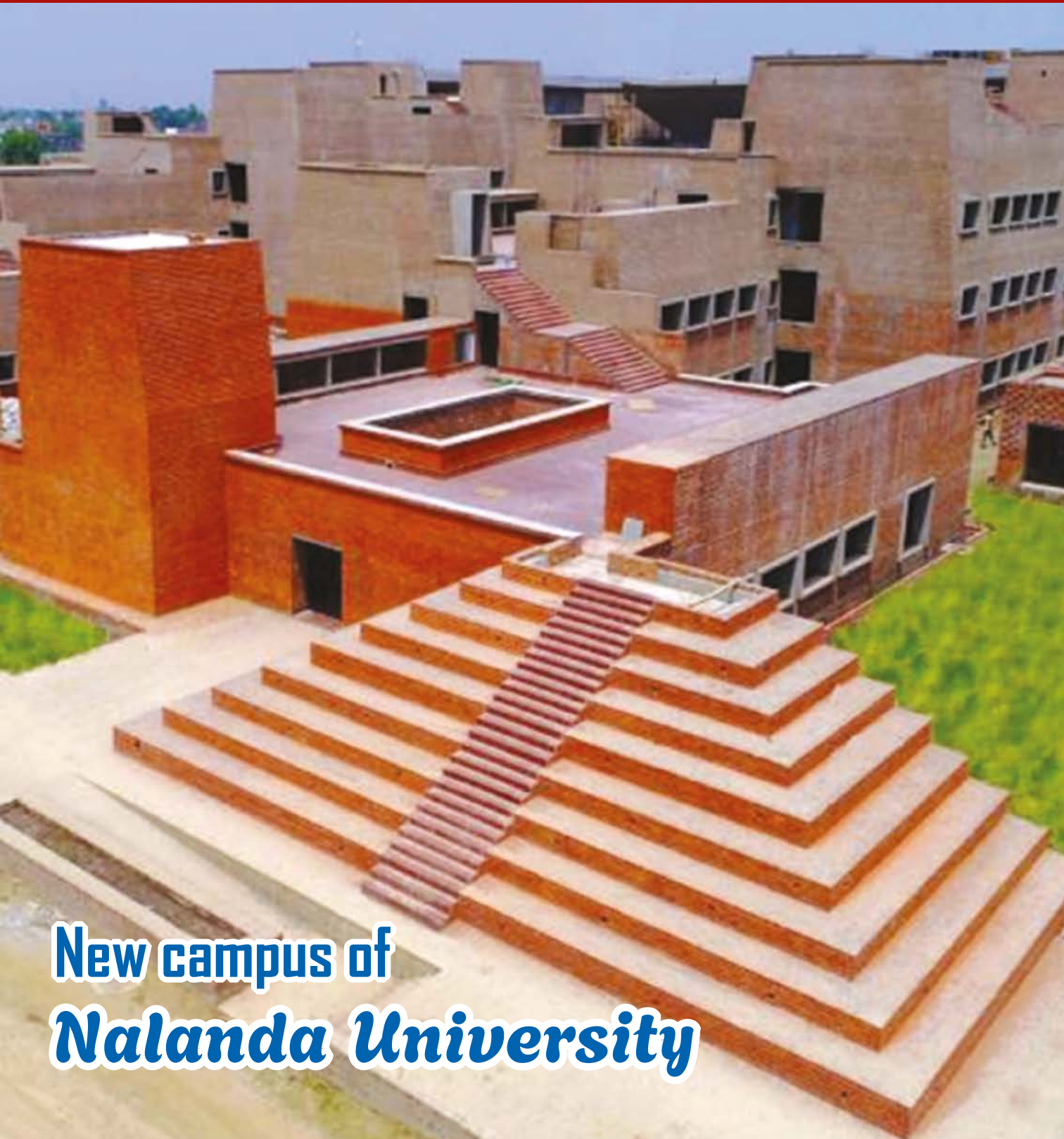


# PRAJYA

MONTHLY NEWS MAGAZINE FOR CHILDREN

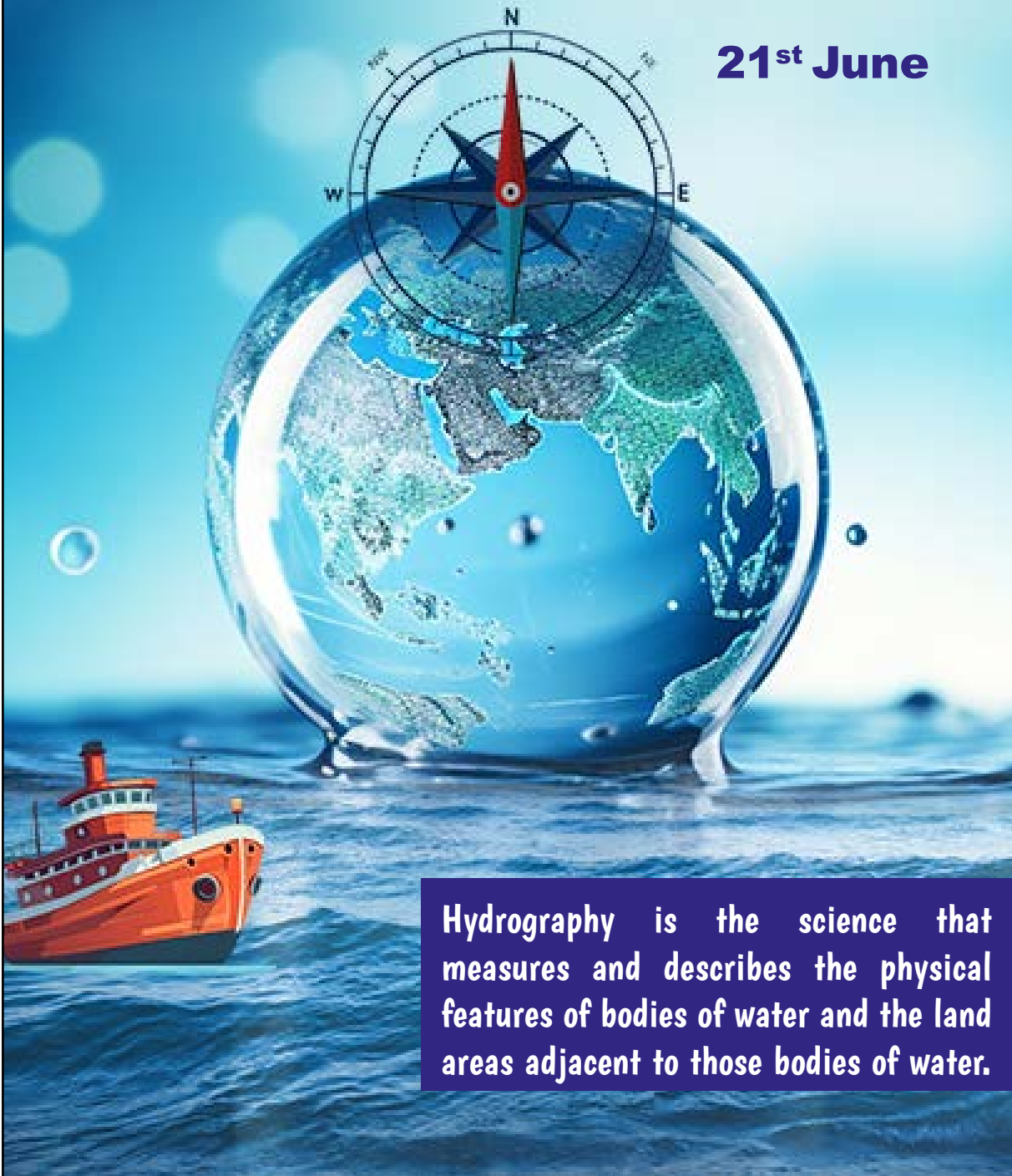
Volume: 03 Issue: 12 August 2024 Rs.85/-



**New campus of  
Nalanda University**

# World Hydrography Day

**21<sup>st</sup> June**



Hydrography is the science that measures and describes the physical features of bodies of water and the land areas adjacent to those bodies of water.



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FROM THE **EDITOR'S DESK**

**“Land is not merely soil, it is a fountain of energy flowing through a circuit of soils, plants and animals.”**

– Aldo Leopold

AI-enabled aerial drones, infra-red cameras, real-time monitoring devices, RFID tags and GPS geo-location for surveillance are some technologies used for wildlife conservation worldwide. **Pench Tiger Reserve** has taken a significant step by **introducing an advanced AI system for early forest fire detection.**

Within only about 2% of the world's total land surface, India is known to have over 7.5% of the species of animals that the world has. **India became the first country to record all of its wildlife.** The making of this list will be very helpful for taxonomists, researchers, academics, policymakers and people in charge of protection efforts.

Nagaland, by winning the award for the **Best State in Horticulture 2024**, has shown the way for others to follow. Their exceptional efforts in introducing innovative programmes and policies significantly advancing horticulture development bring benefits to farmers and rural communities in the State.

**“A man is ethical only when life, as such, is sacred to him, that of plants and animals as that of his fellow men, and when he devotes himself helpfully to all life that is in need of help.”**

–Albert Schweitzer

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.**

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<http://bit.ly/Prajya>

Happy Reading !

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

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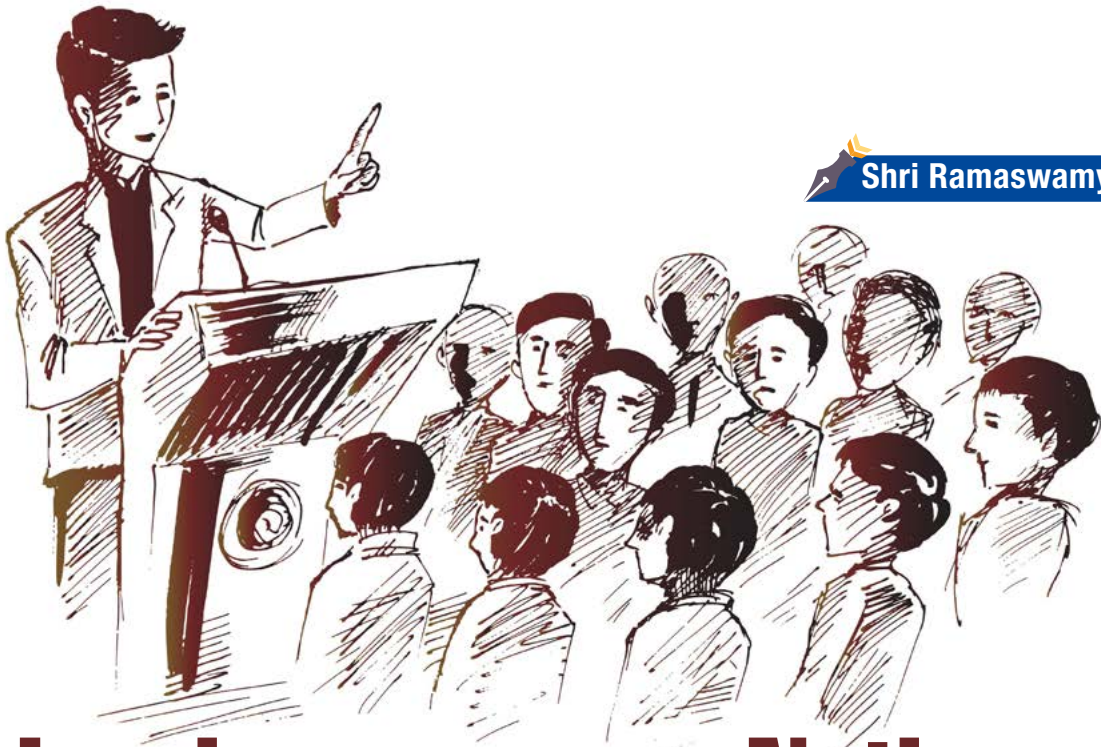
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# Leaders across Nations

## Matamela Cyril Ramaphosa – South African President

On 14<sup>th</sup> June 2024, African National Congress (ANC), Democratic Alliance (DA), Inkatha Freedom Party (IFP) and Patriotic Alliance (PA), agreed to form a national unity government, with Cyril Ramaphosa being re-elected President of South Africa.

Ramaphosa (71) is a South African businessman and politician



| Country        | Area (km2) | Population (millions) | Language             | Capital City   | Currency (= US\$)           | Economy   |
|----------------|------------|-----------------------|----------------------|--|-----------------------------|---|
| South Africa   | 12,19,625  | 59.89                 | Afrikaans<br>English | Legislative Pretoria<br>Admin Cape Town<br>Judicial Bloemfontein | Rand (0.055)                | Upper Middle Income                               |
| Netherlands    | 49, 849    | 17.97                 | Dutch                | Amsterdam  | Euro (1.09)                 | Advanced/<br>High Income                          |
| Iran           | 16,48,268  | 89.80                 | Persian              | Tehran   | Rial (24x10 <sup>-6</sup> ) | Considered “repressed” economy                    |
| United Kingdom | 2,41,930   | 66.97                 | English              | London   | Pound Sterling (1.29)       | Advanced/<br>High Income<br>Social Market Economy |



serving as the 5<sup>th</sup> and current president of South Africa since 2018. A former anti-apartheid activist and trade union leader, Ramaphosa is also the President of the African National Congress (ANC).

In the elections held in May 2024, Ramaphosa's African National Congress failed to secure majority for the first time in three decades. Hence he was forced to accommodate the rival Democratic Alliance party in the government.

ANC was created in 1912 for the cause of ending apartheid and gaining voting rights for blacks and non-white races. The post-apartheid ANC continues to identify itself foremost as a liberation movement, pursuing "the complete liberation of the country from all forms of discrimination and national oppression.

### Dick Schoof – New Dutch PM



Netherlands receives its name from their 26% "low" lands recovered from the sea. A parliamentary democracy functioning under constitutional monarchy, elections were held as early as November 2023, but none of the four major parties had a clear majority. Geert Wilders' right wing Freedom Party (PVV) won most

number of seats. The party stood for stringent anti-immigration asylum management laws, which the other three parties in the coalition wanted to be watered down. The parties have finally accepted former chief of intelligence Dick Schoof (67), who held various positions in the government since 1982, as their Prime Minister. Appointed by a royal decree in July 2024, Dick Schoof has vowed to make the country safe with socio-economic security for everyone.

### Masoud Pezeshkian – Iran President



Iranian President elect Masoud Pezeshkian (69) is a reformist politician and cardiac surgeon by profession. His Presidency was inaugurated on 30<sup>th</sup> July. Masoud has fought in Iran's war against Iraq during the period 1980 – 88. He later studied to become a medical doctor. Masoud has special liking for Islamic Revolutionary Guards (IRG) by which name the Iranian Army is known. He has also reiterated his support for Hezbollah the extremist organization resisting Israel. Iran has the 2<sup>nd</sup> largest gas reserves and 6<sup>th</sup> largest petroleum reserves with the potential to become one of the richest countries in the world. However, the country subscribing to religious

fundamentalism, enmity with the USA, Israel and developed western countries, and denial of rights for women who form 50% of their population, may be the reason Iran is unable to realize its potential.

### Sir Keir Starmer – New UK PM



General Elections were held in United Kingdom on 4<sup>th</sup> July 2024. The opposition Labour Party defeated the governing Conservative Party in a landslide victory. The Conservatives ruling since 2010 were led by Rishi Sunak who managed to retain his seat. Labour Party won 411 out of 650 seats, and Sir Keir Starmer who until then Leader of Opposition took over as Prime Minister. Keir Starmer was born in 1962 into a family of traditional Labour Party supporters and even when he was 16, he was active in party activities. He studied to become a barrister in 1985 and practised as a criminal defence lawyer.

As PM, Starmer will be establishing Border Security Command to replace Rwanda Asylum Plan of the Conservatives to deal with the problem of illegal immigration. On foreign policy Starmer supports Ukraine and Israel in their war against Russia and Hamas respectively.





Smt. Manju Aildasani 



## Community managed natural farming in Andhra Pradesh wins award



The Andhra Pradesh Community Managed Natural Farming (APCNF) initiative has been awarded the prestigious 2024 **Gulbenkian Prize for Humanity**. This accolade not only highlights India's progress in sustainable farming but also places Andhra Pradesh on the global map for its pioneering efforts in eco-friendly agriculture.

farmer coach from APCNF.

The government of Andhra Pradesh launched APCNF through its Rythu Sadhikara Samstha scheme in 2016 with following aims:

- ▶ to encourage small farmers to adopt natural farming methods instead of the widely prevalent chemically intensive farming.
- ▶ to use organic residues, minimise tillage to improve soil health, use indigenous seeds and diversify crops, including the plantation of trees.
- ▶ to find a sustainable solution to the farmers' distress caused by agricultural economic crises and climate change.

This year, the one million Euro prize is shared among three recipients:

- ▶ Andhra Pradesh Community Managed Natural Farming (APCNF)
- ▶ Renowned soil scientist Rattan Lal
- ▶ SEKEM, an Egyptian network promoting biodynamic farming.

The announcement was made by Dr. Angela Merkel, chair of the Jury and former Federal Chancellor of Germany, during a ceremony in Lisbon, Portugal on 11<sup>th</sup> July. The award was received by Vijay Kumar Thallam, Executive Vice Chairman of **Rythu Sadhikara Samstha** and Advisor to the Government of Andhra Pradesh and Mrs. Nagendamma Nettem, a champion

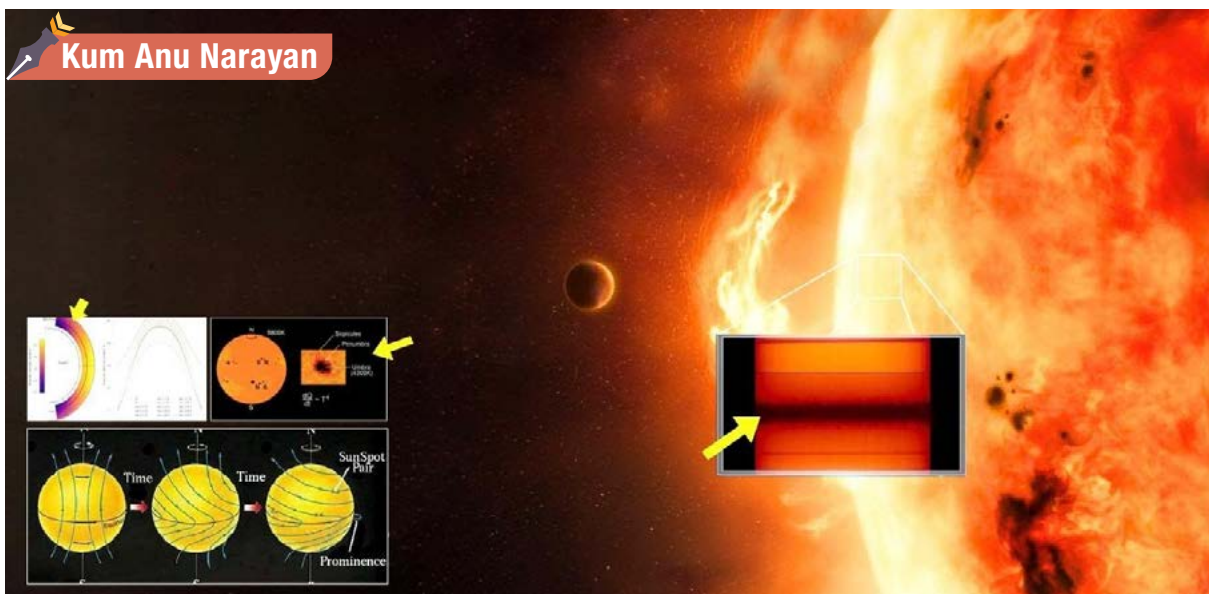
AP government has announced that it will use the prize money to promote natural farming in a few other countries. This Natural Farming movement spearheaded by women's Self-Help Groups, is regenerating the soil, feeding plentiful nutritious food to families and communities, and at the same time demonstrating how to stop and reverse global warming, if widely practised.

### DO YOU KNOW ?

- ♥ **Gulbenkian Prize for Humanity** is an esteemed award instituted by the Portugal-based Calouste Gulbenkian Foundation (CGF).
- ♥ It is presented annually to individuals and organizations making substantial contributions to:
  - Global food security
  - Climate resilience
  - Ecosystem protection







## New pattern of solar rotation discovered

Chinese scientists have made a ground-breaking discovery in solar research using their solar exploration satellite, the **Chinese H-alpha Solar Explorer (CHASE)**. This significant achievement involves identifying a new pattern in the rotation of the solar atmosphere. The findings, published in the prestigious journal *Nature Astronomy*, present a detailed three-dimensional representation of solar atmospheric rotation for the first time ever.

The CHASE satellite, also known as **Xihe** after the ancient Chinese sun goddess, is China's first solar scientific and technological

experimental satellite. Launched in 2021, it has a design life of three years and remains in a fixed position relative to the sun, enabling continuous data collection and imaging. Using data from this satellite, the research team succeeded in creating the world's first three-dimensional image of solar atmospheric rotation.

Traditionally, it is understood that as a sphere rotates, the atmospheric altitude increases, and the speed of rotation decreases. However, the Chinese research team found that the sun behaves differently. They discovered that the sun's rotational speed increases with atmospheric altitude. This anomaly suggests that there must be an unknown force driving the rotation of the upper atmospheric layers.

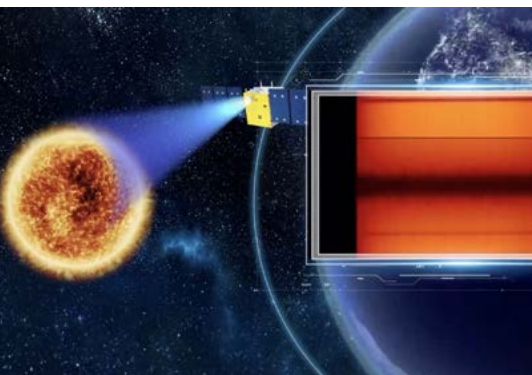
"Since the rotational changes caused by viscous effects should gradually decrease from the bottom to the top, there must be a force driving the rotation of the upper atmospheric layers. Therefore, this finding will have significant scientific implications for solar

activity and the evolution of the sun," explained Ding Mingde, the principal investigator of the project and a professor at Nanjing University.

The results of this research have profound implications for our understanding of the sun's subsurface processes and atmospheric dynamics. By uncovering these new details about the sun's behaviour, scientists can gain deeper insights into solar activities and their impacts on the solar system.

The CHASE satellite, equipped with advanced technology to monitor the sun, continues to play a crucial role in solar research. Its contributions are expected to advance our knowledge of the sun significantly, shedding light on various solar phenomena and aiding in the prediction of solar activities that can affect Earth.

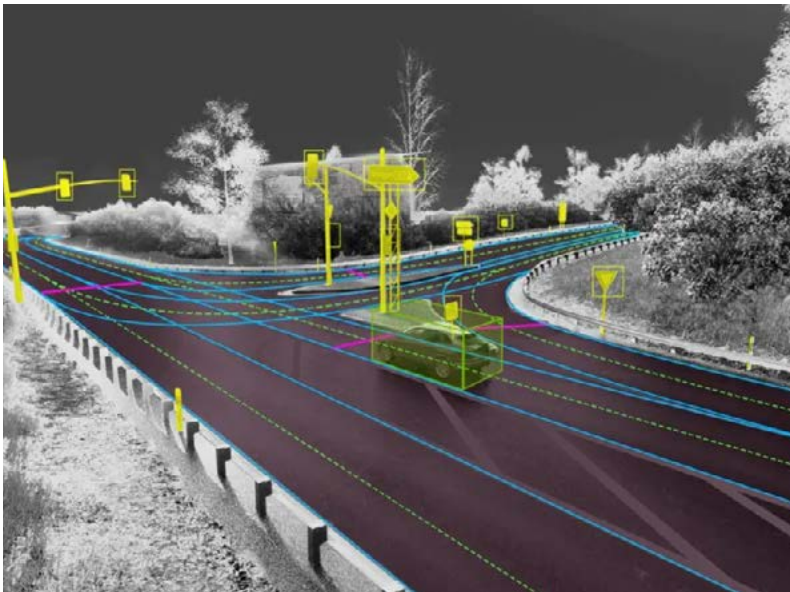
This discovery is a testament to the advancements in space exploration and research, positioning China as a key player in the field of solar science.





# NVIDIA®

## THE ROAD TO THE TOP



**N**vidia. If you have ever played a videogame on your computer there is a very high chance you have heard the name. If you have not, you will probably find a sticker with their name on your laptop when you first buy it from stores.

Since 1993, NVidia has been in the business of creating

and manufacturing **Graphics Processing Units (GPUs)**. These GPUs are a critical part of our computers as they enable us to generate the images that we see on screen, as opposed to just ones and zeroes.

However, it is not Nvidia's bread and butter, the GPU manufacturing that has skyrocketed the company into becoming the most valuable company in the world as of July 2024. With a 3.34 trillion market cap, the company has become such a success because of an emerging technology: Artificial Intelligence.

### The road to the top

Nvidia's smart strategies and

innovations, since its founding, have played a big part in its success.

Most data centers across the globe use Nvidia chips. Because of how ubiquitous they were, when the AI boom started with Open AI and they required data centres to run their complex models, using Nvidia computing technology was the obvious solution.

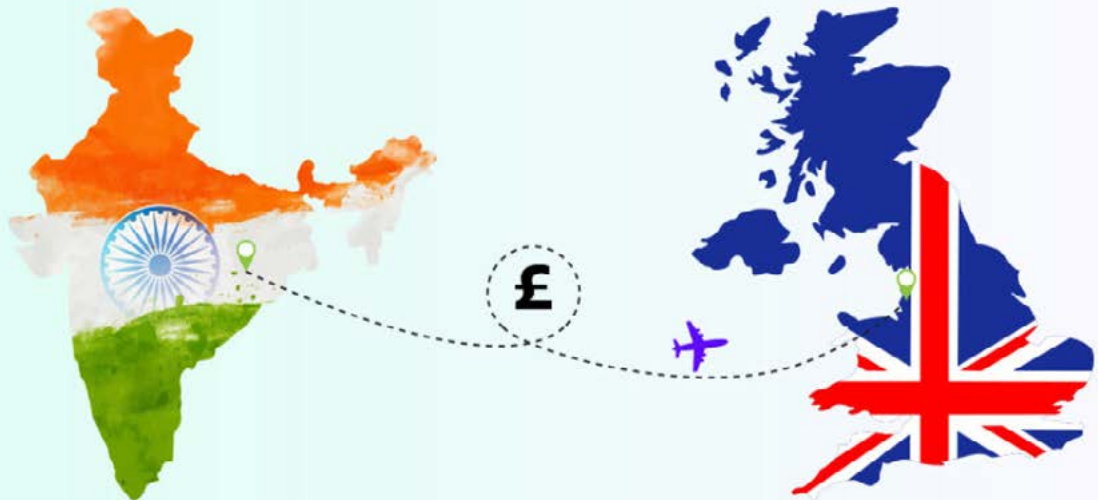
This led Nvidia to invest in AI and deep learning early on, helping the company position itself as a leader in the field. Products like the Nvidia A100 Tensor Core GPU have changed the game for data centres, making AI tasks faster and more efficient.

With the booming demand for AI technology, healthcare, automotive and even entertainment industries are using AI more than ever. Nvidia's GPUs are now essential for running complex AI systems.

As AI technology continues to grow, Nvidia is set to stay a major player in the tech world. Nvidia shows no signs of slowing down. With a market value now higher than other tech giants, including Apple, Microsoft and even Google, investors are excited AI use is expanding.

The company's dedication to pushing boundaries means its influence will only increase.





# UK - INDIA'S 4<sup>th</sup> largest export market

In a notable shift in global trade dynamics, the United Kingdom (UK) has overtaken China to become India's fourth-largest export market in May. It was India's sixth-largest export destination in May last year. The exports to the UK grew by a third to USD 1.37 billion in May, while the shipments to China saw 3% growth at USD 1.33 billion last month. Indian exports to United Kingdom was USD 12.48 billion during 2023, according to the United Nations COMTRADE database on international trade.



Although specific sector-wise export figures for May were not provided, historical data suggests that **machinery, food products, medicine, textiles, jewellery, nonferrous metals, iron and steel** were the major categories exported to Britain.

The United States continued to remain India's largest export destination, with 13% growth, followed by the United Arab Emirates (UAE), which saw 19 % jump. This came in after several months of tepid growth in outbound shipments, amid volatile global demand and uneven economic recovery.

India's top 10 key export markets witnessed positive growth in May, reversing the trend when exports to some of these countries contracted for more than a year. These 10 countries comprise 52 % of the country's total value of goods exported in May.

India and the UK have strong ties through people, ideas, institutions, language and technology. These common links help the establishment of successful partnerships between UK and Indian businesses of all sizes and in all sectors. Indian products are much in demand in UK and globally.

They are able to export quality products to a majority of countries. The **Make in India** concept has brought to the fore multitude of products and services which are exported globally. UK is a huge and growing market seeing a sustained period of strong growth. Indian products are accepted in large numbers and the fact that UK is 4<sup>th</sup> largest export market speaks volumes in this regard.

India has a range of exciting export opportunities across a large number of sectors which UK and other countries are tapping effectively.



# Global Energy Transition Index Rankings



**W**orld's energy transition, like global warming and climate change is undeniably the most powerful buzzword today, that resonates well in various economic and scientific forums. That makes sense too from multiple points of view. Energy and economy have a linear relationship. **Energy demand goes up as a country's economy does well.** The world economy has grown 14 times since 1950 and global energy demand has kept up its brisk pace.

**Energy Transition:** Starting from the industrial revolution till now the stranglehold of hydrocarbons has been remarkable. But transition

to renewables, conservation, energy efficiency has occupied centre stage amongst industrialists, planners, governments and concerned citizens. Of the several energy transitions the world has witnessed the current one largely oriented towards renewables is indeed difficult especially on developing countries where investment in new technology is hampered by financial constraints. Global warming and climate change are realities to be dealt with and the shift towards clean energy sources is imperative.

**World Energy Transition Index:** Conceived by the World Economic Forum **Energy Transition Index (ETI)** benchmarks countries on their performance, as well as their readiness for transition to a secure, sustainable and affordable energy future.

ETI scores are from 0 to 100. **India has been ranked 63 in 2024.** The report says 107 out of 120 countries tracked showed progress. **India has been**

**named as the only major economy with transition momentum accelerating in all dimensions.**

**The Toppers:** North European countries like Sweden, Finland and Denmark are the toppers. The report says China and Brazil are doing well with investment in solar photovoltaics and biofuels respectively.

**Common characteristics:** The common characteristics of the toppers are

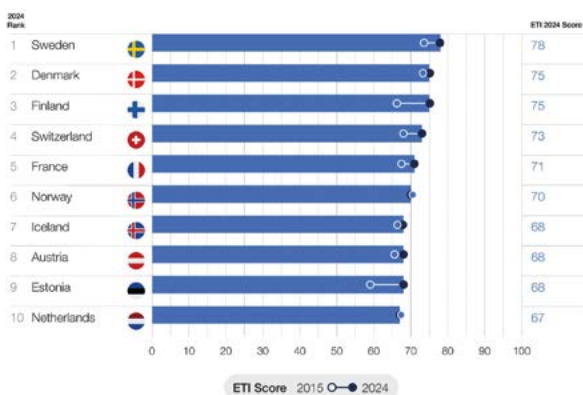
- ▶▶ enhanced security through a decisive mix of energy resources
- ▶▶ improved energy efficiency
- ▶▶ increased share of clean energy
- ▶▶ a carbon pricing mechanism
- ▶▶ supportive regulatory environment

**Why measure?** Nobel Laureate Joseph Stiglitz remarked "What we measure affects what we do."

Hence its obvious that correct policies, course correction and investment follow what we measure. That way this initiative of Global Transition Index ranking is truly worth it.

Fostering Effective Energy Transition

## Energy Transition Index 2024: Top 10 countries



Note: The Energy Transition Index benchmarks countries on the performance of their energy system, as well as their readiness for transition to an equitable, secure and sustainable future energy system. ETI 2024 scores on a scale of 0-100.



# Indo-SriLankan Maritime Rescue Centre



In its multi-pronged strategy to counter Chinese “String of Pearls”, India is involved in steps including building ports, enhancing surveillance, regional cooperation, military modernization, maritime diplomacy etc.

To ensure maritime security co-operation between the two countries, the External Affairs Minister of India S Jaishankar and Sri Lankan President Ranil Wickremesinghe, jointly commissioned the **Maritime Rescue Coordination Centre (MRCC)** in Colombo on 20<sup>th</sup> June 2024.

The centre was built by **Bharat Electronics Limited (BEL)** on a grant of USD 6 million from India. This includes a centre at Navy Headquarters in Colombo, a sub-centre in Hambantota and seven un-manned installations at strategic

locations across Sri Lankan coastline - Galle, Arugambay, Batticaloa, Trincomalee, Kallarawa, Point Pedro and Mollikulam.

Incidentally, the Hambantota port built by Sri Lankan Port Authority with Chinese funds, has been leased to China. This continues to be a major security concern with strategic implications.

Strategically located in Indian Ocean region, the MRCC will serve as the nerve centre for search and rescue operations along the coast of Sri Lanka.

Earlier, a Memorandum of Understanding (MoU) for setting up the MRCC was signed in March 2022 and Sri Lankan Navy teams were trained by BEL in Bengaluru.

This key initiative underscores the criticality of maritime security cooperation between the two nations.

## DO YOU KNOW ?

**Maritime centre** is a part of India’s **SAGAR (Security And Growth for All in the Region)** initiative to ensure India's peace, stability and prosperity in the region.





# Game-changing weather satellite **GOES-U** launched

**N**ASA has successfully launched the fourth and final satellite in a series of advanced weather satellites for NOAA (**National Oceanic and Atmospheric Administration**). This satellite, named GOES-U (**Geostationary Operational Environmental Satellite**), was launched recently. It will help monitor weather and environmental conditions across the Western Hemisphere.

The satellite was launched on a SpaceX Falcon Heavy rocket from Launch Complex 39A at NASA's Kennedy Space Center



in Florida. Within a few hours, mission managers confirmed that the satellite's solar arrays had successfully deployed and it was operating on its own power.

Satellites like GOES-U keep a close watch to monitor weather in real time. NASA and NOAA have worked together for several decades to bring critical data back down to Earth to prepare for severe storms, fire detection and much more. This fleet of advanced satellites will help protect humanity from weather hazards on Earth and in space.

GOES satellites not only help predict terrestrial weather but also forecast space weather near Earth. This can affect satellite electronics, GPS and radio communications. GOES-U includes a new space weather instrument, the **Compact Coronagraph-1**, which helps scientists observe the solar atmosphere by blocking the Sun's bright light.

Once in a geostationary orbit about 22,200 miles above Earth, GOES-U will be renamed GOES-19. After a successful check of its instruments and systems, GOES-19

will begin monitoring weather over most of North America, including the contiguous United States and Mexico, as well as Central and South America, the Caribbean, and the Atlantic Ocean to the west coast of Africa. With this successful launch, forecasters will have a resource to better inform and educate the public.

NASA's Goddard Space Flight Center oversaw the acquisition of the GOES-R series spacecraft and instruments. The GOES-R Series Program is managed by NOAA, with Lockheed Martin designing and building the satellites, and L3Harris Technologies providing the main instrument payload and the ground system.

**NOAA - National Oceanic and Atmospheric Administration** is a US scientific and regulatory agency in charge of forecasting weather, monitoring oceanic and atmospheric conditions, charting the seas, conducting deep-sea exploration and managing fishing and protection of marine mammals and endangered species in the US exclusive economic zone.



# India leads global maritime discourse at IMO



India, an elected member of the Council of the **International Maritime Organization (IMO)** in the category of countries with the largest interest in international seaborne trade, participated in the 132<sup>nd</sup> session in London.

A high-level Indian delegation, led by T.K. Ramachandran, Secretary of the Ministry of Ports, Shipping and Waterways emphasized the urgent issue of seafarer abandonment while addressing various critical issues and proposals for the future of global maritime operations.

The Maritime Labour Convention 2006, states that seafarer abandonment occurs when a ship owner

- ▶ fails to cover the cost of the seafarer's repatriation;

- ▶ has left the seafarer without the necessary maintenance and support;
- ▶ or has unilaterally severed their ties with the seafarer including failure to pay contractual wages for at least two months.

As per the Ministry of Ports, Shipping and Waterways, the delegation pointed out that despite efforts, there are currently 44 active cases involving 292 Indian seafarers. India's strong stance on the need for effective measures and oversight to resolve such issues was well received.

In recognition of its continued commitment to addressing seafarers' issues, India secured its position as one of the eight governments representing IMO in the **Joint Tripartite Working Group**.

This group is dedicated to identifying and tackling seafarers' issues and the human element in maritime operations. Other proposed members include the Philippines, Thailand, Liberia, Panama, Greece, US and France. The Indian delegation also addressed concerns over disruptions in the Red Sea, Gulf of Aden, and adjoining areas, which have been impacting shipping and trade logistics.

Furthermore, India reiterated its proposal for the **South Asian Centre of Excellence for Sustainable Maritime Transport (SACE-SMaRT)**. This regional hub aims to transform the maritime sector in India and South Asia into a technologically advanced, environmentally sustainable and digitally proficient industry with additional emphasis on reducing greenhouse gas emissions, fostering technical cooperation, capacity-building and digital transition.

India's leadership in evolving the SACE-SMaRT in collaboration with the IMO's global **Maritime Technology Cooperation Centres (MTCCs)** is a significant step towards sustainable maritime development.



# AI for swift Forest fire detection



**P**ench Tiger Reserve in Maharashtra has made a groundbreaking leap in forest fire management by implementing an advanced AI system called **Pantera**. Unveiled on 26<sup>th</sup> June 2024, this technology marks a departure from traditional methods of fire detection.

Historically, forest fires in Pench Tiger Reserve were primarily detected through ground patrols, watch towers and satellite imagery. While these methods have been prevalent, they often faced challenges such as delayed detection, false alarms and limited coverage.

Made in collaboration with **Satpuda Foundation**, which works primarily to protect wildlife, and several international partners such as the Brazilian company **Umgrameio**, and **Forest Fire Tech** from Scaale Inc. in the USA, the Pantera system consists of multiple high resolution cameras.

These cameras are situated at an elevation of approximately 540 meters, offering a wide 15-kilometer view, covering over 350 square kilometers of the reserve. The camera has **Pan, Tilt and Zoom (PTZ)** capabilities and can be used to focus on specific areas of the reserve as well. The system is monitored from a control room in the West Pench range office at Kolutmara and incorporates data from fifteen commercial satellites which provide real-time weather updates.

The camera system provides a viable alternative to traditional fire detection methods as the images captured are fed into AI algorithms which use historical data, compare the images and identify smoke plumes in real-time.

The system's ability to differentiate between smoke and clouds significantly reduces false alarms, ensuring that firefighting resources are deployed effectively.



Moreover, by analyzing weather patterns and historical fire data, Pantera can predict potential fire hotspots, allowing for proactive measures to be taken to prevent them.

The integration of GPS technology with firefighting equipment further helps response and preparation time. Pantera is also capable of real-time tracking of vehicles and personnel. This level of precision and speed in fire detection and response will surely contribute to the preservation of its biodiversity.

The collaboration highlights the importance of combining technological innovation with global conservation efforts. **As the system continues to evolve, it is expected to set a new standard for forest fire management in India and inspire similar initiatives in other ecologically sensitive regions.**





# Indian Railways enters Limca Book of Records



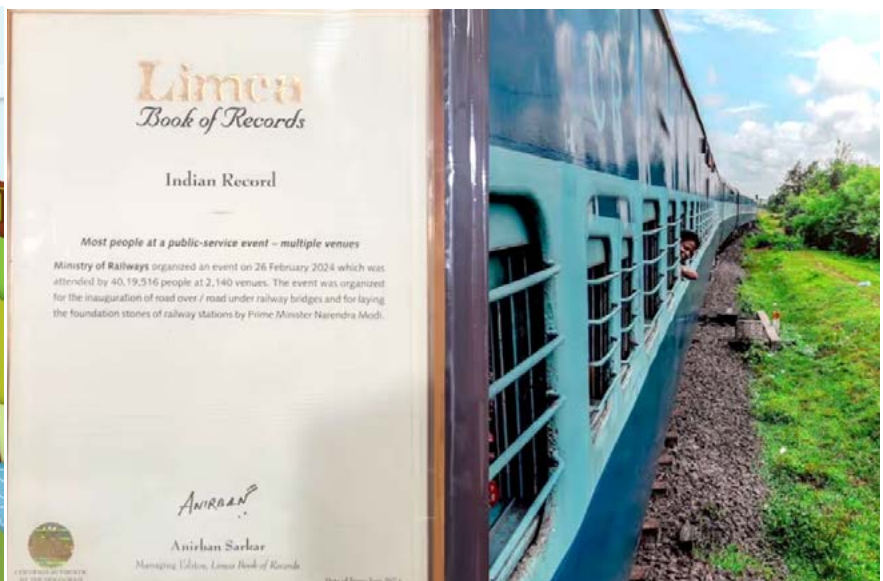
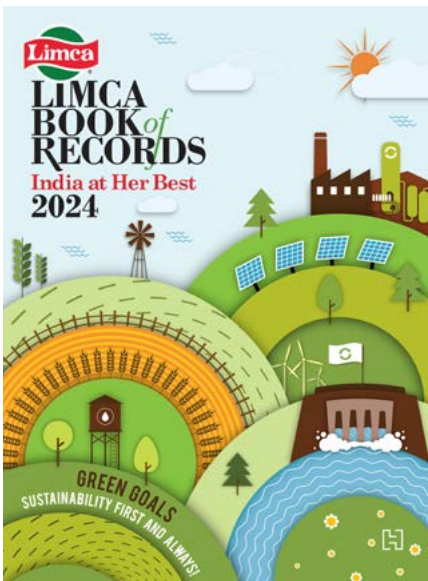
The feat was hosting the largest public-service event across multiple venues. Earlier in February, Indian Railways had organized an event that saw 40,19,516 people gather at 2,140 locations.

The event, led by PM Modi was held to inaugurate road overpasses and underpasses, as well as to lay the foundation stones for new railway stations.

Indian Railways (IR) was nationalized in 1951. It is the largest public sector undertaking of Govt. of India with staff strength of about 12 lakh employees. It is the largest rail network in Asia and the world's second largest network operated under a single management.

## DO YOU KNOW ?

- ♥ On 16<sup>th</sup> April 1853, the first passenger train ran between Bori Bunder (Bombay) and Thane, a distance of 34 km, operated by three locomotives named Sahib, Sultan and Sindh. It had thirteen carriages.
- ♥ The largest railway station in India in terms of area and platforms is Howrah Junction (station code: HWH), located in Howrah, West Bengal. It boasts an extensive network of 23 platforms and 26 tracks, handling over 600 trains daily and catering to approximately 10 lakh passengers.
- ♥ **Limca Book of Records** is an annual publication that documents world records held by Indians. With over 30 editions since 1987, it is India's first and longest continuously published book of records.





# Yuva Puraskar and Bal Sahitya Puraskar winners - 2024

## DO YOU KNOW ?

- ♥ **Makhanlal Chaturvedi** was the first recipient of the award in the Hindi category in 1955. **RK Narayan** was the first recipient in the English category in 1960 for his novel *The Guide*.
- ♥ **Amrita Pritam** became the first woman to win the award for her long poem *Sunehade*.
- ♥ The only chief minister who has received the award was **Veerappa Moily**, (CM of Karnataka 2004 to 2007).
- ♥ The **Sahitya Akademi Library** is one of the largest multi-lingual libraries in India, with a rich collection of books on literature and allied subjects.



Amrita Pritam



Veerappa Moily

The Sahitya Akademi (SA) announced the winners of the prestigious **Sahitya Akademi Bal Sahitya Puraskar** and **Sahitya Akademi Yuva Puraskar** on 15<sup>th</sup> June 2024. SA, India's National Academy of Letters, is an organisation dedicated to the promotion of literature in the languages of India.

The Sahitya Akademi Award is a literary honour in India, conferred annually on writers of the most outstanding books of literary merit published in any of the 22 languages of the 8<sup>th</sup> Schedule to the Indian Constitution as well as in English and Rajasthani language.

### Sahitya Akademi Bal Sahitya Puraskar

This award is conferred annually on writers for their contribution in the field of Children's literature.



## Winners of the award

| Yuva Puraskar                     | Bal Sahitya Puraskar   |
|-----------------------------------|--|
| Adwait Salgaonkar (Konkani)       | Ranju Hazarika (Assamese)  |
| Anjan Karmakar (Santali)          | Dipanwita Roy (Bengali)  |
| Birgin Jekova Machahary (Bodo)    | Birgin Jekova Machahary (Bodo)   |
| Bishan Singh 'Dardi' (Dogri)      | Bishan Singh 'Dardi' (Dogri)   |
| Devidas Saudagar (Marathi)        | Gira Pinakin Bhatt (Gujarati)  |
| Dipavita Roy (Bengali)            | Krishnamurthy Biligere (Kannada)   |
| Geeta Pradeep Rupani (Sindhi)     | Muzaffar Hussain Dilbar (Kashmiri)   |
| Gira Pinakin Bhatt (Gujarati)     | Harsha Sadguru Shetye (Konkani)  |
| Heena Choudhary (Dogri)           | Narayangee (Maithili)  |
| Javed Amber Misbahi (Urdu)        | Unni Ammayambalam (Malayalam)  |
| Krishnamurthy Biligere (Kannada)  | Kshetrimayun Subadani (Manipuri)   |
| Lokesh Raghuraman (Tamil)         | Bharat Sasane (Marathi)  |
| Mohd Ashraf Ziya (Kashmiri)       | Basanta Thapa (Nepali)   |
| Nayanjyoti Sarma (Assamese)       | Manas Ranjan Samal (Odia)  |
| Ramesh Karthik Nayak (Telugu)     | Kuldeep Singh Deep (Punjabi)   |
| Randhir (Punjabi)                 | Prahlad Singh 'Jhorda' (Rajasthani)  |
| Rani Baro (Bodo)                  | Harshdev Madhav (Sanskrit)   |
| Ranju Hazarika (Assamese)         | Dugal Tudu (Santali)   |
| Rinki Jha Rishika (Maithili)      | Lal Hotchani 'Lachaar' (Sindhi)  |
| Rinku Rathod (Gujarati)           | Yuva Vasuki (Tamil)  |
| Sanjay Kumar Panda (Odia)         | P. Chandrashekhara Azad (Telugu)   |
| Shruti B.R. (Kannada)             | Shamsul Islam Farooqi (Urdu)   |
| Shyamkrishnan R. (Malayalam)      | <p><b>Sahitya Akademi Yuva Puraskar</b></p> <p>The Yuva Puraskar is conferred annually on young writers of outstanding works in one of the 22 major Indian languages. Instituted in 2011, it recognises young writers under 35, with the aim of encouraging and promoting them. It comprises a cash prize of ₹50,000 and an engraved copper plaque.</p> <p>The Yuva Puraskar has been awarded for 10 poetry books, seven collections of short stories, two collections of articles and one of essays, one novel, one book of ghazals and one memoir.</p> |
| Sonali Sutar (Rajasthani)         |  |
| Suraj Chapagain (Nepali)          |  |
| Sutapa Chakraborty (Bengali)      |  |
| Waikhom Chingkeingnaba (Manipuri) |  |

Instituted in 2010, it comprises a cash prize of ₹50,000 and an engraved copper plaque. For this year, the Bal Sahitya Puraskar has been awarded for seven novels, six books of poetry, four stories, five short stories, one play and one historical fiction.





# Nalanda's *punar nirman*



The Nalanda University was (re)established by an act of the Parliament of India in the year 2010. The initial proposal for this was placed by Dr. A.P.J. Abdul Kalam, former President of India.

## History

The Nalanda University founded in 427 CE by **Kumaragupta 1 of the Gupta Dynasty**, was the world's first residential university with a strength of about 10,000 students from across Asia. It was located at a place called Rajagriha which was about 90 kms from Pataliputra, which is now called Patna. It was considered to be one of the greatest centres of learning in ancient times.

Its faculty and students included eminent people like **Aryabhatta, Harsha, Dharmakirti** and **Xuanzang**. Though it was a Buddhist *Mahavihara*, it was equally patronized by Buddhists and non – Buddhists. The curriculum of Nalanda included major Buddhist philosophies, Vedas, Grammar, Logic, Astronomy and many other subjects. It also had a large library which was the key source for many Sanskrit texts. It flourished

till 1193 when it was burnt down by the Turkish invader Bakhtiyar Khilji. It took 3 months to burn down the library and over 9 million manuscripts and books were burnt.

## Rebuilding (*Punar nirman*)

As part of reviving the learning spirit and culture of ancient India the Nalanda University was (re) established by an act of the Parliament of India in the year 2010. The initial proposal for this was placed by Dr. A.P.J. Abdul Kalam, former President of India.

The first chancellor of the university was Nobel Laureate Amartya Sen. Prof. Arvind Panagariya dons the role now. The first academic session started in 2014 with 15 students and for the year 2023-24 the university admitted 1038 students. 187 students from various nationalities also study in the university.





## Academics

On 19<sup>th</sup> June 2024 PM Modi inaugurated the university's new campus at Rajgir in Bihar very near the ruins of the ancient Nalanda University. The foundation stone was laid in 2016. **The new campus has six schools- Buddhist studies, Philosophy and comparative religion, Historical studies, Ecology and environmental studies, Sustainable development and Management.** The programmes offered include Global PhD programme and Master's in all the above streams. The university also offers various short-term diploma and certificate programmes in Pali, Sanskrit, English, Korean, and Yoga. The university collaborates with 17 nations.

## Ancient architecture and sustainability

It has 24 buildings and has been constructed at a cost of ₹1749 crores. The architecture is a mix of the original Nalanda architecture and modernity. **Designed by the Pritzker Prize-winning architect Balkrishna Vithaldas (BV) Doshi,** the new campus' design pays homage to the ancient university reflecting the vernacular traditional forms using modern construction methods. The Central Library's six storeyed Stupa shaped building, with a built-up area of 17,545 square meter has state-of-the-art facilities. It houses contemplative spaces for studying, presentation and seminar rooms, art galleries, archival section and music room, cafés, student and

faculty lounges. **Having an outer radius of 81 meters at base and the crowning height of 26 meters, it is probably the biggest stupa shaped building in the world.**

The campus houses a central water body, amphitheatre, meditation hall, Yoga complex, sports stadia, gymnasium and a host of other amenities. **It is also designed as a carbon neutral and zero waste campus.** It has a 6.5 MW solar power plant, 1.2 Megawatt biogas plant, **Desiccant Evaporative (DEVAP)** technology for cooling/heating of the buildings, Solar integrated thermal storage technology for HVAC system, use of **Compressed Stabilized Earth Blocks (CSEB)**, thick cavity walls to increase thermal resistance, **Decentralized Water Treatment (DeWAT)** systems, appropriate landscape design to reduce potable water demand, and application of Building Management System.



In short it has everything that a university would need. Nalanda is certain to flourish as a **"giver of knowledge"** and realize its motto **"Aa no Badrah kratavo yantu vishwatah"** which means "Let noble thoughts come to me from all directions." - Rig\_Veda 1.89.1.





## Revolutionising rural remittance services

Payment and remittance services are crucial components of the global financial system which facilitates the movement of funds between individuals, businesses and institutions. They have become increasingly important in recent years due to the growing adoption of digital technologies and the rise of e-commerce.

In the report of the World Bank on the Global remittances market, India continues to retain its position as the one with the largest remittances.

A total of USD 120 billion was sent to India from expats working abroad in 2023, an increase of 7.5% over the previous year. Further the World Bank said remittances to India are forecast to grow at 3.7% to USD 124 billion in 2024, and at 4% to reach USD 129 billion in 2025.

It is imperative to note that despite the rise in the volume and value of remittances, it is also undermined by flaws in the global banking system which hinders secure and economically viable transfer of money across borders. The consequences of this are catastrophic for the developing world, as millions of families are dependent on remittances to sustain their living standards.

**India Post Payments Bank (IPPB)** has teamed up with **Ria Money Transfer**, a global leader in cross-border money transfer and a business segment of Euronet Worldwide Inc., to offer innovative remittance services in rural India. This collaboration aims to provide convenient and affordable financial services directly to the doorsteps of customers in remote areas.

The partnership will immediately make international

inward money transfer services available at over 25,000 post office locations, with plans to expand to more than 100,000 locations. Combining IPPB's extensive postal network with Ria's global reach, customers across India will benefit from fast, convenient and safe doorstep services.

Making use of leveraging technology, the partnership will use verified biometric authentication for **KYC (Know Your Customer)** processes, eliminating the need for physical IDs to collect remittances, and will provide digital transaction confirmations with paperless receipts.

Bridging the gap between digital and physical transactions, it provides unprecedented consumer choice, including agents and partners, real-time payments, home delivery, mobile wallets etc.

**The IPPB-Ria partnership will enable people to withdraw only the necessary amount, reducing these risks and fostering true financial inclusion, thus supporting long-term economic growth.**



**Smt Meenakshi S**

# KRISHI SAKHI

## Empowering rural women



The Ministry of Agriculture and Farmers' Welfare and the Ministry of Rural Development have joined hands to launch the **Krishi Sakhi Convergence Program (KSCP)** to empower rural women and strengthen the agricultural sector.

This ambitious initiative aims to transform the face of rural India by training and certifying

rural women as Krishi Sakhis or agriculture para-extension workers. The programme is a key component of the broader **"Lakshpati Didi"** programme which seeks to create 3 crore *lakshpati didis*.

By training and certifying Krishi Sakhis, the programme aims to raise the deep-rooted connections and trust that these women have within their farming communities.

Krishi Sakhis have already undergone a 56-day training covering a range of topics, including agro-ecological practices, farmer field school organization, seed bank establishment, soil health management and integrated farming systems. Currently, they are receiving refresher training with a special focus on natural farming and soil health.

After successful completion of the training and a proficiency test, they will be certified as para-extension workers. This certification will enable them to undertake a wide range of activities under various schemes and earn a fixed resource fee for their services.

As of now, 34,000 Krishi Sakhis out of a target of 70,000 have been certified. The training programme has been rolled out in 12 states in the first phase. **By providing these women with the necessary skills and support, it can create a network of trusted, knowledgeable agriculture extension workers and drive a sustainable development in rural India.**

Krishi Sakhi Training has been rolled out in 12 states in Phase – 1: Gujarat, Tamil Nadu, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Karnataka, Maharashtra, Rajasthan, Odisha, Jharkhand, Andhra Pradesh and Meghalaya.





# Events in Ladakh

Ladakh experienced a fusion of varied emotions in the month of June.

## HEMIS FESTIVAL

The Hemis festival or *Hemis Tsechu* was celebrated on 16<sup>th</sup> and 17<sup>th</sup> June, 2024 at the Hemis Monastery near Leh, Ladakh.

### Background

The two-day grand festival is celebrated to commemorate the birth of **Guru Padmasambhava**, the founder of Tibetan Buddhism in 8<sup>th</sup> century. It is celebrated on



## DO YOU KNOW ?

**Hemis monastery is the largest monastery in Ladakh, with a museum housing ancient relics, artefacts and scriptures.**

the 10<sup>th</sup> day of the fifth month of Tibetan calendar i.e. the month of June/July.

### Highlights

- ▶ The masked dance is also known as '**Chham Dance**' depicting the triumph of good over evil with Lamas wearing vibrant costumes and monks wearing their traditional long gowns.
- ▶ At the end, a sculpture made up of dough representing the evil powers is destroyed by the head of Black Hat dancers. This implies warding off the evil spirits.
- ▶ *Thangka* (Painting of Guru Padmasambhava on cloth decorated with semi-precious gems, pearls and stones) which is as high as two storeys of a building is showcased every 12 years.

## KHALUBAR WAR MEMORIAL OPENED TO TOURISTS

In Ladakh, the Indian Army has opened the Khalubar War Memorial to tourists as a tribute to the heroes of the Kargil War. This opening ceremony is a part of the '**Forever in Operations**' division's pre-Kargil Vijay Diwas celebrations.

Vijay Diwas is celebrated on 26<sup>th</sup> July every year to commemorate the courageous efforts of our Army soldiers.



### Background

In 1999, Khalubar valley near the border became a focal point during the Kargil War when enemy forces captured it. The area was recaptured by the valiant efforts of Indian soldiers and their heroic actions are now immortalized at the memorial. **This year is the 25<sup>th</sup> anniversary of our victory in recapturing the Indian territories.**

**Captain Manoj Kumar Pandey was an Indian military officer and posthumous recipient of India's highest military award, the Param Vir Chakra for his brave efforts during the war.**

The military operation to push back the infiltrators in the Kargil War was named as OPERATION VIJAY, during which a total of 674 Indian soldiers made the supreme sacrifice of laying down their lives for the nation.







# Kozhikode India's first UNESCO City of Literature



**K**ozhikode, located in north Kerala, has been honoured as India's first UNESCO 'City of Literature'. This recognition acknowledges Kozhikode's rich cultural heritage and its contribution to literature. The city is celebrated for its values of humanity, harmony, justice and freedom of expression, which have nurtured a vibrant arts scene.

The UNESCO designation highlights Kozhikode's literary luminaries like S K Pottakkad and

Vaikom Muhammed Basheer. To commemorate this achievement, the state government has designated 23<sup>rd</sup> June as City of Literature Day starting next year.

The city plans to host various cultural and literary events over the next four years. Locations like Mananchira, Tali, and Kuttichira will transform into hubs for literary activities, promoting exchanges of ideas and creativity.

Kozhikode's efficient governance, particularly by the city corporation, played a crucial role in securing this prestigious title against other culturally rich cities like Kolkata. The city, also known as Calicut and once the seat of the Zamorin rulers, has been a gateway for trade and cultural exchange for centuries, attracting Persians, Arabs, Chinese and Europeans.

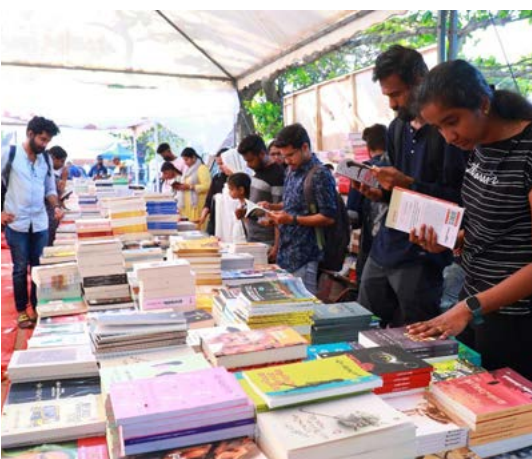
It was the landing site of Vasco da Gama in 1498. Alongside its renowned Malabar cuisine, scenic beaches and traditional boat

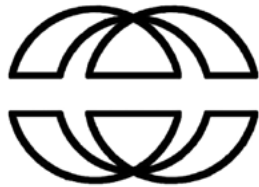
craftsmanship, Kozhikode offers visitors a blend of coastal charm and literary allure.

It has also been pivotal in Kerala's freedom movement and has hosted numerous literary events and book festivals. Kozhikode boasts over 500 functioning libraries and has been integral to the literary legacy of Malayalam writer M T Vasudevan Nair.

In joining UNESCO's Creative Cities Network, Kozhikode is recognized for its commitment to culture and creativity in urban planning. This accolade aligns with UNESCO's mission to promote cities that harness culture for sustainable development.

In essence, Kozhikode's UNESCO City of Literature status not only honours its past but also promises a vibrant future as a hub for literary and cultural exchange, inviting global participation and admiration. This is expected to enhance Kozhikode's global visibility and boost cultural tourism.





## Srinagar honoured as 'World Craft City'

**S**rinagar has become the fourth Indian city to be officially recognised as a 'World Craft City' by the **World Craft Council (WCC)**. This honourable recognition was bestowed upon the summer capital of Jammu and Kashmir on 24<sup>th</sup> June 2024, by the executive board of WCC after a detailed tour of the crafts centre earlier this year. **Jaipur, Malappuram and Mysore are the three other Indian cities recognised as World Craft City.**

Some of the famous crafts from Srinagar include carpets, rugs, shawls, papier mache and walnut wood craft. With increased global recognition, visibility for these items will be enhanced on the international stage, opening up new markets and opportunities for artisans. Increased demand will lead

to greater investments in modern infrastructure development and access to advanced artisan training programmes.

**The World Crafts Council AISBL in New York in 1964 was started by Aileen Osborn Vanderbilt Webb, Margaret M. Patch and Kamaladevi Chattopadhyay.** It is an international non-profit organisation affiliated with UNESCO, dedicated to fostering the preservation, promotion and advancement of global craftsmanship and traditional craft. Their mission is to empower artisans, celebrate cultural diversity, contribute to sustainable development and preserve languishing craft from extinction.

Srinagar's craft scene witnessed a major cultural shift in the 14<sup>th</sup> century with the arrival of

Persian and Central Asian preachers and artisans. Their shawl and carpet industries have been heavily influenced by Persian artisans in the past. There are 14 Iranian cities listed as craft cities by the WCC and the inclusion of Srinagar will lead to knowledge exchange, reopening centuries-old linkages with craft centres across Central Asia.

"This is a much-needed recognition for unsung craftsmen who have created masterpieces for generations. It will help promote genuine crafts and craftsmen.

Kashmir's craft scene is witnessing a revival with Geographical Indication tags, crafts tours, and the policies of the handicrafts and handloom department," remarked Mahmood Ahmed Shah, Director of Handicrafts and Handloom Industries, Kashmir.



# India's first ever coal gasification project launched



The Ministry of Coal initiated an innovative pilot project for **Underground Coal Gasification (UCG)** at the Kasta coal block in Jamtara District, Jharkhand on 22<sup>nd</sup> June 2024. This was carried out by Eastern Coalfields Limited, a subsidiary of Coal India Limited. This groundbreaking project allows us to convert deep coal resources into valuable gases that can be used to produce

synthetic natural gas, electricity, fuels, fertilisers, explosives, etc.

Underground coal gasification converts coal to gas while still *in situ*. Gas is produced and extracted through wells drilled into the unmined coal seam. Injection wells are used to supply oxidants (air, oxygen) and steam to ignite and fuel the underground combustion process. Separate production wells are used to bring the product gas such as carbon dioxide, hydrogen, carbon monoxide and methane to the surface. The high pressure combustion is conducted at a temperature of 700–900 °C, but it may reach up to 1,500 °C.

This initiative underscores the Ministry's proactive diversification efforts within the coal sector and commitment to becoming a leader in adopting advanced coal gasification technologies. Underground coal gasification provides access to coal resources that are not economically viable through traditional mining methods.

The first phase of this project involves preparing a Technical Feasibility Report through borehole drilling and core testing. The second phase will focus on coal gasification at a pilot scale. As this



pilot project progresses, it aims to establish new benchmarks in coal resource utilisation, contributing significantly to India's journey towards energy independence.

**Compared to traditional coal mining and processing, the underground coal gasification eliminates surface damage and solid waste discharge and reduces sulphur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO) emissions.** On the other hand, organic and often toxic materials (such as phenol) could remain in the underground chamber after gasification and can leach into groundwater. The depth of the cavity left behind from underground coal gasification can also lead to subsidence, where the surface actually sinks in. **Careful monitoring and safe decommissioning practices should be followed to reduce the environmental impact of this project.**





# Central Railway

installs

## *floating solar plant*

### DO YOU KNOW ?

- ♥ **Megawatt peak:** A unit of measurement of the maximum potential output of power from a source like solar or wind.
- ♥ **Power Purchase Agreements (PPA):** A company signs to buy the power at a fixed price.
- ♥ **NPEB:** A net-positive energy building relies on renewable sources to produce as much energy as it uses and supplies excess generated electricity to the grid.
- ♥ **Net Zero Energy Buildings:** The total amount of energy used by the building is equal to the amount of renewable energy created on the site.

Solar energy reduces greenhouse gas emissions and mitigates climate change.

The Central Railway (CR) has installed a floating solar plant with 10 MWp capacity in the Igatpuri Lake in the Western Ghats, a first-of-its-kind initiative by the Indian Railways.

#### Zero carbon emission by 2030

CR has installed 12.05 MWp solar plants atop railway stations and buildings, out of which, 4 MWp solar plants were provided last year which resulted in a saving of ₹4.62 crores in 2023-24 and savings in carbon footprints of 6594.81 MT (Metric Tons).

An additional 7 MWp Solar plants are likely to be installed this year. At present, 56.4 MW of wind

energy and 61 MW of solar energy is being tapped. Further, PPAs have been signed for the utilization of 325 MW of solar and wind energy. The benefits provided by these measures are equal to that of the benefits provided by 2,50,000 trees.

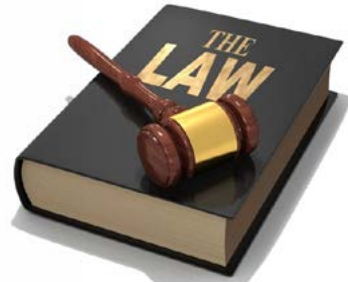
#### Benefits

The present monthly power consumption of CR is 236.92 million units, and now 70% of the traction energy will be green.

#### Recognition

Considering the efforts put in by CR towards the conservation of the environment and the Green Earth, The Bureau of Energy Efficiency has awarded the **Shunya Plus label** to five buildings and the **Shunya label** to two buildings of Central Railway.





# The new Laws

## Decolonisation or cosmeticism?

The Union Home Ministry rolled out three new criminal laws with effect from 1<sup>st</sup> July 2024.

**Bharatiya Nyaya Sanhita (BNS)** replaces the Indian Penal Code (IPC),

**Bharatiya Nagarik Suraksha Sanhita (BNSS)** replaces the Criminal Procedure Code (Cr PC)

**Bharatiya Sakshya Adhinyam (BSA)** replaces the Indian Evidence Act (IEA).

According to the Government of

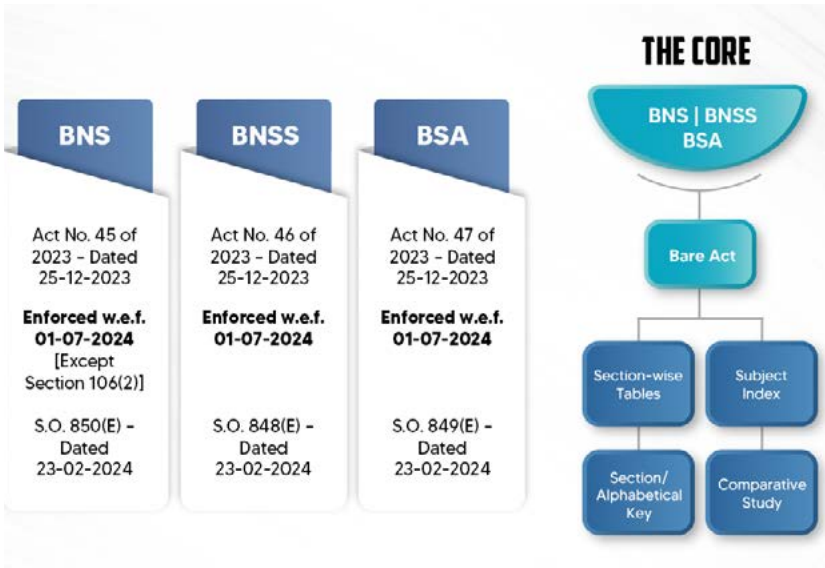
India, the re-enactment of these laws is to essentially revamp the Criminal Justice System by decolonizing and infusing the Indian thought process into the system. The new laws are also expected to eliminate the inadequacies in the colonial era laws with regard to addressing the technological advancements and the societal shifts that have happened over the past decades. While the intent is laudable, have these laws achieved the goal or at least have the potential to achieve it is under debate.

### Salient Features

#### BNS

This has 356 sections with 175 adopted from the IPC with modifications, 22 repealed and 8 sections introduced. Some of the areas that have been accorded fresh focus and thrust in terms of definition and punishments are:

- ▶▶ Crimes against women and children have been introduced with new provisions and offences
- ▶▶ Hiring children below the age of 18 to commit offences
- ▶▶ Causing death by rash or negligent act and fleeing the scene
- ▶▶ Mob lynching
- ▶▶ Organised crime and petty organised crimes (organised crime defined for the first time)
- ▶▶ Terrorist act (defined for the first time) and
- ▶▶ Punishment for abetment outside India for offence in India.





The new code has repealed the section on sedition but has repackaged it as “endangering the sovereignty, unity and integrity of India” in another section.

Changes have been made to punishments for some offences like defamation, causing death by negligence, extortion, criminal breach of trust etc.

“Community service” has been prescribed as a new form of punishment for petty offences.

### BNSS

The BNSS has 533 sections. It proposes amendments to 107 sections, repeals 9 and adds 9 new sections.

### Some salient aspects of BNSS:

- ▶ Designated police officer in every district
- ▶ Recording of search and seizures
- ▶ Attachment of the property of proclaimed offenders
- ▶ Trial in absentia
- ▶ Trial in videoconferencing
- ▶ Witness protection scheme
- ▶ Request for investigation in a country outside India
- ▶ No sanction to prosecute public servants is required.

Specific timelines have been prescribed for timebound

investigation and pronouncement of judgments.

**On the issue of 15 days limit for police custody, concerns have been raised while the government says there is no increase.**

### BSA

This has 170 provisions and does not propose any material change to the IEA. What it does is to streamline electronic evidence. **Digital records will now have the same legal effect, validity, and enforceability like any other documents either by way of "primary evidence" or "secondary evidence".**

One significant change that has been proposed is on the specific facts which the court can take judicial notice. IEA enlists such facts which pertain to the Parliament of UK. BSA clearly enlists such facts pertaining to India.

### Criticisms and counters

The opposition is crying hoarse that there has not been



# BHARATIYA SAKSHYA ACT, 2023 ↙

The Bharatiya Sakshya Act, 2023 has 170 sections, altering 24, adding two, and repealing six of 167 sections of the Indian Evidence Act 1872.

## Retained Provisions

- ↳ Parties involved in a legal proceeding can only present admissible evidence
- ↳ Court accepts proven facts if evidence supports reasonable action in the given circumstances
- ↳ Police confessions generally inadmissible unless recorded by a Magistrate

## Key Changes

- ↳ Electronic records hold equivalent legal status to traditional paper documents
  - ↳ Electronic records encompassing data stored in memory and communication devices
- ↳ Allows oral evidence to be given electronically
  - ↳ Electronic records are categorised as secondary evidence
- ↳ A joint trial means trying more than one person for the same crime
  - ↳ A trial of multiple persons, where an accused has not responded to an arrest warrant, will be treated as a joint trial

## Key Issues

- ↳ **Electronic Records:**
  - ↳ Concerns regarding tampering of electronic records during the search, seizure and investigation process
  - ↳ Usually, Electronic records must be authenticated by a certificate to be admissible as documents
    - ↳ The Act classifies electronic evidence as documents (which may not need certification), creating a contradiction
- ↳ **Exclusion of Suggestion of SC and Law Commission**
  - ↳ Concerns about duress and torture as Act kept a rule allowing information from someone in police custody to be used if it's directly related to a discovered fact
  - ↳ Exclusion of the presumption of police responsibility for injuries to someone in custody

widespread consultation and these are only cosmetic changes that do not substantially impact the criminal justice system of the country. The Minister of State for Law and Justice has said that the government received feedback from the CJI, 16 Chief Justices of High Courts, 22 universities, 142 Members of Parliament and 270 MLAs, while all the High courts, MPs and MLAs nationwide have been contacted.

It is really shocking to witness such apathy in the system that has in all 25 High courts, 788 Members of Parliament (both LS and RS) and 4126 MLAs nationwide. If the opposition is so concerned, what explains the poor response from its own MPs and MLAs?

There is bound to be some confusion in its implementation like in any change, but it is expected to settle down once verdicts start coming. Critics argue that the Police will now have wider powers and the laws will usher in a police state, while the government contends that these laws are victim centric with a focus on justice and not punishments.

One major concern is the fact that there are no training programmes for judges, lawyers and police officers. Intensive training has to be designed and imparted to all the stake holders.

## Conclusion

Critics argue that this is an opportunity missed and this is just

a cut and paste exercise with almost 80% of the old laws retained but the Government disagrees vehemently. Be that as it may, important factors that make laws successful are uncompromising enforcement, a swift, agile and a sensitive judicial process and the certainty of fair and just punishments for crimes.

One cannot with confidence say that these laws will achieve all of that. However we could all be satisfied even if this creates a manthan (churning) that could finally result in delivering the amrut of Swadeshi laws that would reinforce the motto **“Yato Dharmastato Jayah”** which means **"Where there is Dharma, there will be victory."**



## Smt Gaayathiri G

The eSankhyiki portal was launched on Statistics Day by Dr. Arvind Panagariya, Chairman of the 16<sup>th</sup> Finance Commission of India, in a function held recently. The initiative is in sync with the theme of the Statistics Day- ‘Use of data for Decision making’ as ease of access of data is the prerequisite for evidence-based decision making. It is a user centric data portal which facilitates use and reuse of information for creating impact through value addition and analysis by the users. The portal can also be accessed through the website of MoSPI (<https://mospi.gov.in/>).

The **Ministry of Statistics and Programme Implementation (MoSPI)** is the nodal ministry for integrated development of the national statistical system in the country in tune with the global statistical practices and data dissemination standards.



Government of India  
Ministry of Statistics and  
Programme Implementation



# eSankhyiki portal launched

MoSPI is committed to enhancing user experience and data accessibility through use of cutting-edge technologies and the adoption of global best practices.

In line with this mandate, the ministry has developed an eSankhyiki portal (<https://esankhyiki.mospi.gov.in>) to provide real-time inputs for planners, policy-makers, researchers and the public at large. **The objective is to establish a comprehensive data management and sharing system for ease of dissemination of official statistics in the country.**

### eSankhyiki Portal modules

**Data Catalogue Module:** This module catalogues the major data assets of the ministry at one place for ease of access. It allows users to search within datasets, including within tables, and download data of interest to increase its value and re-usability.

### The module has seven data products:

- ▶▶ National Accounts Statistics
- ▶▶ Consumer Price Index
- ▶▶ Index of Industrial Production
- ▶▶ Annual Survey of Industries

- ▶▶ Periodic Labour Force Survey
- ▶▶ Household Consumption Expenditure Survey
- ▶▶ Multiple Indicator Survey

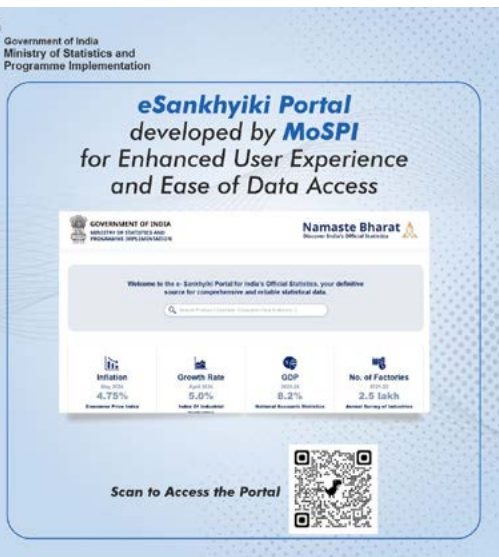
The Data Catalogue section already includes over 2291 datasets along with specific metadata and visualization for each dataset for user convenience.

### Macro Indicators Module:

This module offers time series data of key macro indicators with features for filtering and visualizing data enabling ease of access for the users. It allows users to download custom datasets, visualizations and sharing them through APIs, thereby increasing the re-usability of data.

The first phase of the module includes four major products of MoSPI: National Accounts Statistics, Consumer Price Index, Index of Industrial Production and Annual Survey of Industries, encompassing the data of last ten years. The portal currently hosts more than 1.7 million records.

**API** - an application programming interface is a way for two or more computer programmes or components to communicate with each other.







# India's Fauna population



**A great variety of fauna is found in its magnificent splendour in rich concentration in the tropics.**

**B**iodiversity can be viewed as our inherited wealth, perfected through eons of evolution. The rich tapestry of fauna and flora is a treasure trove of plants and animals which are a source of useful products from food to timber to medicine.

### **Spread and concentration**

Fauna species have spread far and wide across the globe and have adapted well to their environments. It is a known fact that fauna have developed extreme adaptations and skills to survive in harsh habitats like deserts and polar regions. A great variety of fauna is found in its magnificent splendour in rich concentration in the tropics thanks to year-round abundant rainfall,

sunshine and food availability. The fauna and flora exist in a well-balanced ecosystem.

### **The necessity to conserve biodiversity and have an inventory**

India is one of the countries which has 3 of the 36 biological hotspots listed worldwide. The food crops we grow have their wild cousins in such hotspots. Such useful gene pool needs to be preserved for posterity. Further more a healthy mix of fauna and flora is like a useful dipstick that tells us that the ecosystem is doing well and can sustain itself for many years like it had for thousands of years in the past. Often the economic value of biodiversity





like pollination, formation of soil, sustainable food chains etc., are grossly underestimated.

### India's inventory of its fauna

**Fauna of India Checklist Portal (FICP)** is the first comprehensive document of the fauna species in India. India has become the first country in the world to prepare a checklist of its entire fauna numbering close to 1,0,6561 species.

FICP was first launched on the 109<sup>th</sup> Foundation Day of Zoological Society of India, in Kolkata. The species are categorized according to the region they are present and their endemicy. The comprehensive fauna list is important for several reasons

#### 1. Conservation and protection

Targeted conservation is possible only if we know the distribution of fauna.

## Endangered Species of India

As per a report by the International Union for Conservation of Nature (IUCN) in December 2022, about 73 species of Indian fauna, including nine mammals, 18 birds, 26 reptiles, and 20 amphibians are now 'Critically Endangered'. The number has gone up steeply from 47 in 2011

#### Least Concern (LC)

When an animal is at no massive risk as per a survey of its population, it qualifies for this category.

#### SPOTTED DEER



**Vulnerable (VE)** This category is used to denote when an animal is facing a decline in population but still has sustainable numbers to save it from endangerment

#### SLOTH BEAR



**Near Threatened (NT)** While currently not facing any substantial risks, a species or subspecies is likely to suffer from declining numbers soon.

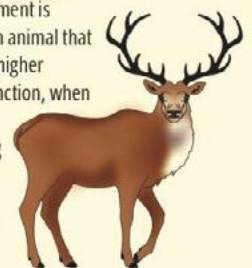
#### STRIPED HYENA



#### Critically Endangered (CE)

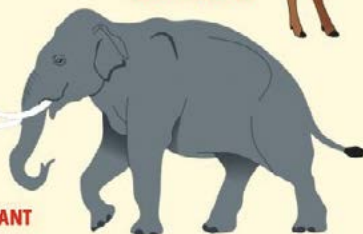
Critical Endangerment is used to denote an animal that is facing an even higher possibility of extinction, when it is ominously close to vanishing from the wild.

#### KASHMIR STAG



**Endangered (EN)** An animal is deemed to be endangered if it is facing a high risk of extinction

#### ASIAN ELEPHANT



*The five major categories IUCN uses to denote the risk faced by an animal, in increasing order of severity: Least Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered.*

#### 2. Scientific research

Data is the soul of research. Research primarily consists of obtaining field data, validation, application of tools to analyse it. Research helps in understanding biodiversity for targeted flow of funds.

#### 3. Maintaining a leadership position

The application of such efforts has improved the population of several species. One such

noteworthy conservation drive has increased the population of Sarus cranes, Uttar Pradesh's state bird. According to the summer census of 2024 the cranes population has moved up from 17329 in 2021 to 19918 in 2024. nearly 15% in 3 years. Crane activity was spread out over a wider area. The success of the conservation effort on Sarus cranes speaks volumes about habitat protection and the general health of the ecosystem.





# Pioneering advances in Regenerative Medicine

## IASRM

The International Association for Stem cell and Regenerative Medicine alongside the Anti-aging Foundation hosted the 9<sup>th</sup> Annual World Congress - Longevity Revolution 2024, celebrating the advancement in regenerative medicine and anti-aging therapies in New Delhi. IASRM is an independent non-profit organization that aims to support and raise awareness in stem cell science applicable to human body.

Amazing inventions and discoveries in the field of medicine have led to a better understanding of the human body and the functions of its organs. This paved the way for design and discovery of newer drugs. The process of diminishing functions of the various organs were accepted as part of aging, in spite of the fact that the human body is capable of healing itself overtime.

**Regenerative medicine holds the promise of engineering damaged tissues and organs, by stimulating the body's own repair mechanism to heal itself.**

## What is Regenerative Medicine (RM)?

Regenerative medicine is an interdisciplinary field that seeks to develop science and tools to help repair or replace damaged or diseased tissues and organs to restore their normal function. The spectacular advance in RM is possible due to the increasing interplay and collaboration between genetic engineering, computer science, cell biology and chemistry. Father of medicine in India, Sushruta used skin grafts to repair damaged tissues and that can be assumed as the starting block of RM. Regenerative Medicine truly arrived after the discovery of the possible use of stem cells in restoring lost tissue.

## Stem cells

These are found in the bone marrow, saliva and other parts of the human body. Stem cells have this unique ability to develop into any type of cell. They can be harvested from the **patient's own body (autologous)** or from unused



embryos (embryonic stem cells). These harvested stem cells can be reengineered and infused back. That will set in motion various biochemical reactions in the body, paving the way for regeneration of diseased organs and tissues. **Tissue engineering and cellular therapies are important strategies in regenerative medicine.** Tissue engineering strategy is using biologically compatible scaffolds in the body and at the site where new tissues need to be formed. The scaffolds kick in biochemical changes that helps the healing process. Cellular therapy uses stem cells, either autologous or from embryonic source to regenerate organs and tissues.



# Glowing green mushrooms



In a ground breaking discovery, scientists found a rare bioluminescent mushroom, *Filoboletus manipularis*, in the dense forests of Kasaragod, Kerala. This fungus emits a vibrant green glow at night. The discovery, made during a micro-fungal survey in the Ranipuram forest, was led by the Kasaragod division of the Kerala Forest and Wildlife Department and the Mushrooms of India Community. Among the 50 species identified, *Filoboletus manipularis* stood out for its luminescence.

Bioluminescence in these mushrooms is attributed to a

chemical reaction involving **luciferin and luciferase**. These substances produce light when combined with oxygen, creating the mushroom's characteristic green glow. This natural light is believed to attract insects, which in turn helps to disperse the mushrooms' spores, aiding in their reproductive cycle.

Despite its enchanting appearance, scientists caution against consuming these due to potential toxicity risks. The chemicals responsible for bioluminescence could pose health hazards to humans, underscoring the

importance of scientific vigilance and responsible exploration.

The discovery underscores Kasaragod's status as a hotspot of fungal biodiversity. This finding has prompted calls for further exploration and study. Experts like Dilip Kumar Rai have emphasized the significance of such discoveries, highlighting how they illuminate the intricate relationships within forest ecosystems.

Dr. Jinu Muraleedharan, who led the research team, advocates for continued expeditions to delve deeper into the fungal diversity of Kasaragod. The lush tropical environment and abundant organic matter in the Ranipuram forest provide an ideal habitat for *Filoboletus manipularis* and potentially countless other undiscovered species.

*Filoboletus manipularis* thrives in tropical, humid environments, typically found in dense forests where there is plenty of decaying organic matter such as fallen trees and leaves. This rich, moist environment provides the nutrients and conditions necessary for their growth and unique glowing property.

As scientists continue to explore and document the region's fungal diversity, there is hope that such discoveries will foster greater appreciation and conservation of these unique ecosystems.



# Nagaland

## Best State in Horticulture

At the 15<sup>th</sup> Agriculture Leadership Awards 2024, Nagaland was honoured with the ‘**Promotion of Best Horticulture Farming and Products**’ award. This award recognises Nagaland as the best state in horticulture for innovative and sustainable agricultural practices and promoting its products on a global platform.



Salhoutuonuo Kruse, Nagaland's Minister for Women's Resource Development and Horticulture, accepted the award, in the Agriculture Leadership Conclave conducted in New Delhi and highlighted the state's progressive policies and programs benefiting farmers and rural communities.

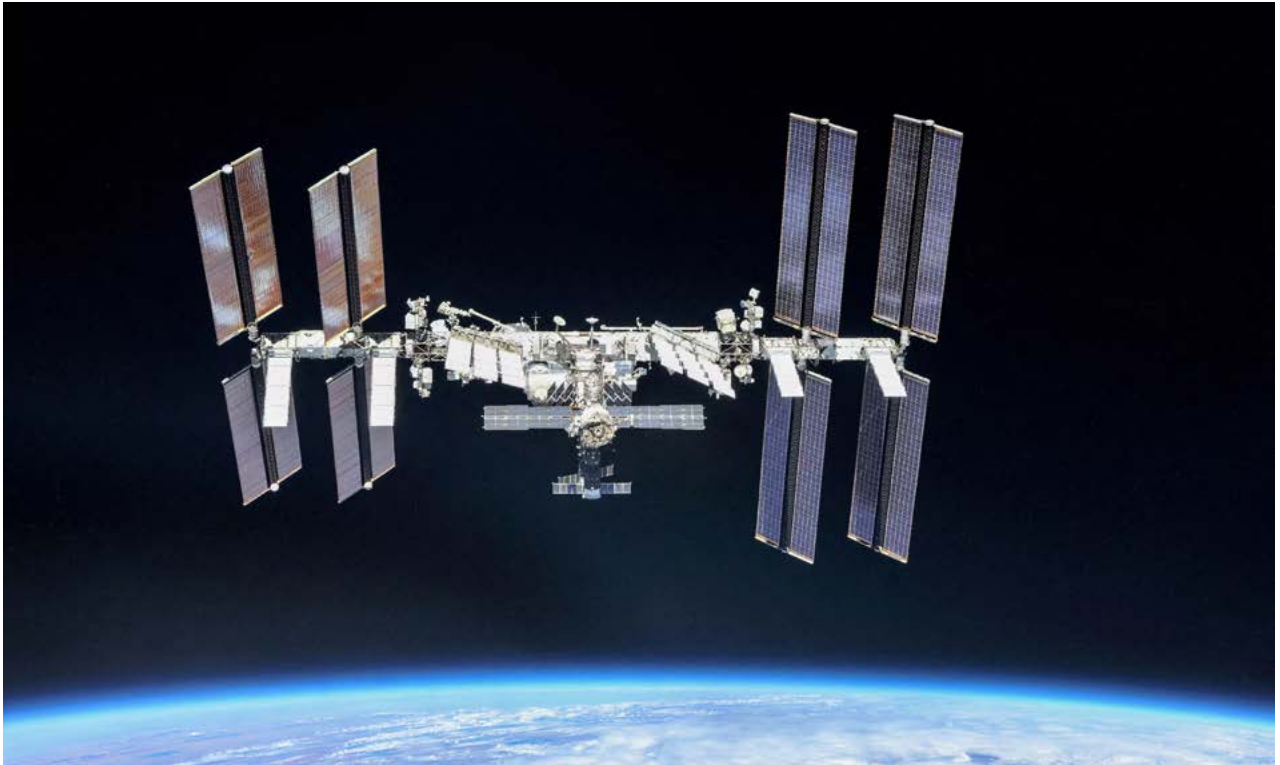
The three-day expo saw Nagaland showcase its unique and high-quality horticulture products that included perilla seed oil, ginger powder, dry Naga king chilli, sumac powder, candied mango and candied plum from homegrown brands.

### Nagaland's achievements

- ▶ Nagaland has achieved G.I. registration for three horticultural crops - *Naga Mircha*, *Naga Tree Tomato* and *Naga Sweet Cucumber*.
- ▶ The Department of Horticulture has empowered farmers by forming 13 **Farmer Producer Companies (FPCs)**, which aims to strengthen the agricultural value chain and improve farmers' market access and bargaining power.
- ▶ Nagaland strives towards organic farming - so far an **area of 6,800 hectares have been brought under organic certification.**
- ▶ **Horticulture Model Village (HMV)** scheme was launched in 2023, where 16 villages in each district were identified on increasing production of horticultural crops like kiwi, citrus, banana, pineapple, dragon fruit, Naga mircha etc. Each village is responsible for growing one crop so that resources are used more efficiently and output is higher.

**These innovative programmes and policies implemented by Nagaland stand out as a great learning on improving the livelihoods of farmers, rural prosperity, brand building and sustainable agriculture.**





# News from ISRO

The mission, **Axiom-4**, is being headed by **NASA (National Aeronautics and Space Administration)** and **Axiom Space**, a private agency specializing in developing space infrastructure.

## ISRO selects 2 Gaganyaan astronauts for International Space Station

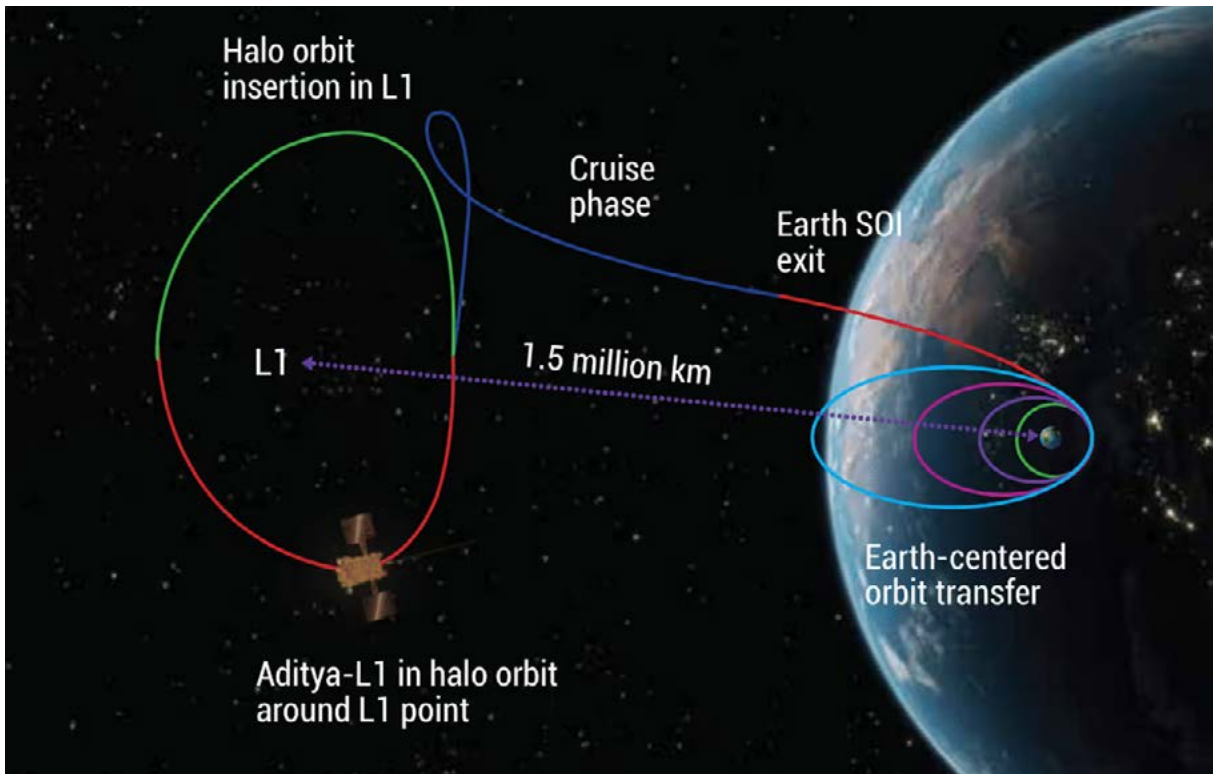
As the world gears up for the next human journey into Space, the Indian Space Research Organisation (ISRO) has shortlisted two astronauts for the prestigious mission. Out of these two who have not been named publicly, one will make it to the final team heading to the International Space Station (ISS).

The mission, **Axiom-4**, is being headed by **NASA (National Aeronautics and Space Administration)** and **Axiom Space**, a private agency specializing in

developing space infrastructure. This is the fourth partnership between **NASA** and **Axiom Space** in augmenting facilities for commercial purposes on the ISS. For this mission, **Axiom Space** is working with **Space X**, a company that specializes in building and launching advanced spacecrafts and vehicles.

The astronauts, who are already part of the distinguished **Gaganyaan** project, will now go to the USA to train for the **Ax-4** mission. They are to receive special training at the **NASA** facility to understand and acclimatise to the functionalities, protocols, and emergency procedures and manuals of the upcoming **Ax-4** project.



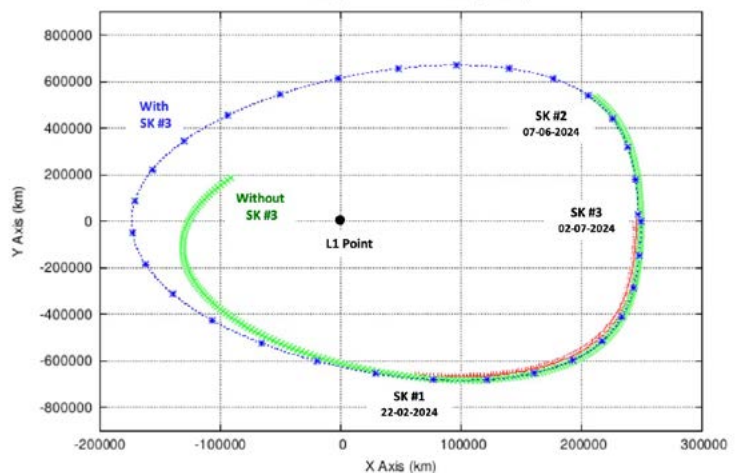


The Ax-4 mission is said to go on floors sometime after October this year. The charted plan is to dock onto the ISS for fourteen days. The trained astronauts would stay at the space station and conduct meaningful work there.

### ISRO's Aditya-L1 completes first halo orbit

Aditya-L1, India's spacecraft to study the surface and inner reactions occurring in the Sun, has completed one orbit around the Lagrange point around which its revolution is set. The vehicle was launched in September of 2023 and completed its first round of trajectory around point L1 on 2<sup>nd</sup> July 2024 – a journey of 178 days.

**The voyage around the L1 point in relative proximity to the Sun is no ordinary tour.** The spacecraft is said to have encountered many 'perturbing



(The orbit that Aditya-L1 will take around the point L1 (blue line), and the modified orbit if the station-keeping manoeuvres had not been performed (green line). This is a 2-D projection of the actual 3-D trajectory.)

forces' as described by ISRO. There were many factors such as the gravitational forces by various celestial bodies in the region, the magnetospheres of the Sun, Earth and other such forces for Aditya to have left its orbit.

On such occasions, an in-house flight dynamics software has helped in bringing the space vehicle back on track. These station-keeping moves were performed on 22<sup>nd</sup> February, 7<sup>th</sup> June and 2<sup>nd</sup> July. These manoeuvres have helped Aditya-L1 begin its second lap around the point L1 (blue line).





# Vizhinjam

## India's first Transshipment Port

Vizhinjam International Seaport in Kerala is the country's first semi-automated trans-shipment and deep-sea container handling port. The first mothership at Vizhinjam **San Fernando** arrived on the morning of 11<sup>th</sup> July carrying cargo from China and departed for Colombo the next day after an official reception hosted by the Kerala government.

The port expected to be fully commissioned in December 2024, is an important milestone in the economic development of Kerala. **Adani Ports and Special Economic Zone (APSEZ)** is developing this







deep-sea water port. Construction began in December 2015 as landlord model with a Public Private Partnership component on a **design, build, finance, operate and transfer (DBFOT)** basis.

Vizhinjam Port offers large scale automation for quick turnaround of vessels with state-

of-the-art infrastructure to handle huge containerships. Located just 10 nautical miles away from the busy international shipping route, the port will allow India to receive a larger share of cargo and container volume from dominant players in the industry.

| Factfile                      |  |
|-------------------------------|--|
| Location                      | Thiruvananthapuram, Kerala                                 |
| Co-ordinates                  | 8022'25"N 76055'17"E                                       |
| Status                        | Fully operational by December 2024                         |
| Concessionaire                | Adani Vizhinjam Port Pvt. Ltd                              |
| Concession Period             | 45 years (2015 – 2060)                                     |
| Capacity                      |  |
| Phase 1                       | 1 million TEUs   |
| Phase 2                       | 2.5 million TEUs   |
| Phase 3                       | 3.3 million TEUs   |
| Terminal Area (Phase 1)       | 80 hectares  |
| Quay Length (Phase 1)         | 800 metres   |
| Draft                         | 18 – 20 metres   |
| Littoral draft                | Minimal  |
| Connectivity                  |  |
| Road                          | 4 lane NH – 66   |
| Rail                          | 10.7 km rail connectivity to Balaramapuram Railway Station |
| Air                           | 16 kms from Thiruvananthapuram International Airport       |
| Project Cost                  | ₹8867 Crores   |
| Funding break-up              |  |
| Govt. of Kerala               | 61.5%  |
| Govt. of India                | 9.6%   |
| Adani Vizhinjam Port Pvt. Ltd | 28.9%  |
| Employment                    | 5500 direct jobs   |

### In due course, Vizhinjam will

- ▶ Reduce our dependence on Colombo, Dubai and Singapore for transshipment,
- ▶ Serve as a gateway for trade between Southeast Asia, the Middle East and Africa and
- ▶ Boost India's share in international trade. **All these are expected to bring great advantages to our nation.**

- **Transshipment port** - Unloading and loading of goods and containers at an intermediate port before reaching destination.
- **TEU** - Twenty-foot Equivalent Unit intermodal container of dimensions 20ft X 8.6ft X 8.0 ft.
- **Quay** - Structure built for unloading and loading cargo.
- **Draft** - Vertical distance from the waterline to the lowest part of the ship's hull, propellers or other reference point.
- **Littoral drift (also longshore drift)** is a geological process consisting of the transportation of sediments (sand, shingle, pebbles) along a coast parallel to the shoreline, which is dependent on the angle of incoming wave direction.





# News from the sports arena

## Indians win Archery World Cup 2024 Stage 3

On 23<sup>rd</sup> June 2024, Indian archers were seen concluding their stint at the Archery World Cup 2024 Stage 3 with an impressive tally of **4 medals – 1 gold, 1 silver and 2 bronze.**

22-year-old **Dhiraj Bommadevara** clinched **bronze** in both the **Recurve** categories – **Individual and Mixed.** At the Individual level, he defeated Italy's Mauro Nespoli, a multiple-time Olympic medal winner, with the score of 7-3.

In the mixed level, Bommadevara teamed up with **Bhajan Kaur** to defeat Alejandra Valencia and Matias Grande of Mexico with a score of 5-3.

Women archers were seen hitting bull's eye as the Indian Compound team comprising **Aditi Swami, Jyothi**

**Surekha Vennam** and **Parnet Kaur** won their **3<sup>rd</sup> gold** in the 2024 World Cup series by defeating the Estonian team in the final.

In the men's individual compound event, 21-year-old **Priyansh** secured a silver after a tough battle with World No. 1 Mike Schloesser of Netherlands in the final.

The Final of the Archery World Cup 2024 will be held in Tlaxcala, Mexico on 19<sup>th</sup> and 20<sup>th</sup> October.

## IAS officer Suhas Yathiraj becomes the World No 1 para shuttler

Indian para shuttler Suhas Yathiraj became the world number one player on 25<sup>th</sup> June displacing French legend Lucas Mazur in the latest BWF Para Badminton world rankings. An engineer, IAS officer and now a para shuttler, he won the **silver medal** in the **SL-4 category** at the **Tokyo Paralympics**, losing the title clash to Mazur.

He started playing for local tournaments, then national-level





### Indian Squash players win Asian Squash Doubles Championship 2024

On 7<sup>th</sup> July, the finals of the Asian Squash Doubles Championship 2024 was held at the Arena Emas in Johor, Malaysia. **Abhay Singh** and **Joshna Chinappa** secured the **Mixed Doubles title** by defeating Hong Kong's Tong Tsz Wing and Ming Hong Tang. Joshna Chinappa is a four-time world doubles championships medallist and Abhay Singh had previously won bronze in mixed doubles event at the 19<sup>th</sup> Hangzhou Asian Games 2022.



Dominating the **Men's doubles event**, **Abhay Singh** along with **Velavan Senthilkumar** won against Malaysia's Ong Sai Hung and Syafiq Kamal in the final to register a comfortable 2-0 (11-4, 11-5) victory. Velavan was National men's squash champion and winner of Batch Open Challenger Squash 2024.

### Four AFMS officers create history at 43<sup>rd</sup> World Medical & Health Games in Saint Tropez, France

At one of the most prestigious global sporting events within the medical community, World Medical & Health Games, four of India's **Armed Forces Medical Service (AFMS)** officers clinched a **record 32 medals**.

**Lt Col Sanjeev Malik** (Above 35 yrs Male Category): **5 Gold**

**Maj Anish George** (Under 35 yrs Male Category): **4 Gold, 6 Silver and 2 Bronze**

**Capt Stephen Sebastian** (Under 35 yrs Male Category): **6 Gold**

**Capt Dania James** (Under 35 yrs Female Category): **4 Gold, 3 Silver and 2 Bronze**



competitions and eventually became a full-blown professional. His passion led him to represent India in the **SL-4 category** at the Tokyo Paralympics. The 40-year-old is also an Arjuna Awardee.





# Indigenous **ASMI** sub - machine gun inducted

## Rewind

For decades, the Indian Army struggled to replace its vintage Sterling carbine, a weapon that entered service in the closing stages of World War II.

However, the answer as it turned out lay within our own Army when Lieutenant Colonel Prasad Bhansod from Infantry School, Mhow (Madhya Pradesh) designed and produced the first prototypes of a compact 9 mm sub-machine gun.

Hailed as India's very own "Colonel Kalashnikov," the groundbreaking accomplishment of the officer stands as a testament to the nation's growing self-reliance and technological prowess in the defence domain.

Some of the world's best small arms have been designed by military personnel - the legendary AK-47 (by General Mikhail Kalashnikov), Israel's iconic Uzi submachine gun designed by Major Uziel Gal.

## Design, manufacture and induction

Developed and manufactured by Hyderabad-based Lokesh Machines Ltd., (LML) ASMI is the first indigenously designed and produced weapon to be inducted into the Army.

The basic design for the ASMI once provided by the **Armament Research & Development Establishment (ARDE)** and the Indian Army saw emergence of the prototype in just four months.



Recently, LML has received an order for induction of 550 ASMI submachine guns worth ₹4.26 crore from the Army. Besides, National Security Guard (NSG) and Assam Rifles have also placed order for testing and induction in their organisations.

### Features and advantages

- ▶ Indigenous design and production.
- ▶ **Lightweight and durable.** An aerospace-grade aluminium unibody receiver construct it weighs less than 2.4 kg (significant weight advantage over international competitors).
- ▶ **Cost-effective.** Priced less than 1 lakh (more affordable than imported alternatives).
- ▶ **Versatile ammunition compatibility.** Both local



and imported NATO-standard ammunition can be utilized (flexibility in supply chain management).

- ▶ Stringent performance test under various conditions including drop, weather, mud and reliability tests by firing 2,400 rounds without a single

class-1 stoppage.

- ▶ **High Rate of Fire (ROF) and Magazine Capacity.** 800 rounds per minute ROF with a magazine capacity of 32 round effective firepower in close-quarter combat for combat personnel.



### Conclusion

ASMI is derived from the Sanskrit word *Asmita*, which means pride, self-respect and hard work. The ASMI will serve as a cost effective alternative to imports such as the Brügger & Thomet MP-9, Heckler & Koch MP-5 and UziHK-MP5.

The induction of ASMI submachine gun emphasises-

- ▶ **Self-reliance** in military hardware (lessons learnt from the ongoing geopolitical tensions and military conflicts around the world).
- ▶ Huge **potential for overseas export markets.**
- ▶ An **inspirational story** for producing world-class military equipment.
- ▶ Innovation and self-belief by empowering individuals with institutional support.





## UNIFIED CYBER DOCTRINE

Since the early 90s, experts have been saying that the next war will be fought in cyberspace.

### Dashboard

The development of cyberspace has been one of the greatest technological achievements of mankind with incredible benefits in diverse fields but then is exposed to a host of security threats. Amongst contemporary security vulnerabilities, cyber threats have emerged as critical.

Since the early 90s, experts have been saying that the next war will be fought in cyberspace. A 'cyber- Pearl Harbour' would meltdown government systems, cripple critical infrastructure and plunge modern militaries and societies into darkness. Modern warfare is highly dependent on technology.

The most gripping instance of cyber - attack in India was the hacking of Prime Minister's Office website in 2011 and the breach of

12,000 sensitive email accounts of government officials in 2012.

In 2015, Chinese hackers stole millions of records from the United States' Office of Personnel Management (OPM).

The ongoing Russia – Ukraine war has reported numerous such cyber - attacks.

Welcome to the world of cyberspace warfare.

### What is cyberspace warfare?

It involves the hostile actions by a nation-state or international organization or non-state actors with the intention of disrupting, damaging or destroying another nation's computers or information networks infrastructure through, for example, computer viruses or denial-of-service attacks, defacing of websites etc.





**Cyberspace is considered the fifth dimension of warfare after land, ocean, air and space.**

### Unified Cyber Doctrine

On 18<sup>th</sup> June 2024, Chief of Defence Staff Gen Anil Chauhan released the Joint Doctrine for Cyberspace Operations during the Chiefs of Staff Committee (COSC) meeting held in New Delhi.

It is a keystone publication that will act as a guiding tool for commanders of the armed forces in conducting cyberspace operations in

today's complex military operating environment.

The Doctrine emphasizes the importance of understanding military aspects of cyberspace operations and providing conceptual guidance for planning and conduct of operations in cyberspace as also to raise awareness at all levels.

### Why is a Joint Doctrine for Cyberspace needed?

Territorial limits define warfare in land, sea and air; however, cyberspace is a global common

and hence has shared sovereignty. Hostile actions in cyberspace can impact a nation's economy, cohesion, political decision making and its ability to defend itself.

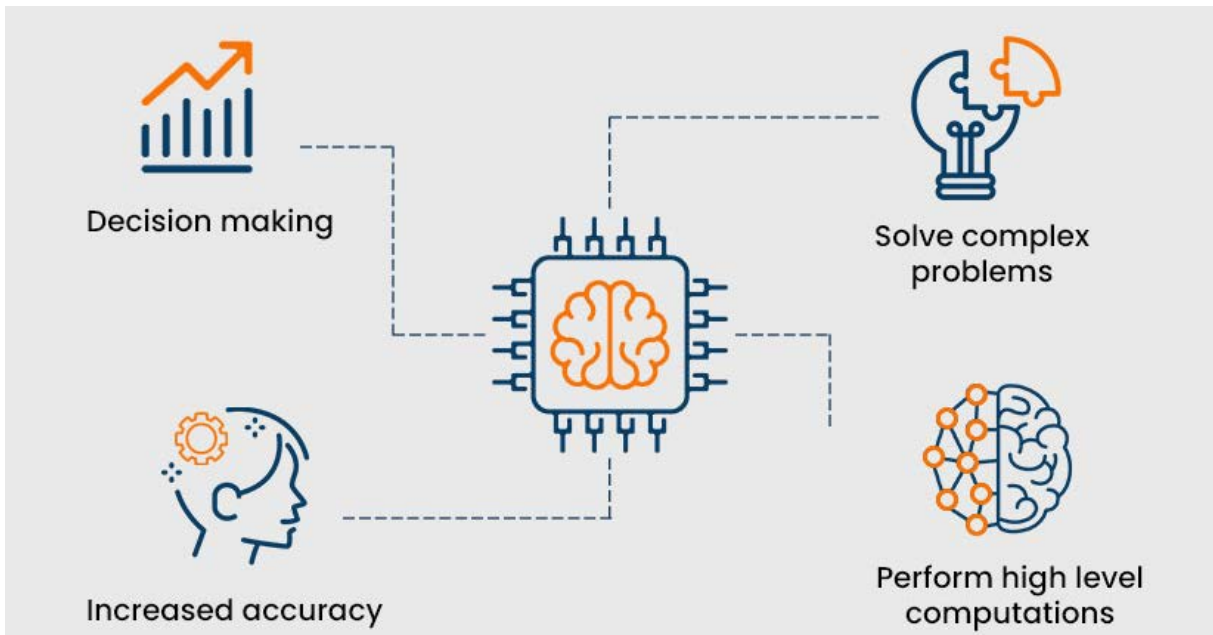
**Operations in cyberspace need to be dovetailed into the national security fabric as instruments of power to evolve the 'ends,' 'ways' and 'means' to create advantage and influence events across this shared environment.**

Cyberspace therefore needs a common, collaborative and integrated doctrine to deal with the risk. This publication will enable integration amongst the forces for cyberspace operations.

### Indian Government initiatives for cyber security

- ▶▶ **Indian Computer Emergency Response Team (CERT-In):** The CERT-In plays the central role for incident response, vulnerability handling and security management in India's cyberspace.





- ▶ **Cyber Surakshit Bharat:** To ensure more awareness about the latest cybercrimes and the cyber security challenges of India.
- ▶ **Cyber Swachhhta Kendra:** The initiative focuses on detecting and removing malicious botnet programs from computers and devices.
- ▶ The **National Critical Information Infrastructure Protection Centre (NCIIPC)**. It is the National Nodal Agency for protecting critical and sensitive information.
- ▶ **Indian Cyber Crime Coordination Centre (I4C)** focuses on tackling all the issues related to cybercrime for the citizens by improving coordination between various law enforcement agencies and the stakeholders.



- ▶ **National Cyber security Policy 2020** provides a framework for creating a secure cyber ecosystem and aims to protect information and other critical infrastructure.

like air, land and sea. The United States (US) cyber security doctrine provides for the right to military action against cyber-attacks.

More than 140 countries have developed or are in the process of developing their patenting and proficiency in cyber warfare. There is a need to innovate and carve out roles for the tri-services to meet challenges and this doctrine will be a useful guide.



### Conclusion

The USA (Pentagon) and North Atlantic Treaty Organization (NATO) have designated cyberspace as an 'operational domain', just





# Medium Range Microwave Obscurant Chaff Rocket



## Obscurant Cloud Formation in Space

|               |   |
|---------------|---|
| Altitude      | The MOCR is designed to deploy the chaff cloud at high altitudes, typically in the upper atmosphere, to maximize the coverage and effectiveness of the radar obscuration.           |
| Dispersion    | The chaff fibers are released in a controlled and uniform manner, forming a dense, three-dimensional cloud that can effectively block and disrupt radar signals.                    |
| Duration      | The chaff cloud created by the MOCR is designed to persist for an extended period, providing a sustained radar-obscuring effect to protect naval assets during critical operations. |
| Effectiveness | The MOCR's chaff cloud has been rigorously tested and   |



On 26<sup>th</sup> June 2024, the Defence Research and Development Organisation (DRDO) handed over the **Medium Range-Microwave Obscurant Chaff Rocket (MR-MOCR)** to the Indian Navy at a ceremony held in New Delhi. **Microwave Obscurant Chaff (MOC)** is a specialised technology developed by DRDO's Defence Laboratory, Jodhpur. **It conceals radar signals and creates a microwave shield around platforms and assets, reducing radar detection.**

The medium-range chaff rocket contains special fibres with a diameter of a few microns and unique microwave obscuration properties. When fired, this rocket creates a microwave obscurant cloud

## DO YOU KNOW ?

**The MOCR's radar signal obscuration technology can be used in naval operations to protect ships and submarines and enhance other electronic warfare systems and decoys.**

in space, providing an effective shield against hostile threats with Radio Frequency seekers.

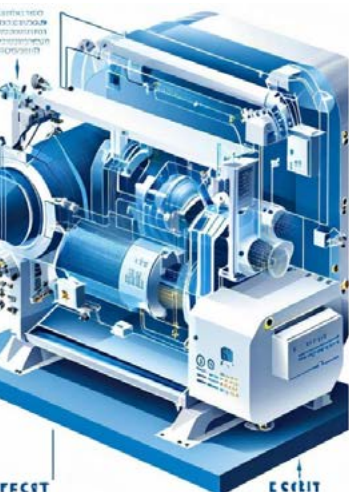
The Phase-I trials of MR-MOCR were successfully carried out from Indian Navy ships, showcasing the impressive MOC cloud blooming and its sustained presence in space. Moving on to Phase-II trials, the reduction in **Radar Cross Section (RCS)** of an aerial target by as much as 90% has been effectively demonstrated and approved by the Indian Navy. The Indian Navy has received a successful handover of the required number of MR-MOCR systems that meet all qualification criteria.

Defence Minister Rajnath Singh praised DRDO and the Indian Navy for successfully developing MR-MOCR, calling it a significant achievement in Aatmanirbhar.



## Working Mechanism of MOCR

- 1 Rocket Propulsion**  
 The MOCR is launched by a rocket system that propels the payload to the desired altitude and location, ensuring the effective deployment of the chaff cloud.
- 2 Chaff Dispersion**  
 Upon reaching the target area, the MOCR releases a dense cloud of metallic chaff fibers, which are specifically designed to reflect and disrupt microwave radar signals.
- 3 Radar Obscuration**  
 The chaff cloud created by the MOCR effectively obscures the radar signature of the target, making it more difficult for enemy radar systems to detect and track naval assets.





# ABHYAS

## High speed expendable aerial target

Abhyas is designed as an in-line small gas turbine engine; the device uses indigenously developed micro-electro-mechanical system for navigation and guidance.

### Preview

It all started in 2012 when a group of six scientists wanted to convert the tow-body of a recoverable Lakshya-Pilotless Target Aircraft into an expendable self-propelled aerial target.

ABHYAS, the **High-speed Expendable Aerial Target (HEAT)** was first fully flight-tested in 2021 by DRDO as a vehicle that can be used as an aerial target for evaluation of various missile systems.

Designed and developed by DRDO's **Aeronautical Development Establishment (ADE)**, Bengaluru, the air vehicle is launched using twin under-slung boosters which provide the initial acceleration. It is powered by a gas turbine engine to sustain a long endurance flight at subsonic speed.

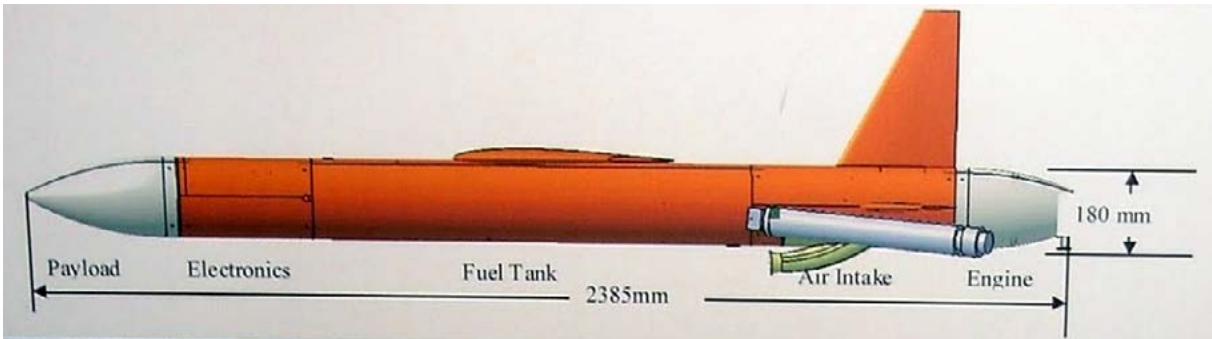
### Design & operation

Abhyas is designed as an in-line small gas turbine engine; the device uses indigenously developed micro-electro-mechanical system for navigation and guidance. The fuselage consists of five sections, namely the nose cone, equipment bay, fuel tank bay, air intake bay and tail cone.

The primary purpose is to sharpen the existing air-defence mechanism; that is why it is named as Abhyas (means practice). These targets imitate fighter aircraft in peacetime operations used to hone skills.

ABHYAS provides a realistic threat scenario for practising weapon systems. It has been designed to fly with the aid of an autopilot and comes with state-of-





the-art **RCS (Radar Cross Section Testing)**, Visual and IR (Infrared) augmentation systems needed for weapon practice.

The air vehicle has **MEMS (micro-electromechanical system)** based **Inertial Navigation System (INS)** for navigation along with the **Flight Control Computer (FCC)** for guidance and control and programmed for fully autonomous flight.

The performance of the target aircraft is monitored through

telemetry and various tracking sensors including Radars and **Electro Optical Tracking System (EOTS)**.

### Flight trials

Four flight trials were successfully carried out at the Integrated Test Range, Chandipur in Odisha early this year. The trials were conducted with four different mission objectives - safe release of booster, launcher clearance and attaining the required end

of launch velocity and reduced launch acceleration. Parameters like required endurance, speed, manoeuvrability, altitude and range were successfully validated with identified Production Agencies – Hindustan Aeronautics Limited (HAL) and Larsen & Toubro (L&T) Defence.

### Developmental trials

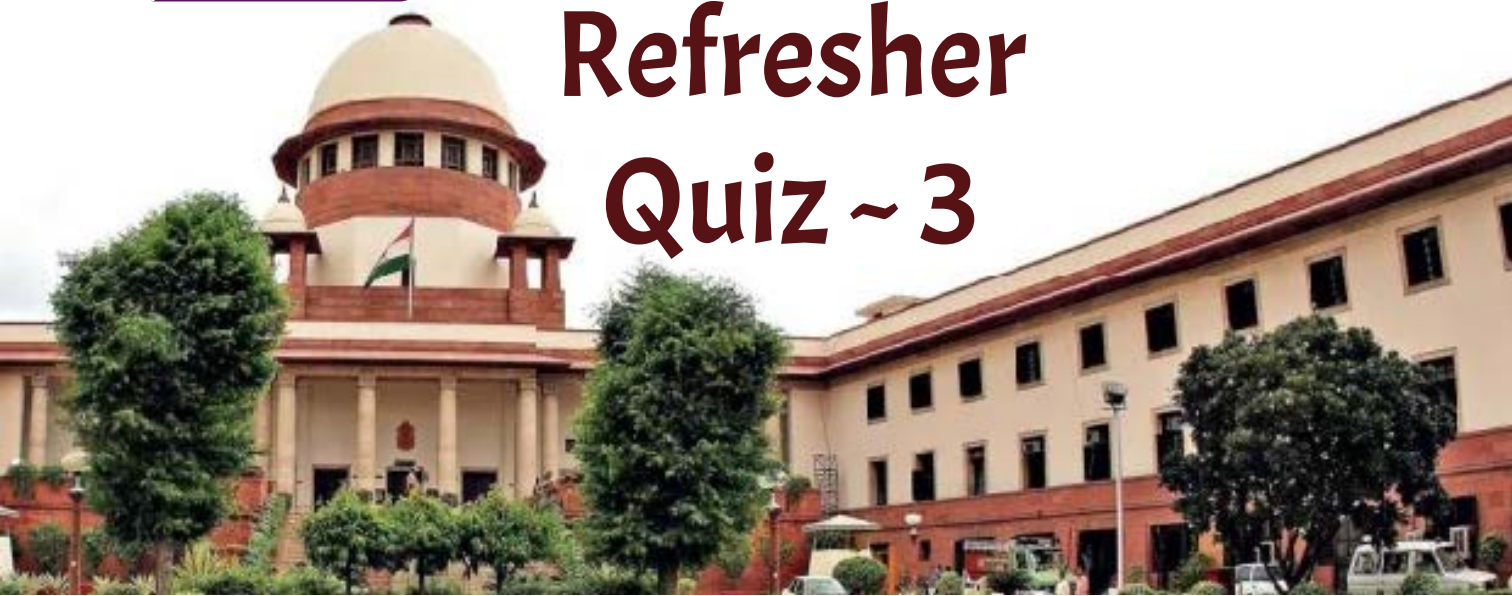
On 27<sup>th</sup> June 2024, DRDO successfully completed six consecutive developmental trials with improved booster configuration, making it complete ten such trials thus demonstrating its reliability and ease of operations with minimum logistics. ABHYAS.

Designed for autonomous flying with the help of an auto pilot, a laptop-based Ground Control System for aircraft integration, pre-flight checks and autonomous flight, it has a feature to record data during flight for post-flight analysis.

ABHYAS is now ready for productions.



# Refresher Quiz ~ 3



Considering that we have completed several editions of the series since the last refresher Q&A edition, let us refresh our memory regarding some of the subjects we have discussed since then until now.

**Q: What is ‘piercing of the corporate veil?’**

A: Piercing the corporate veil means to ‘pierce’ or penetrate through the separate legal identity of a company (which may act as a ‘corporate veil’) to see if the company’s defaults are deliberate actions committed by an individual or a group of persons, behind the corporate veil.

**Q: What do *caveat emptor* and *caveat vendor* mean?**

A: ‘*Caveat emptor*’ means ‘buyer beware’ and ‘*caveat vendor*,’ means ‘seller beware.’ The Consumer Protection Act, 1986 in India reflects a shift from the perception of *caveat emptor*, to *caveat vendor*.

**Q: What is the difference between equity and preference shareholders?**

A: The major difference is that preference shareholders get preferential rights over equity shareholders in case of (a) distribution of dividends, or (b) repayment of their share capital in the event of winding up of the company.

**Q: What is the information booklet or document, based on which potentials investors may invest in the securities / shares of a company?**

A: The document is called a **prospectus**.

**Q: What is an ‘arbitral award?’**

A: An award is the written decision of the arbitrator(s) at the end of an arbitration proceeding.

**Q: What is the difference between the ownership and management of a company?**

A: The shareholders of a company constitute its ownership, while its directors, key employees, etc., constitute its management.

**Q: Name some popular modes of alternative dispute resolution.**

A: Mediation, arbitration and conciliation are some modes of alternative dispute resolution which have been gaining popularity over the past few decades.

**Q: What is the minimum number of directors a company must have?**

A: Per the Companies Act, 2013, a public company is required to have a minimum of three directors, a private company shall have two directors and a ‘one person company’ shall have one director.

**Q: What are some distinctive features of companies as business organisations?**

A: A company is an (a) independent entity, (b) an artificial person which (c) has its own rights, obligations and liabilities; (d) it has an identity that is different from the identity of its owners, directors or managers and (e) it has perpetual succession, irrespective of change in persons involved in the company.



# Parimala Raman

(Born 21<sup>st</sup> November 1948)

The first woman TWAS recipient  
in Mathematics

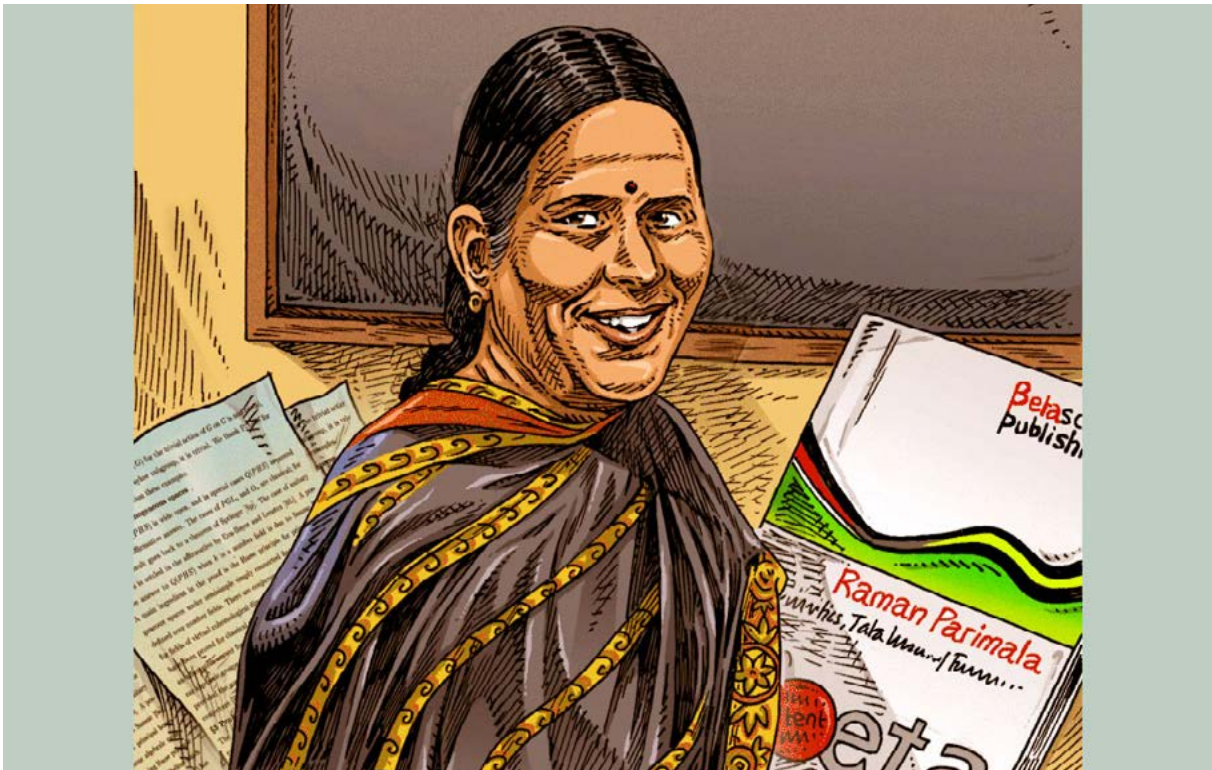
Tata Institute of Fundamental Research (TIFR) in Mumbai provides a great environment for research with total academic freedom, an excellent library and a vibrant visitor's programme. Mathematicians from all over the world expose the latest developments through lecture series. I gained a lot through interaction with visiting mathematicians. Prof. Sridharan instilled in me the responsibility of dissemination of knowledge to youngsters. I have had the privilege to interact with students – working with each one of them led to my exposure to new areas. I am proud to say that some of my students

have outperformed me," says Prof. Parimala while sharing her personal story in *Lilavati's daughters*, a collection of biographical sketches of influential Indian women scientists. Described as a supreme and powerful algebraist, this teacher par excellence has made outstanding contributions to this field using tools of **number theory, algebraic geometry and topology**.

Young Parimala studied at Sri Ramakrishna Mission Sarada Vidyalaya, Chennai started by Sister Subbulakshmi fulfilling the call of Swami Vivekananda to nurture women as real lionesses through education. She later pursued her B.Sc. and M.Sc.

Mathematics (1970) at Stella Maris College, Chennai. A standard career path for many women in those days, she too wanted to take up a teaching job. "My ending up with a research career in mathematics was something of an accident. Though I had heard about the famous Tata Institute, I preferred to stay in Chennai to continue my studies. After considering various options, I decided to pursue research studies at Ramanujan Institute, University of Madras. Professors like Bhanumurthy and Rama taught me mathematics with great enthusiasm. After a year, I moved to the Tata Institute to work with Professor Sridharan for my Ph.D. degree,"





reminisces Prof. Parimala, a Fellow of all three Indian Academies of Science!

Growing up in a household environment where academic performance was the highest priority, young Parimala understood the importance of dedication and perseverance. “My father instilled in me the discipline to work towards excellence in whatever I took up. I was fortunate to have excellent teachers, both in school and in college, who nurtured my interest in mathematics. When I was due to finish school, my father wanted to know what I wanted to study in college.

He suggested medicine or English literature since a career in medicine or in teaching is most suited for girls. Realising quickly that my interest was in mathematics, he promised to send me to the best possible institution for higher studies,” mentions Parimala with gratitude.

Life is not always easy and everyone has to overcome the challenges thrown at them. Self-doubt and apprehension about one’s own capacity do not exclude even the brightest minds. That is when family and friends play a huge role in supporting the individual. “When I finished writing up my thesis, I was diffident about continuing as a research mathematician.

The presence of some of the greatest mathematicians of the world at the institute as well as some brilliant youngsters emerging as shooting stars on the horizon was truly daunting.”

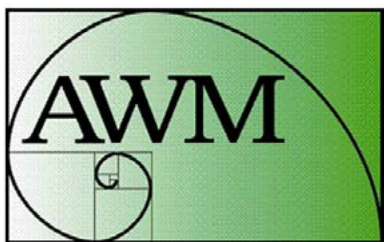
The world of mathematics is indeed lucky that Parimala’s family was supportive and empathetic! Soon after completing her research, she got married to Raman who was a chief internal auditor with the Board of Internal Trade, Tanzania. She took leave from the TIFR for a year and accompanied him to Dar-es-Salaam, without much clarity about her future career. She longed

to do mathematics, though she was happy with her life.

As the saying goes, “when you want something, all the universe conspires in helping you to achieve it.” There were twists and turns that enabled her to get back to mathematics. In a few months, Raman took an extraordinary decision to quit his job, accompanied her to ETH Zurich so Dr. Parimala could do her post-doctoral work. She smiles reminiscing those days, “But for his support, I would have given up my career at some point. More than support, his enthusiasm for the research I do and rejoicing when I get recognition were steering forces for me to continue to this date in the profession. He is immensely proud of me.” In Switzerland, she met mathematicians like M. Ojanguren and M.A. Knus with whom she had fruitful discussions on mathematics throughout her career.

Completing her post-doc, she returned to our country and served as a professor at TIFR, while she



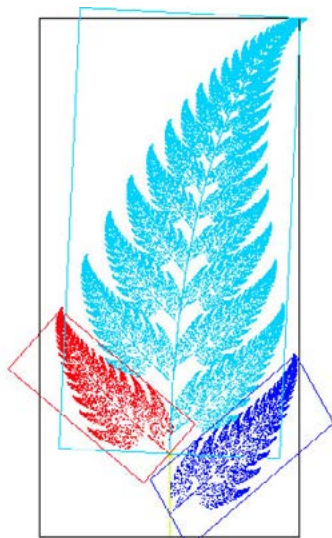


- **Affine** - In Euclidean geometry, an affine transformation or affinity is a geometric transformation that preserves lines and parallelism, but not necessarily Euclidean distances and angles.

- **Topology** - a branch of mathematics concerned with the properties of geometric figures that do not change when the figure is twisted or stretched in certain ways.

- **Homology** - The state of have the same or similar relation, relative position or structure.

- **Cohomology** - A part of the theory of topology in which groups are used to study the properties of topological spaces. This is related in a complementary way to homology theory.



held visiting positions at the Swiss Federal Institute of Technology (ETH) in Zürich, the University of Lausanne, University of California-Berkeley, University of Chicago, Ohio State and the University of Paris at Orsay.

Early in her career, she published the first example of a **nontrivial quadratic space over an affine plane**. This result surprised many experts and has since led to further developments in the field. Her study of quadratic forms also led her to investigate real algebraic geometry as well as complex algebraic geometry and the cohomology theories that are linked to it.

Parimala has also brought light to the solution for the second Serre conjecture, expounded in 1962. In another piece of work that has been described as a tour-de-force, she has come closest to solving another long-standing conjecture in  $u$ -invariant of the function field.

She has been an eminent researcher, a role model, research guide and mentor for many youngsters, especially women aspiring to pursue a career in STEM. In 2005, Parimala was appointed as the Asa Griggs Candler Professor of Mathematics at Emory University in Atlanta, Georgia. Prof. Parimala has put her expertise to work in a series of elegant publications either supporting or refuting long-standing conjectures.

In her own words, “Looking back, it has been a highly satisfying profession. I immensely enjoyed interactions with like-minded mathematicians the world over. It is a world of ‘make-believe’, with great excitement from time to time. I only wish I had the lucidity of my father to convey to the outside

world the immense beauty of mathematics!”

### Awards / Accolades

**1987** - Shanti Swarup Bhatnagar Prize for Science and Technology.

**2005** - First woman recipient of the most coveted The World Academy of Sciences (TWAS) prize for mathematics.

**2010** - Plenary speaker at the International Congress of Mathematicians.

### 2013

- ▶ Emmy Noether Lecturer by the Association for Women in Math (AWM)
- ▶ Fellow of American Mathematical Society (AMS).

Her views on the career prospects in mathematics- “It is full of challenges and rewards; it gives an opportunity for students with a passion for mathematics limitless possibilities for creative thinking. There are globe-trotting opportunities to meet with mathematicians world over. Imparting your knowledge through teaching and mentoring is part of the reward of this career.”





# MANGO

## THE KING OF FRUITS

In India, this luscious fruit is not only a culinary delight but also an integral part of the country's cultural, historical and Ayurvedic heritage.

Mango holds a special place in the hearts and taste buds of millions around the world. In India, this luscious fruit is not only a culinary delight but also an integral part of the country's cultural, historical and Ayurvedic heritage. From the ancient texts of Ayurveda to the modern-day kitchens, mangoes have been cherished for their delicious taste and numerous health benefits. Let's embark on a journey to explore the significance of mango from a naturally living perspective, along with an insight into the varieties, history and regions where they are grown.

### Historical and cultural significance

Mango's rich history dates back over 4,000 years. Originating in the Indian subcontinent, the mango tree, known scientifically as *Mangifera indica*, has been cultivated for its fruit since ancient times. The fruit is mentioned in numerous ancient texts, including the Vedas, Puranas and the Upanishads.

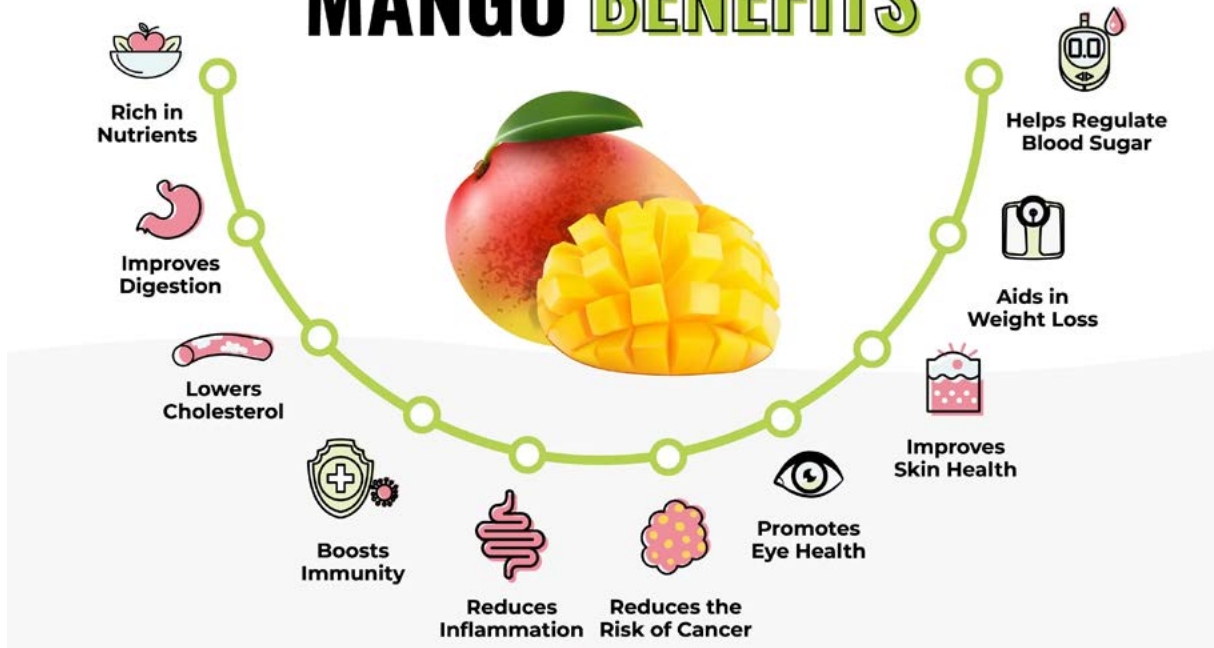
### Ayurvedic perspective

In Ayurveda, mango is considered a treasure trove of health benefits. Known as "*Aam*" in Sanskrit it is classified based on the taste (*Rasa*), post-digestive





# MANGO BENEFITS



effect (*vipaka*) and effect on the body's doshas (*vata*, *pitta* and *kapha*). **According to Ayurvedic principles:**

1. Mangoes have a sweet (*Madhura*) and slightly sour (*Amla*) taste.
2. They have a sweet post-digestive effect.
3. Mangoes are considered to have a cooling (*Shita*) effect on the body.

Mango is believed to balance the three *doshas* when consumed in moderation. It is known to improve digestion, enhance strength and boost energy levels. Additionally, it is rich in vitamins A and C, which are essential for maintaining healthy skin and a robust immune system.

## Health benefits

- ▶ **Boosting immunity:** The high vitamin C content in mangoes helps in strengthening the immune system.
- ▶ **Improving digestion:** Mango contains enzymes like amylases that aid in breaking

down complex carbohydrates into simple sugars, promoting better digestion.

- ▶ **Enhancing skin health:** The antioxidants in mango help in reducing signs of aging and rejuvenating the skin.
- ▶ **Balancing doshas:** The sweet and sour taste of mangoes helps in balancing the doshas, particularly *pitta* and *vata*.

## Varieties in India

India is home to a staggering variety of mangoes, each with its unique flavour, texture and aroma. Here are some of the most popular:

1. **Alphonso (Hapus):** Known for its rich, sweet flavour and golden-yellow colour, Alphonso is often regarded as the finest variety of mango. Primarily grown in the Ratnagiri district of Maharashtra.
2. **Dasheri:** This variety is sweet and aromatic, with a smooth texture. Primarily grown in the Malihabad region of Uttar Pradesh.

3. **Kesar:** Known for its saffron-coloured pulp and sweet taste, Kesar is grown in the Girnar Hills of Gujarat.

4. **Langra:** This variety has a distinctively tangy flavour and is mostly grown in Varanasi, Uttar Pradesh.

5. **Banganapalli:** Also known as **Safeda**, this variety is known for its firm texture and sweet taste. It is grown in Andhra Pradesh.

6. **Himsagar:** Famous for its exceptional sweetness and juicy pulp, Himsagar is primarily grown in West Bengal and Orissa.

7. **Totapuri:** Recognizable by its parrot-beak shape, Totapuri has a tangy flavour and is grown in Karnataka and Tamil Nadu.

8. **Neelam:** This variety is known for its unique aroma and sweet taste. It is grown in various parts of South India, including Andhra Pradesh, Tamil Nadu and Karnataka.





## DO YOU KNOW ?

The world's costliest mango, known as the **Miyazaki mango** (₹2.5 to ₹3 lakh per kg) is also grown in India, particularly in the states of Madhya Pradesh and Maharashtra. This mango variety stands out due to its vibrant red skin, high sugar content, and exceptional flavour, making it a luxurious delicacy. The Miyazaki mango is meticulously cultivated under controlled conditions, requiring extensive care and attention, which contributes to its hefty price tag. Its uniqueness lies in its rarity, superior taste and the intricate process involved in its cultivation, making it a coveted fruit among mango connoisseurs worldwide.



### Incorporating mango into a Naturally living lifestyle

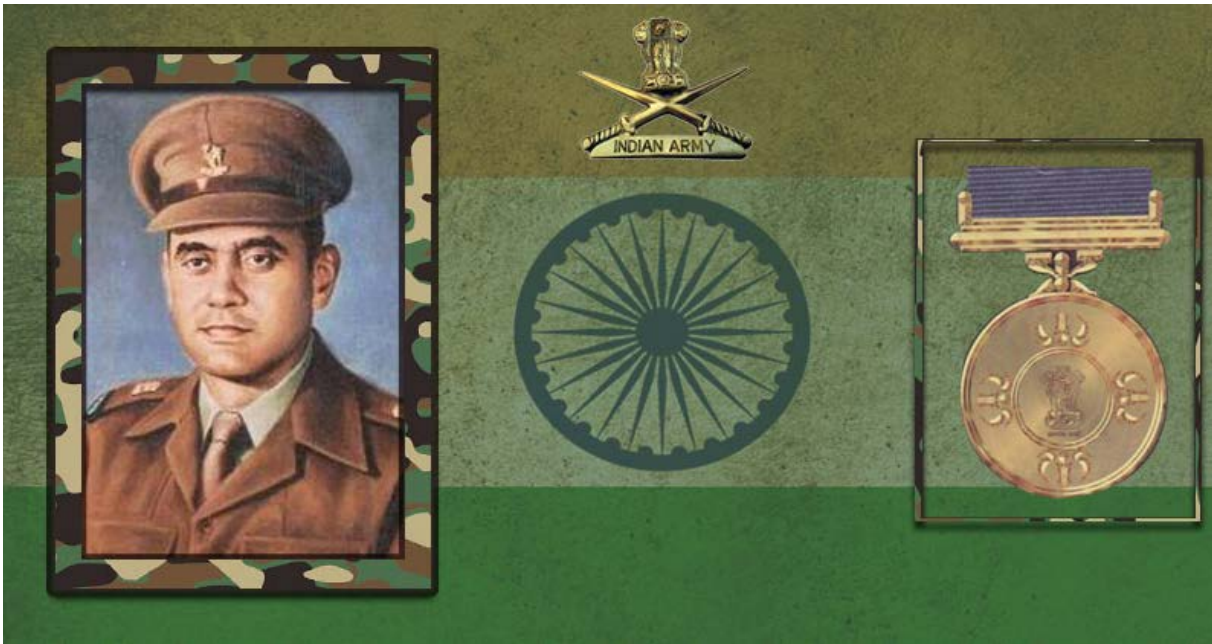
- 1. Fresh consumption:** Enjoying fresh mangoes during the season is the best way to relish their natural sweetness and nutritional benefits.
- 2. Smoothies and juices:** Mangoes can be blended into smoothies or juices for a refreshing and nutritious drink.
- 3. Salads:** Adding mango slices to salads can provide a burst of flavour and a boost of vitamins.
- 4. Desserts:** Mango can be used in a variety of desserts, including mango sorbet, mango pudding and mango lassi.
- 5. Aamras:** A traditional Indian

dish, *aamras* is made by blending mango pulp with a little sugar and cardamom, often enjoyed with puris or as a dessert.

- 6. Pickles and chutneys:** Raw mangoes are commonly used to make tangy pickles and chutneys, which can enhance the flavour of any meal.

Mango, with its rich history, diverse varieties and numerous health benefits is truly the king of fruits. India, being the largest producer of mangoes, offers a plethora of varieties, each with its unique taste and texture. Incorporating mango into a naturally living lifestyle can be a delightful and healthful experience. So, the next time you savour a juicy mango, remember the rich cultural heritage and the myriad health benefits it brings along.





## MAJOR SHAITAN SINGH

**Major Shaitan Singh was commissioned in the Kumaon Regiment on 1<sup>st</sup> August 1949.**

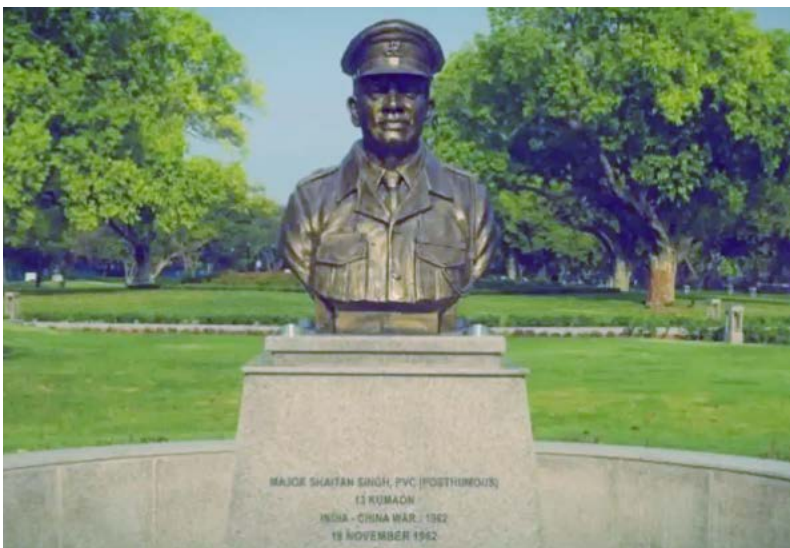
**M**ajor Shaitan Singh (IC-6400) was born on 1<sup>st</sup> December 1924, in Banasar, Jodhpur, Rajasthan. He was commissioned in the Kumaon Regiment on 1<sup>st</sup> August 1949. During the Sino-Indian Conflict in 1962, 13 Kumaon was deployed in the Chushul Sector. The C Company of the Battalion led by Major Shaitan Singh held a crucial position at Rezag La at a height of 5000 metres. Five platoon positions defended the Company area and the terrain isolated it from the rest of the Battalion.

### The Rezag La War

The Chinese attack on Rezag La happened on a frigid night of 18<sup>th</sup> November. The howling icy winds through Rezag La were biting and numbing. The Chinese advanced through nullahs to attack

No.7 and 8 Platoon positions. Facing the enemy, the Indians stood in their prepared positions. At 5 a.m., when the darkness of night diminished, both platoons opened fire on the advancing enemy. Dead bodies filled the nullahs. The enemy subjected the Indian positions to intense artillery and mortar fire at about 5:40 a.m. About 350 Chinese advanced through the nullahs. Now, the No.9 platoon holding fire was opened up with all the weapons in possession. Within minutes, dead bodies filled the nullahs again.

Unsuccessful in a frontal attack, 400 Chinese attacked from the company's rear. They opened intense medium machine gun fire on No.8 Platoon simultaneously. The attack was stopped at the post's barbed wire fencing. An assault group of 120 Chinese also charged the No.7 Platoon position from the



rear. The enemy brought up fresh reinforcements and the 7 Platoon stood encircled. Though the Platoon fought valiantly, there were no survivors. 8 Platoon also fought bravely.

#### **Major Shaitan Singh's valour**

Major Shaitan Singh, the Company Commander, displayed classic leadership and courage in the battle of Rezang La. He led the troops unmindful of his safety. He moved from one platoon post to another. He continued to fight, even though he was maimed. While two other ranks evacuated him, the Chinese brought heavy machine gun fire on them. Major sensed the danger to their lives and ordered them to leave.

The other ranks placed him behind a rock on the slopes of a hill where he gasped his last. Meanwhile, 109 Kumoanis out of 123 were killed, notably 1000 Chinese were also killed. Post the conflict, Major Shaitan's body was found in the same place; taken to Jodhpur and cremated with full military honours. The authorities recognized Major Shaitan Singh's extreme valour and awarded him the Param Vir Chakra posthumously.





# Smriti Rekha Chakma

**S**mrity Rekha Chakma is an indigenous expert artisan on the ethnic textiles of Tripura and a new-age traditional textiles designer.

Born on 20<sup>th</sup> September 1964, Chakma has been weaving since childhood using the traditional Loin Loom (also called backstrap or body tension loom which is one of the oldest devices for weaving cloth) and mastered the craft at an early age. Later she developed her skills in herbal dyeing of cotton yarns from eco-friendly variant plants, herbs, seeds, flowers, roots, barks, leaves etc., collected from jungles. Her works have found their way to various temples and museums in the state and abroad.

Over the last two decades, she participated in several seminars, workshops, demonstrations, trainings etc., in numerous states of India to showcase her prestigious creations.

Smriti Chakma represented India in various conferences and workshops outside the country such as

- ▶ The Regional Back Strap Loom Conference & Workshop in 2009, Dhaka,

- ▶ Natural Colours programme in 2009 as a Guru by the Prabartana, Dhaka

- ▶ Trade & Investment Show India-Myanmar-2014, Yangon.

To preserve her skills, several documentary films were made. Chakma founded the NGO named **“Ujeia Jadha”** (Advance Society) in 1999 to upgrade rural women in education and economy. She conducted training centres on weaving and natural dyeing with free food & lodging and also provided stipends to the trainees under her teaching. As a result, four of her trainees also received National Awards.

### Felicitations by the State of Tripura

**Chakma was recognised on the following occasions/events:**

- ▶ State Bizu Mela-2002
- ▶ International Chakma Literary & Cultural Festival-2018
- ▶ International Poet & Literary Utsav-2022
- ▶ Chakma Literary Academy, Tripura.

### Other awards and honours

- ▶ National Award in 2000, Ministry of Textiles, Govt. of India
- ▶ Guru Shishya Paramparya -2011 Dimapur, Nagaland
- ▶ Sutrakar Samman-2018, Delhi Crafts Council, New Delhi
- ▶ Sant Kabir Award for Master Weaver in 2018 by the Ministry of Textiles
- ▶ World Crafts Council Award in 2018 from UNESCO South Asia Region, Kuwait
- ▶ Lifetime Award-2022, International Chakma Foundation, Tripura.





# Kochi



## I

### Quick Five

1. State, the city is located in - \_\_\_\_\_
2. District, it belongs to - \_\_\_\_\_
3. Coast, it lies on- \_\_\_\_\_
4. Sea, the city borders \_\_\_\_\_
5. River that flows through the city \_\_\_\_\_

## II

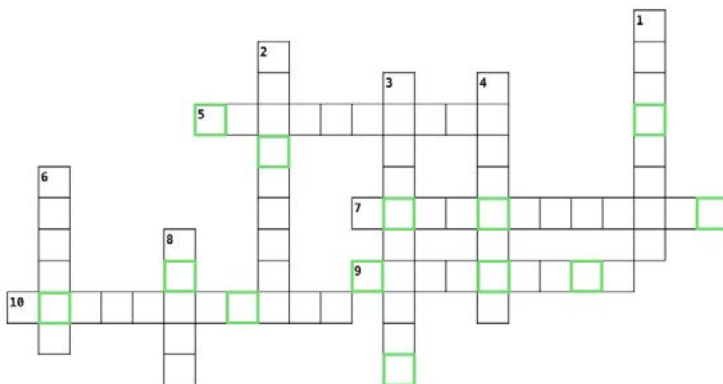
### Crossword

#### Across

5. The European power that established ports in Kochi in the 16<sup>th</sup> century. (10)
7. This palace built by the Portuguese is a UNESCO World Heritage Site. (12)
9. An ancient dance form that originated in Kochi. (9)
10. A picturesque promenade of the city. (11)

#### Down

1. Kochi is home to the \_\_\_\_\_ Naval Command of the Indian Navy. (8)
2. This location is known for its quaint ambience and colonial buildings of Dutch, Portuguese and British architecture. (9)
3. India's first eco-tourism village also known for the bioluminescence in the backwaters. (10)
4. The islands of Kochi are closely scattered in this lake. Also it is the longest lake in India. (8)
6. This famous beach is a blend of both backwaters and sea and is considered to be a swimmer's paradise. (6)
8. Kochi is popularly known as the \_\_\_\_\_ of the Arabian Sea. (5)



## III

### Facts Fantastic!

1. Since 2012, Kochi has been hosting an international art event that attracts artistes and tourists from around the world.
2. Kochi is the only place outside China where one can witness these. These massive things were introduced by Chinese traders in Kochi several centuries ago and today, have become a big bait for tourists and photographers.
3. Kochi is the only city in India to have this mode of transport, in addition to the metro rail, providing an efficient and eco-friendly transportation.
4. Among the islands of Kochi, this one is a human-made and the largest artificial island in India built in 1936 by Robert Bristow. The island is named after the then Viceroy of India who sanctioned its construction.
5. Located in the region of Fort Kochi, this Church was established by the Portuguese in 1503 and is the oldest European church in the country. It is also the place where Vasco da Gama was originally buried and later taken to Lisbon.

## IV

### What Am I?

Unscramble the highlighted boxes in the crossword to find me.

**Hint:** Lauded as the pride of Kerala, this is one of the oldest and most scientific martial arts in the world that focuses on ultimate coordination between mind and body.

Answers on page 66





## The inspiring story of Neera and Yogesh Thombare

In the bustling streets of Dombivli East, Maharashtra, Neera Thombare, a vegetable vendor, experienced an unforgettable moment when her son, Yogesh, successfully cleared the Chartered Accountant (CA) examination. A viral video of Neera shedding tears of joy while embracing her son has touched many hearts, shared widely on social media.

For over 25 years, Neera has sold vegetables in the Gandhinagar area of Dombivli, working tirelessly to ensure that her son could pursue

his education. Her hard work paid off as Yogesh passed his exams with flying colours through sheer determination.

Residing in Khoni, a village near Dombivli, Yogesh and his mother have faced numerous challenges.

Despite being unlettered and unfamiliar with financial terms, Neera has always been a pillar of support for her son. Her relentless dedication to providing for her family ensured that Yogesh could focus on his studies.

Yogesh's accomplishment is a testament to his mother's unwavering support. He symbolized his gratitude by presenting her with a saree as his first gift, marking the culmination of years of hard work.

Every early morning trip to the market and every long day under the sun was made worthwhile by this moment.

Until recently, Neera did not fully grasp the significance of Yogesh's achievement. She was

unaware of the importance of the CA exam or the profession itself. It was only after the local MLA tweeted about her son's success that the gravity of the accomplishment began to sink in. Customers congratulated her, making her realize the significance of Yogesh's achievement.

Yogesh's academic inclination was evident from a young age, setting him apart from his siblings. Life became more challenging after the passing of Yogesh's father when he was 14. Despite these hardships, Neera's determination never wavered, enabling Yogesh to become the first Chartered Accountant from their Agri community.

**The story of Neera and Yogesh Thombare is a powerful reminder of the impact of dedication and support. It serves as an inspiration to many, demonstrating that with perseverance and unwavering support, even the most challenging obstacles can be overcome.**



# Belum Caves

In the rugged landscape of Andhra Pradesh, the Belum Caves are a testament to the grandeur of nature's artistry. Stretching over 3 kilometres, these caves are the second longest in the Indian subcontinent and boast an array of stalactites, stalagmites and intricate formations that have captivated explorers and tourists alike.

Discovered in 1884 by a British surveyor and later fully explored by a team of German speleologists in 1982, the Belum Caves offer a journey into the earth's depths that feels almost otherworldly.

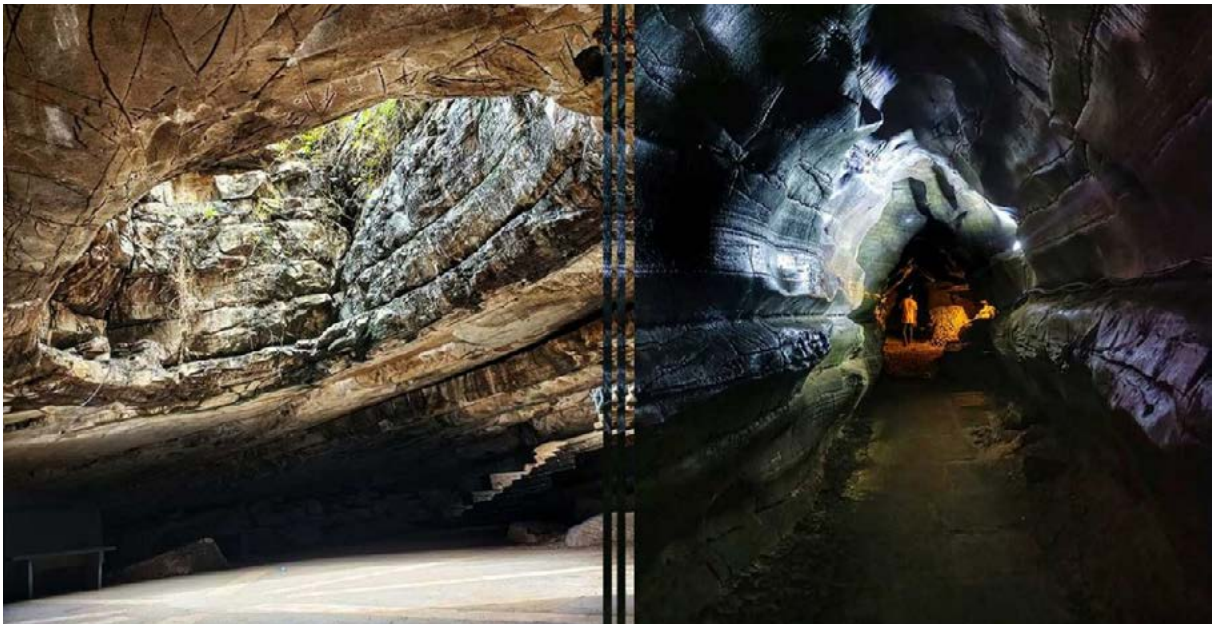
The entrance to the caves is modest, an open mouth in the rocky landscape, but stepping inside reveals a maze of chambers and passageways carved by the ceaseless flow of underground water over millions of years.

## Key features

The caves are divided into several sections, each with its unique charm. The "*Simhadwaram*" or Lion's Gate greets visitors with formations resembling the majestic beast. Further in, the "*Kotilingalu Chamber*" showcases thousands of stalactites and stalagmites, reminiscent of the sacred Hindu lingams. The "*Patalaganga*" chamber is particularly fascinating, as it houses an underground stream that adds a mystic allure to the already enchanting surroundings. One of the most striking features of the Belum Caves is the "*Saptasvarala Guha*" or the Musical Chamber. Here, the natural formations produce musical notes when struck, creating an eerie yet beautiful symphony that echoes through the caverns. This natural phenomenon has intrigued both scientists and musicians, making it a highlight of any visit.







## DO YOU KNOW

- ♥ **Speleology** is the scientific study of caves and other subterranean environments. This interdisciplinary field encompasses various aspects, including the geological formation and development of caves, their physical properties, hydrology, mineralogy, biology and the ecosystems they support.
- ♥ The **Krem Liat Prah cave**, located in the Jaintia Hills district of Meghalaya is part of an extensive network of caves in the region and has been mapped to a length of over 31 kilometres, making it the **longest natural cave** in the country.

The sheer scale and complexity of the Belum Caves are awe-inspiring. Walking through the dimly lit passages, one can't help but feel a profound connection to the ancient past, imagining the relentless natural forces that sculpted this subterranean wonder. The ambient lighting installed throughout the caves enhances the experience, casting dramatic shadows and highlighting the intricate details of the formations.

A visit to the Belum Caves is more than just a sightseeing tour; it is a journey into the depths of geological history, an exploration of nature's hidden masterpieces and an adventure that leaves one with a sense of wonder and reverence for the natural world.

### Tips for the travellers

- ▶ **Nearest Railway station:** Tadipatri Railway Station (30 kms)
- ▶ **Nearest city:** Kurnool (100 kms)
- ▶ **Best time to visit:** October to February
- ▶ **Temperature:** 25 – 30 degree Celsius



**I Quick five!**

1. Kerala
2. Ernakulam
3. Malabar coast
4. Arabian Sea
5. Periyar river

**III Facts Fantastic!**

1. Kochi-Muziris Biennale
2. Cheenavala or Chinese fishing nets
3. Water Metro System
4. Willingdon Island
5. St. Francis Church

**II Picture quiz**



**IV**

What am I ? Hidden word :  
**KALARIPAYATTU**





# WORLD RAINFOREST DAY

22<sup>nd</sup> June

## Plant a tree in your community

Rainforests are often referred to as the “lungs of the Earth” because of their crucial role in producing oxygen and absorbing carbon dioxide. They are also home to more than half of the world’s plant and animal species, making them one of the most biodiverse ecosystems on the planet.



# World Music Day

21<sup>st</sup> June

Let music be your guide, your solace and your  
inspiration. Celebrate the universal language  
of melodies on World Music Day!



*Music is the universal language of mankind*

