

# WEEKLY UPDATES – (14<sup>th</sup>-20<sup>th</sup> Aug)

# Contents

ART & CULTURE
Vast Megalithic Site In Kerala2
ENVIRONMENT
Haphazard Development Is Increasing The Impact Of Weather Events
White-Bellied Sea Eagles
Namoh 108 4
INTERNATIONAL RELATIONS
Why Is BRICS Summit Important For India? 4
DEFENCE & SECURITY
Warship Vindhyagiri
GOVERNANCE
PM Announces New Housing Scheme For Urban Poor6
Vishwakarma Yojana For Traditional Artisans7
No More Bulk SIM Cards As Govt. Steps In To Curb Fraud8
HEALTH
Is Antimicrobial Resistance Being Made Worse By Air Pollution?
Centre And WHO To Launch Global Initiative On Digital Health
IMPORTANT DAYS
Celebrating Lefties And Nature's Unpredictable Orientations12



# **ART & CULTURE**

### Vast Megalithic Site In Kerala

**Context:** A large number of megalithic hat stones were found from a single site during a recent salvage excavation conducted by the Kerala State Archaeology Department at Nagaparamba in Kuttippuram village, near Tirunavaya, in Malappuram district.

- It all began when a unique rock cut laterite burial chamber was found during the laying of water supply pipelines.
- Hat stones, popularly called **Thoppikkallu** in Malayalam, are hemispherical laterite stones used as lids on burial urns during the megalithic period.
- It could be the largest number of hat stones in an unprotected site in the State.



### **Key Highlights**

- Many hat stones are feared to have been destroyed inadvertently by the local people in recent times.
- People say they had no idea about the archaeological relevance of hat stones and many were destroyed when they cleared their land for house construction.
- A large number of megalithic burial sites and relics were found during the excavation.
- The team salvaged numerous earthen urns and iron implements with unique features, which could throw light on the life and culture of people who lived in those parts over 2,000 years ago.

## **ENVIRONMENT**

### Haphazard Development Is Increasing The Impact Of Weather Events

**Context:** Being an El Niño year, the expectation was that north India would see a sparse monsoon. However, the pendulum has swung the other way.

- July saw record rainfall in many parts of Himachal Pradesh, Punjab and Uttarakhand and the rare sight of the Yamuna nearly spilling into the Red Fort in Delhi.
- Multiple floods in Himachal Pradesh and Uttarakhand that have claimed many lives. A series of landslides has crumbled buildings and blocked highways.

### What Is The Reason?

### Western Disturbances

- The immediate explanation for the landslides is the unexpectedly copious rainfall that these States have received and that these in turn are due to a surfeit of **Western Disturbances (WD)**.
  - $\circ~$  These are tropical storms that originate in the Mediterranean region and normally bring winter rainfall to north India.
- Right from the beginning of this year, the WD have been erratic. There were too few of them in December and January and their absence was cause for the hottest February recorded in India in at least a century.



- The WD appear to be overcompensating for their absence, with several of them incident over north India in the last two months a time when they normally should not be around.
- While a combination of WD and monsoon can be dismissed as 'freak' weather, climate scientists have been warning of the increasing probability of such high-risk events.
- The awry WD are in part due to a warming Arctic that causes the polar jet stream, which carries moisture, to deviate from its regular path and bring the disturbances to north India during the monsoon.

#### Constructions

- It is in the context of these altered weather patterns that warnings by scientists and environmentalists of the perils of wanton construction in the Himalayas must be factored in.
- The ongoing Char Dham road building project has led to large-scale altering of the mountains with significant chunks carved away, rendering them vulnerable to upheaval.
- As recent fears of land subsidence in Joshimath, Uttarakhand demonstrated, ill-thought construction and haphazard building practices have magnified the risk to residents who live in these regions.

While State governments tend to search for **short-term solutions** such as demanding compensation from the Centre for **'disaster relief'**, it is time that more serious thought is given to the **nature of infrastructure development** and, if need be, **restrictions imposed** in the larger interest of **minimising hazards and maintaining stability.** 

### White-Bellied Sea Eagles

**Context:** Study finds that white-bellied sea eagles make nests on powerline towers in Tamil Nadu; authors say this poses risk to the species, and also points to the lack of suitable nesting sites near the sea.

### **Key Highlights**

• White-bellied sea eagles in India are beginning to emulate their counterparts in Australia and Thailand by making their homes on power towers holding high-tension wires.



- The use of man-made structures as nesting sites can be **both risky and beneficial** to these coastal raptors and humans in the vicinity, but the development points to a lack of trees and other natural nesting alternatives.
- The nests of the white-bellied sea eagles were found on powerline towers about 2 km away from the sea.
  - The nesting sites were strategic for the birds to conveniently scan the marine area for food, the study said.

### About White-Bellied Sea Eagle

- The white-bellied sea eagle (Haliaeetus leucogaster) is a resident raptor.
- It belongs to the family Accipitridae.
- It has a wide distribution range on the sea coast of India from Mumbai to the eastern coast of Bangladesh, and Sri Lanka in southern Asia, through all coastal south-eastern Asia, southern China to Australia.





- The raptor is a diurnal monogamous bird of prey.
- It is categorised as being of 'least concern' on the Red List of the International Union for Conservation of Nature.
- Feeding mainly on sea snakes and fish, the bird is occasionally seen in inland waters along tidal rivers and in freshwater lakes.
- It occupies the same localities for years and generally builds nests in tall trees near the seacoast, tidal creeks, and estuaries.

### Namoh 108

Context: Science Minister unveiled a variety of lotus called 'Namoh 108'.

- The lotus has 108 petals and was discovered several years ago in Manipur and kept at the institute as part of its collection of flowers and plants, on which the institute conducts research.
- However, it was not until four years ago that one of the scientists discovered that it had 108 petals.
- This is the only lotus variety in India to have had its genome sequenced.
- It was only after the number of petals was discovered that the National Botanical Research Institute (NBRI) cloned and worked on improving its germplasm and modifying its characteristics.



- The name of the variety was given by an internal committee of the NBRI.
- CSIR-NBRI would be initiating a 'Lotus Mission' as part of a larger ongoing horticultural mission to have more of the 108 Namo flowers grow in other parts of India.

# **INTERNATIONAL RELATIONS**

### Why Is BRICS Summit Important For India?

**Context:** All eyes this week are on Johannesburg, as leaders of the Brazil, Russia, India, China, South Africa (BRICS) grouping are hosted by South African President Cyril Ramaphosa. BRICS is essentially a movement of "emerging economies", and thus gives a salience to economic issues, but given the geopolitical flux especially after the war in Ukraine, this BRICS summit takes on a new importance. It is, therefore, no surprise that many Western capitals are watching the summit closely.

### Why Is The 15th BRICS Summit Important?

This BRICS meet comes at an important geopolitical and geoeconomic moment — this is the first in-person summit since 2019 and the COVID-19 pandemic.

Even in 2022, when COVID had receded, the remnants of the pandemic remained in China, and the summit was hosted via videoconference. This is also the first in-person meeting since the Russian invasion of Ukraine in 2022, an event that has cast a long shadow not only over global stability, but food, fertilizer and fuel (energy) security.



Given its composition, BRICS deliberations are perceived to carry a "counter-western" slant, and will be of importance as the U.S. and EU still hope to try and "isolate" Russia over the conflict. This is also the first summit since Luiz Inácio Lula da Silva Lula returned to power in Brazil, who represents a more socialist, anti-western politics than his predecessor President Bolsonaro.

### What Is In It For India?

For India, this BRICS summit carries special importance. This is the first in-person summit since the military standoff with China at the Line of Actual Control began in 2020.

- At the BRICS summit both PMs will be in a very small group of four (with President Putin attending virtually), and will have many opportunities to hold bilateral talks.
  - This meeting would be significant in terms of resolving the LAC situation.
- Just over two weeks after the BRICS summit, India will host the G20 summit, and Prime Minister Modi will want to ensure full attendance by the leaders, which include all BRICS members.
- In addition, India wants more cooperation from China and Russia that are blocking discussions on a common language for the Leader's declaration to be released at the summit on September 9-10.
- Mr. Modi might use the forum for talks on the issues over the paragraphs on Ukraine, climate change, debt financing and others that are being held up by their objections.

#### What's The Big Item On The Agenda?

During the summit, the leaders of BRICS will confer among themselves, and also take part in the BRICS-Africa Outreach and BRICS Plus Dialogue. A major item on the agenda is on **the expansion of BRICS**.

#### What Else Is Expected To Be Discussed?

- BRICS leaders are also expected to take forward earlier talks on intra-BRICS trading in national currencies, although a much-touted plan pushing for a "BRICS currency" to challenge the dollar does not appear to be on the agenda.
- The Johannesburg Declaration will include language acceptable to all the countries on a number of global developments.
- In addition, South Africa which has chosen the theme "BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development, and Inclusive Multilateralism" for the year, seeks to introduce initiatives in its priority areas, including
  - An equitable and just transition on climate change issues
  - o Unlocking opportunities through the African Continental Free Trade Area
  - Strengthening the meaningful participation of women in peace processes
- Indian officials will also look out for language proposed by China, to promote Beijing's key initiatives like the Belt and Road Initiative, and the new Global Development Initiative (GDI) as part of an economy roadmap for BRICS.
  - India had refused to sign onto an Economy Roadmap at the SCO meeting chaired by India in July 2023 for the same reasons.



## **DEFENCE & SECURITY**

## Warship Vindhyagiri

Context: President Murmu launches warship Vindhyagiri.

- Vindhyagiri is the last in the series of three Project 17A (Alpha) frigates built by the Indian Navy at the Kolkata-based Garden Reach Shipbuilders and Engineers (GRSE).
- Describing the development as a move forward in **enhancing India's maritime capabilities**, the President said that the launch was also a **step towards achieving the goal of Atmanirbhar Bharat** through indigenous shipbuilding.
  - Project 17A, under which Vindhyagiri was developed, reflects the country's commitment to self-reliance and technological advancement.

### About INS Vindhyagiri

- INS Vindhyagiri is the sixth ship of the Project 17A Frigates series. After INS Nilgiri, Udaygiri, Himgiri, Taragiri, and Dunagiri, INS Vindhyagiri derives its name from a mountain range in Karnataka.
- These frigates are a follow-on class of the Project 17 (Shivalik Class) Frigates, integrating improved stealth, advanced weapons, and cutting-edge sensors.



- It employs a cutting-edge propulsion system enabling speeds of over 28 knots, ensuring rapid response and agility in various operational scenarios.
- Equipped with state-of-the-art stealth features, enhancing its ability to operate discreetly and minimize detection.
- Over 75% of the equipment and systems used are sourced from indigenous firms, including Micro, Small, and Medium Enterprises (MSMEs).

## GOVERNANCE

### **PM Announces New Housing Scheme For Urban Poor**

**Context:** Prime Minister Narendra Modi announced a new scheme to help the urban poor build houses in cities. Under this programme, they will receive relief in interest rates and loans taken from banks to construct their houses.

• The initiative will benefit families that live in unauthorised colonies, slums or rented houses in various cities, says Modi; he adds that weaker sections living in cities faced a plethora of problems.

### **Existing Flagship mission**

The government already has a scheme to address the housing shortage for the urban poor called the Pradhan Mantri Awas Yojana Urban (PMAY-U), which was launched in 2015.

- The PMAY-U is a flagship mission of the government which is implemented by the Housing and Urban Affairs Ministry.
- The mission aims to address the urban housing shortage among the economically backward sections, including the slum dwellers by ensuring a pucca house to all eligible urban households by 2022.



- The scheme period though now has been extended up to December 2024 to complete all the houses sanctioned without changing the funding pattern and implementation methodology.
- Uttar Pradesh had the largest number of houses completed at 12,87,307. Gujarat and Andhra Pradesh were other high-performing States with 8,80,209 and 8,08,278 houses completed. The number for Tamil Nadu was 5,30,350.

The parliamentary committee also made well-considered suggestions on the implementation of PMAY-U, and the government would do well to examine them while drawing up the proposed scheme.

- The committee's most significant recommendation is on the need to drop uniform and fixed assistance across the country, as followed in PMAY-U, and adopt a flexible arrangement instead, depending on the topography and other factors.
- Reasons behind the poor quality of the houses and the prevalence of unoccupancy too should be gone into.
- High land costs, floor space index restrictions, and multiple certification from different agencies are factors that determine the success of urban housing.
- This calls for central government-organised discussions with the relevant agencies such as State governments, local bodies, urban planning bodies, urban sector professionals, financial institutions and activists, as there is enough time for the Union government to formulate the new scheme.

## Vishwakarma Yojana For Traditional Artisans

**Context:** Prime Minister Narendra Modi, in his Independence Day address announced a scheme for artisans — Vishwakarma Yojana — with an allocation of up to ₹13,000 crore to help skill development among the youth.

- "Families of weavers, goldsmiths, blacksmiths, laundry workers, barbers, and others will be empowered through the 'Vishwakarma Yojana'," he said.
- The scheme, will be available for traditional craftspeople and artisans from 2023-24 to 2027-28.
- The Centre said in a release that the **scheme aims to** strengthen and nurture the "Guru-Shishya parampara" (teacher student tradition) or the family-based practice of traditional skills by artisans and craftspeople working with their hands and tools.
- The scheme also **aims** at improving the quality, as well as the reach of products and services of artisans and craftspeople and to ensure that the Vishwakarmas are integrated with the domestic and global value chains.

### Who Will Be Covered Under The Scheme: Eighteen traditional trades such as

Carpenter	Boat maker	Armourer	Blacksmith		Hammer and tool kit maker		Locksmith	
Goldsmith	Potter	Sculptor	Stone breaker		Cobbler		Mason	
Basket/mat/bro m maker/coir weaver			Garland maker		Washerman 7		ailor and fishing net maker	



- Artisans and craftspeople will get PM Vishwakarma certificate and ID card, credit support up to ₹1 lakh (first tranche) and ₹2 lakh (second tranche) at a concessional interest rate of 5%.
- There will be two types of skilling programmes basic and advanced under the scheme and a stipend of ₹500 per day will also be provided to beneficiaries while undergoing skill training.
- 30 lakh families will be covered over five years of the scheme.

### **Issues Faced By Artisans**

The scheme can help craftspeople and artisans only to the extent of freeing them from the difficulties they now face in accessing affordable credit from the formal banking system. The challenges they face are far deeper than just the availability of cheap credit.

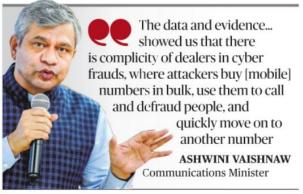
- By far the biggest of these that traditional art and craft professionals face is either the lack of patronage for their goods and services in the wider marketplace, or in the case of other trades, a skewed undervaluation of their economic output.
- They need to overcome the fundamental problem of a lack of economic viability for their output.
- If the scheme fails to open up new markets and simply extends loans to these communities in the name of promoting their welfare, it runs the risk of leaving not only the intended beneficiaries but also their families deeper in debt.

## No More Bulk SIM Cards As Govt. Steps In To Curb Fraud

**Context:** To reduce cyber frauds performed through fraudulently acquired SIM cards, the Department of Telecommunications (DoT) will now mandate registration

and "indisputable verification" of SIM dealers.

- Recent efforts to curb fraudulent mobile connections have led to the blacklisting of 67,000 SIM dealers, 52 lakh connections, and the registration of over 300 First Information Reports (FIR.
- The data and evidence... showed us that there is complicity of dealers in cyberfrauds, where attackers buy [mobile] numbers in bulk, use them to call and defraud people, and quickly move on to another number.



• SIM dealers who are found complicit in such schemes will be fined ₹10 lakh.

### About New System

- The facility to provide SIM connections in bulk to companies is being discontinued, and instead a "business" system is being put in place, where they have to undertake KYC (Know Your Customer) when a SIM is being issued to them.
  - The existing bulk system requires companies to preserve records of individual subscribers.
- A transition period will be provided for bulk subscribers to get themselves verified under the new regime.
- Government, defense and law enforcement bulk subscribers will continue to be exempt from additional verification requirements.



The enforcement move follows the launch of the Sanchar Saathi portal in May this year.

#### Sanchar Saathi portal

#### The portal introduces three reforms:

- CEIR for blocking stolen/lost mobiles
- Know Your Mobile Connections for checking registered connections
- ASTR (Artificial Intelligence and Facial Recognition powered Solution for Telecom SIM Subscriber Verification) for identifying fraudulent subscribers.

**Aim:** The initiative is designed to prevent frauds such as identity theft and banking fraud by misusing mobile phones.

Achievement of the Portal: Over 40 lakh fraudulent connections have been identified and 36 lakhs disconnected through the portal. Disconnected numbers have been shared with financial institutions and social media platforms for further action.

Sanchar Saathi initiative: It includes modules for IMEI registration, fraud detection, and facial recognition-based verification.

Portal developed by: Department of Telecom

## HEALTH

### Is Antimicrobial Resistance Being Made Worse By Air Pollution?

**Context:** Air laden with unhealthy amounts of PM2.5 can become a highway for antibiotic-resistant bacteria and genes.

### **Key Highlights**

- More than 7.3 billion people worldwide and 93% of India's population are exposed to unsafe average levels of PM2.5. These particles can spread on fast winds, evaporated water, and dust.
- Tiny, invisible particles, 30-times smaller than the breadth of a human hair, wreak havoc on more than 7.5 billion people worldwide.
- This particulate matter, called PM2.5, could drive the world's next public health threat antimicrobial resistance (AMR), when disease-causing bacteria become immune to the drugs that could once destroy them, according to a new analysis published in The Lancet Planetary Journal.
- The authors a group of experts found that every 10% rise in air pollution was correlated with an AMR increase of 1.1% across countries and continents.
- Researchers have been sounding the alarm over AMR, a scourge that has already killed more people worldwide than malaria or HIV/AIDS, a 2019 survey found.
- It's been directly responsible for 1.27 million deaths and associated with an estimated 4.95 million deaths around the world.



### India & AMR

- Data show that India leads the world in antibiotic use. The indiscriminate use of antibiotics among people and animals, poor hygiene and sanitation, and lack of awareness have fueled this rise, experts note.
- The COVID-19 pandemic only exacerbated these issues, together with a surge in the sales of antibiotics to treat bronchitis and pneumonia.
- The higher circulation of antibioticresistant bacteria and antibioticresistance genes (ARGs) across humans, animals, and environments also creates new transmission pathways.
  - A 2019 study found India's rivers and lakes to be concentrated with antimicrobialresistant bacteria.
  - Pharmaceutical wastewater and untreated effluents from hospitals were the root causes.

### The Threat Of AMR

- Ciprofloxacin, an antibiotic, was once used to treat urinary tract infections caused by Escherichia coli, which is among the most common bacteria in India.
  - E. coli's resistance to ciprofloxacin now varies from 8.4% to 92.9%, per the World Health Organisation.
- Multidrug-resistant tuberculosis (MDR-TB) has also rendered two potent TB drugs less effective.
  - Patients with this form of the disease today have less than a 60% chance of recovery.

Changes in bacteria cause the drugs used to beat them to become less effective. In the absence of the right drug, a patient may never recover from an infection. AMR thus adds to the disease burden of the nation.

- It also risks widening healthcare inequities, where patients contend with delayed recovery and extended hospitalisation.
- It puts patients undergoing major surgeries and treatments, such as chemotherapy, at a greater risk. Patients often recover from advanced medical procedures but succumb to untreatable infections.

#### What Did The Analysis Show?

The new analysis focused on the environmental dissemination of ARGs.

- With every 1% rise in PM2.5 pollution, AMR increased 0.5-1.9% depending on the pathogen, a link that has intensified over time.
  - The researchers wrote that this airborne spread could have resulted in premature deaths in India and China, and other population-dense countries.
  - Some 18.2 million years of life could have been lost this way in 2018 worldwide, resulting in an economic loss of \$395 billion (more than Pakistan's GDP).

Global AMR is driven by multiple forces:

- One is the "effect derived from the environment, which is poorly understood in relation to antibiotic resistance".
  - The researchers collected data from 116 countries spanning almost two decades and looked for a link between rising PM2.5 levels and AMR.
  - They also analysed other predictors, including sanitation services, population, and education.
- The final dataset included nine pathogens Acinetobacter baumannii, Klebsiella pneumoniae, Pseudomonas aeruginosa, Staphylococcus aureus, Streptococcus pneumoniae, Escherichia coli, Enterobacter aerogenes or E cloacae, Enterococcus faecalis, and Enterococcus faecium plus 43 antibiotic agents.



- The researchers recognised air as a "direct pathway and key vector for disseminating antibiotic resistance".
  - For instance, PM2.5 emissions from burning firewood in homes for cooking or heating could
    - carry bacteria and antibiotic-resistant genes, be transmitted over long distances, and eventually be inhaled by individuals.
  - PM2.5 is known to penetrate the body's defences and enter the bloodstream and lungs – a symptom associated with chronic conditions such as cancer, heart disease, and asthma.
- The analysis found that the contribution of PM2.5 to AMR was found to be greater than that of antibiotic use or due to drinking water.

#### **Limitations Of The Analysis**

- How airborne pollutants affect AMR is "still unclear".
- The analysis couldn't discern a causeand-effect relationship and asked for "more medical evidence ... to verify this occurrence."
- Other limitations of the analysis include limited data provided by countries and the overlapping impacts of social, economic, and environmental factors.

### The Air-AMR Connection

- Antibiotic-resistant bacteria and genes travel through food, soil, water, air, and direct contact with sources such as animals.
- The hypothesis is that ARGs, when emitted from, say, hospitals or livestock farms, could latch on to pollutant particles.
- Such particles have been found to contain "diverse antibiotic-resistant bacteria and antibioticresistance genes, which are transferred between environments and directly inhaled by humans, causing respiratory-tract injury and infection."
- When suspended in the environment or breathed in, ARGs could enter the bacteria found in the human body and bolster their resistance.

Air laden with unhealthy amounts of PM2.5 can thus become a highway for transporting antibiotic-resistant bacteria and ARGs. More than 7.3 billion people globally – and 93% of India's population – are exposed to unsafe average levels of PM2.5. These particles can spread on fast winds, evaporated water, and dust. ARGs are also more abundant in urban air particles than in sediment, soil or rivers, the analysis found.

### **Implications For AMR Policy**

AMR is not new. The present focus on environmental factors, however, illustrates that in the fight against antimicrobial-resistant bacteria, we need to address air pollution if we are to plug one hole, while measures to combat other drivers continue. Antibiotic use in itself is expected to rapidly increase in low- and middle-income countries like India by 2050.

• In 2017, India released a **National Action Plan** to address AMR, but most States are yet to devise a region-specific framework to address local factors affecting AMR.



### Centre And WHO To Launch Global Initiative On Digital Health

**Context:** India, in collaboration with the World Health Organization (WHO), will launch the **Global Initiative on Digital Health** as part of the ongoing G-20 summit.

• The first such global initiative is aimed at

Data convergenceInterface of health<br/>platformsInvestments in the digital health<br/>space around the globe

### **Key Highlights**

The summit is working on bringing in the crucial interim medical countermeasure (MCM), "which is a 'network of networks approach' before the next health emergency hits us, and India, in collaboration with WHO, is leading the advocacy,".

- The global digital platform would include
  - An investment tracker,
  - o An ask tracker (to understand who needs what kind of products and services) and
  - A library of existing digital health platforms.
- The GIDH is a WHO-managed network that will promote equitable access to digital health by addressing challenges such as duplication of efforts and "products-focused" digital health transformation.
- It will ultimately **aim** to
  - Align efforts to support the Global Strategy on Digital Health, 2020-2025,
  - Support quality-assured technical assistance to develop and strengthen standards-based and interoperable systems aligned to global best practices, norms, and standards, and
  - Facilitate the deliberate use of quality-assured digital transformation tools that enable governments to manage their digital health transformation journey.
- The global platform for data sharing will offer no data about its users but will share analyses and work on interoperability of data.

The digital health innovations and solutions would aid universal health convergence and improve healthcare service delivery. The initiative had found funding from global partners.

The GIDH is an **integrative step** that fosters equity in healthcare by converging efforts and best practices. It will amplify our efforts with the incorporation of tools such as AI while giving due importance to ethics, policy, and governance".

## **IMPORTANT DAYS**

### **Celebrating Lefties And Nature's Unpredictable Orientations**

Context: August 13 was International Left-handers' Day.

• Handedness is a tendency to prefer the use of one hand over the year. August 13 was International Left-handers' Day, observed to appreciate left-handedness in a world numerically dominated by righties.



- Our planet itself is a lefty, rotating from west to east. So is the solar system. According to a 2011 study, there are more left-handed spiral galaxies than their right-handed counterparts.
- There is left-handedness within ourselves as well. Amino acids, the basic building blocks of life, are left-handed.
- Subatomic particles known as neutrinos are left-handed. This means a neutrino's spin is aligned parallel to but in the opposite direction of its momentum.
  - Neutrinos are the second most abundant particle in the universe (after photons) and they could just as well have been right-handed yet they aren't.
- There are three fundamental forces in nature other than gravitation. Of these, the strong force operates between protons and neutrons and the electromagnetic force, between charged particles.
  - They are both left-right symmetric: they obey the law of parity conservation.



Our planet itself is a lefty, rotating from west to east. UNSPLASH

• But there is a fourth force, known as the weak nuclear force (responsible for radioactive decay), and it breaks left-right symmetry.

#### **About The Day**

- The day, which honours 'sinistrality' or left-handedness, was first observed in 1976 by Dean R. Campbell, the founder of Left-Handers International Inc., and has been celebrated every year since.
- Studies show that around 10 per cent of the world's population is left-handed, with men more likely being so.
- According to the Indian Left Hander Club, the country's famous left-handers include Mahatma Gandhi, Mother Teresa, Prime Minister Narendra Modi, actors Amitabh Bachchan and Rajinikanth, cricketer Sachin Tendulkar and industrialist Ratan Tata.

### **International Lefthanders Day Significance**

- The day aims to raise awareness about being left-handed in a predominantly right-handed world.
- It celebrates left-handed people's uniqueness and differences, a subset of humanity comprising seven to ten per cent of the world's population.