

Climate change: as it is happening in our world

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When COVID-19 ruled the year... an annual statement on the state of environment and developments

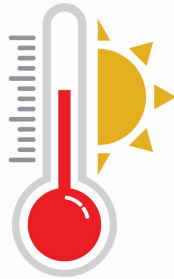
- This annual book is sixth in the series. The first was published in 2016
- When COVID-19 ruled the year... this book once again brings on forefront issues on “environment and development” that demand our attention
- Datasets by government and other credible sources released during the year have been collated, analysed and presented as graphics... that show the real picture
- For better understanding of complex issues and the trends pertaining to the country’s environment and development; and contribute to better and effective planning
- Connects dots to provide the larger picture: Diverse datasets, on different subjects including the pandemic (focus on rural); from reliable national and international sources present the larger picture



CLIMATE CHANGE

RISING TEMPERATURE

India experienced warmer than usual winter, monsoon and post-monsoon seasons in 2020



8th

2020 was the 8th warmest year on record. 2016 was the warmest, followed by 2009, and 2017

12

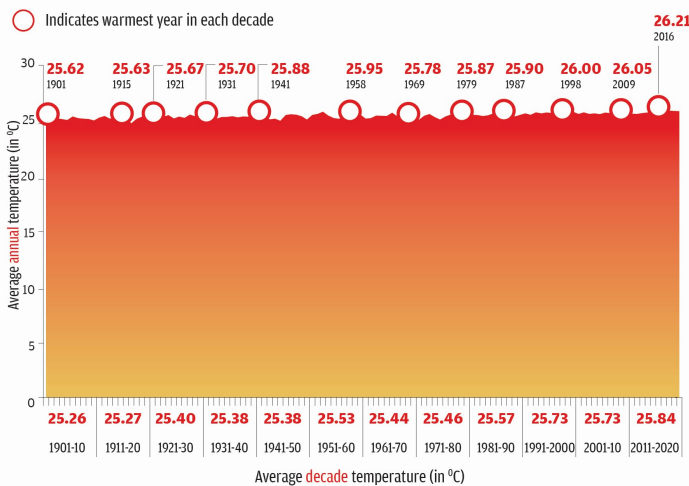
of the 15 warmest years were recorded during the past 15 years (2006-2020)

2011-20

was the warmest decade on record with anomalies of 0.34°C above average

Annual average temperature

The 2020 annual mean land surface air temperature for the country was **25.78 °C**, which was +0.29 °C above the 1981-2010 period average



Every year is the hottest; breaks records till the next year comes. Climate change is real. Happening

India recorded 12 of the 15 warmest years in the past 15 years

The last decade was also the warmest ever on record (2011-2020)

CLIMATE CHANGE

**SINCE 1971,
INDIA HAS
RECORDED
38 CYCLONIC
STORMS IN
NOVEMBER,
FOLLOWED BY
15 IN MAY**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1971-1980	0	0	0	0	3	0	2	2	5	3	11	2	28
1981-1990	0	0	0	0	3	1	1	1	5	9	3	2	25
1991-2000	0	0	0	0	1	5	0	0	0	5	11	1	23
2001-2010	1	0	0	0	3	0	0	0	1	3	7	3	18
2011-2020	1	0	0	2	5	2	1	0	2	9	6	5	33

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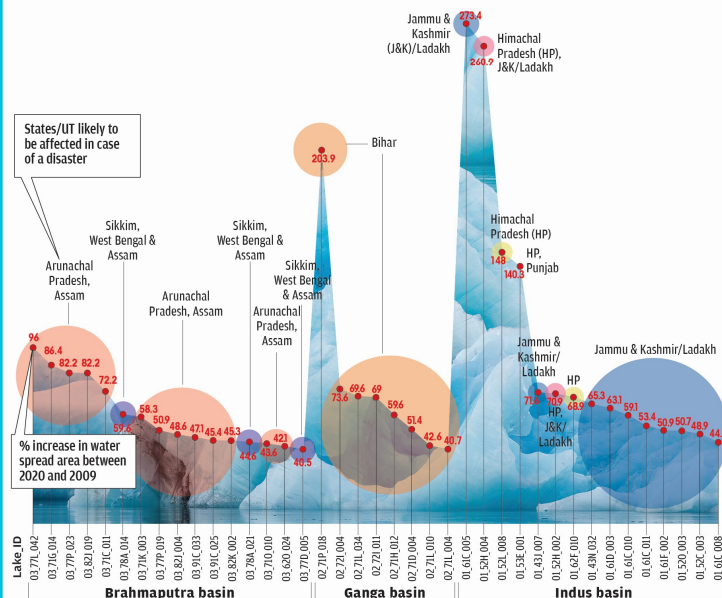
Climate change impacts show up in terms of increased intensity and frequency of cyclonic events

Last decade saw the highest number of cyclonic storms over north Indian Ocean since 1970s. Most of the storms took place in October-December

STATE OF WATER

**Assam (16 glaciers),
Arunachal Pradesh (13)
and Jammu and Kashmir/
Ladakh (10) face the
maximum risk in case
of a disaster**

India has **39 glaciers and water bodies** that
have recorded more than 40 per cent
increase in water levels since 2009.



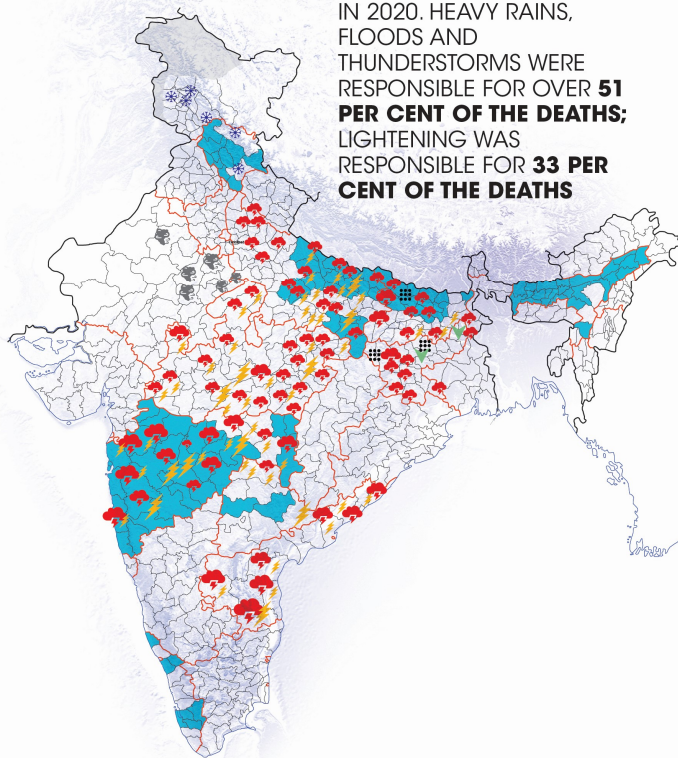
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Melting of glaciers will
impact water in our rivers;
showing up now in terms of
more water in rivers;
tomorrow less. Will make us
more water stressed in
future

CLIMATE CHANGE

SIGNIFICANT WEATHER EVENTS IN 2020

21 MAJOR WEATHER EVENTS CLAIMED **OVER 1,374 LIVES** IN 2020. HEAVY RAINS, FLOODS AND THUNDERSTORMS WERE RESPONSIBLE FOR OVER **51 PER CENT OF THE DEATHS**; LIGHTENING WAS RESPONSIBLE FOR **33 PER CENT OF THE DEATHS**



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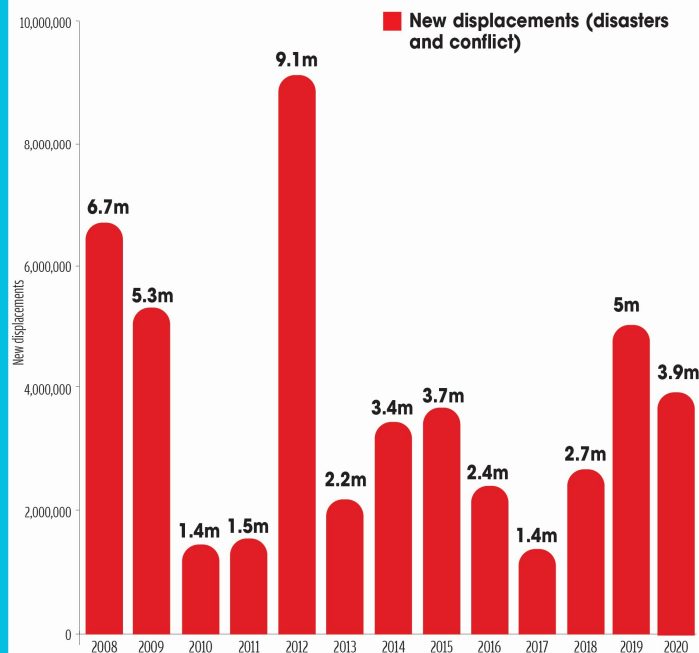
Climate change impacts: Extreme weather events are devastating lives and livelihoods

21 major weather events claimed over 1,374 lives in 2020. Heavy rains, floods and thunderstorms were responsible for over 51 per cent of the deaths; Lightning was responsible for 33 per cent of the deaths

CLIMATE CHANGE

DISASTROUS FOR INDIA

An average of around 3.73 million people a year were displaced between 2008 and 2020, the majority by flooding during the monsoon. India is also prone to other sudden and slow-onset hazards including earthquakes, tsunamis, cyclones, storm surges and droughts



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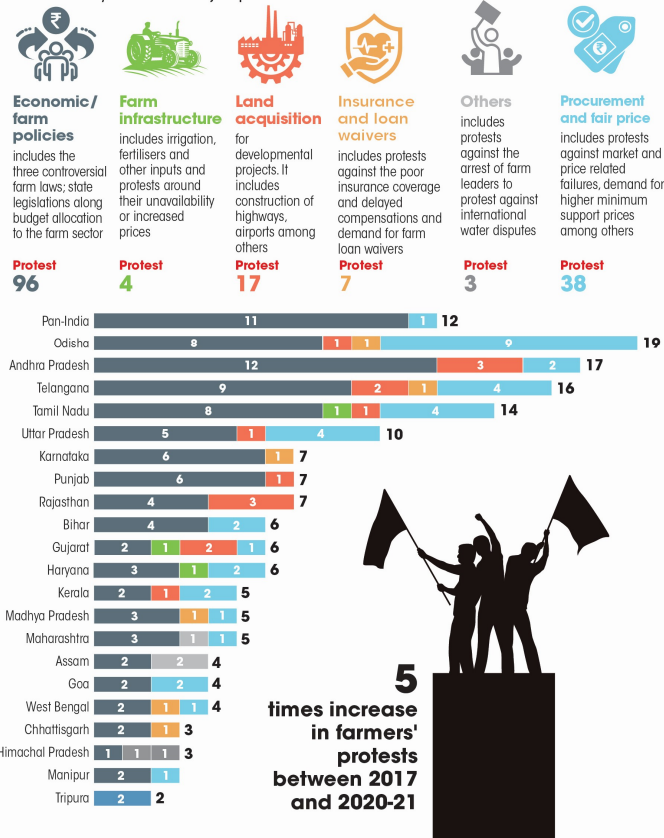
Disasters are not single-day events. Increased frequency takes a human toll – makes people desperate enough to leave homes; displacement is the new normal

An average of around 3.73 million people a year were displaced between 2008 and 2020 in India

STATE OF AGRICULTURE

FARMERS' UNREST

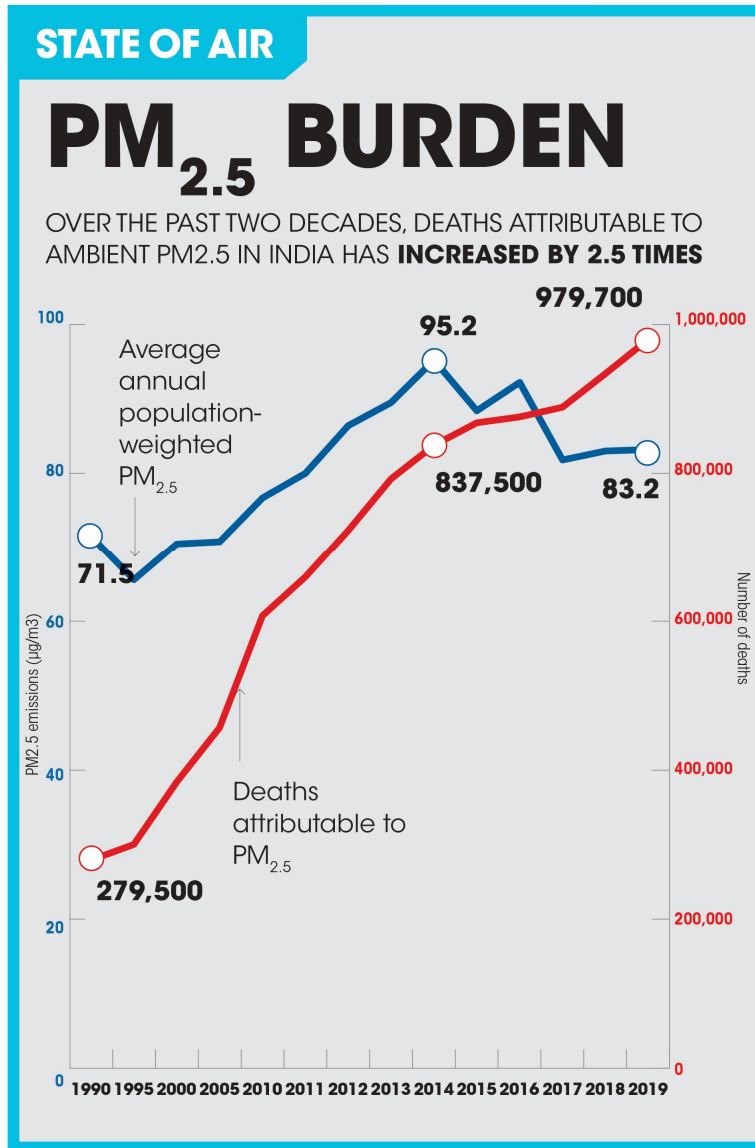
Just a year before the target of doubling of farmers' income, India recorded 165 major protests across 22 states/UTs. In 2017, the country saw 34 major protests in 15 states



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Increased agrarian distress is showing up in the protests of farmers in the country

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State of environment 2021

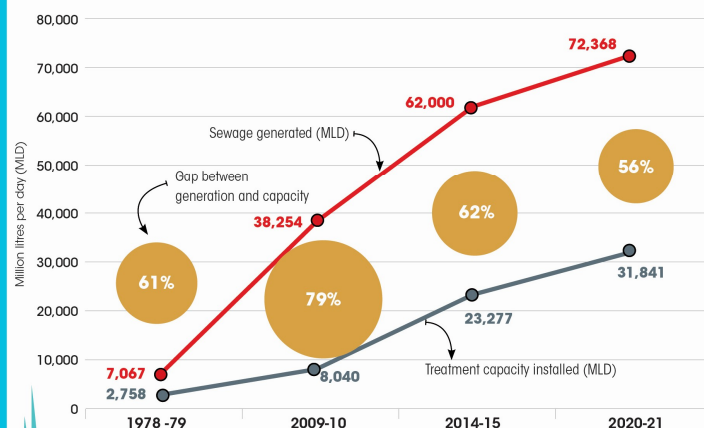
World Environment Day 2021: Valuing nature means valuing clean air -- OXYGEN

Air pollution killed 1.67 million Indians in 2019, accounting for 18 per cent of the total deaths in the country

STATE OF CITIES

SEWAGE OVERLOAD

Only 28 per cent of India's sewage gets treated. This is because the current installed capacity is only **44 per cent** of what the cities currently generate and even these plants remain underutilised



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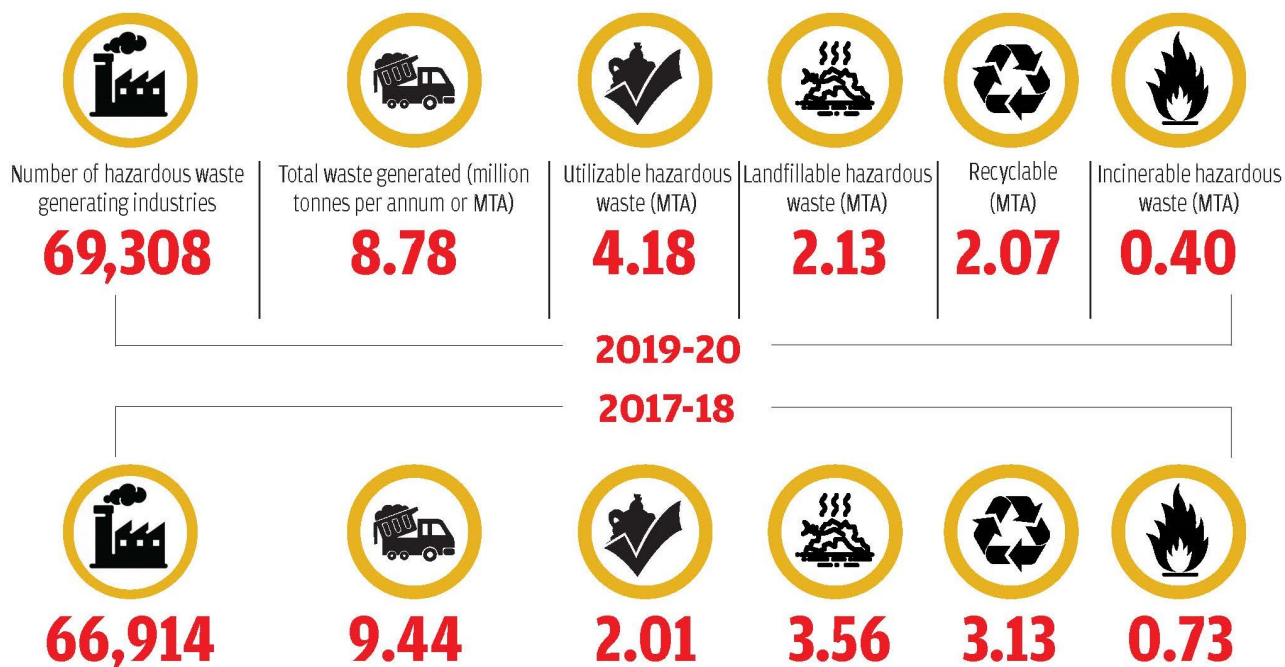
State of environment 2021

River pollution in today's age of water scarcity means that available freshwater is being contaminated and degraded. In spite of all the talk, millions of tonnes of sewage from households still goes untreated

72 per cent of India's sewage gets dumped untreated. Ten states/UTs do not treat their sewage at all

HAZARDOUS WASTE

While the number of hazardous industries have gone up between 2017-18 and 2019-20, the total waste generation has gone down by almost 7 per cent



State of environment 2021

Adding toxic growth without institutions for its management

India has added almost 2,400 more hazardous units in just two years

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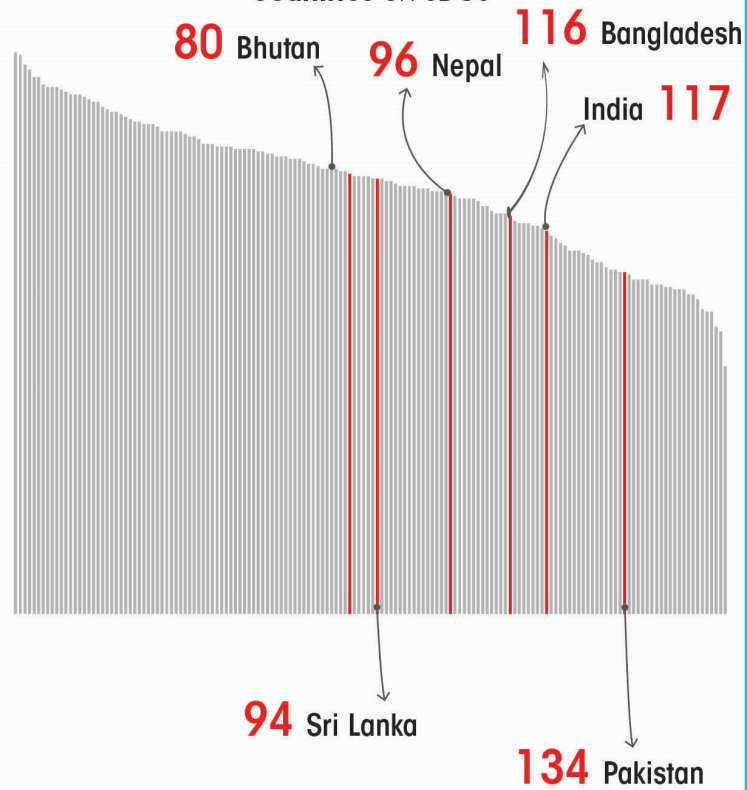


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STATE OF DEVELOPMENT

SLOW PROGRESS

India ranks below four South Asian countries on SDGs



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State of development

We are below all other South Asian nations (other than Pakistan) on SDG ranking

Must change this..

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You can get your copy of the e-book here

<https://csestore.cse.org.in/books/state-of-india-s-environment/state-of-india-s-environment-2021-in-figures-e-book.html>

Send your responses and queries at kiran@cseindia.org

Thank You

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