

The Hindu

Front Page

Scientists warn of Zika spread (Page no. 1)

(GS Paper 3, Science and Tech)

Scientists at the National Institute of Virology (NIV), Pune, have raised an alarm about the spread of the Zika virus, along with dengue and chikungunya, in several States and Union Territories where it has never been reported earlier, establishing local transmission in India.

Scientists have called for urgent strengthening of surveillance, after the circulation of Zika virus was detected in Delhi, Jharkhand, Rajasthan, Punjab, and Telangana in 2021, in addition to Kerala, Maharashtra, and Uttar Pradesh.

Previously, sporadic cases were reported from Gujarat (2016-17), Tamil Nadu (2017), Madhya Pradesh and Rajasthan (2018).

The researchers also found co-infection of Zika, dengue and chikungunya, which, they said, was another concern in many places.

There was a need to be aware and take preventive measures, they added. The Zika virus (ZIKV), a vector borne flavivirus, is transmitted by the bite of infected Aedes mosquitoes, mainly Aedes aegypti and Aedes albopictus.

States

Kerala to have its own regional red list of birds (Page no. 6)

(GS Paper 3, Environment)

Kerala will soon have its own red list of birds. The Kerala Bird Monitoring Collective led by Kerala Agricultural University and the Bird Count India will conduct the regional red list assessment.

Once it gets ready, Kerala will be the first State to have a region-specific red list of birds. Assessment will be done based on the International Union for Conservation of Nature (IUCN) guidelines.

What we have now is the global IUCN red list. But there are limitations for the global assessment as it is a process prepared in a global context.

A species seen common at the global level may be a threatened species at the regional level. The regional red list assessment also will be conducted according to the IUCN guidelines.

The IUCN guidelines for preparing the red list have five main criteria. The population size reduction measured over 10 years or three generations is one of the major guidelines.

Geographic range on the basis of extent of occurrence or area of occupancy is another. Small population size and decline, very small or restricted population, and quantitative analysis indicating the probability of extinction in the wild are the other criteria.

News

Pak. Opposes G-20 events in Kashmir (Page no. 7)

(GS Paper 2, International Relation)

Pakistan on Saturday took exception to the Indian government's move to hold meetings related to the G-20 event, scheduled for November next year in Delhi, in Jammu and Kashmir.

The Government of India might be contemplating to hold some G-20 related meeting or event in the Indian Illegally Occupied Jammu and Kashmir (IIOJK).

Pakistan completely rejects any such attempt by India," a Pakistani foreign office spokesperson said in Pakistan's capital Islamabad.

He said Jammu and Kashmir was an internationally recognised "disputed" territory between Pakistan and India.

"Contemplating the holding of any G-20 related meeting or event in Jammu and Kashmir, in utter disregard of the globally acknowledged "disputed" status of the territory, is a travesty that the international community cannot accept under any circumstances.

JJ Act amendment may backfire (Page no. 7)

(GS Paper 2, Governance)

Reporting instances of abuse and cruelty by staffers or persons in-charge at child care institutions (CCI) is not easy. While the victims themselves are unable to directly report them due to the imbalance in power, most such crimes are reported to the police by either parents or child rights bodies and child welfare committees (CWC).

On the one hand, the parents of these children, who are mostly daily wage labourers, are either unaware of how to, or not inclined to, report the crimes to the police.

On the other hand, the

CWCs' first instinct in most cases is to "talk and arrive at a settlement" without having to escalate the matter to the police.

With the 2021 amendment to the Juvenile Justice (Care and Protection) Act making these crimes non-cognisable along with several other serious crimes under the special law, experts and child rights bodies have raised the alarm saying this would make reporting them to the police even more difficult.

The current system of reporting crimes committed by staff at CCIs already causes delays in registering FIRs (first information report) and sometimes FIRs not being registered at all.

Bikramjeet Singh, CWC Chairperson in Bathinda explained that once they get to know of such cases — either through NGOs, the children or their parents — meetings were convened with the victim in the presence of the District Child Protection Officer (DCPO), following which both the CWC and the DCPO decided whether the matter needed to be reported to the police.

Hasina opens Padma multipurpose bridge (Page no. 7) (GS Paper 3, International Relation)

The Government of India has congratulated Bangladesh on the completion of the Padma Multipurpose Bridge. Praising the leadership of Prime Minister Sheikh Hasina, the Indian High Commission in Dhaka said the infrastructure project illustrates her bold decision making abilities and that India has always supported the developmental initiatives of Bangladesh.

The Padma bridge will not just help the internal connectivity of Bangladesh, but will also improve trade and logistics between India and Bangladesh.

This bridge will play an important role in improving bilateral India-Bangladesh and sub-regional links," said the Indian mission in a congratulatory message.

The Padma Multipurpose Bridge is the biggest infrastructure project of Bangladesh. It was inaugurated on morning by Prime Minister Sheikh Hasina by paying toll tax.

Science and Technology

Aerosol study shows how SARS-CoV-2 spreads (Page no. 11) (GS Paper 3, Science and Tech)

The transmission of SARS-CoV-2 through the air has been studied at various places around the world. Researchers led by those at CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad, and Tata institute for Genetics and Society (TIGS), Bengaluru carried out a study to get further insight into the transmission characteristics of the novel coronavirus in air in hospital settings and in residential areas and public places.

The study, published in Journal of Aerosol Science, gives insights that are quite in keeping with common-sensical notions and underline the importance of masks in comparison with mere physical distancing.

Gauging virulence A machine, which sucks in air, similar to a vacuum cleaner, fitted with a filter on which a gel was spread was taken and worked in the target areas.

After running the machine for long durations stretching to an hour or two, samples collected from the filter were either used to carry out an RT-PCR test to determine the presence of the virus, or were cultured by infecting vero cells in the lab. The latter was done to find out if the collected virus samples were infectious.

Typhoid: S. Typhi is more drug-resistant (Page no. 11) (GS Paper 3, Science and Tech)

The bacteria causing typhoid fever is becoming increasingly resistant to some of the most important antibiotics for human health, according to a study published in The Lancet Microbe journal.

The largest genome analysis of Salmonella Typhi (S. Typhi) also shows that resistant strains — almost all originating in South Asia — have spread to other countries nearly 200 times since 1990.

The researchers noted that typhoid fever is a global public health concern, causing 11 million infections and more than 1,00,000 deaths per year.

Antibiotics can be used to successfully treat typhoid fever infections, but their effectiveness is threatened by the emergence of resistant *S. Typhi* strains.

The speed at which highly-resistant strains of *S. Typhi* have emerged and spread in recent years is a real cause for concern, and highlights the need to urgently expand prevention measures, particularly in countries at greatest risk.

At the same time, the fact that resistant strains of *S. Typhi* have spread internationally so many times also underscores the need to view typhoid control, and antibiotic resistance more generally, as a global rather than local problem.

Fighting the type 2 diabetes pandemic (Page no. 11)

(GS Paper 3, Science and Tech)

The International Diabetes Foundation estimates that 537 million people across the world are afflicted with diabetes. The site in the United States points out that over 37 million people (about 10%) in the United States are diabetic.

There are two types of diabetes — Type 1 and Type 2.

Type 1 is generally genetic in origin, and is easier handled by taking the molecule insulin. Injection of insulin helps your body use the sugar in your blood for the energy it needs, and then store the rest in the liver and other organs for future use.

Type 2 diabetes, which does not need insulin injection, is largely lifestyle-based, and is seen more among people in the urban areas than in rural populations.

Type 2 diabetes is age-related; it often develops at the age of 45 and beyond.

Type 1 diabetes is largely genetic in nature, while Type 2 depends on the lifestyle of the individual. Pioneering research work from the Madras Diabetes Research Foundation (MDRF) has shown that Type 2 diabetes, which does not always need external insulin, is largely lifestylebased, and is higher in prevalence (11.6%) among the urban populations than (2.4%) in the rural areas (Journal of Indian Medical Association, 2002).

FAQ

Has the anti-defection law failed in India? (Page no. 12)

(GS Paper 2, Polity and Governance)

Maharashtra is in the throes of a constitutional crisis. Many ruling Shiv Sena legislators who seem to have revolted against the leadership of Chief Minister Uddhav Thackeray are now holed up in a hotel in distant Guwahati to keep out of the reach of party leaders.

Their travel to Guwahati, via Surat, seems to have been facilitated by the BJP, the ruling party in Gujarat and Assam. All indications are that there is a planned mass defection underway so that an alternative regime that includes the BJP is formed in the State.

The Tenth Schedule of the Constitution, commonly known as the anti-defection law, was introduced in 1985 with a view to curb the tendency among legislators to switch loyalties from one party to another and facilitate the toppling of regimes and formation of new ones.

It provides for the Presiding Officer of the legislature to disqualify any defector on a petition by another member. The law contemplates two kinds of defection: (a) by a member voluntarily giving up membership of the party on whose symbol he got elected (b) by a member violating a direction (whip) issued by his party to vote in a particular way or to abstain from voting.

While voting contrary to the party's whip is quite a straightforward instance of defection, the other mode of defection has proved to be a source of dispute and litigation. A member 'voluntarily giving up membership' does not refer to a simple resignation letter and formally joining another party.

It is often an inference drawn by the party that loses a member to another based on the legislator's conduct. The Supreme Court has also ruled that 'voluntarily giving up membership' can be inferred from the conduct of a person.

Extreme weather (Page no. 12)

(GS Paper 1, Geography)

Assam received 1,891.9 mm of rainfall from March 1 to June 24, just 347.5 mm less than the annual precipitation the State receives. According to the India Meteorological Department (IMD), Assam's annual normal rainfall between 1961 and 2010 has been 2,239.4 mm.

The outcome has been devastating. A total of 117 people have died since April, 17 of them in landslides. An arterial railway track linking southern Assam, Manipur, Mizoram and Tripura has been washed away, 55 lakh people have been affected across more than 5,000 villages and a town, Silchar, has been flooded for more than a week.

At least 38 people have died in flash floods and landslides in Arunachal Pradesh and Meghalaya since April. Meteorologists and climate change specialists attribute the high pre-monsoon and monsoon rains to several factors.

The country received 2% less rain this year than it usually does between June 1 and June 23 every year. The total rainfall was brought down by 34% over central India and 15% over peninsular India compared to the 32% more received by the east and northeast and 7% more by northwest India.

According to the IMD, the rain deficiency — private forecaster Skymet pegs the deficit at 4% till now — is expected to be overcome by the first week of July. During the monsoons, whenever moisture-laden southerly or south-westerly winds from the Bay of Bengal hit the region's east-west oriented mountain ranges, Arunachal Pradesh, Assam, and Meghalaya receive more rainfall in comparison to other States of the north-eastern region.

Meteorologists said the recent episode of heavy rainfall underlined the presence of the east-west trough in the lower levels of the atmosphere over the region and the incursion of large-scale moisture due to strong southerly and south-westerly winds from the Bay of Bengal.

Business

GST compensation cess extended till '26 (Page no. 14)

(GS Paper 3, Economy)

The Centre has extended the time for levy of GST compensation cess by almost four years till March 31, 2026. As per the Goods and Services Tax (Period of Levy and Collection of Cess) Rules, 2022, notified by the Finance Ministry, the compensation cess would continue to be levied from July 1, 2022, to March 31, 2026.

The levy of cess was to end on June 30 but the GST Council, chaired by Union Finance Minister Nirmala Sitharaman and comprising State FMs, decided to extend it till 2026 to repay the loans taken in the last two years to make up for the shortfall in their revenue collection.

After the 45th GST Council meeting in Lucknow in September last year, Ms. Sitharaman had said the regime of paying compensation to States for revenue shortfall resulting from subsuming their taxes such as VAT in GST, would end in June 2022.

However, the compensation cess, levied on luxury and demerit goods, would continue to be collected till March 2026 to repay the borrowings that were done in 2020-21 and 2021-22 to compensate States for GST revenue loss.

In order to meet the resource gap of States due to short release of compensation, the Centre borrowed and released ₹1.1 lakh crore in 2020-21 and ₹1.59 lakh crore in 2021-22 as back-to-back loan to partly meet the shortfall in cess collection.

'5G to turn homes, enterprises into focal points for innovation' (Page no. 14)

(GS Paper 3, Economy)

5G will lead to widespread adoption of artificial intelligence (AI) and machine learning (ML), enabling gargantuan volumes of data to be acquired, processed, and intelligently analysed in real time.

Some of the key challenges faced by telecom companies include developing a viable business and pricing model, fiberisation, an upgraded transport network and extension of cloud.

While 5G is well poised to transform consumer experiences, businesses, the economy, and society in the next decade spurred by faster connectivity speeds, ultra-low latency, and greater bandwidth, it is a capital-intensive exercise.

India has been making steady progress in terms of 5G readiness. As telecom companies prepare for commercial roll-out, they have been working on creating the ecosystem with partners, and setting up labs and innovation centres.

In fact, we are also witnessing use-case based rollouts of 5G services through private networks across multiple industries, aimed at improving productivity, efficiency, and agility. Network roll-out for consumers is expected to be in the trial stage in 2022 and its scaling to large deployments would depend on the 5G spectrum auction.