PRAJYA

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NATIONAL

DENTIST'S DAY

6th March

The theme for World Oral Health Day 2025 is **"A Happy Mouth is... A Happy Mind"**, highlighting the crucial link between oral health and mental well-being.

THE PRAJYA TEAM

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FROM THE EDITOR'S DESK

Moon has remained an object of human fascination ever since we came into the earth. Intimately associated with emotions, it has been portrayed and described in a million different ways.

The eternal quest for exploring the unknown has been another facet of human endeavour. While poets and philosophers were making metaphorical connections with the moon, scientists were not satisfied with mere imagination. They have continued to make connections literally by landing on its surface. It is not just scientists who have developed this interest. The moon has piqued the interest of commercial operators too.

Firefly Aerospace's Blue Ghost lunar lander had a **346-hour-long mission.** It was the **longest lunar surface operation for a commercial company** to date.

The first ever detailed geological map of the moon's South Polar Region, where India's Chandrayaan-3 lunar module, Vikram, touched down in 2023 has sent ripples of excitement among astronomers and avid moon watchers alike. The map shows the uneven landscape of the moon with its highlands and low, flat plains. This revelation paves the way for future exploration not only to the moon but other celestial bodies too.

As writer Emmanuel Mesthene said, a few years from now, the moon "will be just another airport."

"The Moon is the first milestone on the road to the stars."

- Arthur. C. Clarke

Read, reflect and revert with your thoughts and feelings.

We look forward to your support and suggestions.

- Editorial Team

Dear Readers,

There have been requests from quite a few readers for hard copies of Prajya. We understand that quite a high percentage of our young readers keep revisiting some articles, and a handy print version within reach induces one to read more often, highlight things and make notes. This also partly contributes to students spending less screen time. The Prajya team is happy to bring to you the issue in print.

However, there are few things that we want to be careful about:

A. We don't want to print more than what is required and

B. Keep the cost of the print version (plus postage) within reasonable limits.

Please note that the access to free online e-version will continue.

So, it will greatly help us if you could fill in the details in the link provided.

http://bit.ly/Prajya

Happy Reading !

Watch out for the Monthly Prajya Quiz online

Visit https://davchennai.org/publications/prajya-news-magazine/

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New World Leaders

German citizens have two votes - one elects a candidate in the constituency and the second vote elects the party's electoral list in the parliament.

Friedrich Merz - Germany's new Chancellor

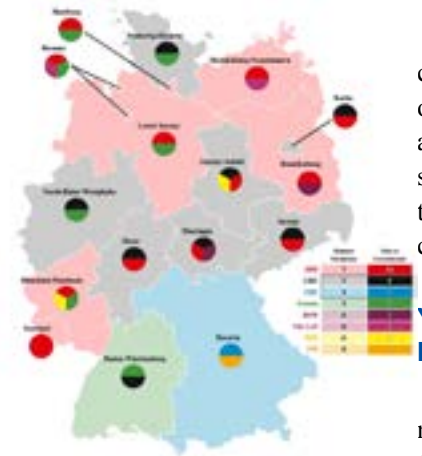
Federal elections were held in Germany in February 2025 to elect members for their 630 - member 21st Bundestag. Based on mixed member proportional electoral system, citizens have two votes - one elects a candidate in the constituency and the second vote elects the party's electoral list in the parliament.

Major political parties that have entered Bundestag

Germany's next chancellor Friedrich Merz (69) is known for his conservative policies

Country	Area (km^2) Ranking	Population (millions)	Language	Capital	Currency (For 1 USD)	Economy (Nominal GDP GR)
Germany	3,57,592	84.70	German	Berlin	Euro (0.92)	3rd largest after USA and China.
Uruguay	1,76,215	3.39	Spanish	Montevideo	Peso (42.54)	76th

Political Party	Leader	Seats	Party policies
CDU-CSU	Friedrich Merz	208	**Christian Democratic Union & Christian Social Union in Bavaria.** Considered sister parties alliance, centre-right, conservative, stricter immigration laws and market economy. Reduced dependence on USA and more focus on EU. Supports Ukraine in their war against Russia
AfD	Alice Weide[1]	152	**Alternative for Deutschland** is considered far Right, Eurosceptic, pro-Russian and for strict enforcement of immigration laws.
SPD	Olaf Scholz	120	**Social Democratic Party of Germany** lost power in 2025 elections. Centre-Left and pro-European. Likely to join the CDU-CSU coalition
GRUNE	Robert Habeck	85	**Alliance 90/The Greens,** often simply referred to as Greens, is a green political party in Germany founded in 1993. It is anti-nuclear energy, concerned with climate changes and pro-Left



that will impact both home and global affairs. Previously a financial expert, he transitioned into politics in 1989 as a Member of the European Parliament and was subsequently elected to the German Bundestag in 1994. His political career was overshadowed by Angela Merkel who came in the 1990s from merger with East Germany. In 2009, he left politics and again pursued law and finance. In 2018, Merz attempted a political comeback after Merkel announced her retirement. However, he lost the race to succeed her twice. In 2021, he rejoined Bundestag, but his party lost. He became CDU's national chairman, in 2022.

Friedrich Merz's spouse Charlotte is a lawyer and a judge. They have 3 children and enjoy a successful marriage of 40 years.

The governing parties in coalition will have to find resolutions on migration policy and debt, and improvement in Germany's suffering economy. Merz has stated that his "absolute priority is to create unity in Europe".

Yamandu Orsi - Uruguay's President

Uruguay is a South American nation of Spanish settlers from the 16th century. General Elections were held to elect their President in two rounds in 2024. Yamandu Orsi (57) of the **Broad Front** emerged as winner defeating Alvaro Deigado of the Republican Coalition.

He took oath of office on 1st March 2025 for a 5-year term. In a country with a good reputation for higher education in the region, the election held was highly civilized compared to political polarisation in Latin America. His inauguration concludes Luis Lacalle Pou's conservative Centre Right's 5-year term.

Orsi though now an agnostic, came from a pious Roman Catholic family, second of 2 children born to a rural worker and seamstress (dressmaker) parents. As a child, Orsi lived in a house with no electricity until he was 5 years old. In 1991, he became a graduate and a history schoolteacher. He became active in local politics and was elected mayor of Canelones in 2015.

Immediate challenges facing Orsi are economic growth and investor confidence versus social welfare and labour demands. USA the big power in the region is wary of Chinese investments taking place in Uruguay. Despite his Senate majority, his government lacks Lower House control. Orsi intends to combat all the above by applying what he terms "Modern Left" agenda.

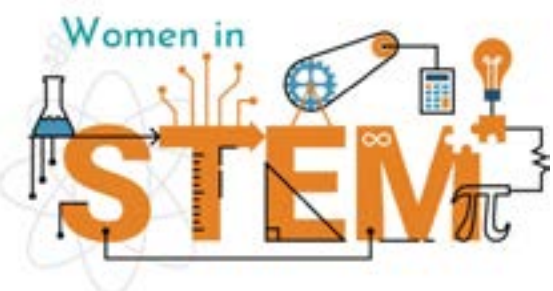
Kum Pavithra S

Women in science

UNESCO Campaign

To commemorate the 10th anniversary of the International Day of Women and Girls in Science, UNESCO has launched the **"Imagine a world with more women in science"** campaign. This initiative emphasises the diverse perspectives in scientific fields and empowers women for increased participation. Current global statistics reveal significant differences that women constitute only one-third of the scientific workforce globally, with only 1 in 10 leadership roles in STEM (Science, Technology, Engineering and Mathematics) occupied by women.

In India, women account for 43% of STEM higher education enrolment, but this ratio is not reflected in professional settings. Only 18.6% of scientists in India are women, highlighting deeper systemic barriers. Moreover, women-led research and development projects stand at approximately 25%, indicating areas for improvement in fostering leadership and innovation. The Department of Science and Technology (DST) has implemented the WISE-KIRAN (Women in Science and Engineering-KIRAN) scheme, supporting women through initiatives like WISE-PhD, WISE-PDF, WIDUSHI, WISE-SCOPE, WISE-IPR, WINGS, CURIE, GATI, and Vigyan Jyoti, which focus on research opportunities, infrastructure enhancement and institutional gender equity in India.



UNESCO outlines a strategic framework to address the key hindrances faced by women in science:

1. **Dismantling gender stereotypes and biases:** Enhancing the visibility of women scientists in educational materials and ensuring equitable representation in decision-making bodies.
2. **Opening educational pathways:** Removing gender biases from learning materials and encouraging corporate social responsibility programmes that support girls pursuing STEM education.
3. **Creating inclusive work environments:** Implementing policies promoting diversity, inclusion and equity in workplaces, alongside combating gender-based discrimination and violence in STEM fields.

From Dr. Janaki Ammal, India's first female botanist to Dr. Tessy Thomas, India's "Missile Woman," these trailblazers have challenged conventions and paved the way for future generations, proving that gender is no barrier to innovation and excellence. By advocating for gender equality in science, UNESCO seeks to unlock untapped potential and foster innovation, envisioning a future where everyone has an equal opportunity to contribute, discover and succeed.

Green Transition Alliance India

Shri Sridhar P

Indo-Danish new climate initiative

Denmark has introduced Green Transition Alliance India (GTAI) to enhance partnership with India in advancing sustainable energy solutions. This initiative seeks to fast track efforts towards carbon neutrality for both nations by fostering collaboration among businesses, researchers, think tanks, policy advocates and the governments.

Punching above its weight

Denmark, the tiny Nordic nation has been a global leader, innovator in sustainable solutions. Denmark decided to walk the path of sustainable living post the oil crisis of the 70s. Their policies seem to work. **Today Denmark derives 80% of its electricity from renewables like biomass, wind, solar and geothermal energy and is committed to 100% electricity from renewables by 2030.** Denmark is a world leader in wind energy, with its spectacular off shore wind farms that are standing testimonials to its innovative spirit.

Why GTAI is important

India is committed to derive 50% of its electricity from renewables by 2030 and is likely to go carbon neutral by 2070. These ambitious goals require technology transfer, clear road maps from leading players apart from investment. GTAI can be a suitable enabler as it serves as an integrated platform for leading players in the global green transition. On hindsight it is quite revealing that global economic prosperity was possible thanks to the spread of industrial revolution. Similarly global sustainability hinges on such initiatives and its global reach.

Structure of GTAI

The focus area of this strategic partnership will be on

- Renewable energy
- Green fuels
- Energy efficiency

Danish companies involved

- Grundfos (Sustainable water solutions)
- Copenhagen Infrastructure Partners (Renewable energy investments)
- Baettr (Wind energy solutions)
- Novonesis (Biotech and sustainability solutions)
- MASH Makes (Green fuel technology)
- ROCKWOOL (Energy efficiency solutions)
- A.P. Moller - Maersk (Sustainable shipping and logistics)

Strategic partners

- Global Wind Energy Council (GWEC)
- Indo-Danish Chamber of Commerce (IDCC)
- Confederation of Danish Industry (DI)
- IIT Madras Energy Consortium

Several Danish and Indian companies, like Rockwool (energy efficiency solutions), Baettr (wind energy solutions) from Denmark and institutions like Indo Danish Chamber of Commerce, IIT Madras Energy Consortium, Confederation of Danish Industry and Global Wind Energy Council are involved.

Smt Gaayathiri G

Cape vultures
spotted after 30 years

The Cape Vulture, an old-world vulture species that was threatened due to dwindling numbers, has returned to South Africa's Eastern Cape province after three decades.

Eighty-five wild Cape vultures were sighted on a farm just 40 kilometres outside Mountain Zebra National Park, in Spitskop Cradock, the first sighting in over 30 years. The sighting comes as a huge relief to conservationists and it is viewed as a positive sign of population recovery.

- **Scientific name:** *Gyps coprotheres*
- **Common name:** Cape vulture
- **Family:** Accipitridae (Old World vultures)
- **Exclusive habitat:** Southern Africa

Vulture numbers overall are dramatically declining with some species experiencing reductions of up to 80 % in recent decades, leading to what is termed the **'African Vulture Crisis'.**

The role of vultures in the ecosystem

- Natural scavengers that help dispose of animal carcasses.
- Prevents the spread of deadly diseases like anthrax, botulism and rabies.
- Controls populations of feral dogs and rats, which can be disease carriers.

There are 23 species of vulture globally. These are divided into two families:

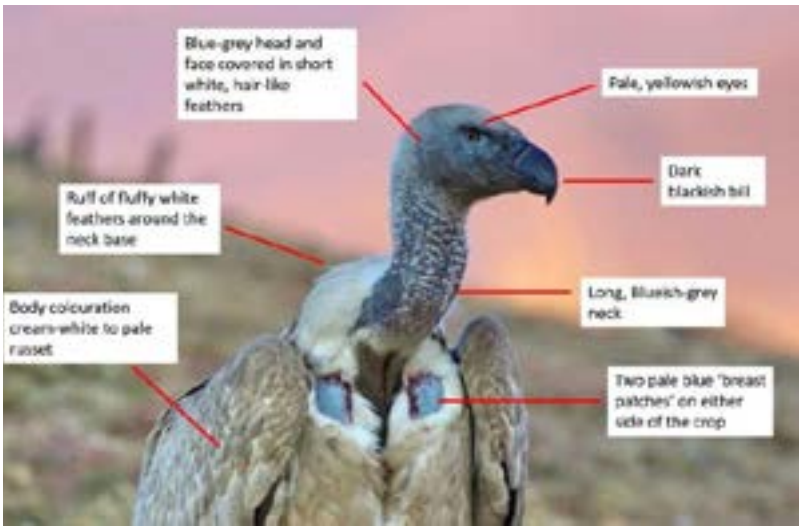
1. **Accipitridae,** of which there are 16 species, found across Africa, Europe and Asia.
2. **Cathartidae** (New World vultures), with 7 species, are native to the Americas and the Caribbean.

Of these 16, nine species are either resident in Africa or migrate to and from the continent. Only three species — the White-headed Vulture, Hooded Vulture, and Cape Vulture — are exclusive to Africa with the Cape vulture resident to southern Africa alone.

Their absence would also lead to an increase in other scavengers, such as feral dogs and rats, which are less efficient at disposing of carcasses and can carry diseases harmful to humans and livestock.

Conservationists stress the need for

- Stronger anti-poisoning laws
- Habitat protection
- Sustainable food sources
- Reducing electrocution risks from power lines.



Shri Mrithyunjay GN

Blue Ghost lands on the moon

The moon has been a source of fascination for as long as humans have gazed at the skies. We have given it many names across different cultures; **Artemis,** the Greeks called her, ***Chandra*** was the title given to him by the ancient Indians, ***Tsukuyomi*** is what the followers of Shintoism in Japan called our celestial neighbour.

Despite our fascination with the moon, it has been 50 years since we visited the place. Not since the end of the Apollo missions in December of 1972 have humans even set foot on the moon.

Only in recent years has there been renewed interest, through NASA's Artemis programme.

The latest traveller is Blue Ghost. Blue Ghost is named after the firefly species native to the Appalachian Mountains.

A robotic lander developed by Firefly Aerospace, Blue ghost successfully landed at 3:34 a.m. EST on 2nd March 2025. The landing happened near a volcanic feature called **Mons Latreille** within **Mare Crisium,** a more than 300-mile-wide basin located in the northeast quadrant of the moon's near side (The one facing the earth).

The Blue Ghost mission, part of NASA's **Commercial Lunar Payload Services** (CLPS) initiative, carried out a diverse suite of scientific instruments and technology demonstrations. Its primary objectives included studying the lunar regolith (the layer of loose, unconsolidated rock and dust covering the moon's surface), analysing the lunar environment and testing technologies crucial for future human missions. Specific payloads on board included instruments to measure radiation levels, assess the composition of the lunar surface and demonstrate autonomous navigation capabilities.

The impact of landing extends far beyond this single mission. It validates the CLPS model, demonstrating the effectiveness of partnering with commercial entities to achieve lunar exploration goals in a cost-effective manner. So, much like a firefly glowing in the dark, Blue Ghost is perhaps a beacon to follow as we take the trip through the darkness of space to the moon.

NASA and Firefly Aerospace hope that this success paves the way for a more frequent and diverse range of lunar missions, for future crewed missions and eventually, the establishment of a sustainable lunar presence.

Shri Sampath D

INDIA the top source of FDI in Dubai

Dubai ranks as the world's number one destination for attracting Greenfield FDI for the fourth consecutive year.

India emerged as the key source country for Foreign Direct Investment (FDI) in Dubai as it retains its top position as Global FDI Destination in 2024.

The relocation of Indian entrepreneurs and businesses to Dubai over the last decade due to a favourable tax regime and business friendly environment is now showing its impact on the ground.

For the year 2024, India surpassed USA, France and UK to become the top source country for FDI in Dubai. Dubai's Department of Economy and Tourism announced that the most populous of the UAE's seven emirates attracted 52.3 billion dirhams (USD 14.20 billion) in estimated FDI capital in 2024.

India's contribution to FDI inflow accounted for 21.5%, followed by the United States (13.7%), France (11%), UK (10%) and Switzerland (6.9%) according to Dubai Department of Economy and Tourism's Dubai FDI Monitor. Dubai became the global leader in 2022 in attracting FDI projects in the cluster of the creative industries in research and development projects, and in attracting FDI project headquarters by hosting global and regional offices of international corporations.

The city's ranking as the world's number one destination for attracting Greenfield FDI for the fourth consecutive year is a testament to its ability to set new global benchmarks for sustained, rapid growth. It also continuously alters its investment proposition in response to changes sweeping the international market. **The emirate also recorded an all-time high of 1,826 announced FDI projects, an**

11% increase from 1,650 in the previous year.

Greenfield FDI projects reached 1,117, the highest ever in Dubai's history. Foreign investments helped generate an estimated 58,680 jobs in 2024, a 31% rise from 44,745 in 2023.

India's foreign direct investment into Dubai surged to over USD 3 billion in 2024, making the South Asian nation its top investor.

It is five times more than in 2023, when India was Dubai's fifth largest FDI capital contributor.

India was also the second-largest player in FDI projects to Dubai, accounting for 15% and preceded only by the UK at 17 %.

Business leaders saw a surge of Indian investment not only in Dubai but also in the whole of the UAE. This was mainly on account of a series of bilateral agreements, in particular the 2022 UAE-India **Comprehensive Economic Partnership Agreement,** which has eliminated trade barriers, lowered tariffs and eased business operations, making it easier for companies in both countries to access each other's markets. It is seen that this remarkable economic collaboration allowed Indians to take full advantage of this favourable investment atmosphere.

In Dubai, business services, software and IT services, food and beverages, consumer products and real estate are currently the top sectors representing Indian FDI, according to the FICCI's data.

This meteoric rise from the fifth to first position as Dubai's top FDI source demonstrates India's growing global ambitions and capabilities.

- **FDI is an investment made by a resident entity in one country in a business in another country. The goal is to establish a long-term relationship with the business and influence its management.**
- **Greenfield FDI means a company from one country invests in a foreign country by building entirely new facilities and operations from the ground up, rather than acquiring existing businesses.**

Smt Shyamala Viswanathan

SPHEREx
Space telescope launched

NASA's SPHEREx (Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer) observatory and PUNCH (Polarimeter to Unify the Corona and Heliosphere) satellites lifted off on a SpaceX Falcon 9 rocket from Vandenberg Space Force Base in California on 11th March 2025. Tagging along were four suitcase-size satellites to study the sun. SPHEREx popped off the rocket's upper stage first, drifting into space.

- The SPHEREx telescope will create the most colourful map of the cosmos, while the four satellites of the PUNCH mission will track the evolution of the solar wind in three dimensions.

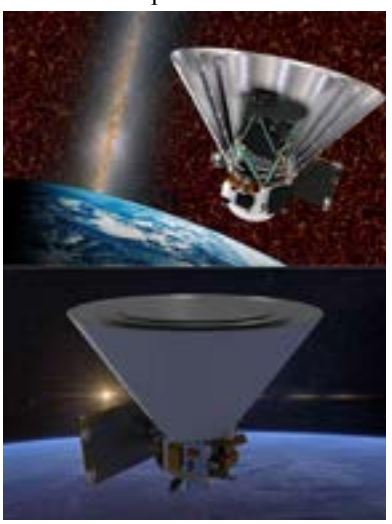
Budgeted at USD 488m, the mission aims to explain how galaxies formed and evolved over billions of years and how the universe expanded so fast in its first moments. It is also expected to explore how galaxies evolved over billions of years - by mapping the entire sky like never before, a sweeping look at hundreds of millions of galaxies and their shared cosmic glow since the beginning of time.

The cone-shaped SPHEREx will take six months to map the entire sky with its infrared eyes and wide field of view. Four full-sky surveys are planned over two years, as the telescope circles the globe from pole-to-pole 650km up.

The telescope's infrared detectors will be able to distinguish 102 colours invisible to the human eye, yielding the most colourful, inclusive map ever made of the cosmos. To keep the infrared detectors super cold – minus 350°F (-210°C) – SPHEREx has a unique look. It sports three aluminium-honeycomb cones, one inside the other, to protect from the sun and Earth's heat, resembling a 10-foot shield collar.

Charting the cosmos

Closer to home in our own Milky Way galaxy, SPHEREx will also hunt for water and other ingredients of life in the icy clouds between stars where new solar systems emerge. Instead of counting galaxies or focusing on them, it will observe the total glow produced by the whole lot, including the earliest ones formed in the wake of the universe-creating Big Bang, thus enabling scientists to see what sources of light may have been missed in the past.



Scientists will use the data from SPHEREx to study how the total light emitted by galaxies has changed through cosmic time and to chart where frozen water and other ingredients essential for life exist across the Milky Way.

Smt Anuradha V R

First detailed map of Moon's south pole

This discovery adds a new dimension to planetary studies, allowing scientists to compare Earth's ancient geological processes with those of the moon.

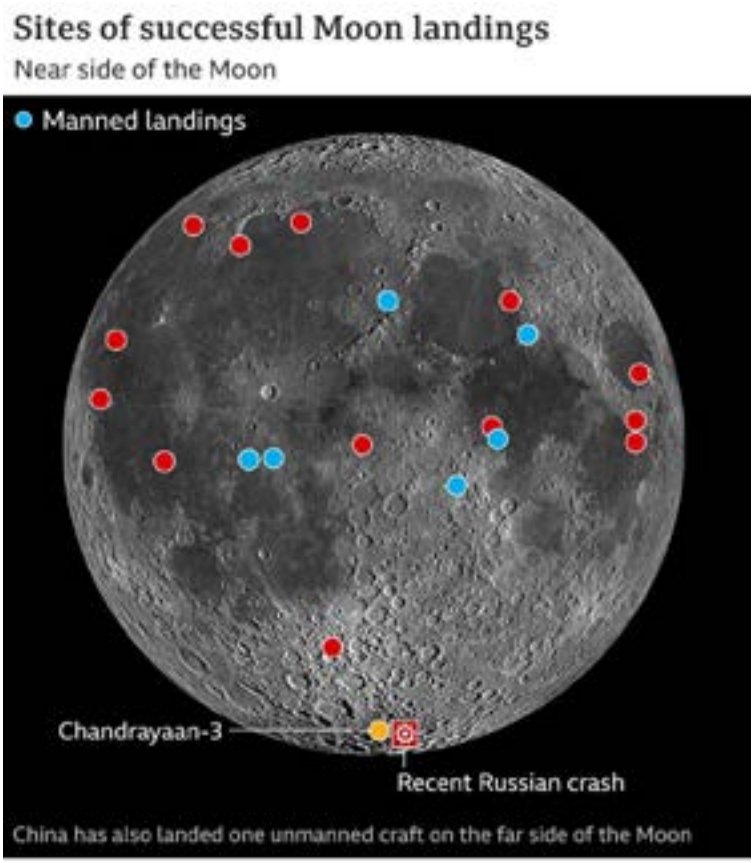
Indian scientists have achieved a historic breakthrough by creating the first-ever detailed map of the Moon's south pole, using data from the Chandrayaan-3 mission. This new map provides crucial insights into the lunar surface, offering valuable information about the region's topography, crater formations and geological history. The research, a collaborative effort between the **Physical Research Laboratory** (Ahmedabad), **Panjab University** (Chandigarh) and **ISRO's Laboratory for Electro-Optics Systems**, marks a significant step in understanding the Moon's evolution. The researchers used data from the **Pragyan rover**.

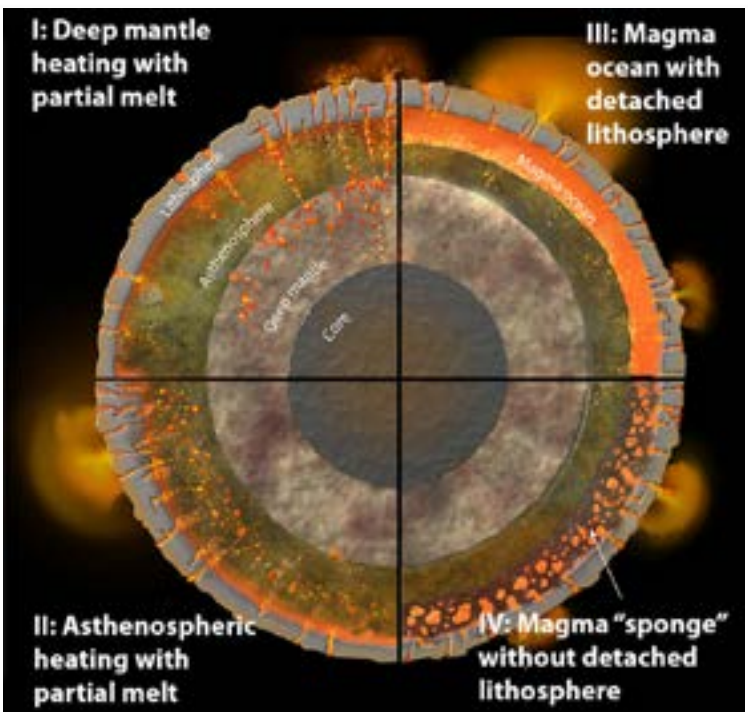
The map highlights the varied terrain around the Chandrayaan-3 landing site, showing highland and lowland plains.

According to researchers, the region's estimated age is around 3.7 billion years- aligning with the period when early microbial life was emerging on Earth. This discovery adds a new dimension to planetary studies, allowing scientists to compare Earth's ancient geological processes with those of the moon.

How does this help in Lunar Science?

Lunar craters serve as natural records of Moon's history, helping scientists determine the age of geological formations. By studying crater distribution and surface composition, researchers can gain insights into how Moon and other celestial bodies in the inner solar system evolved over billions of years. The new map strengthens our knowledge of Moon's impact history.





Moreover, this map provides critical information for future lunar missions. As space agencies including NASA and ISRO plan for Moon exploration and possible human settlements, detailed mapping of the south pole will assist in selecting safe landing sites and potential resource locations.

The south pole is particularly significant due to the presence of shadowed craters that may contain frozen water—an essential element for future lunar missions.

Does this confirm the Magma hypothesis?

One of the most groundbreaking revelations from Chandrayaan-3's data is the confirmation of a long-debated lunar magma hypothesis. While past missions such as Apollo, Surveyor, Luna and Chang'e 3 suggested the presence of subsurface lava seas, they lacked data from Moon's polar regions. However, Chandrayaan-3's Pragyan rover, equipped with the Alpha Particle X-ray Spectrometer detected traces of ancient magma beneath the south pole's landing site. **This finding strongly supports the theory that Moon was once covered by a global molten lava ocean, which later solidified to form its current structure.**

A step forward for lunar exploration

This new geological map is more than just a scientific breakthrough;

- it paves the way for future space exploration and resource utilisation.
- it enhances mission planning for upcoming lunar expeditions.

As scientists continue analysing Chandrayaan-3's data, this discovery could lead to new understandings of planetary formation and even provide clues for searching similar geological features on Mars and other celestial bodies.

No money for terror

The **"No Money for Terror" (NMFT)** conference is a global ministerial level initiative aimed at combating terrorist financing. It offers a platform for intelligence sharing, legal cooperation and policy formulation against terror funding. It started as an initiative of the French Government in 2018 and the first conference was held in Paris in 2018. The second was held in 2019 in Melbourne, Australia and India hosted the third in New Delhi. The fourth NMFT conference was held in Munich, Germany on 13th February 2025. Nityanand Rai, Union Minister for State for Home Affairs led the Indian delegation. The conference had wide participation with about 400 delegates from over 60 nations participating.

The conference had four verticals:

Multilateral cooperation: Recognising the benefits of and the need for international cooperation to understand terrorist financing threats, strengthen legislation and share information.

Financing methods for terrorism: Understanding the importance of implementing the FATF guidance on virtual assets, particularly the travel rule; tackling the increasing threat posed by the blending of cash-based and digital financing methods.

Financial inclusion & risk based approach: Acknowledging the importance of financial inclusion for legitimate entities and the need for risk assessments for non-profit organisations, particularly due to the misuse of FATF standards to supress civil society.

Terrorist financing & organised crime: Sharing best practices on addressing and dismantling links between organised crime and terrorism financing.

The conference discussed the ways and means to enhance multinational cooperation and strengthen the Financial Intelligence Unit (FIU) of the member countries in combating the financing of terrorism. It also highlighted the global efforts to combat terror financing.

India's concerns and contribution: While reiterating its commitment to strengthening International cooperation

in fighting terrorism, India emphasised the evolving threats posed by digital financial networks and cross-border transactions and called for unified action against terror financing. **India raised concerns on terrorists' complex and evolving financial methods to transfer assets and stressed the need for greater international cooperation to track and counter terror financing.**

India has taken various efforts to combat terror. These include

- legal and institutional measures
- financial sector regulations
- technology-driven countermeasures.

India once again mooted the idea of setting up an NMFT secretariat in New Delhi to bring in permanency for this important initiative.

The outcomes of the 4th NMFT Conference reflected a unified commitment to addressing the multifaceted challenges of terrorism financing in a rapidly changing global landscape. **It was resolved that to counter the complex challenge of terrorism financing effectively, countries should learn from each other's successes, align efforts and scale up solutions. By doing so, the collective response is strengthened and the security of all citizens will be enhanced.**

Terrorism is diametrically opposite to the philosophy of *vasudaiva kutumbakam*. That it is spreading its tentacles far and wide with enormous money support and technology, speaks volumes about those perpetrating it. **The entire world should unite and wage a relentless war against terror if human race is to survive.** The NMFT initiative is a major step in that direction and it is necessary that it succeeds.

Sarve jana sukhino bavanthu!

Financial Action Task Force (FATF) is the global watchdog to check money laundering and terrorist financing. It sets international standards to prevent illegal activities and harm to society.

India's new Chief Election Commissioner

The President of India appointed Gyanesh Kumar, a distinguished civil servant, as the Chief Election Commissioner (CEC) of India on 19th February 2025, a day after his predecessor demitted office. He will hold office till January 2029. The CEC heads the Election Commission of India (ECI) which is the body constitutionally empowered to conduct elections to the Parliament, State legislatures and the offices of the President and the Vice- President of India. **The CEC has been selected by a three member selection committee consisting of the Prime Minister, a central cabinet minister and the Opposition leader.** The recommendation was then sent to the President to make the appointment.

Education and career: Gyanesh Kumar is a B.Tech (Civil Engineering) graduate from IIT Kanpur who has also studied Business Finance at ICFAI and Environmental Economics at Harvard University.

He is a 1988 batch IAS officer belonging to the Kerala cadre. He retired as the Secretary in the Ministry of Cooperation on 31st January 2024 and was appointed as the Election Commissioner on 14th March 2024.

Before his induction into the ECI he has handled various important responsibilities in different ministries. He has been the Secretary in the Ministry of Parliamentary Affairs and later in the Ministry of Cooperation. Apart from this he has handled sensitive responsibilities with aplomb. He was the Additional Secretary in the Ministry of Home affairs in charge of Jammu & Kashmir division when Article 370 was abrogated. He was also involved in drafting the Bill for the abrogation of Article 370. Another sensitive task executed by him, was setting up the Shri Ram Janmabhoomi Teertha Kshetra Trust. He is no doubt an accomplished administrator.

Controversy: A major controversy has erupted over this appointment. The practice, of appointing the members of the ECI by the President on the recommendation of the council of ministers, that was in vogue, was challenged and a 5 - judge bench of the Supreme Court directed the creation of a committee comprising the Prime Minister, the leader of the Opposition and the Chief Justice of India that would advise the President on ECI appointments

till the Parliament enacts a law for the appointments. The Government has come up with a law on the appointments to the ECI with the selection committee comprising the PM, a central cabinet minister and the leader of the opposition. The strong view of the opposition parties and certain other quarters is that the committee formed as per the 2023 Act is not in line with the spirit of the SC judgment in the Anoop Baranwal vs Union of India case. The Act has been challenged in the SC.

What did the Supreme Court say in the Anoop Baranwal case?

In its order, the Supreme Court held that the selection of the CEC must be done by a three-member committee comprising:

1. The Prime Minister (PM)
2. The Leader of Opposition
3. The Chief Justice of India (CJI)

However, the Supreme Court itself noted that this arrangement was temporary, until Parliament passed a law in this regard.

Given this background the CEC's conduct will be viewed critically, especially with elections to the Bihar Assembly due later this year and the state assemblies of West Bengal, Assam and Tamil Nadu in 2026. In the current context the CEC's statement that the ECI will always be with the voters certainly infuses confidence.

Shri Ramaswamy R

The Khelo India Winter Games had over 1200 participants including 700+ athletes, 141 support staff, 113 technical officials, 250+ volunteers and sports specific volunteers.

Khelo India the flagship national scheme of the Ministry of Youth Affairs & Sports was launched with the twin objectives of mass participation and promotion of excellence in sports. Inaugurated in 2018 by the then Sports Minister Col. Rajyavardhan Singh Rathore in Delhi, this scheme has given great impetus in spreading the sports culture among youth in India. Col. Rathore himself a sports icon, has won over 25 medals in International Double Trap Shooting events including an Olympic Silver in 2004.

Under the Khelo India Scheme, National Level Competitions like **Khelo India Youth Games**, **Khelo India University Games** and **Khelo India Winter Games** have been organised. The competitions are a tremendous success in identifying talent and giving them world class experience. So far 8 editions of Khelo India Youth and University Games and 3 editions of Winter Games and 1 edition of Khelo India Para Games have been successfully conducted.

The fifth edition of Khelo India Winter Games (KIWG) 2025, began in January and was held at Leh and Gulmarg.

The 1st phase of KIWG 2025 in 2 ice sports (Ice Hockey & Ice Skating) was held at Leh. The venues for Leh, Ladakh were NDS Stadium, Guphuk Pond and LSRC Army Rink. The 2nd phase in 4 snow sports (Ski Mountaineering, Alpine Skiing, Snowboard & Nordic Skiing) was held at Gulmarg, J&K in Kangdoori Phase 1 and Golf Course Club in March.

The Games had over 1200 participants including 700+ athletes, 141 Support Staff, 113 Technical Officials, 250+ volunteers and sports specific volunteers. A total of 136 medals were at stake. Ministry of Youth Affairs and Sports, GoI along with Sports Authority of India managed the technical conduct of the games in association with the National Sports Federations and

Rank	State/UT/Team	Gold	Silver	Bronze	Total
1	Army	7	5	6	18
2	Himachal Pradesh	6	5	7	18
3	Ladakh	4	2	1	7
4	Maharashtra	3	5	5	13
5	Tamil Nadu	3	2	0	5
6	ITBP	2	5	3	10
7	Karnataka	2	3	1	6
8	Telangana	2	1	2	5
9	Jammu and Kashmir	2	1	1	4
10	Uttarakhand	1	2	3	6
11	CRPF	0	1	0	1
12	Haryana	0	0	2	2
13	Delhi	0	0	1	1
14	Madhya Pradesh	0	0	1	1

Ad-hoc body of Indian Olympic Association. The opening ceremony and the games that followed were shown live on multiple platforms of DD Sports.

HIGHLIGHTS

- Fifteen-year-old **Nayana Sri Talluri,** competing in the **women's 500m short track event**, won the first gold medal and completed a **hat trick of golds,** which was history in itself.
- Alpine skier **Aanchal Thakur** won **gold medals** in the **alpine skiing slalom** and **giant slalom** events held in Gulmarg.
- Team from the **Indian Army topped** the KIWG 2025 final medals table with 7 golds, 5 silvers and 6 bronzes.
- **Himachal Pradesh** finished **second** with 6, 5 and 7 respectively.

The Games are particularly important in that they keep training in sports and fitness around the year. These educate the people about the various events and showcased the region around the venues for tourism. The infrastructure and facilities created can be enjoyed throughout the year and for years to come. **These also promote among participants coming from various States, UTs and Services, the spirit of friendship, solidarity and fair play.**

Kum Anu Narayan

News from

India's Space roadmap for the next decade

The newly appointed Chairman of ISRO V . Narayanan, recently shared exciting plans for the future of India's space missions. As the Secretary of the Department of Space and an experienced rocket scientist, Narayanan discussed how ISRO is working on some ambitious projects that will help India grow its space capabilities even further.

ISRO's advancements in launch vehicles

One of the most exciting developments is ISRO's next generation launch vehicles. In the past, ISRO started with the SLV3 in 1979, which could carry a small payload to space. But now, ISRO can send much heavier loads into space. **The upcoming launch vehicles will be capable of carrying a huge payload to low Earth orbit (LEO), which is 1,000 times more than what the SLV 3 could do.** These vehicles will also feature a reusable first stage, making space travel cheaper and more sustainable.

Human spaceflight: Gaganyaan Mission

ISRO is also preparing for its first human spaceflight, the Gaganyaan Mission, scheduled for 2026. Three Indian astronauts will be sent into space, using the LVM 3 rocket, specially designed to ensure their safety. Uncrewed test flights will take place soon to test everything before the actual mission.

Chandrayaan-4: Lunar exploration

Narayanan also talked about the next lunar mission, Chandrayaan-4, which will be launched in 2027. Unlike Chandrayaan-3, which focused on the moon's surface, **Chandrayaan-4 will explore Moon's south pole, a place no mission has gone before.**

Space station and future goals

A big goal for ISRO is to develop its own space station. The first module of this space station will be launched in 2028. ISRO is also enhancing its satellite systems and working on navigation systems like NavIC, which will improve global positioning and navigation for India.

With these projects, ISRO is setting itself up to be a leader in space exploration, aiming to make space more accessible for all.

World's largest 10-tonne vertical propellant mixer for ISRO's solid motors

In a significant achievement for India's space capabilities, Indian scientists and engineers have successfully developed the world's largest 10-tonne vertical planetary mixer for processing solid propellants, a crucial component in rocket motor production. This milestone is a key part of India's **'Atmanirbhar Bharat in Space'** initiative.

The mixer was designed and developed by the **Satish Dhawan Space Centre** (SDSC) SHAR, ISRO in collaboration with the **Central Manufacturing Technology Institute** (CMTI) in Bangalore. CMTI is a leading research and development organisation under the Ministry of Heavy Industries. The mixer has passed factory-level acceptance tests and was officially handed over to the SDSC SHAR Director in Bengaluru on 13th February.

Technological breakthrough in solid propulsion

Solid propulsion is a critical component in India's space launch systems, with solid propellants forming the backbone of rocket motors. To produce these propellants, the materials must be mixed with high precision. This advanced mixing technology is essential because the materials are highly sensitive and hazardous. With the new 10-tonne vertical planetary mixer, India will be able to produce heavy solid motors more efficiently, strengthening the country's space launch infrastructure.

HIGHLIGHTS

- **World's largest:** The system is the largest solid propellant mixing equipment globally.
- **Heavy-duty build:** The mixer weighs approximately 150 tonnes and measures 5.4 m in length, 3.3 m in breadth and 8.7 metres in height.
- **Advanced technology:** The mixer is equipped with multiple hydrostatic-driven agitators and is remotely operated using a PLC-based control system with SCADA (Supervisory Control and Data Acquisition) stations.

This breakthrough represents a major leap in India's space capabilities, ensuring greater efficiency and reliability in rocket production and boosting India's growing role in space exploration.

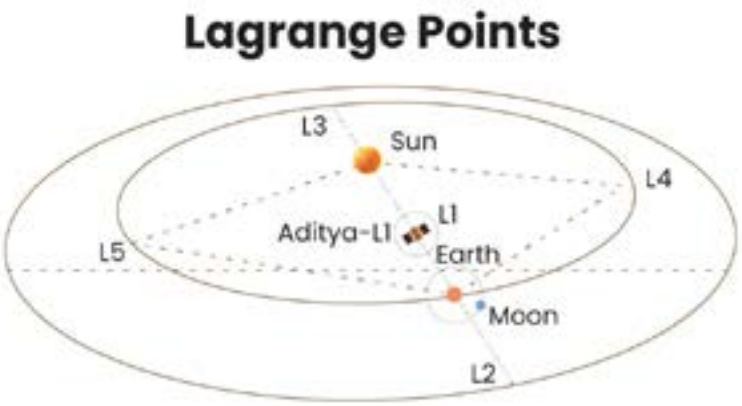
Aditya-L1 captures first-ever image of a solar flare 'Kernel'

India's first dedicated solar mission, Aditya-L1, has made a groundbreaking discovery, capturing the first-ever image of a solar flare 'kernel' in the lower atmosphere of the Sun. This observation was made using the spacecraft's scientific payloads and marks a significant step toward understanding the Sun's explosive activity and its effects on Earth.

Launched in 2023, Aditya-L1 was sent into space aboard the ISRO PSLV C-57 rocket. By January 2024, the spacecraft reached its destination: the Lagrange Point 1 (L1), about 1.5 million kms from Earth. L1 allows the spacecraft to continuously observe solar activities without any interruptions from eclipses or occultations. This special vantage point helps scientists keep a close watch on the Sun, providing a unique and steady view.

The spacecraft carries three advanced instruments:

- **Solar Ultraviolet Imaging Telescope (SUIT)**
- **Solar Low Energy X-ray Spectrometer (SoLEXS)**
- **High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)**



These tools work together to study solar flares in various wavelengths, from Near Ultra-Violet (NUV) to soft and hard X-rays. The SUIT payload, developed by the Inter University Centre for Astronomy and Astrophysics (IUCAA), can capture high-resolution images of the full solar disk or specific areas of interest, depending on the scientific requirements. The SoLEXS and HEL1OS instruments help monitor solar X-ray emissions to track solar flare activity.

Solar flare

A solar flare is a sudden, intense burst of energy from the sun's atmosphere. These bursts are caused by the sun's dynamic magnetic fields, which can suddenly snap and release powerful energy in the form of light, radiation and high-energy particles.

How does Aditya-L1 study solar flares?

During a solar flare, the affected region of the Sun becomes brighter in the UV and X-ray wavelengths. Aditya-L1's instruments can study these bursts of radiation in great detail, something that can't be done on Earth due to our atmosphere blocking these harmful rays.

Key observations

On 22nd February 2025, SUIT on Aditya-L1 observed an X6.3-class solar flare, one of the most intense solar eruptions. The exciting part of this observation was that SUIT detected brightening in the NUV wavelength range (200-400 nm)—something never seen in such detail before. This observation confirmed that the energy from the flare spread through various layers of the sun's atmosphere.

A major finding from this observation is that the brightening seen in the lower solar atmosphere is linked to an increase in plasma temperature in the solar corona (the Sun's outer layer). This connection between flare energy and temperature change helps validate long-standing scientific theories and offers new insights into the complex physics behind solar flares.

This discovery is a huge step in understanding solar phenomena and could help protect Earth from the potentially harmful effects of solar flares.

Smt Sandhya Nair

Udaan Yatri Café

Airports are notorious for their expensive food, which is out of reach for most passengers, particularly frequent flyers and budget travellers. To solve this problem, the Udaan Yatri Café - a traveller-friendly eatery offering a quick yet satisfying dining experience has been introduced to offer food and beverages at reasonable prices.

The Udaan Yatri Café is part of the government's effort to enhance passenger facilities at airports nationwide. It aligns with the government's UDAN scheme, which aims to make air travel more affordable and accessible.

Union Civil Aviation Minister Kinjarapu Ram Mohan Naidu inaugurated the Cafe at Chennai Airport on 27th February 2025. It follows the success of the first UDAN Yatri Cafe inaugurated in December 2024 at Netaji Subhas Chandra Bose International Airport in Kolkata.

The Café, located at the pre-check area of Chennai Airport's T1 domestic terminal, provides affordable and hygienic refreshments. The menu includes an assortment of hot and cold beverages, light snacks, sandwiches and regional delicacies, ensuring there is something for every traveller. Travellers can grab essentials like a water bottle for ₹10, tea for ₹10, coffee for ₹20, samosa for ₹20 and a sweet of the day for ₹20.

Interestingly, the move to open the 'Udan Yatri Cafe' at the airports came soon after Raghav Chadha flagged the issue of highly inflated food and snacks at the airports during the discussion on the Indian Aviation Bill 2024 during the winter session of the Parliament and sought the government's intervention on the matter.

DO YOU KNOW ?

- **UDAN Ude Desh ka Aam Nagrik**

Smt Sarada Devi Ravutu

'One Nation One Port Process'

Maritime Transport is a critical infrastructure for the social and economic development of a country. Ports serve as critical gateways for international and domestic trade. Recently, Union Minister Sarbananda Sonowal launched the 'One Nation-One Port Process (ONOP)', an initiative to unify port documentation and streamline operations across the country's major ports. **This initiative focuses on improving port efficiency, upgrading facilities, integrating Indian ports with global trade networks and enhancing cargo handling capacities.**

Ministry: Ministry of Ports, Shipping, and Waterways (MoPSW)

Aims to

- Enhance ease of doing business by reducing costs, delays and inefficiencies.
- Strengthen India's global trade position.

HIGHLIGHTS

- Container operation documents reduced by 33% (from 143 to 96).
- Bulk cargo documents reduced by 29% (from 150 to 106).
- Reduction in carbon footprint through efficient port operations and promote modern, green and smart port infrastructure.

Other major initiatives of the Ministry

Sagar Ankalan – Logistics Port Performance Index (LPPI)

A performance benchmarking tool to evaluate port efficiency and competitiveness, focusing on metrics like cargo handling and turnaround time.

MAITRI Digital Platform: (Master Application for International Trade and Regulatory Interface)

Integration of Artificial Intelligence (AI) and Blockchain technologies to automate trade approvals and establish Virtual Trade Corridors (VTC) with countries such as the UAE, BIMSTEC and ASEAN nations.

Emphasis was also placed on adopting green technologies and eco-friendly port operations.

DO YOU KNOW ?

- **Blockchain technology is a secure and transparent system for recording and sharing information often used to track transactions.**
- **BIMSTEC: Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation.**
- **ASEAN: Association of Southeast Asian Nations.**



WOMEN ACHIEVERS

Anju Rathi Rana appointed as the first woman Law Secretary

The position of Law Secretary, officially known as the Secretary, Legal Affairs, has long been held by men. Rana, a distinguished Indian Legal Service (ILS) officer has now broken this tradition by becoming the first woman to assume this prestigious role.

Education & career

- She completed her Bachelor of Law from DAV College, Muzaffarnagar, and her Master of Law from Meerut College. She has a PhD in Law from MDU Rohtak.
- In 1994, she worked as an advocate at the District Court, Muzaffarnagar, for a year, assisting the senior advocate in drafting briefs, preparing counter replies and writing statements in civil, criminal and labour cases.
- She served as a public prosecutor for 18 years, playing a crucial role in handling legal cases and prosecuting offenders on behalf of the state.

Accomplishments

- Won several awards, including two gold medals in LLB and

securing 2nd position in the university during LLM.

- Held key positions, including Chairperson of the Capacity Building Unit of the Department under the 'Mission Karmayogi Programme' of the Capacity Building Commission.
- She was also appointed as Presiding Officer in the Election Tribunals under Section 10B of the Chartered Accountants Act, 1049, the Company Secretaries Act, 1980, and the Cost and Works Accountants Act, 1959.
- Organised various conferences and trainings, including the 19th Meeting of Prosecutors General of Shanghai Cooperation Organization (SCO) Member States.
- Led the Indian delegation in the UNDOC Indian Ocean Forum meeting in the Seychelles in September 2023.

Biologist Purnima Barman – Times 2025 women of the year list for conservation efforts

Indian biologist and wildlife conservationist Purnima Devi Barman has been named in TIME Magazine's Women of the Year 2025 list, which honors extraordinary leaders working for a more equitable and sustainable world.

- She is the only Indian woman on this year's list, joining global figures like actor Nicole Kidman and Gisele Pelicot of France, who became a symbol of the fight against sexual violence.
- Barman's efforts in conserving the greater adjutant stork (locally known as *hargila*) have transformed both environmental and social landscapes.

The turning point

- She witnessed a tree being cut down, which housed a family of greater adjutant storks. Despite opposition from the locals, she remained determined to save the birds. Realising the urgency of conservation, she began her mission.

Success story

- The stork population in Assam increased from 450 (2007) to over 1,800 (2023).
- The International Union for Conservation of Nature (IUCN) changed the stork's status from "Endangered" to "Near threatened".

Formation of the Hargila Army

- Created a network of 20,000+ women to protect the storks' nests.

- Educated people on conservation through cultural integration.
- Empowered women economically and socially through community-led initiatives.

Cultural and social transformation

- Introduced baby showers for stork chicks to encourage conservation.
- Promoted traditional textile weaving with stork motifs for livelihood.
- Conservation has now become a part of Assamese culture and identity.

International Influence

- Schools in France and Cambodia are teaching students about her work.
- The Hargila Army model is inspiring similar conservation efforts worldwide.

TIME's criteria for selection:

- TIME selects women based on their contributions to gender equality, climate action and social justice.
- The list includes leaders combating violence, advocating rights and pioneering change.

Jayshree Vencatesan – first Indian to receive Ramsar award for wetland wise use

Jayshree Vencatesan, co-founder of Chennai-based **Care Earth Trust,** has become the first Indian to be honoured with the Ramsar Award for 'Wetland Wise Use', a globally recognised accolade celebrating contributions to the sustainable management of wetlands. The award was announced by the Ramsar Secretariat in Geneva on the eve of International Women's Day 2024.

What is Ramsar award?

The Ramsar Convention on Wetlands, an international treaty for wetland conservation, recognises outstanding individuals and organisations for their contribution to wetland conservation through the Ramsar Awards.

Her contributions to wetland conservation

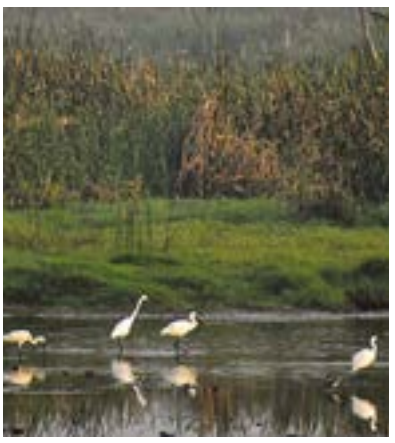
- **Documenting biodiversity:** Her extensive research has shed light on the ecological significance of Pallikaranai Marsh, which is home to over 337 species of flora and fauna.

Ramsar Convention on Wetlands

- **Flood mitigation efforts:** She has emphasised the role of wetlands in mitigating floods, helping policymakers understand their importance in urban planning.
- **Mentorship & women empowerment:** As the leader of an all- women research team, she has mentored numerous female conservationists, promoting gender equity in environmental science.

Challenges in wetland conservation

Jayshree Vencatesan stated that the biggest hurdles are often bureaucratic and systemic inefficiencies. She pointed out how historical land records, out-dated user rights and personal egos have impeded crucial restoration efforts.



PM Schemes for

India is bestowed with a dynamic young demography. India's working -age (15-64) population is larger than the non-working age share of the population. India entered this phase of demographic dividend opportunity in 2005-06 and shall enjoy this till 2055-56.

Around 68% of our population is in the working-age basket and out of this 26% is in the age group of 10-24 years. The median age of our population is an enviable 28.4 years. It is estimated that by 2030 the working-age population of India will be over 1 billion. India would be in a position to reap the benefits of this demographic dividend only if this young population is adequately educated, empowered, trained and skilled. If our youth are suitably accomplished the addition of 9.7 million potential workers every year through the current decade would have an immense impact on the economic growth and socioeconomic structure of India and the entire globe. **Our youth can also act as ambassadors of our culture, tradition and knowledge if properly equipped and mentored.**

It is with these goals in mind that the Government of India has unleashed many initiatives for the all-round development of youth in our country .

Some of the initiatives

National Youth Policy-2014, Pradhan Mantri Kaushal Vikas Yojana, National Skill Development Corporation, YUVA 3.0 : Prime Minister's Scheme For Mentoring Young Authors, Rashtriya Yuva Sashaktikaran Karyakram Scheme, Rozgar Mela, Pradhan mantri Kaushal Kendras, Udaan , Apprenticeship Training under the Apprentices Act 1961,Vocational Training Programme for Women,Skill Loan Scheme, Indian Institute of Skills(IISs), Prime Ministers' Internship scheme(PMIS) and **Sankalp.** Let us have a look at two of the flagship programmes.

Prime Minister's internship Programme (PMIS):

The PMIS was launched in October 2024. This is a visionary initiative that aims to provide one crore young Indians with 12 - month paid internships in top companies in India over the next five years.

This will bridge the gap between academic learning and industry demands. **By integrating classroom knowledge with practical experience, PMIS aspires to cultivate a workforce that is both skilled and adaptable to the evolving global economic landscape.** Buoyed by the success of Round I, the Round II of this scheme has been scaled up to providing opportunities for over 1.18 lakh internships across 735 districts with 327 companies participating. The sectors in which the youth are given internships include Automobile, Banking and Finance, Metals and Mining. Travel and hospitality, Manufacturing, FMCG and many more. This unique scheme empowers youth with practical experience, with the vision of making India the **"Skill Capital of the World".**

Yuva 3.0 - Prime Minister's Scheme for Mentoring Young Authors

This is a scheme for mentoring young authors and will ensure creating a pool of authors of below the age of 30 years who are ready to express themselves and project India on any international platforms. It will also help in projecting Indian culture, tradition, philosophy and literature globally.

The young authors so mentored shall become proficient in writing in various genres like fiction, non-fiction, travelogues, memoirs, drama, poetry and so on. Yuva 3.0, the third edition of Yuva , was launched on 11th March 2025. 50 authors will be selected and put through this programme. Opportunities are offered by various partners like government ministries and agencies, private organisations and academic institutions. The themes for Yuva 3.0 are **Contribution of Indian Diaspora in Nation Building, Indian Knowledge System;** and **Makers of Modern India (1950-2025).**

Such visionary initiatives surely have the intent and content to make India the ***Vishwa Guru.***

Smt Meenakshi.S

G-SAFAL

for underprivileged women

The Gujarat government, led by CM Bhupendra Patel, has introduced G-SAFAL. G-SAFAL stands for **Gujarat Scheme for Antyodaya Families for Augmenting Livelihoods.** The Gujarat Livelihood Promotion Company Limited (GLPC), under the state's Rural Development Department, is responsible for executing the scheme.

G-SAFAL includes schemes to provide livelihood opportunities, financial inclusion, social development; equip women with skills and opportunities to achieve financial independence and ensure that beneficiary families have multiple avenues of income to secure their future.

Field coaches work closely with families to provide tailored training. Training programmes are aimed at enhancing life skills. Active participation of self-help groups is encouraged to bring in community support.

The scheme targets 50,000 **Antyodaya Anna Yojana** (AAY) cardholder families across 25 talukas in 10 districts of Gujarat particularly in regions with a high concentration of economically disadvantaged communities over the next five years. **The initiative connects beneficiaries with banks, savings programmes and credit facilities.** This integration into the financial system is vital for long-term sustainability.

The implementation of a digital monitoring system ensures transparency and effective execution. Additionally, its alignment with the Aspirational Blocks Programme (ABP) reinforces its goal of reducing poverty and driving sustainable socio-economic progress in Gujarat's underprivileged regions.

G-SAFAL employs technology through a digital dashboard for real-time monitoring. This system tracks progress of the scheme, fund disbursements and household development metrics.

MATSYA-6000 completes wet testing

Smt Manju Aildasani

Matsya-6000 is an Indian crewed deep-submergence vehicle intended to be utilised for deep-sea exploration of rare minerals under the Samudrayaan Project under Deep Ocean Mission. The wet testing, conducted at L&T Shipbuilding in Kattupalli Port recently, involved both manned and unmanned dives to assess the submersible's power and control systems, floatation stability and life-support systems.

This marks a significant step towards conducting shallow-water demonstrations at depths of up to 500 metres by the end of 2025. The tests included eight dives, with five being unmanned and three manned, to evaluate the submersible's performance in real oceanic conditions.

HIGHLIGHTS

- It has a compact 2.1-m diameter spherical hull made from a strong titanium alloy, capable of housing three humans. The hull is designed to withstand extreme underwater pressure.
- Equipped with several innovative subsystems that ensure its functionality in the deep ocean environment. Key features include a main ballast system for diving, thrusters for movement in all directions, a battery bank for power supply and syntactic foam for buoyancy.
- It also boasts advanced control hardware, software and sophisticated underwater navigation devices. It offers 12 hours of normal operation and up to 96 hours in emergency situations.
- Communication is facilitated through an acoustic modem underwater telephone, VHF for surface communication and GPS for precise location tracking.
- The submersible's interior is designed with human life-support systems, along with displays for critical environmental parameters, navigation joysticks for manoeuvring and various oceanographic sensors.
- Underwater lighting and cameras are integrated into the exterior, all subsystems being indigenously designed and undergoing rigorous testing.

DO YOU KNOW ?

- **On 18th June 2023, Titan, a submersible operated by the American tourism and expeditions company OceanGate, imploded during an expedition to view the wreck of the Titanic in the North Atlantic Ocean.**
- **Only a few countries like France, US, China, Russia and Japan have developed submersibles capable of similar depths. Matsya-6000 is lighter and more cost-efficient compared to some of these, thanks to the use of "off-the-shelf" components.**
- **Matsya-6000 is designed to reach 6,000 metres, comparable to the deepest-diving submersibles globally. This capability positions India among the leaders in deep-sea exploration.**

Smt Silpa Nandakumar

India's first gyrocopter service

India's first gyrocopter service was launched in Uttarakhand. This innovative service named **"Himalaya Air Safari"** provides opportunities to visitors to explore the stunning landscapes of Haridwar and its surroundings from an aerial perspective.

With operations beginning in Haridwar, this allows us to experience the beauty of pristine landmarks including the sacred River Ganga, green valleys, hills and the Himalayan ranges.

A gyrocopter is distinguished from a helicopter by the absence of an engine turning the rotors, with the former resembling a smaller version of the latter. Its rotor requires air flowing upwards across it to rotate.

This is the first time gyros are used in India for the tourism sector. The initiative is another step in the State's commitment in promoting adventure sports and pilgrimage. Uttarakhand has also recently been recognised as the safest destination for female travellers. Development of astro tourism also results in an increase in the employment rate and revenue generation for the state.

A successful trial of the flight of the gyrocopter was conducted at Bairagi Camp in Haridwar. Tourists will now be able to explore the untouched tourist places of the state.

The single seater gyrocopters have been imported from Germany. The Tourism Department has collaborated with the Civil Aviation Department and respective District Magistrates and is actively working on developing special air strips which will enable more aerial adventures in the future.

HIGHLIGHTS

- **Operating cost:** ₹200 per minute.
- **Flight duration:** 10 minutes.

Shri Sampath D

News From Assam

A new dawn for investment and infrastructure

Prime Minister Modi inaugurated the Advantage Assam 2.0 Investment and Infrastructure Summit 2025 in Guwahati, marking a significant milestone in Assam's economic development. The event witnessed substantial investment commitments from major industrial players and highlighted Assam's transformation into a peaceful and business-friendly state.

During the summit, both Reliance Industries Limited and the Adani Group announced plans to invest ₹50,000 crore each in Assam over the next five years. Reliance Chairman Mukesh Ambani emphasised the company's commitment to Assam's growth, particularly in technology and digital sectors. Similarly, Gautam Adani outlined the group's investment across various infrastructure projects, including airports, city gas distribution networks and roadways.

Chief Minister Himanta Biswa Sarma projected that Assam's economy would reach USD 143 billion by 2030, highlighting a significant transformation from a history of unrest to stability and growth.

The summit also attracted participation from global industry leaders and delegations from countries such as **Australia, South Korea, Singapore, Malaysia** and **Japan,** underscoring Assam's growing appeal as an investment destination.

Assam & BTR recognise Bathouism

Bodoland government in Assam recognises Bathouism, marking a cultural milestone for the Bodo community. The Bodoland Territorial Region (BTR) government has approved the inclusion of Bathouism as an official option in the religion column of various application forms, marking a significant step for the recognition of the indigenous Bodo faith. This applies to admission forms for educational institutions and key documents like birth and death

certificates under the Department of Health & Family Welfare.

The decision was finalised during a recent Executive Council (EC) meeting of the Bodoland Territorial Council (BTC). The council also resolved to formally request the Registrar General of India (RGI) to recognise Bathouism in the national census.

Bathouism, the traditional faith of the Bodo community, revolves around the worship of **Bathoubwrai (Sibwrai)**, the Supreme God of the Bodos.

The official recognition of Bathouism by the BTR government not only honours the cultural heritage of the Bodo community but also promotes religious inclusivity and social acceptance. This initiative reinforces the importance of preserving indigenous faith and traditions, ensuring that the rich cultural tapestry of Assam is acknowledged and celebrated within the state's administrative framework.

PM Modi inaugurates historic Jhumoir Ensemble in Assam

In a landmark event, PM Modi inaugurated the largest-ever Jhumoir dance performance at Guwahati's Sarusajai Stadium, commemorating the 200th anniversary of Assam's tea industry and also 200 years of industrialisation in Assam.

The **Jhumoir Binandini 2025** (Mega Jhumoir) 2025, was a spectacular cultural extravaganza with 8,000 performers participating in the Jhumoir dance, a folk dance of Assam Tea Tribe and Adivasi communities that embodies the spirit of inclusivity, unity and cultural pride, and symbolises Assam's syncretic cultural mélange. It showcased the rich cultural heritage of Assam.

Originating in the early 19th century, Jhumoir served as a medium for workers to express joy and unity after laborious days in the tea plantations. The dance is characterised by coordinated movements, vibrant costumes and the accompaniment of traditional instruments like the *dhol, madal, dhomsa* and bamboo flutes.

Prime Minister actively engaged in the festivities by playing the *dhomsa*, a traditional drum of the tea garden community, setting the tone for the ensemble.

Jhumoir Binandini 2025 had a reverberating atmosphere filled with energy, enthusiasm and excitement at the event. It is seen that such grand events were not only a testament to the pride of Assam, but also showcased India's great diversity.

Shri Arpith Vijayan

PM Modi announces Asiatic Lion population estimation

On the occasion of World Wildlife Day, PM Modi chaired the 7th meeting of National Board for Wildlife (NBW) at Sasan, Junagadh, Gujarat. The primary highlight of this meeting was the announcement of the Asiatic Lion population estimation to be held this May. The goal is to ensure monitoring Asiatic Lion conservation by expanding their current population and maintaining ideal habitat conditions. Before the NBW meeting, PM Modi went on a lion safari in Gir. It reminded him of his collective efforts while serving as Gujarat's Chief Minister. He also acknowledged the conservation efforts by the tribal communities and women in preserving the habitat of the Asiatic Lion.

The central government has approved over ₹2,900 crore for Project Lion, aimed at conserving Asiatic lions, which are found only in Gujarat. Asiatic lions currently inhabit nearly 30,000 square kilometres across 53 talukas in 9 districts of Gujarat. As part of a national initiative, a National Referral Centre for Wildlife is being established on over 20.24 hectares of land in New Pipalya, Junagadh district.

Additionally, a high-tech wildlife monitoring centre and a state-of-the-art hospital have been set up in Sasan to enhance conservation efforts, the release added.

A standard operating procedure was developed in collaboration with the Railways to prevent accidents when lions cross the railway tracks in Gir. The release also mentioned that taking such measures have greatly reduced such accidents.

Madhav National Park is India's 58th Tiger Reserve

Madhav National Park has been designated as India's 58th Tiger Reserve. Madhya Pradesh now boasts the highest number of tiger reserves in the country, totalling 9.

In the early 20th century, India's tiger population was estimated at 40,000, but by the 1960s, numbers had dwindled to 2,000–4,000 due to hunting, poaching, deforestation and fur trade. To combat this, conservation efforts were introduced, such as the Indian Board for Wild Life's 1969 recommendation to ban wild cat skin exports. In 1972, tigers were listed as endangered by the International Union for Conservation of Nature (IUCN), and in 1973, Project Tiger was launched with 9 reserves to protect the species.

Under Project Tiger (now NTCA), Tiger Reserves are managed with Core Zones for strict protection and Buffer Zones for sustainable human activities. Tiger Conservation Plans (TCPs) focus on habitat management, wildlife corridors and community engagement. Madhav National Park, originally notified in 1956, was expanded to 360 sq km and saw the relocation of three tigers in 2023, growing the population to seven. The park also serves as a corridor between Ranthambore Tiger Reserve and Kuno National Park.

India's 2023 Tiger Census estimated a population of 3,682 tigers. Notably, 30% of these tigers live outside protected regions, emphasising the requirement for an improved corridor connectivity to guarantee their long-term survival.

Vantara- an Animal Rescue and Conservation Centre

PM Modi inaugurated Vantara, a large-scale wldlife rescue centre established in Jamnagar, Gujarat. This was initiated by Anant Ambani, Director, Reliance Industries and Reliance Foundation.

The rescue centre is home to over 2,000 species, with more than 1.5 lakh animals that have been rescued, most of which are listed as endangered or threatened.

Facilities include a wildlife hospital equipped with MRI, CT scans, and ICUs. The centre focuses on conservation programmes for species like the Asiatic lion, snow leopard and one-horned rhinoceros.

The animals at Vantara are housed in environments that replicate their natural habitats, supporting rehabilitation and conservation efforts. PM's visit highlighted Vantara's significant role in animal rescue and preservation.

During his visit, PM interacted with many animals and petted them. He also released rescued parrots and met with the staff and doctors.

Madhya Pradesh has India's highest vulture population

Madhya Pradesh has a total of 12,981 vultures, compared to 10,845 in 2024 and 8,397 in 2019. This highlights the effectiveness of conservation measures implemented over the years, particularly since 2016. Vultures are scavengers feeding on dead animals. Their role in the ecosystem is crucial.

Seven out of nine vulture species in India come from Madhya Pradesh. The vulture population include—the Indian Long-billed Vulture, White-rumped Vulture, Egyptian Vulture and Red-headed Vulture—and three migratory species—the Himalayan Griffon, Eurasian Griffon and Cinereous Vulture.

In the past, vulture population took a specific hit due to the use of diclofenac, a veterinary drug for treating livestock animals until 2006, when the Indian government imposed a ban on its use. Since the ban, the numbers have significantly increased.The increasing numbers in Madhya Pradesh highlight a positive change in conservation efforts, thereby continuing the need to protect these vital birds.

Smt T R Shubha

Meghalaya's first sea shipment of ginger to Dubai

Meghalaya adds spice to Indian exports with its first-ever sea shipment of 15 metric tonnes of Ginger to Dubai.

Bharat – home of spices

Spice (maritime) routes were established in India around 3000 BCE and accounted for 70% of the global spices. Popular spices like cinnamon, ginger, cloves, pepper etc., were traded through the sea route for thousands of years.

Arabs were the middlemen who bought spices and sold it in Middle East and Europe for long, even before the Portuguese and East India Company made attempts in the 16th century.

Meghalaya's milestone

In Meghalaya's organic triumph, ginger joins the global export league after Khasi Mandarin (orange) and Lakadong turmeric exports last year.

The Eastern Ri-Bhoi Organic Farmer Producer Company (FPC) managed the shipment of ginger with backing from the Agricultural and Processed Food Products Export Development Authority (APEDA) and the Meghalaya government. The co-operative also supported over 500 farmers across many villages in modernising the processing facilities for washing, slicing, drying and packaging ginger resulting in remarkable revenue increase from ₹17 lakh in 2018-2019 to ₹374 lakh in 2023-2024. These co-operatives provide job security, better renumeration and contribute towards state economic growth through the high value agricultural exports.

To further strengthen the export capabilities, Meghalaya government is developing north-east's first organically certified spice processing units at a cost of ₹21 crore. This will process over 10,000 MT of spices annually and benefit 5,500 organic farmers through enhanced storage, solar-powered processing, and direct linkages to international buyers.

DO YOU KNOW ?

- **Ginger in the Middle East, is often called as *"Zanjabil"* and used in teas, curries, biryani, home remedies etc.**
- **India has a strong presence at 'Gulf Food 2025' – world's largest food and beverage trade exhibition and is poised to strengthen its footprint in the global food industry.**

Kum Kavya R

India's first World Peace Centre

India has taken a significant step towards global peace and harmony with the inauguration of the country's first World Peace Centre in Gurugram, Haryana.In alignment with India's spiritual and social landscape, the centre has been established by *Ahimsa Vishwa Bharti* under the guidance of Jain Acharya Lokesh Muni. This will amplify India's voice on global platforms like the United Nations and World Parliament of Religions.

It was inaugurated by former President Ram Nath Kovind, Governor of Punjab Gulab Chand Kataria, Governor of Bihar Arif Mohammad Khan, Haryana Chief Minister Nayab Singh Saini, and Delhi Chief Minister Rekha Gupta. Many eminent spiritual leaders like Sri Sri Ravi Shankar, Morari Bapu, and Govinddev Giri were present for the inaugural event. Swami Ramdev, the founder of Patanjali Yogpeeth, virtually participated and extended his greetings.

Objectives

The Centre will

1. Follow the four global pillars of non-violence, peace, harmony and brotherhood in line with Lord Mahavira's teachings and Indian cultural norms.
2. Emphasise the concept of *"Vasudhaiva Kutumbakam"* (the world is one family), encouraging global cooperation and unity.
3. Focus on character, mental, emotional and physical development to create fully realised individuals who will contribute to the creation of a prosperous and healthy society.
4. Address issues like climate change, ethical leadership and social responsibility.

Haryana CM Nayab Singh Saini said that the land of Gurugram, from where the message of Bhagwad Gita was spread, will now spread the message of peace, harmony and human welfare worldwide.

The inauguration of this centre is not just a testament to India's dedication to peace but also a beacon of hope for a future where dialogue, understanding and cooperation will prevail over conflict and division.

Ahimsa Vishwa Bharti was founded in 2005 by Acharya Dr. Lokesh Muni to spread the message of peace, harmony, non-violence and brotherhood in the world. To build a society and nation free from violence, terrorism, exploitation, poverty, caste distinctions and communalism; and to encourage human values.

Kum Kavya R

'AI Kosha'

with

316 Datasets unveiled

On 6th March 2025, the Union Government of India launched **'AI Kosha,'** a dedicated platform aimed at advancing the nation's artificial intelligence (AI) capabilities. This initiative is a pivotal component of the ₹10,370 crore IndiaAI Mission, designed to provide structured and accessible non-personal datasets to support AI research and development.

At its inception, AI Kosha offers 316 curated datasets, with a significant emphasis on facilitating the creation and validation of language translation tools for Indian languages. This focus underscores the government's commitment to promoting linguistic inclusivity and fostering digital transformation across the diverse linguistic landscape of India.

In addition to language datasets, AI Kosha encompasses a variety of other data resources, including health data from Telangana's open data initiative, 2011 Census data, satellite imagery from Indian satellites, meteorological and pollution data. These datasets are intended to serve as foundational elements for training AI models across multiple sectors, thereby enhancing the scope and applicability of AI solutions in the country.

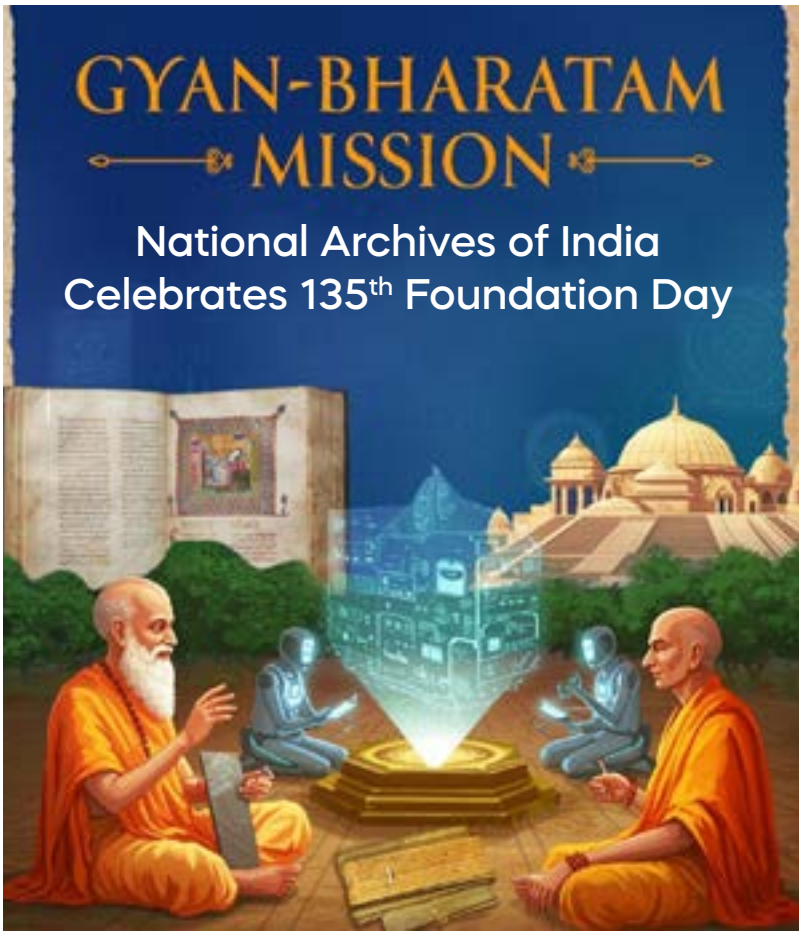
During the launch, Union Minister of Information Technology, Ashwini Vaishnaw, highlighted the collaborative efforts with private entities to further enrich the platform's data repository. He stated that the government is engaging with private players to contribute non-personal data to AI Kosha, aiming to create a more comprehensive and diverse dataset ecosystem.

Complementing the launch of AI Kosha, the government also introduced the IndiaAI Compute Portal, providing startups, researchers and developers with access to 14,000 Graphics Processing Units (GPUs), with plans to add 8,693 more. This initiative is designed to bolster the computational resources necessary for training complex AI models, thereby accelerating the development of indigenous AI technologies.

The government's commitment to building a homegrown foundational AI model is gaining momentum, with 67 applications under evaluation, including 22 large language models. This endeavour signifies India's ambition to develop AI technologies that are tailored to its unique socio-cultural and economic contexts, reducing reliance on foreign technologies and fostering technological self-reliance.

The launch of AI Kosha marks a significant milestone in India's AI journey, providing the necessary infrastructure and resources to catalyse innovation, promote inclusivity and establish the nation as a formidable player in the global AI arena.

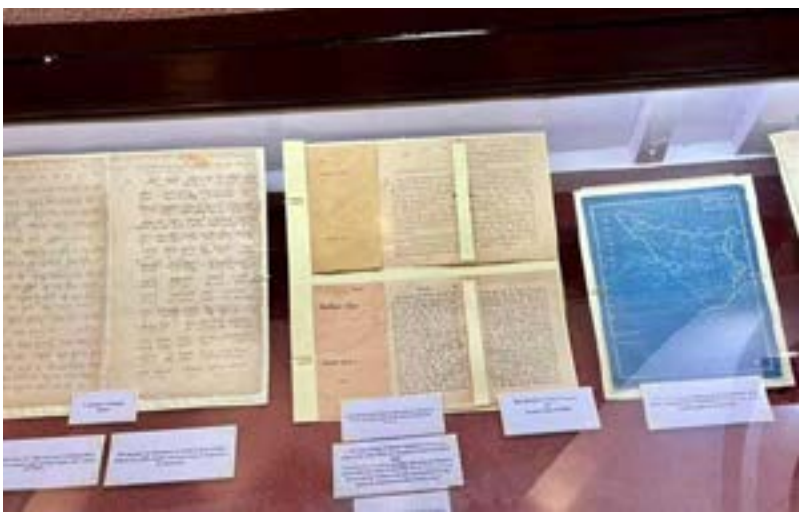
Kum Sunita D Behera



On 11th March 2025, the National Archives of India (NAI) celebrated its 135th Foundation Day with the launch of the 'Gyan Bharatam Mission,' a ground-breaking initiative aimed at preserving and promoting India's extensive archival heritage. Established in 1891, the National Archives has been a crucial institution for safeguarding documents that narrate the country's political, social and cultural history.

Gyan Bharatam Mission, introduced as part of the Union Budget 2025-26, is designed to modernise the preservation of ancient manuscripts, rare books and other significant archival materials. One of the key objectives of this mission is to digitise and catalogue the country's vast collection of historical records. By doing so, it will ensure broader access to scholars, researchers and the public while safeguarding these fragile documents from physical decay. Digitisation will also facilitate international research, allowing global scholars to explore India's intellectual wealth and contribute to cross-cultural knowledge sharing.

At the Foundation Day event, the Union Minister for Culture emphasized the mission's role in combining traditional knowledge with cutting-edge technology. The initiative will create a comprehensive digital repository of India's ancient wisdom, allowing it to be more accessible and relevant in the modern world. Additionally, special grants will be provided to research institutions to support the study of rare texts and manuscripts, encouraging deeper academic exploration of India's intellectual heritage.



Gyan Bharatam Mission also aligns with the government's broader cultural revival goals, fostering a deeper connection with India's historical roots. It aims to bridge the gap between the past and the present, ensuring that future generations can learn from and be inspired by the nation's rich heritage.

The mission represents a significant milestone in India's archival history, paving the way for a new era of preservation, research and national pride.

Shri Sridhar P

Water Sustainability Conference 2025

The Water Sustainability Conference 2025 was hosted by the **Bureau of Water Use Efficiency (BWUE),** the National Water Mission (NWM) and the Ministry of Jal Shakti, in collaboration with **The Energy Resources Institute (TERI)** on 12th March 2025 at NDMC Convention Centre New Delhi.

Water the elixir of life

Water with the simplest of chemical structure but with amazing chemical and physical properties is the true elixir of life. All life is possible because of water. Though earth is a watery planet with 70% of it covered by ocean, fresh water is at a premium. Much of the fresh water is held in glaciers and just 1% of fresh water is available in ponds and rivers for our use. The ever increasing water stress is an uncomfortable truth and has to be dealt with sincerely. The per capita availability of water varies vastly, with India at 1486 cubic meters per year, barely above the world average and consistently dropping every passing year. With increasing agricultural and industrial activity and the ever increasing uncertainty in monsoon patterns due to global warming India is a water stressed country.

Government vision and strategy

The Indian government wants to promote industry government partnership for sustainable water use. The conference focused on enhancing efficiency in water use. Industry leaders, government officials and experts deliberated on innovative strategies for optimisation of industrial water use. More than 20 distinguished speakers shared valuable insights and best practices, contributing to thought-provoking discussions.

Minister of Jal Shakti C. R. Patil stated that under the leadership of PM Modi, transformative initiatives like the **Jal Jeevan Mission** and **Jal Shakti Abhiyan** are revolutionising water management and ensuring sustainable conservation of our water resources. He emphasised that industries must lead water conservation efforts by adopting the **4R approach**— a mantra given by the PM - **Reduce, Reuse, Recycle** and **Recharge**. He also reiterated **Respect** as the **fifth mantra.** Secretary, Ministry of Jal Shakti stressed upon practical options like ground water recharge, effluent management and maintaining river health.

The take away points were impressive and practical. Water use assessment has certainly moved up from raw measurements to scientific interventions that are to be in force like water audits, improved processes, assessing water footprints using BIS standards etc.

Kum Shri Vaishnavi P

Bharat Tex 2025, a landmark event for people in the textile business, was organised by the twelve Indian Textile Export Promotion Councils (EPCs) along with the support of Ministry of Textiles of India. The occasion took place in February in two locations – Bharat Mandapam in New Delhi and India Expo Centre and Mart in Greater Noida.

The event showcased India's capacity for textile manufacture and the rich variety and intricacy of its textile products. Bharat Mandapam housed 14 halls of exhibits ranging from fabric, yarn, scarves, technical garment and denim to state and country specialities, carpets and silks. The Noida venue saw displays of various accessories, that would complement the textiles in the New Delhi venue. The estimated exhibitors were above 5000 from all over the country and world, with over 6000 buyers, more than 1 lakh trade visitors, all organised in an area spanning greater than 2.2 million square metres.

The tagline, "Inspired by the **5F vision**" expands to **"Farm to Fibre to Factory to Fashion to Foreign".** Along with the exhibition of textiles and their products, the event was extended to include more than 60 panel discussions on various topics such as innovation and technology in textile production, global value chains and sustainability, which is the need of the hour. Also included were masterclasses by some eminent experts in the field, CEO roundtables, alongside live demonstrations by weavers and artisans and conferences with international partners. Most notably, this event served as a networking opportunity for all those who participated – by providing a platform for showcasing their niche art and business; exhibitors had the chance to meet and interact with others in their domain.

Promising a "tapestry of experiences", the event was **attended by people from over 120 countries** and witnessed some of the biggest names in the fashion, textile and manufacturing industries. This event is significant to expose India as the textile industry contributes 2% to its GDP growth.

India is

- The 3rd largest exporter of textiles in the world.
- 2nd largest producer of cotton, polyester, silk, viscose.
- Textiles is the 2nd largest employer in the country (after agriculture).

This event was a testimony to India's dedication to this industry. This largest global textile event in our country now places us in a significant position in the world, bringing our rich heritage of Indian textile weaves and crafts and our continued efforts to adapt those forms for the modern consumer to the forefront.

Col Shashidhar M V (Retd)

8th MCA Barge LSAM II launched

The eighth and final Missile Cum Ammunition (MCA) barge, LSAM 11(Yard 79) was inducted into the Navy on 14th February 2025 at the Naval Dockyard, Mumbai. Seven of these MCA barges designed to support the operational requirements have been inducted.

"LSAM" stands for **"Landing Ship Ammunition".** These are barges designed to transport ammunition and supplies to Indian Navy platforms.

These barges have been indigenously designed by the shipyard in collaboration with an Indian Ship Designing firm and successfully model tested for seaworthiness at Naval Science and Technological Laboratory (NSTL), Visakhapatnam.

Role of MCA Barge

The MCA barge constructed by SECON Engineering Projects Pvt Ltd (MSME) will facilitate the transportation, embarkation and disembarkation of articles or ammunition to Indian Navy platforms both alongside jetties and at outer harbours.

With the delivery of LSAM 11, SECON have completed the contractual delivery of all eight barges to the Navy.

MCA barges are proud flag bearers of **Make in India** initiatives of GoI and highlight the Navy's commitment to encourage MSMEs. A significant enhancement to the logistics capabilities these barges are crucial for the transportation of missiles and ammunition to various naval platforms.

The MCA barges are part of India's ongoing efforts to bolster its naval logistics and operational readiness through indigenous design and manufacturing initiatives. The LSAM 11 is expected to play a vital role in supporting naval operations by ensuring efficient supply chain management for critical munitions.

Col Shashidhar M V (Retd)

Integrated life support system for TEJAS LCA

Overview

On 4th March 2025, DRDO successfully conducted high-altitude trials of an indigenous life support system for pilots, on board **light combat aircraft** (LCA) Tejas.

This cutting-edge life support systems with 90% indigenous content have been designed to generate and regulate breathable oxygen for pilots during flight thus eliminating dependence on traditional cylinder-based oxygen. Generation of real-time oxygen will effectively enhance pilot endurance and operational effectiveness.

Make in India collaboration

The system was manufactured by L&T as a development-cum-production partner of the DRDO and Defence Bio-Engineering & Electro Medical Laboratory (Bengaluru-based lab under the DRDO) conducted the high-altitude trials of the Indigenous On-Board Oxygen Generating System (OBOGS) based Integrated Life Support System (ILSS) for the LCA Tejas aircraft. With suitable modifications the same can be also adapted for use in MiG-29K and other fighter aircrafts by the IAF.

The ILSS underwent rigorous testing on the LCA-prototype vehicle-3 aircraft of Hindustan Aeronautics Limited (HAL) meeting stringent aero-medical standards in varied flight conditions, including altitudes of up to 50,000 feet above mean sea level and high-G manoeuvres. The performance evaluations covered following critical aspects:

- Oxygen concentration.
- Demand breathing.
- Availability of 100 % oxygen.
- Aerobatic manoeuvres at required altitudes for full functional testing of Anti – G Valve.
- Breathing Oxygen System (BOS) ON during taxying, take off, cruise, G turns and re-join approach and landing.

Flight clearance from **Centre for Military Airworthiness & Certification (CEMILAC)** ensured the system successfully met all specified parameters with both National Flight Test Centre and Directorate General of Aeronautical Quality Assurance

- **A "high-G manoeuvre" in aviation refers to any flight manoeuvre that subjects the pilot and aircraft to forces of acceleration (G-forces) significantly greater than the normal 1G experienced on Earth, often causing physiological effects like blackouts or loss of consciousness.**
- **The Anti-Gravity Valve (Anti-G Valve) is a durable, pneumatic pressure-regulating valve that automatically reacts to positive G-forces acting on the aircraft and crew members.**

closely monitoring successful conduct of the trials.

OBOGS-ILSS SYSTEM

The OBOGS technology uses a zeolite molecular sieve to separate oxygen from air providing a reliable and efficient method for oxygen generation. This system is integrated into the ILSS to ensure comprehensive physiological protection for aircrew during high-altitude and high-speed flights. The ILSS includes backup oxygen systems to ensure safety during emergencies.

It integrates 10 Line Replaceable Units, such as the Low-Pressure Breathing Regulator, Breathing Oxygen System (BOS), Emergency Oxygen System, Oxygen Sensor and Anti-G valve, to enhance pilot endurance and operational effectiveness.

The OBOGS-ILSS ensures real-time oxygen generation by way of several key components and technologies such as

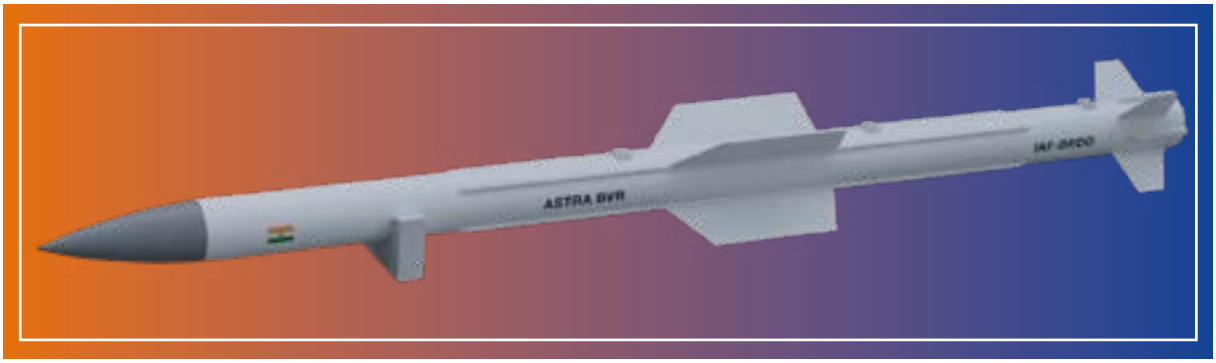
- Zeolite molecular sieve technology involves Pressure Swing Adsorption (PSA) where air from the aircraft's engines is processed to extract oxygen, which is then supplied to the pilots.
- Continuous breathing gas supply ensures that oxygen is available real-time during flight.
- Integration with multiple components work together to ensure that pilots receive the necessary oxygen levels during different flight conditions such as high-G manoeuvres and varied altitudes.
- Real-time oxygen management ensures that pilots receive optimal oxygen levels, enhancing their endurance and operational effectiveness.

Acknowledging this remarkable achievement, Raksha Mantri Rajnath Singh congratulated the DRDO, IAF & PSUs on their contribution towards our nation's commitment to cutting-edge defence technologies in alignment with the vision of Viksit Bharat 2047.

● Zeolite is a group of several micro porous, crystalline aluminosilicate minerals commonly used as commercial adsorbents and catalysts. They mainly consist of silicon, aluminium and oxygen.

● Adsorption is the adhesion of atoms, ions or molecules from a gas, liquid or dissolved solid to a surface. This process creates a film of the adsorbate on the surface of the adsorbent. This process differs from absorption, in which a fluid (the absorbate) is dissolved by or permeates a liquid or solid (the absorbent).

Col Shashidhar M V (Retd)



ASTRA MISSILE

test fired from LCA AF MK1

Milestones

- **2003** - Astra missile first tested and underwent several successful trials before it was inducted into IAF in 2019.
- **2019** - User trials and successful test-firing from the Sukhoi Su-30MKI combat jet by using a lethal and state-of-art Beyond Visual Range Air-to-Air Missile.
- **2021-** TEJAS was inducted into the IAF and has seen combat service during the India-China border conflict.
- **2022** - Defence Ministry signed a contract with BDL for the supply of Astra MK-I missiles and associated equipment for the IAF and the Navy at a cost of ₹2,971 crore.
- **2023 -** Indian Air Force (IAF) places two contracts with Bharat Dynamics Limited (BDL) for the indigenous **ASTRA- Beyond Visual Range Air to Air Missile (BVRAAM).**
- **March 2025** - Successful test-firing of the homegrown ASTRA (BVRAAM).
- **April 2025 -** The rollout of the TEJAS MK-1A from HAL Nashik will add a new chapter for India's indigenous defence capabilities and transformation.

Successful test launch

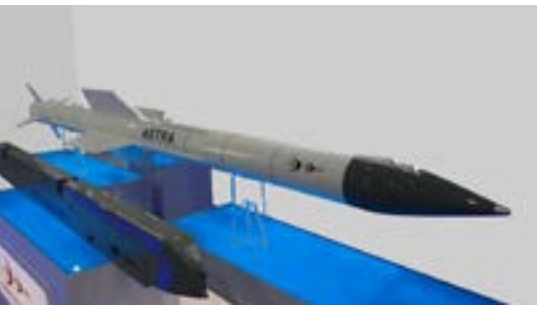
On 12th March 2025, the Aeronautical Development Agency (ADA) responsible for the design and development of India's Light Combat Aircraft (LCA) programme successfully conducted the test-launch of the indigenous Astra (BVRAAM) from LCA Tejas AF MK1 prototype fighter aircraft (off the coast of Chandipur in Odisha). The test-firing is a significant step towards the induction of the LCA AF MK1A variant into service. It successfully demonstrated a direct hit on a flying target with all subsystems performing accurately and meeting mission parameters and objectives.

Already in service with IAF, the Astra missile is designed for all-weather, day and night operations when mounted on fighter aircraft. The development of multiple variants of the missile (ASTRA-Mk2) is underway to cater to specific requirements.

An integrated team comprising scientists, engineers and technicians from ADA, DRDO, Hindustan Aeronautics Limited (HAL) with additional support from the Indian Air Force and the test range team were behind this successful launch.

ASTRA Missile

- The Astra air-to-air missile is a state-of-the-art missile system developed by DRDO.
- A beyond visual range air-to-air missile, it can be launched from various aircraft, including the Su-30MKI, Mirage-2000 and TEJAS fighter jets.
- The missiles will also be fitted on the upgraded MiG-29 jets.
- Designed to engage and destroy aerial targets at various ranges and altitudes.
- Equipped with an on-board radio proximity fuse that enables it to detonate when it is close to its target, ensuring maximum damage.
- Capable of engaging both agile and non-manoeuvring targets, making it highly versatile in air-to-air combat situations.



Salient Features

- **Altitude:** Can engage targets at 20 km altitude.
- **Range:** 110 km with high-speed precision targeting.
- **Guidance system:** Equipped with inertial navigation, mid-course updates and active radar homing for precise hits.
- **Speed:** Capable of Mach 4.5 (4.5 times the speed of sound).
- Provides large stand-off range thus significantly reducing pilot risk from enemy air defence.
- Uses a solid-fuel rocket motor and an advanced guidance system to achieve its exceptional performance.
- Ability to track and engage targets even in adverse weather conditions and electronic countermeasure environments.

TEJAS LCA

The Light Combat Aircraft (LCA) TEJAS on which the Astra will be equipped is an indigenous fighter aircraft designed & developed by Hindustan Aeronautics Limited (HAL) being the first of its kind. The aircraft was designed to replace the aging MiG-21s and other fighter aircrafts in service.

Salient features

- **Multi Mission:** A lightweight, single-engine, multirole fighter aircraft capable of air superiority, ground attack and reconnaissance missions.

- **Versatile:** Has a maximum speed of Mach 1.8 and a range of over 3,000 km.
- **Ultra - modern Avionics:** Equipped with weapon systems including an advanced radar, electronic warfare suite and a wide range of air-to-air and air-to-ground missiles.
- Cockpit is designed to provide the pilot with excellent situational awareness, with a modern glass cockpit and a heads-up display.

Conclusion

Astra missile fitted on Tejas LCA will prove to be a force multiplier due to its pinpoint accuracy and long-range capability in taking out aerial threats. It ensures IAF's air superiority and aerial combat effectiveness and eliminates foreign dependency for importing air-to-air missiles.

A Make in India story supporting self-reliance in defence technology, the missile is a crucial addition to India's air defence capabilities.

Law of Insurance in India

The concept of insurance has a long history in India, with references in the ***Manusmriti*** and ***Arthashastra***.

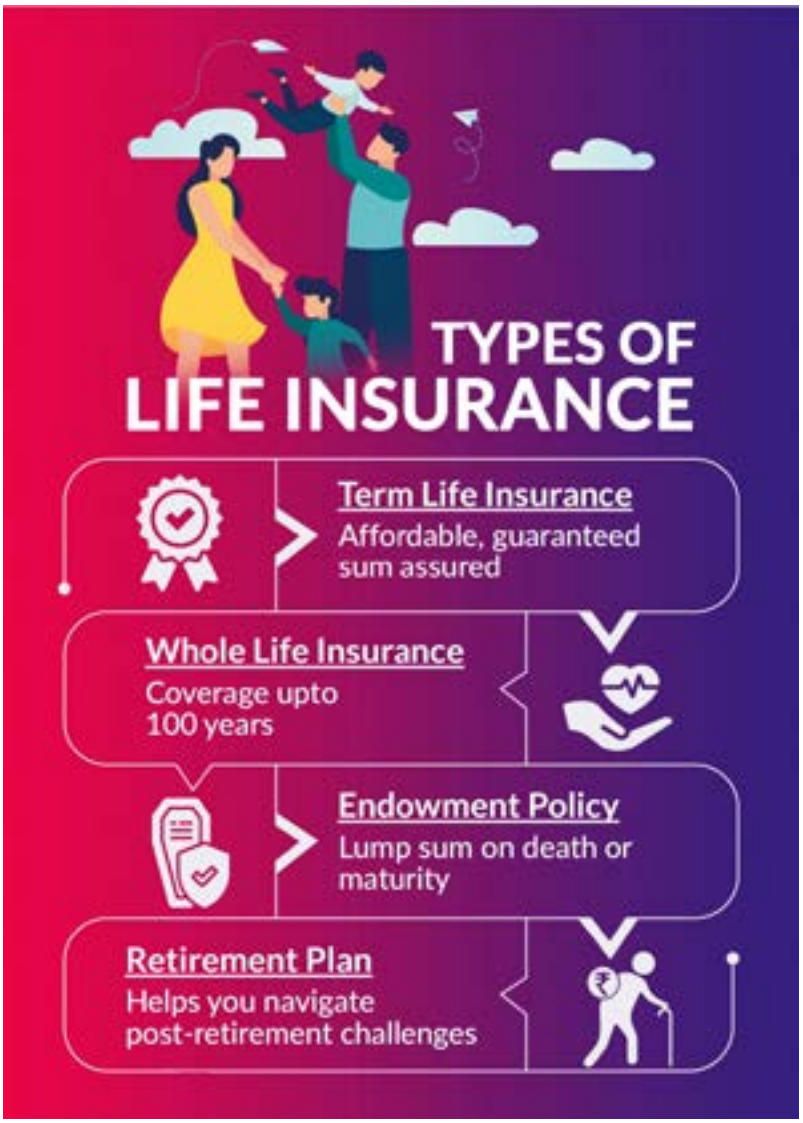
Background of insurance in India

'Insurance' refers to an agreement where in the first party, i.e., the 'insurer' provides protection or indemnity to the second part, i.e., the 'insured' against a possible contingency. The concept of insurance has a long history in India, with references in the ***Manusmriti*** and ***Arthashastra***. The law of insurance contains a framework to govern the insurance business and contracts in relation to the same.

Insurance works on the principle of *uberrimae fidei,* which means in 'utmost good faith'. It implies that both the insurer and insured must disclose all the material facts about the person or property being insured. An entity that provides insurance is known as an insurer and the entity to which the insurance is provided is known as the insured.

A snapshot of the evolution of insurance law in India

- **Life insurance:** The evolution of insurance in the past few centuries in India dates back to the year 1818, with the establishment of the Oriental Life Insurance Company in Calcutta. The returns of insurance companies in India started getting published in 1914. The first statutory measure in India to regulate the life insurance business in modern India, was the Indian Life Assurance Companies Act passed in 1912.
- **General insurance:** The establishment of the Indian Mercantile Insurance Company Ltd. in Bombay in 1907, brought to fore the requirement for regulation of insurance apart from life insurance.



Accordingly, the Insurance Act was passed in 1938 which is a consolidated piece of legislation governing various forms of insurance.

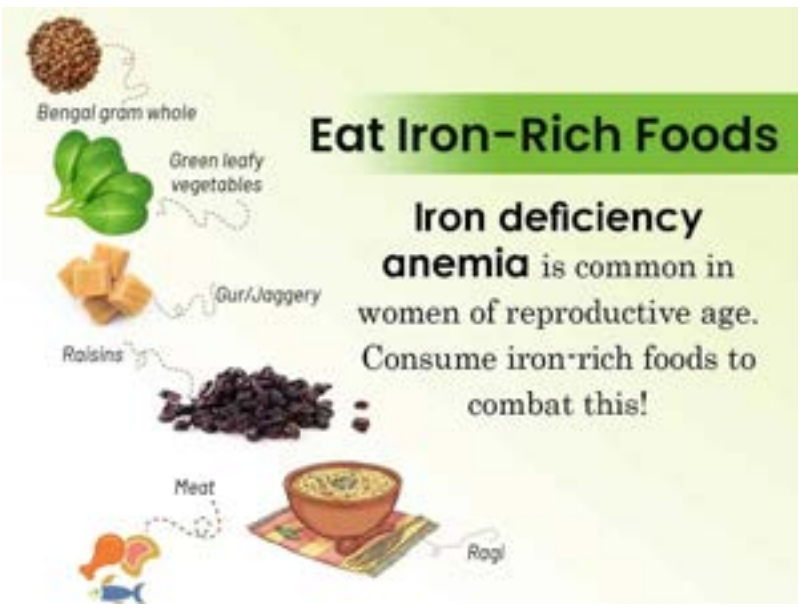
- **Nationalisation of insurance:** The Life Insurance Corporation Act, 1956, which set up the Life Insurance Corporation of India (LIC), nationalised the management of the life insurance business in India, and the General Insurance Business (Nationalisation) Act, 1972 nationalised the general insurance business as well.
- **The Insurance Regulatory and Development Act:** However, subsequent to the economic reforms and privatisation measures undertaken in India, a committee was formed to assess the impact of the measures on the insurance industry. Based on the recommendations of the committee, the Insurance Regulatory and Development Act was passed in 1999. This Act carried out amendments to the Insurance Act, 1938 and established the Insurance Regulatory and Development Authority of India as a statutory regulator to regulate and promote the insurance industry in India and to protect the interests of the holders of insurance policies.
- **Other legislations governing insurance:** The Marine Insurance Act, 1963, which relates to the maritime industry, ensures that any loss or damage of ships, cargo or any transport was given coverage. The Motor Vehicles Act, 1988 governs the usage of motor vehicles and includes provisions for insurance of vehicles against third party risks.

Third-party risk is any risk brought on to an organisation by external parties in its ecosystem or supply chain. Such parties may include vendors, suppliers, partners, contractors or service providers, who have access to internal company or customer data, systems, processes or other privileged information.

Remedies for girls' health issues

Boosting iron, haemoglobin and strength

In India, where cultural traditions and natural remedies have long been intertwined with daily life, there is a treasure trove of wisdom that can empower girls to maintain robust health. Among the key concerns for girls, especially during adolescence, are low iron levels, haemoglobin deficiency and overall physical strength. These issues often arise due to poor nutrition or lifestyle factors. Fortunately, Indian households are rich with natural remedies rooted in Ayurveda, regional diets and age-old practices that address these concerns effectively.



Importance of iron, haemoglobin and strength for girls

Iron is a critical mineral that supports the production of haemoglobin, a protein in red blood cells responsible for carrying oxygen throughout the body. Low levels of iron and haemoglobin often lead to anaemia, a condition particularly prevalent among Indian girls. According to studies, anaemia affects nearly 50% of adolescent girls in India, resulting in fatigue, weakness and reduced immunity.

Dietary powerhouses

Indian cuisine offers a variety of iron-rich foods that are affordable, accessible and easy to incorporate into daily meals. One of the most potent remedies is jaggery *(gur)*, traditional unrefined sugar packed with iron and minerals. Consuming a small piece of jaggery after meals or combining it with roasted

sesame seeds *(til)* can significantly boost iron intake. Sesame seeds themselves are a storehouse of iron, calcium and magnesium, making them an excellent snack for growing girls.

Leafy greens like spinach *(palak),* fenugreek *(methi),* and amaranth *(chaulai)* are staples in Indian kitchens and are rich in iron and folate, both essential for haemoglobin production. A simple preparation of *palak saag* or *methi paratha* not only tastes delicious but also delivers vital nutrients. Pairing these greens with vitamin C-rich foods like tomatoes, amla or citrus fruits enhances iron absorption.

Lentils *(dal),* particularly *masoor dal* (red lentils) and moong dal (green gram) are excellent plant-based sources of iron and protein. A bowl of dal tadka, seasoned with turmeric and cumin, provides a nourishing meal that supports blood health. Additionally, incorporating dates *(khajoor)* soaked in milk or eaten with a handful of almonds offer a sweet, iron-packed boost that girls can enjoy as a snack.

Herbal remedies from Ayurveda

One standout remedy is *moringa* or "drumstick tree." Its leaves are a superfood, brimming with iron, vitamins and antioxidants. A simple *moringa* leaf powder mixed into soups or smoothies can work wonders for haemoglobin levels. Another gem is *ashwagandha,* an adaptogenic herb known for building strength and stamina. A teaspoon of *ashwagandha* powder with warm milk before bed not only improves energy but also supports overall resilience.

Amla, revered as a *rasayana* (rejuvenator) in Ayurveda, is a powerhouse of vitamin C and iron. Eating fresh amla, drinking its juice or consuming it as a *murabba* (preserve) can enhance blood quality and immunity.

For girls experiencing fatigue, a concoction of beetroot juice with a pinch of black salt and ginger—common in Indian homes—serves as a natural haemoglobin booster.

Traditional practices for strength

Beyond diet, traditional Indian practices like yoga and *pranayama* offer girls a way to build physical and mental strength naturally. Poses such *as surya namaskar and tadasana* (mountain pose) improve circulation, enhance muscle tone and increase energy levels.

Another cultural habit is the use of ghee (clarified butter) in cooking. Rich in healthy fats, ghee supports stamina and aids in the absorption of fat-soluble vitamins, which indirectly boosts iron utilisation. A spoonful of ghee in dal or roti is a small yet impactful addition to a girl's diet.

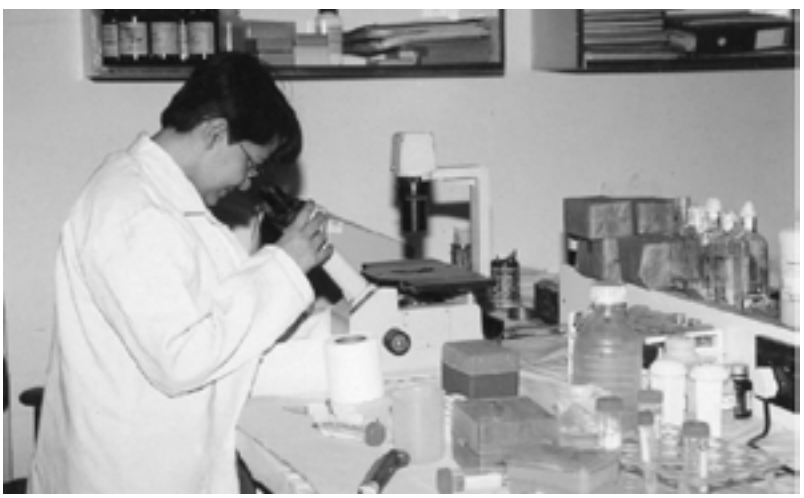
It is necessary to prioritise girls' health using the resources already within our reach. In India, where modern medicine meets ancient wisdom, natural remedies offer a sustainable and culturally resonant solution. Encouraging girls to embrace these foods, herbs and practices not only addresses immediate concerns like low iron and haemoglobin but also fosters lifelong habits of strength and resilience.

Folate, a nutrient in the vitamin B complex that the body needs in small amounts to function and stay healthy, helps to make red blood cells.

Dr. Chandrima Shaha

Dr. Chandrima Shaha (born on 14th October 1952) was the first woman president of the Indian National Science Academy (INSA), the apex body of scientists, from 2020 to 2022. She is currently a JC Bose Chair distinguished professor at the Indian Institute of Chemical Biology, Kolkata. It is very interesting to learn about the diverse accomplishments of this inspiring woman scientist. She is a prolific writer, photographer, a professional cricketer who was the Vice captain of the West Bengal's first women's cricket team and the first woman cricket commentator for All India Radio!

Chandrima was born in Calcutta to accomplished parents. Her father Shambhu Shaha was best known as Rabindranath Tagore's photographer. A science graduate turned a creative photographer, his work encompasses a wide range of subjects. Her mother Karuna was a painter, singer, champion of women empowerment and led movements against the British.



About her parents, Dr. Chandrima writes, "My interest in science was kindled by my father, a remarkable teacher. Although by profession he was not a scientist, he built me a small laboratory complete with a light microscope, Bunsen burner, test tubes and some chemicals. My father believed in holistic education and taught me carpentry, photography, gardening and the reading of classic literature. I spent much enjoyable time with him doing various projects like

looking at pond-water droplets under the microscope or putting together a circuit for a small radio. As a result, my interest in scientific enquiry got deeply rooted while I was very young. Also my childhood acquaintances were largely from the fine arts faculty because both my parents were well-known artists of the Bengal school; and conversations at home generally revolved around the art scenario the world over, occasionally sprinkled with discussions on a wide variety of culinary delights."

During her school days, she loved to run after insects and collect small animals. "My mother was never interested in my odd desire to keep a variety of snakes and turtles at home, but was tolerant of my inordinate love for animals and appreciated the creative part of my endeavours", quips this biologist. Holidays meant collecting caterpillars to watch them metamorphose into butterflies, maintaining detailed photographic records of the events, using a Leica camera fitted with a bellow for close-ups. This probably made her take up research in understanding the events of reproduction and to understand the fascinating phenomenon of how life begins. She adds, "Childhood events being most essential for scientific and philosophical development, I feel that the early influences that shaped my future interests were my family and committed school teachers."

While in college, she developed other interests to become vice-captain of the Bengal women's cricket team at a time when women's cricket was at a nascent stage. "Cricket brought a completely different flavour into my life because team activity was very enjoyable. **Our success in winning the National Championship for three consecutive years was certainly delectable!** My parents were supportive of my interest in sports and gave me the freedom to do whatever I most preferred". Shaha graduated with a Master's degree from Calcutta University with endocrinology as specialisation.

Indian National Science Academy (INSA)

With the limitation of resources in that period when the country was opening up towards research in specialised fields, finding a suitable laboratory to pursue her interest in reproductive biology research itself was a challenge. Fortunately, she got a placement at what is now known as CSIR- Indian Institute of Chemical Biology (IICB) and completed her doctoral studies there. She then went to Kansas University Medical Center in the United States with a Ford Foundation fellowship, to do post-doc research exploring female reproductive physiology. Dr. Chandrima worked on the mechanisms related to **ovarian steroidogenesis** and on studying similar phenomena in male reproductive organs. Though life was not easy there, she took a deep dive into productive lab work!

In 1984, Chandrima Shaha returned to her motherland, to join the National Institute of Immunology (NII) in New Delhi, then an upcoming institution. With sheer commitment and team work, she went up the ladder to become its Director a few decades later.

Talking about her bold decision to join such a new institution, and to face teething problems in the initial

years, she recalls, “I now look back with great fondness at that period of instability, surprises and continuous pressure. I have realised that there are very many experiences in life which appear different when you look back at them over the distance of time rather than when you are actually undergoing them”. Here, she started a laboratory with a group of people interested in exploring the possibilities of developing a vaccine related to fertility.

Her research interests also centre on the elucidation of the paths that lead to death of cells under varying physiological conditions. This helps researchers analyse conditions for diverse organisms to thrive. Her work on understanding how parasite death occurs is important as successful killing of the Leishmania parasite causing the deadly Kala-azar disease. Her work on understanding how cancer cells survive and divide at a very fast rate provides insight into better cure and discovery of new medicines.

Dr. Chandrima served as the chair of the Department of Biotechnology (DBT) task force on biotechnology based programme for Women, member of task force on human genetics and genome analysis, and basic research in modern biology, scientific advisory board, Indian Council of Medical Research (ICMR).

She is currently serving as a member of the various governing councils, scientific advisory committees and task forces working to improve the health and living conditions of public.

She is an elected fellow of The World Academy of Sciences, the Indian Academy of Sciences, the National Academy of Sciences, and the West Bengal Academy of Science and Technology. She served as vice-president of international affairs of INSA and as a member of the councils of all three national academies.

At NII, she initiated a programme called **Science Setu** which allowed scientists to teach undergraduate students, identify the talented youngsters and direct them towards research.

Awards / accolades

- Ranbaxy Science Foundation Award for basic sciences
- J.C. Bose National Fellowship
- Shanti Swarup Bhatnagar Medal of INSA
- Shakuntala Amir Chand Award of the Indian Council of Medical Research
- Prof. Archana Sharma Memorial Award of the National Academy of Sciences
- Darshan Ranganathan Memorial Award
- Life Time Achievement Award of Biopharma Honours
- Chandrakala Hora Memorial Medal

The contribution of Dr.Chandrima to the field of life sciences is mind blowing and especially her work on death of cells, cellular defence systems and evolution of species during stress.

This great researcher, administrator, institution builder and a teacher is a source of inspiration for many youngsters to take up research!

Steroidogenesis is the multistep process for biosynthesis of steroid hormones from cholesterol.

Flying Officer Tanushka Singh

The Jaguar, a symbol of precision and power in the Indian Air Force, now carries a new legacy: Flying Officer Tanushka Singh, the first woman permanently assigned to its elite squadron. This isn't merely a career milestone; it's a seismic shift, echoing the growing strides towards gender parity in India's defence forces.

Tanushka's narrative is a compelling blend of heritage and ambition. Born into a family with deep military roots, she initially envisioned a path within the Indian Army. However, the expanding horizons for women in the IAF ignited a different passion, one that would lead her to the skies.

Her journey was paved with rigorous training at the Air Force Academy, a crucible where dedication and skill were forged. Mastering the Hawk MK 132 was a testament to her unwavering resolve, preparing her for the demanding role that awaited her. The Jaguar, a tactical asset of immense importance, now becomes her domain.

Hailing from Mangaluru, she proudly identifies as a "Kudla girl," her roots a foundation for her soaring aspirations. Her academic achievements, culminating in a B.Tech from Manipal Institute of Technology, underscore her intellectual prowess, a quality that complements her exceptional flying abilities.

Her family's celebration is a chorus of pride, a recognition of a dream realised. Yet, Tanushka's achievement transcends personal triumph.

It serves as a beacon, illuminating the path for aspiring women, demonstrating that the sky is not a limit, but a frontier.

IAF's commitment to gender inclusion is manifest in Tanushka's presence. She stands on the shoulders of pioneers, contributing her own chapter to the evolving narrative of women in combat aviation. Her assignment to the Jaguar squadron is a powerful testament to the breaking of long-held barriers, a symbol of progress that resonates far beyond the cockpit.

As she embarks on her operational duties, Tanushka will face complex missions, demanding precision, resilience and unwavering dedication. Her journey is a proof of the capabilities of women in combat roles, challenging stereotypes and fostering a more inclusive and diversified Indian Air Force. **Each sortie she undertakes is a step towards a new era, inspiring countless others to follow her path.**

Smt Ramamani N

Major R. Parameswaran

Major Ramaswamy Parameswaran was born on 13th September 1946 in Bombay, Maharashtra, to K.S. Ramaswamy and Janaki Ramaswamy. He completed his schooling at SIES High School and graduated in science from SIES College. He joined the Officer Training Academy in Chennai and graduated on 16th June 1972.

He was commissioned into the 15 MAHAR battalion of the Indian Army and later served with the 5 MAHAR during operations against insurgency in Mizoram and Tripura. In 1981, he married Uma, a poet and writer.

The MAHAR Regiment was initially intended for the Mahar community and is now one of the most diverse regiments in the Indian Army. In the 19th century, the British East India Company recruited Mahar soldiers for its Bombay Army. However, after the First War of Independence in 1857, the British demobilised the Mahar troops.

When World War I began in 1914, the British expanded recruitment and formed a Mahar battalion in 1917, which was disbanded in March 1921. In 1941, Dr. B.R. Ambedkar urged the British government to enlist Mahar troops, leading to the formation of 1 MAHAR in Belgaum in October 1941, establishing the modern Mahar Regiment. The regiment's war cry is ***"Bolo Hindustan Ki Jai."***

Major Parameswaran participated in many counter-insurgency operations in the North East, earning a reputation for his strong leadership. Known as "Parry Sahib," he often led challenging patrols and ensured his area was safe. He was also kind to local people.

He was selected to serve with the 8 MAHAR during Operation PAWAN, being one of the first troops deployed in Sri Lanka in 1987.

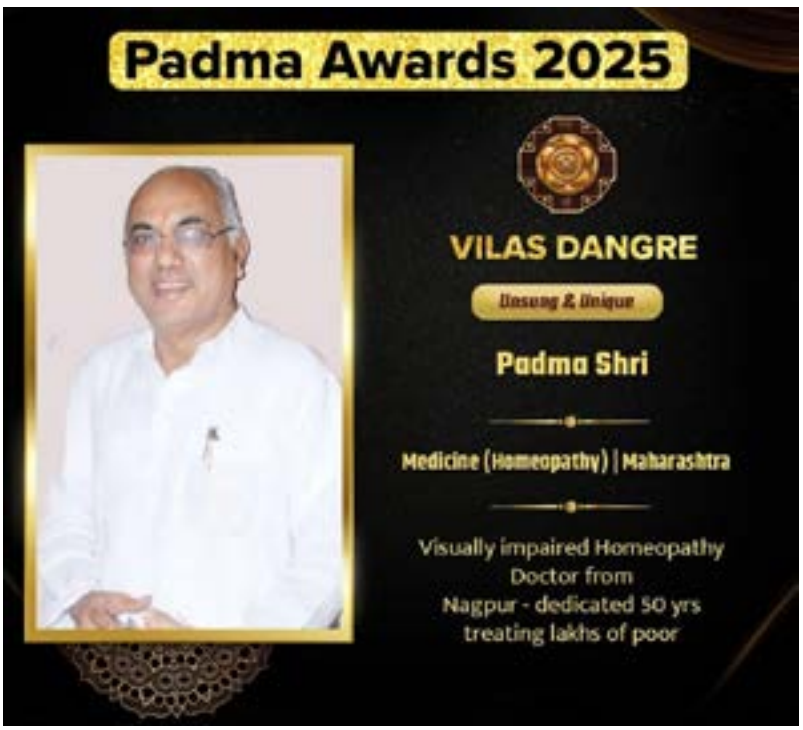
Under the Indo-Sri Lanka Agreement, numerous Indian Army units were dispatched to Sri Lanka to restore peace. Among them was the Mahar Regiment, led by Major Parameswaran, who played a crucial role in Operation Pawan. On the night of 25th November 1987, while returning from a search operation, his column was ambushed by militants. Demonstrating remarkable presence of mind, he encircled the enemy and charged with unyielding bravery, catching them off guard. In the ensuing hand-to-hand combat, he was shot in the chest, yet his spirit remained unbroken. He bravely seized a militant's rifle and retaliated, claiming victory even in his final moments. Gallantly, he continued to lead and inspire his men until his last breath, clearing the ambush. His actions led to the elimination of five militants and the capture of three rifles and two rocket launchers. Major Parameswaran was posthumously awarded the prestigious Param Vir Chakra, for his extraordinary courage and ultimate sacrifice.

DR. VILAS DANGRE

Dr Dangre's story is one of compassion and dedication. For over five decades, his Nagpur clinic has served as a beacon of hope, treating more than one lakh patients from all walks of life for nominal fees. His expertise in severe skin diseases and complex mental health issues has provided relief to many turned away by others. With his exceptional skill in diagnosing ailments through pulse examination, or *nadi,* he has become a revered healer, trusted by luminaries like Balasaheb Thackeray, Lata Mangeshkar, Atal Behari Vajpayee and LK Advani during their critical times.He helped Narendra Modi regain his voice during a crucial election campaign after he lost it at a rally in Nagpur in 2014.

At 70, Dr Vilas Dangre has been honoured with the Padma Shri for his exceptional contributions to medicine. This recognition highlights his dedication to serving the needy through homoeopathy.

Born in Chandurbazar, Amravati, in 1954, Dr. Vilas Dangre's journey has been shaped by spirituality and service. As a young boy, he joined the Rashtriya Swayamsevak Sangh (RSS) and later the Ramakrishna Math, which instilled in him the values of discipline and selflessness. **Even after losing his eyesight a decade ago, Dr Dangre remains committed to healing and training others in his methods while continuing his practice**. "Spirituality has guided me; serving humanity is my mission," he says. **"I believe in healing without expecting anything in return."**



After overcoming a life-threatening accident and health crisis, Dr Dangre views each moment as a gift and aims to help those in need. **A dedicated philanthropist, he has donated much of his earnings to social causes. His Padma Shri award recognises not just his medical achievements but also his enduring spirit of compassion.** Dr Vilas Dangre's story is one of unwavering dedication to healing, driven by spirituality and a commitment to bettering humanity.

Smt Vaishnavi V

All about cities
Guwahati

CURIOSITY CORNER

I Quick Five! Choose one or as many options possible.

1 Located in this state - _____ (Arunachal Pradesh, Manipur, Assam, Meghalaya)

2 Ancient name of this city - _____ (Pragyothishpura, Pataliputra, Vihara, Avantika)

3 Rivers that flow through the city - _____ (Ganga, Brahmaputra, Yamuna, Hooghly)

4 Located at the foothills of this plateau - _____ (Chotanagpur, Malwa, Karbi Anglong, Shillong)

5 Official language of the city - _____ (Hindi, Assamese, Bengali, Khasi)

II Crossword

Across

2. Guwahati is also known as the 'city of _____'. (7)

3. This wildlife sanctuary near Guwahati is famous for housing a huge population of one-horned rhinoceros. (8)

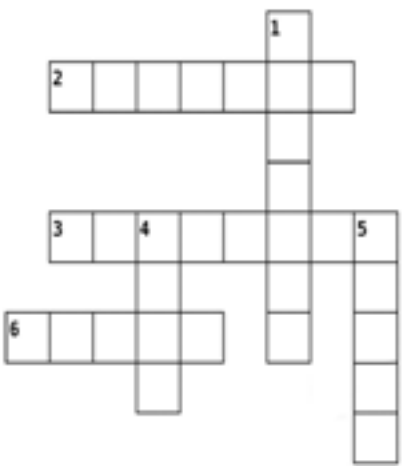
6. Also known as the '_____ of the East'. (5)

Down

1. Umananda Island located here is also known as _____ Island. (7)

4. This festival, marking the Assamese New Year, is celebrated with great enthusiasm. (4)

5. The word 'Guwahati' is derived from the Assamese words *'Guwa'* and *'Haat'*. *Haat* means marketplace. Can you guess what *Guwa* means? (Clue - a type of nut) (5)



III Landmarks and attractions

With the help of the options given in the table, find out the famous landmarks of Guwahati.

Assam State Museum	Chitrachal hill	Kamakhya temple	Majuli
Basistha Temple	Umananda	Srimanta Sankardev Kalakshetra	Nilachal hill

1. This temple in Guwahati is renowned for its unique Tantric rituals and is one of the major pilgrimage sites in the city.
2. Cultural complex dedicated to preserving and promoting the art, culture and traditions of Assam.
3. This temple is known for its serene setting and association with the one of the great sages Vasisht.
4. Home to the famous Kamakhya Temple, this hill is one of the most prominent hills in Guwahati. It offers spiritual experience and panoramic views of the city and the Brahmaputra River.
5. World's smallest inhabited river island located in Guwahati.

IV Unesco World Heritage Sites in Assam

Match the right option in column B with the clues given in column A

A	B
Royal burial mounds of the Ahom Dynasty, established in the 13th century.	Manas wildlife Sanctuary
Recognized for its rich biodiversity, including endangered species such as the Assam roofed turtle, hispid hare, red panda, golden langur and pygmy hog.	Majuli
World's largest river island nestled in the Brahmaputra. (Tentative list of UNESCO)	Moidams of Charaideo

Answers on page 66

Smt Ghana Saraswathy M

Kanhakund

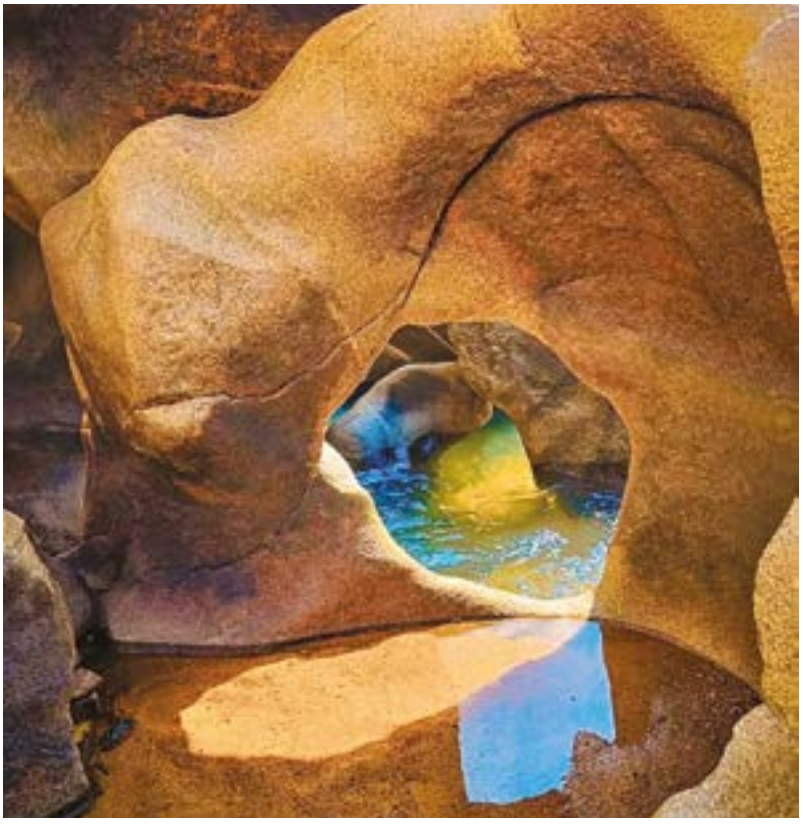
Grand Canyon of Odisha

Deep within the scenic landscapes of Odisha, Kanhakund stands as a breathtaking retreat for nature lovers. Known for its pristine waters, dense forests and cascading waterfall, this secluded destination offers a refreshing escape from the hustle and bustle of city life. With its untouched beauty and tranquil surroundings, Kanhakund is a paradise waiting to be explored.

The name "Kanhakund" is believed to be derived from Lord Krishna, who is often lovingly called "*Kanha*" in Indian traditions.

The highlight of Kanhakund is its crystal-clear pool, formed by a gently flowing waterfall. The water remains cool and inviting throughout the year, making it an ideal spot for visitors to relax and soak in the serenity. Tall trees, lush greenery and the soothing sounds of birds enhance the experience, creating a peaceful ambience that feels almost magical.

For adventure seekers, the area around Kanhakund offers exciting trekking trails through rocky terrains and thick forests. Monsoon season turns the landscape into a verdant paradise, with the waterfall at its most spectacular, though the trails can become slippery. Wildlife enthusiasts may also spot exotic birds and small animals, adding to the charm of the place.



Kanhakund is an enchanting destination for those seeking peace, adventure and a deep connection with nature. Whether you wish to capture its beauty through photography, enjoy a refreshing dip in the cool waters or trek through the wilderness, this hidden gem promises an unforgettable experience.

Best time to visit

The most favourable time to visit is between October and March, when the weather is pleasant and nature is in full bloom. Monsoons (July to September) enhance the scenic beauty, but the trekking paths can be tricky to navigate during this time.

Sundargarh is the nearest town. Balangir is accessible by train. The nearest airport is in Bhubaneswar.

Smt Vaishnavi V

Sangai Deer

Sangai or the Indian Eld's deer, the state animal of Manipur is one of the three subspecies of Eld's deer found in South and South-East Asia. What sets Sangai apart from the other two species is that it has adapted itself to a unique habitat of the floating meadows or phumdi at Keibul Lamjao National Park.

Characteristics

- Medium-sized with uniquely distinctive antlers (100 - 110 cm), with extremely long brow tine, which form the main beam.
- The forward protruding beam appears to come out from the eyebrow, hence the name - **Brow antlered deer**.
- It has a dark reddish-brown winter coat, which turns paler in summer.
- The deer walks on the hind surface of its **pasterns** with mincing hops over the *phumdi* and hence the name - Dancing Deer.

Habitat

Sangai deer feeds on a variety of aquatic plants, grass, herbaceous plants and shoots. *Phumdi* is the most important and unique part of the habitat.

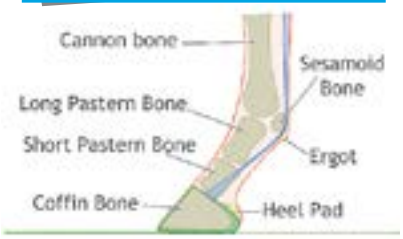
Phumdi is the floating mass of vegetation formed by the accumulation of organic debris and biomass with soil.

Conservation

Sangai was believed to be almost extinct by 1950, until a remnant population was spotted in 1953 near Manipur's Loktak lake. Since then, the State of Manipur has protected the species to increase the population. However the following factors remain a threat to the endangered species:

1. Steady degeneration of *phumdi* due to floods.
2. Degradation of the reservoir's water quality due to pollution.
3. Invasion of non-native plants like paragrass.
4. Diseases spread from other livestock.
5. Inbreeding depression.

Pastern - the sloping part of a horse's foot between the fetlock and the hoof or a corresponding part in some other domestic animals.



Common name	**Sangai, Brow antlered deer, Dancing deer**
Scientific name	***Rucervus eldii***
Population	**260**
Height	**115 - 130 cm (male), 90 - 100 cm (female)**
Weight	**90 - 125 kg (male), 60 - 80 kg (female)**
Status	**Endangered**
Found	**Only in Keibul Lamjao National Park, Manipur**
Lifespan	**Around 10 years**

Neera Arya was born on 5th March 1902, in Khekra Nagar, Uttar Pradesh into a rich businessman's family. From a young age, she dreamed of helping India gain freedom from British rule. She grew up in Kolkata, where her father worked. She learned many languages, including Bengali, Hindi and English. Later, she married Shrikant Jairanjan Das, a British government officer. But while Neera loved her country and wanted freedom, her husband worked for the British.

Neera secretly joined the Jhansi Regiment in Azad Hind Sena, which was led by Netaji Subhas Chandra Bose. Her husband, who worked for British intelligence, was ordered to kill Netaji. One day, he fired a shot at him, but the bullet hit Netaji's driver instead. When Neera found out, she was furious. To protect Netaji and the freedom movement, she killed her husband. Because of this, Netaji called her "*Naagin*", symbolizing her fierce bravery. **Neera is more popularly known as the first woman spy in the Indian National Army.**

The British arrested Neera and sent her to Kalapani (Andaman Jail), where she was tortured. In her autobiography, she shared the painful memories of her time in prison. Each day, she was brutally interrogated about Bose's whereabouts, but Neera, unyielding in her loyalty, refused to betray her leader. Her cell was a cold, desolate space, yet she declined the offer of a blanket, a symbol of her unwavering spirit. One day, two men came to offer her a blanket again, and she refused. The next scene was one of unspeakable horror. The prison warden, enraged by her defiance, in a final act of cruelty, ordered her breast cut off. **Neera screamed in pain, but her silence about Netaji's location remained.**

After India became independent in 1947, Neera was released. Sadly, she received no recognition or help from the government. She spent her last days selling flowers and living in a small hut in Hyderabad. Even her home was taken away, and she had no place to go. On 26th July 1998, this brave warrior passed away in poverty.

Though she was forgotten by many, her courage and sacrifice for India's freedom remain an inspiring story of true patriotism.

Answers of page 61

I Quick five!

1. Assam
2. Pragyothishpura
3. Brahmaputra
4. Shillong
5. Assamese

II Crossword

					[1]P		
[2]T	e	m	p	l	e	s	
					a		
					c		
[3]P	o	[4]B	i	t	o	r	[5]A
		i			c		r
[6]L	i	g	h	t	k		e
		u					c
							a

III Landmarks and attractions

1. Kamakhya Temple
2. Srimanta Sankardev Kalakshetra
3. Basistha Temple
4. Nilachal
5. Umananda island

IV UNESCO World Heritage Sites in Assam

1. Manas Wildlife Sanctuary
2. Majuli island
3. Moidams of Charaideo

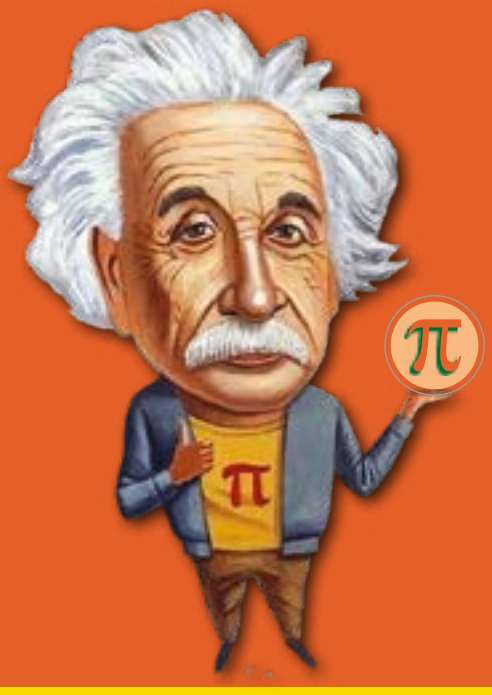
WORLD HEARING DAY

3rd March

Ear Solutions

World Hearing Day serves as a global reminder of the impact of hearing loss and the importance of prevention, early detection and treatment.

"Hearing for Life: Don't let hearing loss limit you."



WORLD PI DAY

14 th March

The theme for Pi Day 2025 : "Mathematics, Art and Creativity."

$$\pi = \frac{22}{7}$$

$$\frac{22}{7} = 3.142$$

The value of Pi is an irrational number and is approximately **3.14**

π

3.14 | ٣.١٤

3.14 backwards looks like pie

$$\pi = 3.1415926535\ 8979323846\ 2643383279\ 5028841971\ldots$$

There are no zeros in the first 31 digits of Pi