by turning off unwanted lights and appliances. Recycle water.

Do something. The very survival of humankind is at stake.

(The writer belongs to the Department of Physics, Indian Institute of Science, Bangalore. Email: vasant@physics.iisc.ernet.in)

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