

# DAILY PT POINTERS

28<sup>th</sup> October,  
2024



## The Hindu-Cyber Security(GSIII)-Page 7

### Cyber fraud in banking transactions surges in FY24

Maharashtra accounts for more than one-fourth of the amount lost due to cyber fraud in India

**DATA POINT**

Abhir Ahamed  
Iqbal Zakaria Siddiqui

India's impressive expansion in online transactions also coincides with an unprecedented spike in cyber frauds. According to data from the Reserve Bank of India, sent in response to the authors' Right to Information (RTI) application, ₹3,207 crore was lost because of 5,82,000 cases of cyber fraud between FY2020 and FY2024. With digital transactions or to significantly surge again this fiscal season, this statistic assumes significance.

Chart 1 shows that FY2024 has seen an exceptional year for cyber fraud, surpassing the previous three years in terms of both the number of incidents and the amount of loss. The number of cyber fraud incidents has increased from 75,800 cases in FY 2023 to 2,92,800 cases in FY2024. The amount of money lost rose from ₹421.4 crore in FY2023 to ₹2,054.6 crore FY2024 (Chart 1B).

As shown in Chart 2, Maharashtra accounts for more than one-fourth of the amount lost owing to cyber fraud in India, largely because Mumbai, as the country's commercial capital, records a high volume of online transactions. Tamil Nadu follows closely, representing 23% of the total value of amount lost due to fraud.

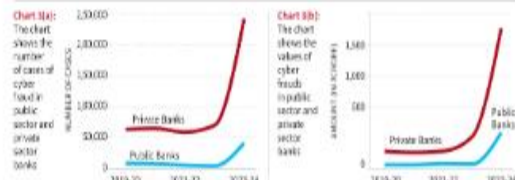
Digital transactions have been growing rapidly over the last decade in India. In March 2024, the RBI Governor, Shaktikanta Das, said digital transactions have risen 90-fold in the last 12 years. In 2012-13, there were 162 crore digital payments. This number has risen to 14,726 crore in 2023-24 (February), he said. There were two major pushes for digital transactions. The first came in the wake of demonetisation in 2016, early every national and regional daily then carried advertisements

thanking the Prime Minister for promoting digital transactions. The next impetus came during the COVID-19-induced lockdown when physical currency was considered a potential carrier of the deadly virus. Digital transactions are meant to curb tax evasion, corruption, and the use of hard cash in crime. However, the decision to promote them was taken without putting in place adequate measures to prevent cyber fraud. Many people keep falling victim to new forms of online crimes. While financial institutions may implement sophisticated cybersecurity measures, many people find them too complex to navigate. Banks need to catch up and ensure cybersecurity before more money is lost.

Private sector banks collectively account for a much higher value (Chart 3A) and number of cases of fraud (Chart 3B) than public sector banks. There has been an unprecedented rise in the amount and number of cases in 2023-24 in both public and private sector banks. However, the increase in the number of cases and value of frauds in private sector banks was much more marked.

The top 5 banks that suffered the highest share of fraud amounts are Kotak Mahindra Bank, Axis Bank, State Bank of India, HDFC Bank, and ICICI Bank. The order keeps changing, but they remained among the top five banks consistently across the five years of data used for this analysis. During these five years, these banks accounted for about 62% of the total value of reported fraud cases and about 53% of the total number of fraud cases. Of these five banks, SBI is the only public sector bank. This shows that private sector banks are far more susceptible to cyber attacks. Perhaps there may be a trade-off in being user-friendly and cybersecurity.

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## The Hindu-Environment(GSIII)-Page 8

### Why is Delhi's air quality deteriorating?

What factors contribute to the deterioration of air quality in Delhi during the winter months? How does stubble burning affect PM 2.5 levels? What role do urban emissions from vehicular pollution play in determining air quality? Why is a coordinated approach necessary to tackle the air pollution crisis?



#### THE GIST

- With the withdrawal of the southwest monsoon and the onset of winter, the air quality in Delhi has turned so toxic. This week, the city's air quality deteriorated to a level that is hazardous to health. The air quality index (AQI) rose to 400, the highest ever recorded in the city. The air quality index (AQI) rose to 400, the highest ever recorded in the city.
- Farmers in Punjab and Haryana burn stubble after harvesting rice to clear their fields for the next season. This practice is a major source of air pollution in Delhi during winter.
- Other major contributors to Delhi's air pollution include vehicular emissions (18% of PM2.5), secondary inorganic aerosols (32%), and biomass burning (24%).

**What factors contribute to the deterioration of air quality in Delhi during the winter months? How does stubble burning affect PM 2.5 levels? What role do urban emissions from vehicular pollution play in determining air quality? Why is a coordinated approach necessary to tackle the air pollution crisis?**

**What is the contribution of stubble burning to air pollution?** Stubble burning is a traditional practice of farmers in Punjab and Haryana to clear their fields for the next season. This practice is a major source of air pollution in Delhi during winter. It releases large amounts of particulate matter and other pollutants into the atmosphere, which significantly contribute to the city's air quality deterioration.

**What is the contribution of vehicular emissions to air pollution?** Vehicular emissions are a significant source of air pollution in Delhi. The city's air quality deteriorated to a level that is hazardous to health. The air quality index (AQI) rose to 400, the highest ever recorded in the city. The air quality index (AQI) rose to 400, the highest ever recorded in the city.

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**What is the contribution of secondary inorganic aerosols to air pollution?** Secondary inorganic aerosols are formed from gases like sulfur dioxide and nitrogen oxides, predominantly from outside Delhi. They are a significant source of air pollution in the city.

- With the withdrawal of the southwest monsoon and the onset of winter, air quality in Delhi has sharply declined, with particulate matter (PM2.5) levels frequently exceeding 300, indicating 'very poor' air quality. This deterioration is largely linked to the burning of farm stubble in Punjab, a practice used by farmers to quickly clear fields after harvesting rice. Stubble burning significantly contributes to air pollution, with studies showing it accounts for 20-40% of PM2.5 levels in Delhi during winter.
- Other major contributors to Delhi's air pollution include vehicular emissions (18% of PM2.5), secondary inorganic aerosols (32%), and biomass burning (24%). Secondary inorganic aerosols, formed from gases like sulfur dioxide and nitrogen oxides, predominantly come from outside Delhi.
- Overall, while stubble burning is a notable factor, it is not the sole cause of Delhi's air quality issues. Addressing the crisis requires coordinated efforts from multiple states to tackle pollution comprehensively.

## HEADLINES OF THE DAY

The Hindu-Environment(GSIII)-Page 11

# India's Nature Conservation Index rank 176, govt. slammed

**Press Trust of India**  
NEW DELHI

The Congress on Sunday took a swipe at the BJP government over India being ranked 176 out of 180 countries on the Nature Conservation Index. Adding, "Should the bona fides of Israel's Ben Gurion University that co-developed the index be also questioned."



- India has received a dismal score of 45.5 out of 100, ranking 176th in the 2024 Global Nature Conservation Index (NCI), making it one of the five worst performers globally. The NCI, launched by the Goldman Sonnenfeldt School of Sustainability and Climate Change and BioDB.com, evaluates conservation efforts based on land management, biodiversity threats, governance capacity, and future trends.
- The index highlights significant issues in India's conservation efforts, particularly inefficient land management and increasing biodiversity threats. With 53% of land converted for urban, industrial, and agricultural use, the high pesticide usage and soil pollution pose critical challenges.
- The index highlights urgent needs for improved conservation strategies, particularly in light of India's challenges related to Sustainable Development Goals (SDGs) 14 and 15.

The Hindu –GS3(Cyber Security)-Page 12

## PM cautions people against 'digital arrest' scam by fraudsters

Instead of panicking, people should dial the national cyberhelpline number 1930, and report the incident on [cybercrime.gov.in](http://cybercrime.gov.in), Modi says

The Hindu Bureau  
NEW DELHI

Prime Minister Narendra Modi on Sunday cautioned people against the "digital arrest" scam that defrauds victims of their hard-earned money, and asked them to report such cases to the cyberhelpline.

Stating that the probe agencies were working together with State governments to deal with the issue, Mr. Modi urged schools and colleges to involve students in the campaign to spread awareness of the menace.

During his *Mann Ki Baat* address, Mr. Modi said fraudsters made phone or video calls to prospective victims, posing as officials from law enforcement agencies, and at times from the Reserve Bank of India.

"The first move is that they collect all of your personal information; the second move is to create an atmosphere of fear by presenting themselves in agency uniforms with a government office-like back-



The Prime Minister says the National Cyber Coordination Centre has been set up to take action against cyberfrauds. PTI

provisions," Mr. Modi said, adding that the next move of the fraudsters was to increase psychological pressure by threatening to arrest the victims.

### Stop-Think-Take Action

"Whenever you receive such a call, don't be scared. You should be aware that no investigative agency inquires like this through a phone or video call. The three steps to digital security are - Stop-Think-Take Action," he said.

Instead of panicking, people should dial the national cyberhelpline num-

ber 1930, and report the incident on [cybercrime.gov.in](http://cybercrime.gov.in), inform their families and the police, and preserve evidence, Mr. Modi said.

For effective action against cyberfrauds, the National Cyber Coordination Centre has been set up, he said.

"Thousands of such fraudulent video calling IDs have been blocked by the agencies. Lakhs of SIM cards, mobile phones and bank accounts have also been blocked. The agencies are doing their job, but for protection from scams in the name of digital arrest, it is important that every citizen is aware," Mr.

- Prime Minister Narendra Modi on Sunday cautioned people against the "digital arrest" scam that defrauds victims of their hard-earned money, and asked them to report such cases to the cyberhelpline.
- "The first move is that they collect all of your personal information; the second move is to create an atmosphere of fear by presenting themselves in agency uniforms with a government office-like background and quoting legal provisions,
- He advised people to remain calm and remember the steps for digital security: "Stop-Think-Take Action." Victims should report such incidents to the national cyberhelpline (1930), file complaints on [cybercrime.gov.in](http://cybercrime.gov.in), inform their families, and preserve any evidence. He highlighted the efforts of investigative agencies, including the National Cyber Coordination Centre, which has blocked thousands of fraudulent video calling IDs and numerous SIM cards and bank accounts. Modi stressed that citizen awareness is crucial for protection against these scams.



## The Hindu –GS 3(Science and Tech)-Page 18

### New rocket, plus moon and Venus missions, herald new beginnings

Building on the moon landing, ISRO is now planning a Venus mission and further moon exploration. A new launcher is being developed as the private sector also begins to take a hand in the space effort. A green propulsion system and low earth orbit satellite developed in the private sector will be seen in action soon

INDIA IN SPACE

By Arun Mohan

**P**review: The Indian government recently signed off on numerous new projects, including work on a new rocket and new moon and Venus missions. The pace programme is thus on the cusp of significant new beginnings. India is also expected to launch the Vikram and Vega-3 landers, and has received some good news from Astrobotic. The private sector is also working on satellite projects for ISRO.

**A view of approvals**

The Union Cabinet on September 26 approved four missions under the Gaganyaan programme and two missions in satellite technology for India's first space station, at Bharatigyan Station I, by 2035. The Indian Space Research Organisation (ISRO) also unveiled one approved Gaganyaan flight in addition to its planned two.

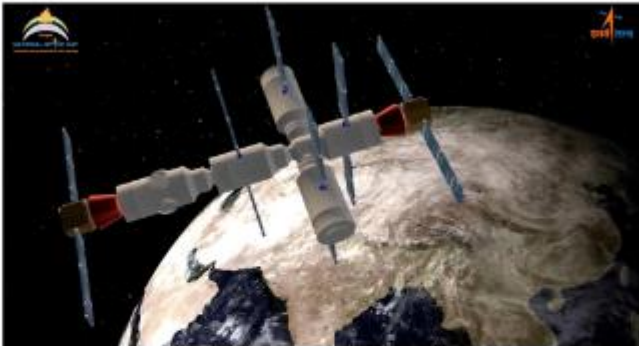
The Cabinet approved an additional landing of the 70 crew for the four crew-related missions and the additional Gaganyaan flight.

The Cabinet also approved ISRO's development of the Next Generation Launch Vehicle (NGLV) for 25,000 crore. This includes the cost of the rocket's first time development flight. ISRO is expected to develop the vehicle in collaboration with industry, so that industry players can assemble take over operational flights when the rocket is used and ready.

A Polar Satellite Launch Vehicle (PSLV) will be launched by Hindustan Aeronautics Ltd. and Ansoo & Yashrao is expected to launch at the end of 2024 or early 2025. Likewise, the Space India Ltd. is expected to elect a private entity to commercialise the ISRO rocket.

The Cabinet has also approved a scientific mission to Venus and the next Chandrayaan mission on the Moon. The Venus Orbiter Mission is expected to be launched in a satellite available in March 2025 and will cost ₹2,300 crore. With the mission, scientists hope to study the planet's variable surface and atmosphere, a endeavour has different planets of our Solar System combined.

**Chandrayaan-4 and LUPEX**  
Chandrayaan-4 will be a sample-return mission. Its components will be launched in two separate ISRO launches within



An artist's rendering of the Chandrayaan-4 lander on a launch pad.

moon soil and rock and send them back to the earth onboard a separate orbiter, the mission is expected to be launched by 2027 and cost ₹2,100 crore.

The Space Commission also approved a joint moon mission with Japan called the Lunar Polar Exploration Mission (LPEX). For it, ISRO is developing a different moon lander than the one it used for Chandrayaan-3, and which it hopes can be used in crewed lunar missions in future.

The commission also signed off on the development of a third launch pad at Sriharikota, which ISRO will need to test and launch the NGLV.

**SBS and Astero-1**

The Cabinet Committee on Security approved the third phase of the Space Based Surveillance (SBS) missions on October 11. For this, ISRO will build 28 satellites and private companies will build another 31, for ₹25,900 crore in all. This is a significant improvement over the four satellites ISRO built for SBS-1 in 2004 and six for SBS-2 in 2013.

India's astronaut designate will undergo the final training programme before he will fly to the International Space Station aboard the Astero-1 mission next year.

**The Space Commission also approved a joint moon mission with Japan called the Lunar Polar Exploration Mission. For LPEX, ISRO is developing a different moon lander than the one it used for Chandrayaan-3**

landed in India from the Jet Propulsion Lab in California. Earlier, tests in India had revealed it may experience higher temperatures than expected during its launch. It had to be flown back to receive a protective coating. ISRO is expected to launch Vikram in early 2025 on board a Geosynchronous Satellite Launch Vehicle (GSLV). The other mission, Proba-3 from Europe, will study the Sun's corona. It will have two satellites orbiting in formation: one will glow at the Sun while the other will block the first satellite's view of the Sun's central area, thus creating an eclipse, leaving only light from the corona to hit the camera. The European Space Agency has said Proba-3 is expected to launch on board a PSLV-C5 vehicle on November 28. India previously launched Proba-1 on the PSLV-C5 mission, in 2006.

**From the private sector**  
Amazon Space signed an agreement with Tata Space to test its green propulsion technology to power the latter's

**THE GIST**

Four missions under the Gaganyaan programme and two in satellite technology for an Indian space station have been approved. ISRO also added one approved Gaganyaan mission.

The Cabinet approved ISRO's development of the Next Generation Launch Vehicle (NGLV) for 25,000 crore. ISRO is expected to develop the vehicle with industry, so that it can take over for operational flights.

Approval has been granted for missions to Venus and the next Chandrayaan mission. The Venus Orbiter is expected to be launched in March 2025. ISRO is also expected to launch the power's scientific satellite.

As part of an expansion of Space Based Surveillance, ISRO will build 28 satellites and private companies will build another 31, at a cost of ₹25,900 crore. ISRO will test two satellites for SBS-1 in 2021 and six for SBS-2 in 2013.

propulsion system using a hydrogen peroxide-based fuel. It first served launch on the first Venus mission on January 7, 1966 year.

**Space science**  
Scientists have found that the moon where Chandrayaan-3 landed is older than the South Pole-Aitken Basin, itself 4.2-4.3 billion years old.

This was based on data from the Optical High Resolution Camera onboard the Chandrayaan-2 orbiter and navigational camera on board Pragyan, the Chandrayaan-3 rover.

- The Indian government has recently approved several ambitious space projects, signaling a new phase for its space program. Key initiatives include multiple missions under the Gaganyaan human spaceflight program, with an additional uncrewed flight planned, and significant funding allocated for these missions and the development of the Next Generation Launch Vehicle (NGLV).
- Notable upcoming missions include a scientific exploration of Venus, set to launch in March 2028, and Chandrayaan-4, a sample-return mission expected to launch by 2027. India is also collaborating with Japan on the Lunar Polar Exploration Mission (LUPEX) and expanding its Space Based Surveillance (SBS) capabilities with a planned constellation of 52 satellites.
- The NASA-ISRO Synthetic Aperture Radar (NISAR) satellite and the European Proba-3 mission are also on the horizon, with launch plans scheduled for early 2025 and November 29, respectively.
- The private sector is making strides as well.

### HOW TARDIGRADES ARE ABLE TO RESIST HIGH LEVELS OF RADIATION

EXPRESS NEWS SERVICE  
NEW DELHI, OCTOBER 27

A TEAM of researchers has identified the genetic mechanisms that help a newly discovered species of tardigrades (*Hypsibius henanensis*) withstand high levels of radiation. The species comprises thousands of genes, which become more active when exposed to radiation. They protect the microscopic animals' DNA from damage and repair breaks, according to the scientists.

Their study, 'Multi-omics landscape and molecular basis of radiation tolerance in a tardigrade', was published in the journal *Science* last week. The scientists involved in the research are affiliated with several institutions in China.

The findings could one day be harnessed to help protect astronauts from radiation during space missions, clean up nuclear pollution or improve cancer treatment, according to a report in *Nature*.

Lingqiang Zhang, a biologist at the Beijing Institute of Lifeomics and co-author of the study, told *Nature*, "This discovery may help improve the stress tolerance of human cells, benefiting patients undergoing radiation therapy."

#### How was the study carried out?

Zhang and his colleagues discovered a new species of tardigrade six years ago after they brought back moss samples from Funiu Mountain in China's Henan province to their laboratory.

They named it *Hypsibius henanensis*



Tardigrades have long fascinated scientists as they can withstand extreme conditions.

*Wikimedia Commons*

mans, the *Nature* report said.

#### What did the study find?

The scientists discovered 2,801 of the genes in *Hypsibius henanensis* that were involved in DNA repair. More specifically, they found three factors that help this species survive radiation.

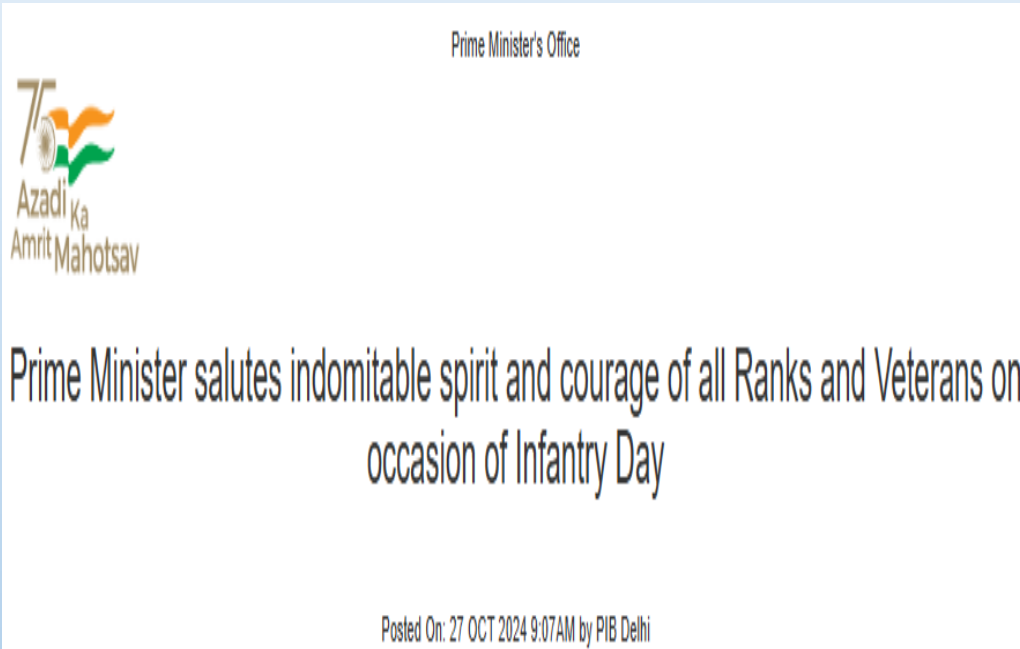
The first was its ability to quickly repair double-strand breaks in DNA due to radiation exposure, by using a protein called TRID1.

"The second factor involved a gene that was switched on during exposure to radiation, resulting in the generation of two proteins that are known to be important for mitochondrial synthesis... in tardigrades, it appears they also help with DNA repair," according to a report by

- Researchers have identified the genetic mechanisms that enable a newly discovered species of tardigrades, *Hypsibius henanensis*, to withstand high levels of radiation. This species, found in moss samples from Funiu Mountain in China's Henan province, contains 14,701 genes, 30% of which are unique to tardigrades.
- Tardigrades, often referred to as water bears, are eight-legged micro-animals found in the water.
- Tardigrades are extremely tiny animals whose size is measured in micrometres.
- They are known for their extraordinary resilience and survival instincts.
- In 2021 Researchers discovered the first marine tardigrade species from India in Kerala. They had named it *Stygarctus keralensis*.

# HEADLINES OF THE DAY

## PIB –Defence(GSIII)



- Infantry Day is commemorated on 27 October every year to acknowledge the contributions of Infantry, the largest fighting arm of the Indian Army. This day has a unique significance for the Nation, as it was on this day in 1947 that Infantry-men from the Indian Army became the first troops to land at Srinagar airport, an act which turned back the invaders from the outskirts of Srinagar and saved the state of Jammu and Kashmir from a Pakistan backed tribal invasion.



# HEADLINES OF THE DAY

## Air –Health(GSII)

### Government Offices Lit Up To Spread Awareness About Dyslexia



- Dyslexia is a specific learning disability that is neurobiological in origin.
- It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities.
- These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge

# HEADLINES OF THE DAY

Air –IR(GSII)

Pakistan Ranks 140 Out Of 142 In The World Justice Project Rule Of Law Index



- Pakistan has been ranked 140 among 142 countries in the World Justice Project (WJP) Rule of Law Index regarding order and security, making it the third worst country in the world.
- Mali and Nigeria are the only countries ranked lower than Pakistan in terms of law and security. Denmark has secured first rank, followed by Norway, Finland, Sweden, and Germany in terms of law and order. India stands at 98 out of 142 countries.
- WJP has evaluated countries based on different factors, including constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice.