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NEWS

Acute Encephalitis kills 130 children in Bihar -

- Muzaffarpur and the neighbouring districts of Bihar are fighting a losing battle against acute encephalitis syndrome (AES) that claimed the lives of 130 children till June 23.
- The outbreak has exposed the public health infrastructure and the government machinery which has announced Rs 4 lakh compensation to the affected families.
- While the state health department and the Centre devoted their energy in combating the fever, hardly any attention was paid to augment research on the cause of AES,” said an official from the state health department.

22 Indian firms accused of hiding environment impact -

- An alliance of global investors, with a combined asset of over \$10 trillion, has accused 22 Indian companies, which include Bharti Airtel, ITC and Coal India, of not revealing their full contribution to climate crisis, water shortages and deforestation.
- The non-profit claims many companies on the list do not maintain standardised environment data which prohibits any form of comparison.
- The most targeted industry for climate change disclosure is the services industry (27 per cent of all companies), followed by manufacturing (18 per cent) and fossil fuels (12 per cent). Overall, the US is home to most companies being targeted in the campaign.

Mars records largest methane spike -

NASA's Curiosity Rover has detected the largest surge in methane on Mars, fuelling speculation that it could have been released by microbes buried deep under the surface.

Paddy's last straw

In a last-ditch attempt to arrest the fall in its water table, Haryana is incentivising farmers to quit growing water-intensive paddy and shift to crops like maize and pulses.

How?

- Launched on May 27, ***Jal Hi Jeevan Hai***, the crop diversification scheme, is being implemented on a pilot basis in seven blocks, each in a different district.
- The farmers have time till July 24 to register their land if they want to avail the benefits of the scheme, which are free maize and pigeon pea seeds (though officials say that only maize seeds are available currently), a one-time financial assistance of Rs 2,000 per acre (1 acre equals 0.4 ha), crop insurance (the government will bear the premium of Rs 766 per ha) and assured procurement under the Minimum Support Price (MSP) regime.

Background -

- Haryana has witnessed a groundwater crisis since the government encouraged the cultivation of rice under the Green Revolution in the 1960s, intensified in the 1970s, when the crops became widespread, and has continued to worsen even in recent times.
- Between 1999 and 2018, the average fall in the state's water table has been over 10 m, as per Haryana agriculture department's Ground Water Cell.
- Nearly 85 per cent of Haryana's cultivated area is irrigated by groundwater or surface water, as per Indian Council of Agricultural Research.

Way forward -

Apart from the economic solution, the government should do the following -

- One, the government should start procuring maize and
- Two, it should encourage market-led solution like incentivising industries to invest on starch plants that use maize as raw material.

Curbing true lies

On May 8, 2018, Singapore passed a law against fake news. Malaysia, France, Germany and Russia already have such a law.

What is 'fake news'?

While there is no universally accepted definition of fake news, the Ethical Journalism Network defines it as "*information that is likely to be perceived as news, which has been deliberately fabricated and is disseminated with the intention to deceive others into believing falsehoods or doubting verifiable facts*".

The contentious clause -

- The new law gives the government and any minister overarching powers to force traditional and social media platforms to issue “corrections” to content that they deem to be “fake news” in the “public interest”.
- The punishment includes a prison sentence up to 10 years as well as a fine of a million Singaporean dollars.

Concerns -

- The apprehension of activists is that these laws will become a way for governments to curb freedom of speech and dissent.
- In fact, such laws could easily morph into a muzzling mechanism against any form of dissent, as has been the case in the use of archaic sedition laws in India as a means to silence dissent and meaningful criticism.

Problem in India -

The massive increase in the spread of fake news, especially in India, can be attributed to three reasons.

- First, fake news has become a tool for organised political parties to polarise voters and influence the democratic process through the rapid spread of disinformation.
- Second, the fact that India has the distinction of having the most affordable internet data plans in the world at present means that the personal monetary costs to spreading and forwarding such messages have stopped being a barrier to rapid communication of false news.
- Third, the most important factor in the spread of fake news is the increased use of private encrypted messaging apps such as WhatsApp and social media platforms such as Facebook and Twitter, whose business models thrive on “viral content” that will grab the most eyeballs.

What can be done?

- The problem of fake news is that it is complex and nuanced and thus requires a sophisticated and multi-pronged response, instead of the practice of bans and censorship through law.
- The answer lies not in endangering free speech and press freedom, but for governments to consistently invest in increasing voter awareness, voter literacy, a robust fact-checking environment and critical thinking among the masses, as has been successfully done in Finland and closer to home in Kannur in Kerala, which have created the necessary infrastructure to ensure these outcomes through educational curriculum.

- In addition, it is important that social media platforms— through which fake news spreads so rapidly—take up efforts to identify and combat it on a war footing. The recent moves by WhatsApp and Facebook in this regard have been inadequate so far.

Heat Wave - India Fever

By the first week of June, satellite images of India displayed a scary red colour, indicating more than normal temperatures. Emergency measures were rolled out as public broadcasts in states alerted people of the imminent dangers of heat strokes. More than 300 deaths have been reported till June 21. Tar topped roads melted; social media platforms were flooded with films of people making an omelet on stone slabs; and, skin burning due to heat exposure.

Gaya, in Bihar became the first district in India to impose Section 144 of the Criminal Procedure Code (curfew) to deal with heat waves.

What is different about this heat wave?

- Traditionally, heat waves are understood to be caused by blocking high pressure systems—when these systems move in and stay over a region for a while the circulation increases local temperatures, and can also dry the land surface, and this can further enhance any warming.
- Such systems are also known as “anticyclones” because of the downward spiral of air opposite to a cyclonic circulation in which the air moves in a generally upward direction.
- When anti-cyclones are in place, they do not allow the regular weather systems to progress. Therefore, the formation of localised low pressure systems, or convections, aided by the Western Disturbances coming from the Mediterranean region becomes less likely. This causes rainfall and brings down temperatures.
- In the summer of 2018 too there was intense heating of the land, but the formation of low pressure systems and the subsequent dust/hail/thunderstorms caused rainfall and brought down temperatures, reducing the chances of heat waves.
- But this year, when the land got heated, there were not as many storms, which meant less rainfall and no possibility of cooling down the land surface, causing the record-breaking heat waves. This indicates the presence of blocking high pressure systems over the Indian Peninsula in this period.
- These systems are formed because of disruption in the high level perennial wind systems known as jet streams in the upper layers of the atmosphere. The subtropical jet stream over the Indian subcontinent plays a major role in the onset and performance of the Indian southwest monsoon.

- One of the possible reasons for such a disruption is global warming especially in the Arctic region, which disrupts the major jet stream over Earth's North Pole. If this system gets disturbed, it impacts all other jet streams in the lower latitudes.

What should be done?

“Remodel - Redesign - Rework” strategy should be adopted -

- **Bad designs are fanning the heat stress** - Traditional building design in most Indian cities—that is of a low, close and dense network with shaded alleyways—kept people naturally cooler during summers. But now people staying in these traditional designed houses are under pressure. The introduction of air conditioners (ACs) in this microclimate has messed up the natural ventilation of entire neighbourhoods, flooding the passive cooling systems with heat exhausts, rendering them unliveable. Building designers must improve architecture, wall insulation, shading and orientation to cut down heat entering a building. In sensibly designed bio-climatic buildings, one can open a window, draw the blind, use shading, allow air movement, use fans, and change clothes to feel comfortable and adapt. This can be further aided by thoughtful neighbourhood and city planning which facilitate air- movement and shading.
- A ‘thermal comfort for all’ approach and making thermal comfort standards as the central focus of the building regulations and practice is the way forward. India Cooling Action Plan has recommended thermal comfort strategies for affordable housing projects under the Pradhan Mantri Awas Yojana.

Conclusion -

It is time the Union government recognises the enveloping danger and notifies heat wave as a natural disaster. It should also help cities and states prepare for heat wave emergencies by developing and implementing a Heat Code. This should clearly define the heat wave emergency based on temperature and humidity factors.

At present, the India Meteorological Department's definition of a heat wave is based only on temperature, which most scientists believe is insufficient to capture heat stress. The Heat Code should also define the Standard Operating Procedure during intense heat—such as heat wave alerts, restrictions on working hours, provisions for relief at public places and emergency services at hospitals. But the Heat Code is just the beginning. We will have to redesign our cities to deal with this annual disaster

CRISPR - A cutting-edge battle

The United States Patent Trademark Office (USPTO) has reopened the battle over CRISPR, unsettling a market worth billions of dollars, and raising questions over a fundamental tenet of the US patent system.

What is CRISPR?

CRISPR is a cutting-edge technology that allows the splicing or removal of DNA sequences with extraordinary precision and speed.

The dispute -

- In the latest instance, USPTO has “declared an interference” between a dozen key patents awarded to Broad Institute, and almost as many applications submitted by UC and its partners. A declaration of an interference means that the patent office has decided that one or more patent applications describe inventions that are substantially the same as those for which patents have already been issued.
- Hence, the row over who invented the genome editing technology has flared up again, even as it is being licensed for users.

A practice to preserve

The Bonda tribe in Odisha practises a unique form of shifting cultivation that enables the growth of over 20 crop varieties while preserving the biodiversity.

Details -

Called ***Dangar Chas***, A United Nations Framework Convention on Climate Change briefing report in 2009 says shifting cultivation like *dangar chas* supplements nutrition to the food baskets of indigenous communities across the world without jeopardising the climate or causing forest loss.