

Daily Current Affairs



जनसत्ता



The Indian EXPRESS

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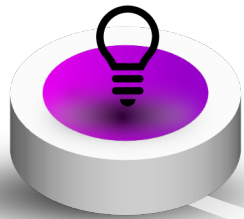
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The Hindu



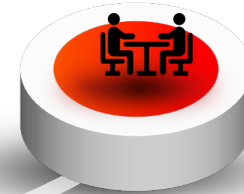
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PIB, PR4 & Other newspaper



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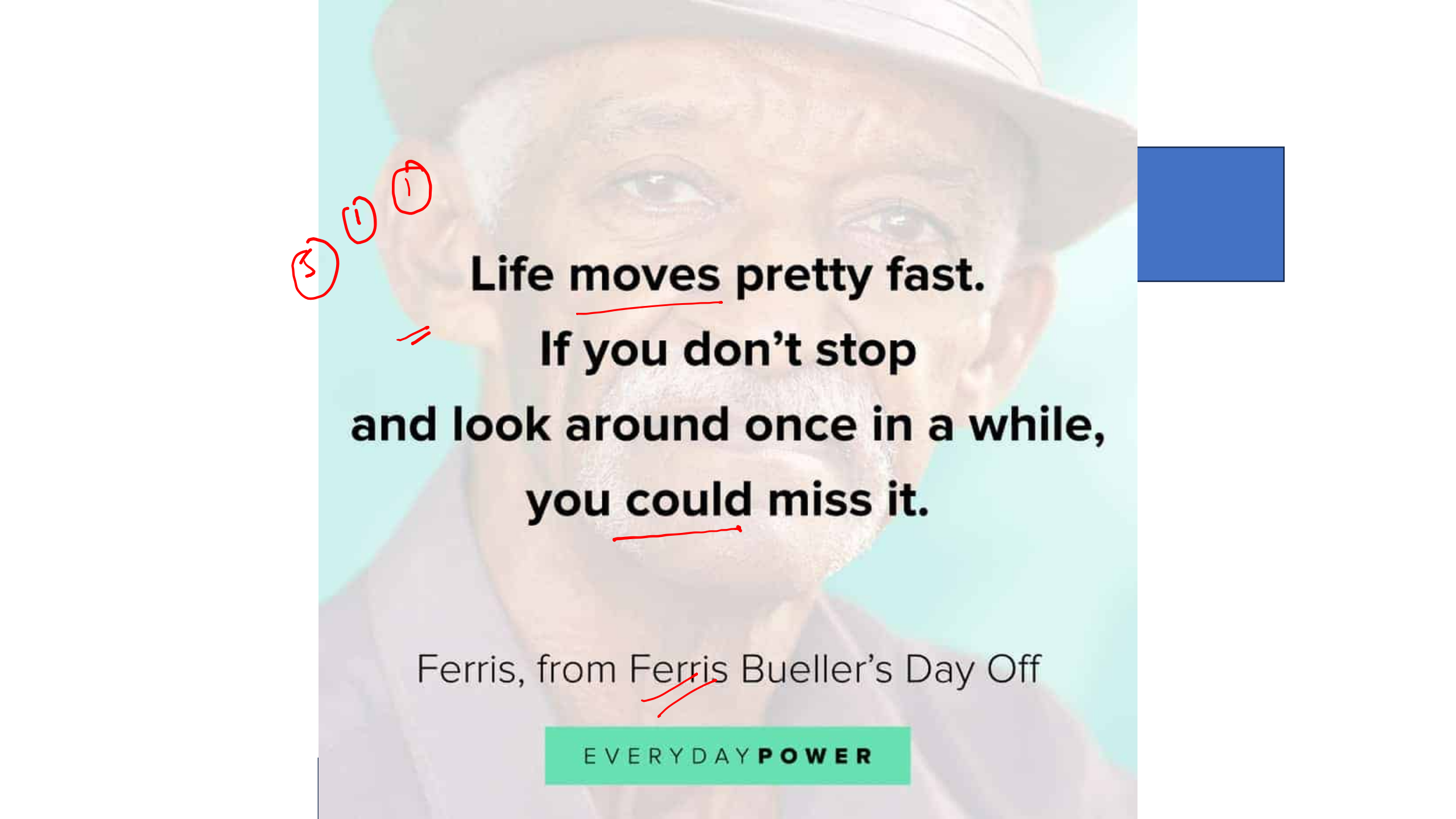
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10 Questions
test related to
this class



**Life moves pretty fast.
If you don't stop
and look around once in a while,
you could miss it.**

Ferris, from Ferris Bueller's Day Off

EVERYDAY **POWER**

Chennai | Coimbatore | Bangalore | Hyderabad | Lucknow | Ranchi | Delhi | Varanasi | Thiruvananthapuram | Kochi | Mysore | Mangalore | Tiruchirappalli | Kolkata | Bhubaneswar | Guwahati | Patna | Jaipur | Chandigarh | Dehra Dun | Shimla | Dispur | Agartala



BATTLE READY
Rahul files nomination from Wayanad seat
STATES > PAGE 3



REACTOR BLAST
4 killed in drug unit explosion in Telangana
STATES > PAGE 3



ALLIANCES AT WORK
A three-cornered contest in Tamil Nadu
ELECTIONS > PAGE 5



COMPLEX PROCEDURE
Implementation of living wills lags in India
Medical, legal experts should look into it
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THUMPING WIN
Narine sizzles as KKR steamrollers DC
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INSIDE



Must 'continue struggle', says Sanjay Singh

NEW DELHI Aam Aadmi Party leader and Rajya Sabha MP Sanjay Singh, who was granted bail by the Supreme Court in a money laundering case, said on Wednesday that though he has walked out of prison, the party still needed to "continue its struggle". > PAGE 4

SC asks Ajit group if it has complied with order

NEW DELHI The Supreme Court has asked the Ajit Pawar NCP faction if it has complied with its March 19 order to publish advertisements in the media with a disclaimer that a legal dispute with his uncle, Shrihari Pawar's group over the allocation of the party symbol is under way. > PAGE 4

Reports of 'rights abuse' at shrimp farms rejected

NEW DELHI India, the biggest supplier of shrimp, has strongly refuted allegations raised by Corporate Accountability Lab — a Chicago-based human rights group — that "dangerous and abusive" working conditions prevailed in some shrimp hatcheries, growing ponds, and processing sheds. > PAGE 6

Conscription age lowered to 25 in Ukraine

KYIV A new mobilisation law came into force in Ukraine on Wednesday which lowered the military conscription age from 27 to 25 in an effort to replenish its depleted ranks after more than two years of war following Russia's full-scale invasion. > PAGE 14

SC to list pleas on verifying count in EVMs before polls

A series of petitions have sought complete count of VVPAT slips as opposed to the current practice of verification currently carried out with slips from votes cast in 5 randomly selected polling booths. EC had stated in a 2023 affidavit that 'there is no fundamental right of voters to verify their votes'

The Hindu Bureau

The Supreme Court on Wednesday agreed to list ahead of the Lok Sabha election a series of petitions seeking a directive to the Election Commission to mandatorily cross-verify the vote count in all electronic voting machines (EVMs) by counting all voter-verifiable paper audit trail (VVPAT) slips. The current practice is verification of votes cast in only five polling stations of each Assembly constituency through the slips. Justice Sanjay Khanna, who heads the Bench, assured senior advocates Kapil Sibal, advocate Prashant Bhushan, senior

Ballot tally

Voter Verifiable Paper Audit Trail (VVPAT) is an independent system attached with the Electronic Voting Machines that allows the voters to verify that their votes are cast as intended. Petitioners have moved the top court, seeking that the EC be directed to count all VVPAT slips. They also propose simultaneous VVPAT verification. On July 17, 2023, the top court had sought the views of the EC on a plea filed by



and local holidays in the court's calendar. The petitions have referred to a reported judgment in 2013 in *Subramanian Swamy v Election Commission of India* that the election process should "have full transparency in the system and to restore the confidence of the voters". The court had held that a "paper trail" was an "indispensable" requirement of free and fair elections. "It is the satisfaction and verification of the voter that is at the heart of electoral democracy and not

Complex procedure

Implementation of living wills lags in India. Medical, legal experts should look into it. The court had sought the views of the EC on a plea filed by

Simultaneous count

One of the petitions filed by activist Arun Kumar Agrawal has challenged a guideline of the EC mandating sequential VVPAT

EC had stated in a 2023 affidavit that 'there is no fundamental right of voters to verify their votes'

that EVMs could neither be hacked nor tampered. They were "totally standard" machines having one-time programmable chips. The poll body also ruled out the need to "re-design" VVPATs. The existing VVPAT enables electors to check whether their votes have gone to the candidate of their choice... Further, there is no provision for mandatory verification of printed VVPAT part slips of five randomly selected polling stations of each Assembly constituency segment, which is the audit of the electronic vote before the results. The EC said, "The EC said counting of 100% VVPAT slips would pose a 'great difficulty'."

Firms without profits donated through electoral bonds

Prashant Bose

The Hindu Data Team
KOLKATA/CHENNAI
An analysis of data on the purchasers and cashers of electoral bonds between April 12, 2019, and January 24, 2024, revealed that 45 companies which made an aggregate donation of ₹1,432.4 crore through such bonds, had suspect sources of funds. The BJP encashed ₹1,068.4 crore, or almost 75% of these bonds. Three of the 45 firms, which donated these bonds, had negative net near zero net profits, six bought bonds for significantly higher amounts than their declared net profits, three had reported negative direct taxes and there had no reported data on net profits or direct taxes paid. This was for the period from 2016-17 to 2022-23.

BJP encashed over 74% of bonds given by 45 companies with suspect sources of funds

The analysis undertaken by *The Hindu* in collaboration with a team of independent researchers reviewed a total 385 companies that had donated bonds worth ₹5,362.2 crore in aggregate to the ruling BJP, which was the Centre for Monitoring Indian Economy's Prossess IQ Database on corporate and tax data. The review matched the bond data of these firms (2019-20 to 2023-24) against the profit and direct taxes data.

Taiwan rocked



On edge: A building damaged in a 7.4 magnitude earthquake that struck east Taiwan on Wednesday. Nine people were killed and over 1,000 injured. The toll was relatively low owing to the nation's high levels of quake preparedness, say experts. AFP (REPORT ON PAGE 14)

Three freed Rajiv Gandhi case convicts sent back to Sri Lanka

C. Jaisankar
TRIRUCHI
Three Sri Lankan nationals convicted in the former Prime Minister's assassination case — Murugan alias Sri Lanka, Robert Payas and Rajakumar who were prematurely freed from prison and then detained at a special camp in Tiruchi, were deported to Sri Lanka on Wednesday. Sources said that on receipt of the final clearance from the Union Ministry of Home Affairs to send them back to Sri Lanka, the Release Department, which runs the special camp, released them on Tuesday

Nuclear power key to India's development, says report

Jacob Koshy
NEW DELHI
For India to be a developed country by 2047 and on track to achieve net-zero or effectively zero carbon dioxide emissions by 2070, it must significantly prioritize investment in nuclear energy and expand related infrastructure, says a study by academics at the Indian Institute of Management, Ahmedabad. The results of the study were made public on Wednesday. Currently, nuclear energy makes up only 1.6% of India's energy mix. The authors used mathematical models to estimate what proportion of such sources of energy would be required by 2030 and 2050 to arrive at an ideal scenario of net zero emissions by 2070.

T.N. accuses Centre of delaying disaster relief funds

Krishnasadas Rajagopal

NEW DELHI
Tamil Nadu on Wednesday filed a suit in the Supreme Court accusing the Union government of treating the people of the State in a step-motherly fashion by delaying the release of disaster relief funds of nearly ₹38,000 crore sought by Chief Minister M.K. Stalin to help tide over the twin calamities of Cyclone Michaung and unprecedented floods. "There is no justification in delaying the release of funds. The differential treatment in the release of funds in comparison to other States is tantamount to class discrimination. It violates the fundamental rights of those who have



The State had sent multiple representations to Centre for release of disaster funds after December's climate events. FILE PHOTO

suffered due to calamities and great hardship and irreparable loss of life and property. Please treatment violates the National Disaster Management Policy included under the Disaster Management Act, 2005. The differential treatment by unfairly allocating funds to some States over

others," the State of Tamil Nadu submitted in the court. The suit was filed by the State under Article 131 of the Constitution. Mr. Stalin had complained about the lack of adequate flood relief from the Centre after Prime Minister Narendra Modi commented, ahead of the elec-

tion, about the Congress "callously giving away" the strategic Katchatheevu island to Sri Lanka and Mr. Stalin's party, the Dravida Munnetra Kazhagam, doing "nothing" to safeguard Tamil Nadu's interests. Similar suits The Tamil Nadu's suit follows recent suits by Kerala and Karnataka in the Supreme Court. Kerala has accused the Centre of arbitrarily interfering in its net borrowing limits, pushing the State to the brink of a financial emergency. Karnataka has moved the Supreme Court for the release of drought relief under the National Disaster Response Fund. Tamil Nadu, represented by senior advocates P.

Three freed Rajiv Gandhi case convicts sent back to Sri Lanka

C. Jaisankar
TRIRUCHI
Three Sri Lankan nationals convicted in the former Prime Minister's assassination case — Murugan alias Sri Lanka, Robert Payas and Rajakumar who were prematurely freed from prison and then detained at a special camp in Tiruchi, were deported to Sri Lanka on Wednesday. Sources said that on receipt of the final clearance from the Union Ministry of Home Affairs to send them back to Sri Lanka, the Release Department, which runs the special camp, released them on Tuesday

They had been lodged in a special camp in Tiruchi after the Supreme Court ordered their release

they did not have travel documents. The Sri Lanka Deputy High Commissioner in Chennai issued Emergency Travelling Certificate, a one-time travel document, on March 25 to all of them. The three had been among four Sri Lankan nationals lodged in the special camp in the Tiruchi Central Prison complex since November 2022, after the Supreme Court ordered their release. Unlike the other three, Rajakumar, who had the alias Sathendraraja, who was released a few weeks ago from the special camp, died of ill health at the Rajiv Gandhi Government General Hospital in Chennai on February 21.

SC to list pleas on verifying count in EVMs before polls

A series of petitions have sought complete count of VVPAT slips as opposed to the current practice

Verification currently carried out with slips from votes cast in 5 randomly selected polling booths

EC had stated in a 2023 affidavit that 'there is no fundamental right of voters to verify their votes'

The Hindu Bureau
NEW DELHI

The Supreme Court on Wednesday agreed to list ahead of the Lok Sabha election a series of petitions seeking a directive to the Election Commission to mandatorily cross-verify the vote count in all electronic voting machines (EVMs) by counting all voter verifiable paper audit trail (VVPAT) slips.

The current practice is verification of votes cast in only five polling stations of each Assembly constituency through the slips.

Justice Sanjiv Khanna, who heads the Bench, assured senior advocates Kapil Sibal, advocate Prashant Bhushan, senior

advocate Gopal Sankaranarayanan, and advocate Neha Rathi, all appearing for various petitioners, including the Association for Democratic Reforms, that the case would be listed the week after next.

The Lok Sabha election will begin on April 19.

In an oral mentioning, the lawyers urged the court to hear the case before the election, possibly even next week. "We may not be able to hear next week. That is why we said the week after next," Justice Khanna said. He said the coming week had only Tuesday available for detailed hearing as Monday and Wednesday had been reserved for miscellaneous cases. Thursday and Friday are marked as gazetted

Ballot tally

Voter Verifiable Paper Audit Trail (VVPAT) is an independent system attached with the Electronic Voting Machines that allows the voters to verify that their votes are cast as intended.



■ Petitioners have moved top court, seeking that the EC be directed to count all VVPAT slips. They also propose simultaneous VVPAT verification

■ On July 17, 2023, the top court had sought the response of the EC on a plea filed

by the Association for Democratic Reforms

■ EC had said counting of 100% VVPAT slips would pose a great difficulty due to the amount of time it would take

■ Court to hear petitioners before first phase of election

and local holidays in the court's calendar.

The petitions have referred to a reported judgment of the top court in 2013 in *Subramanian Swamy v Election Commission of India* that the election process should "have fullest transparency in the system and to restore the

confidence of the voters".

The court had held that a "paper trail" was an "indispensable requirement of free and fair elections", and directed the EC to introduce VVPAT in EVMs. "It is the satisfaction and verification of the voter that is at the heart of electoral democracy and not

just that of the EC, domain experts, political parties, or candidates," the petitioners argued.

Simultaneous count

One of the petitions filed by activist Arun Kumar Agrawal has challenged a guideline of the EC mandating sequential VVPAT

verification, that is, one after the other, causing undue delay. The petition proposes simultaneous VVPAT verification by deploying more personnel for counting in each constituency.

It noted that while the government had spent about ₹5,000 crore to purchase nearly 24 lakh VVPATs, only slips from approximately 20,000 VVPATs could be verified.

The EC, in an affidavit in September 2023, had countered that "there is no fundamental right of the voter to verify through VVPATs that their votes were 'recorded as cast' and 'counted as recorded'".

In the affidavit spanning over 450 pages, the EC assured the Supreme Court

that EVMs could neither be hacked nor tampered. They were "totally standalone machines having one-time programmable chips". The poll body also ruled out the need to "re-design" VVPATs.

"The existing VVPAT enables electors to check whether their votes have gone to the candidate of their choice... Further there is a provision for mandatory verification of printed VVPAT part slips of five randomly selected polling stations of each Assembly constituency/segment, which is the audit of the electronic vote before the results," the ECI said.

The EC said counting of 100% VVPAT slips would pose a "great difficulty".

Q WHAT IS VVPAT?



A. Voter Verifiable Paper Audit Trail (VVPAT) helps voters to physically confirm the choice they have made. It consists of:

- A printer that gives a record of voters' selection
- A display unit that shows any error



Q HOW IT WORKS?



A. The printed VVPAT slip is displayed for 7 seconds before it is automatically cut and delivered to a sealed ballot compartment

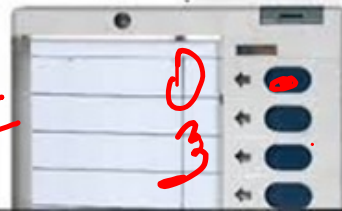
Q WHAT THE VVPAT SLIP CONTAINS?

A. ■ A candidate serial number

■ Name of the candidate

■ Corresponding symbol.

VVPAT paper roll is designed for printing **1,500** ballot slips for each election

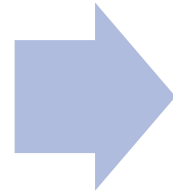


Kerala

1982

- What is an Electronic Voting Machine?
- **About: EVM** is a device used to record votes electronically. They were first used in **the Paravur Assembly Constituency of Kerala** in the year 1982.
 - Since 1998, the Election Commission has increasingly used EMVs instead of ballot boxes.
 - In 2003, all state elections and by-elections were held using EVMs.
 - Encouraged by this, in 2004, the Commission took a historic decision to **use only EVMs for the Lok Sabha elections.**

An EVM being used by ECI can record a maximum of **2,000 votes**.



They do not require electricity. They run on an ordinary battery assembled by

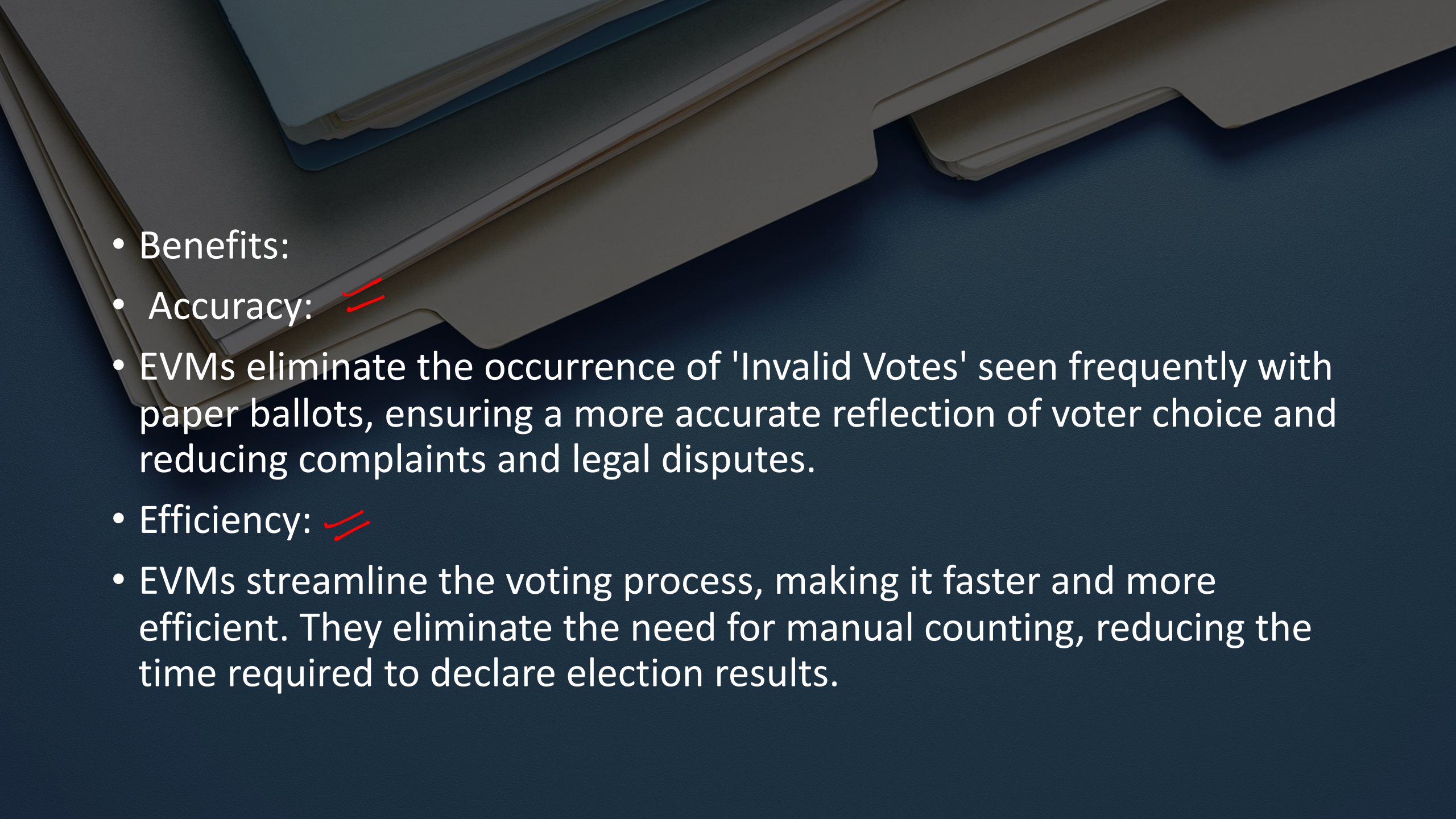


The microchip used in EVMs is a **one-time programmable/masked chip**, which can neither be read nor overwritten.

- Furthermore, the EVMs are stand-alone machines and there is **no operating system** used in these machines.



Bharat Electronics Limited/Electronics Corporation of India Limited.

- 
- A stack of several grey and blue folders is visible in the upper left corner of the slide, partially overlapping the text area.
- Benefits:
 - Accuracy: ✓✓
 - EVMs eliminate the occurrence of 'Invalid Votes' seen frequently with paper ballots, ensuring a more accurate reflection of voter choice and reducing complaints and legal disputes.
 - Efficiency: ✓✓
 - EVMs streamline the voting process, making it faster and more efficient. They eliminate the need for manual counting, reducing the time required to declare election results.



- **Transparency:**

- EVMs enhance transparency in the electoral process by providing a **clear and verifiable record of votes cast**. With features like VVPAT, voters can verify that their votes are recorded accurately.

- **Cost-effectiveness:**

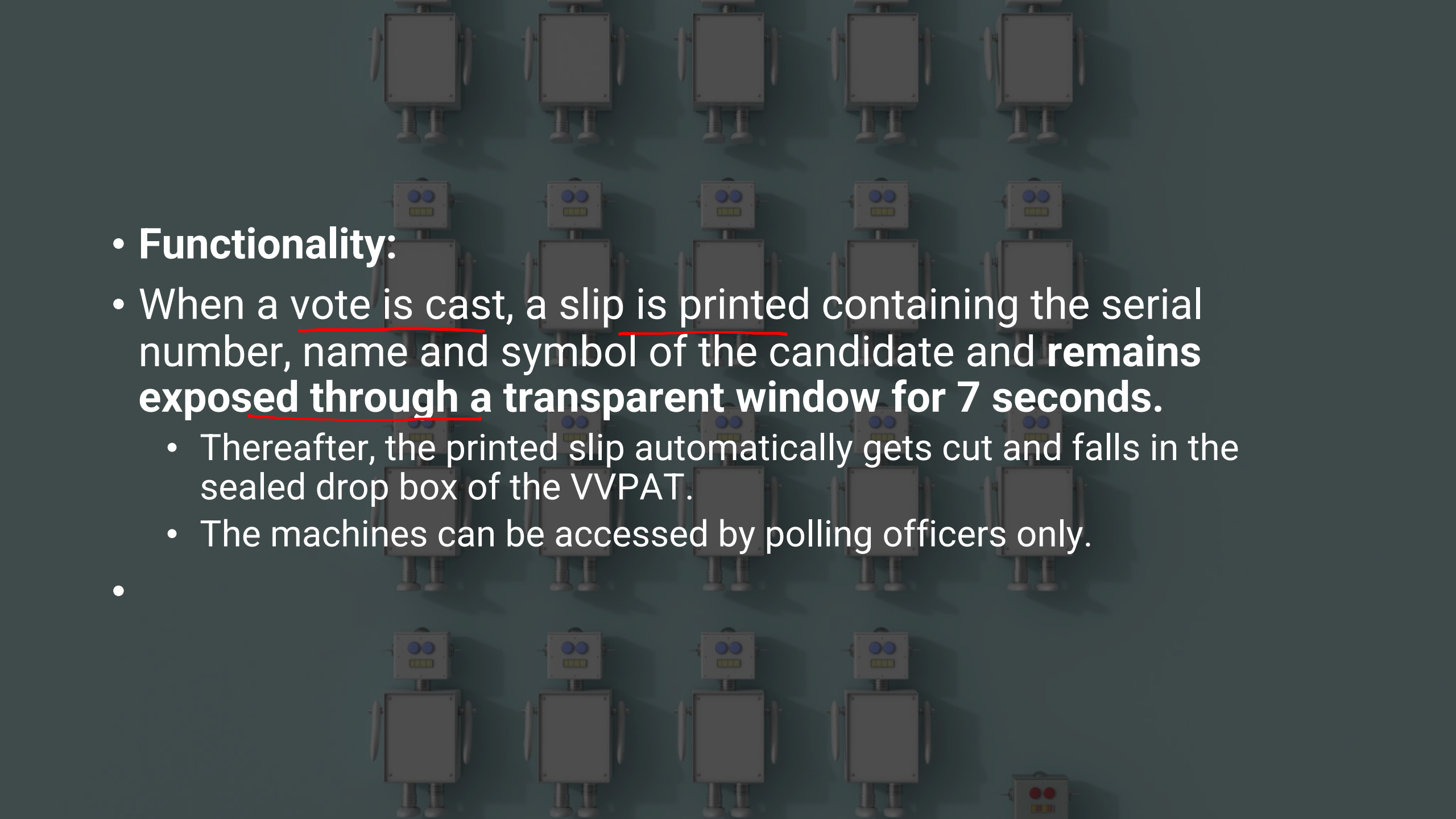
- EVMs offer cost savings in terms of **paper, printing, transportation, and storage**, as they eliminate the need for millions of printed ballot papers for each election cycle.



Lack of Transparency: Some critics argue that the **inner workings of EVMs are not sufficiently transparent**, leading to doubts about the accuracy and fairness of the voting process.

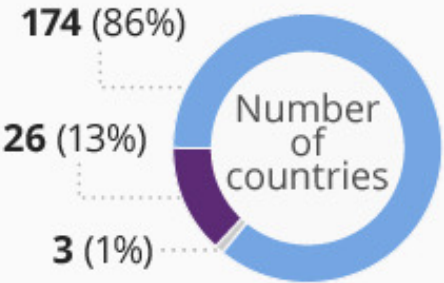
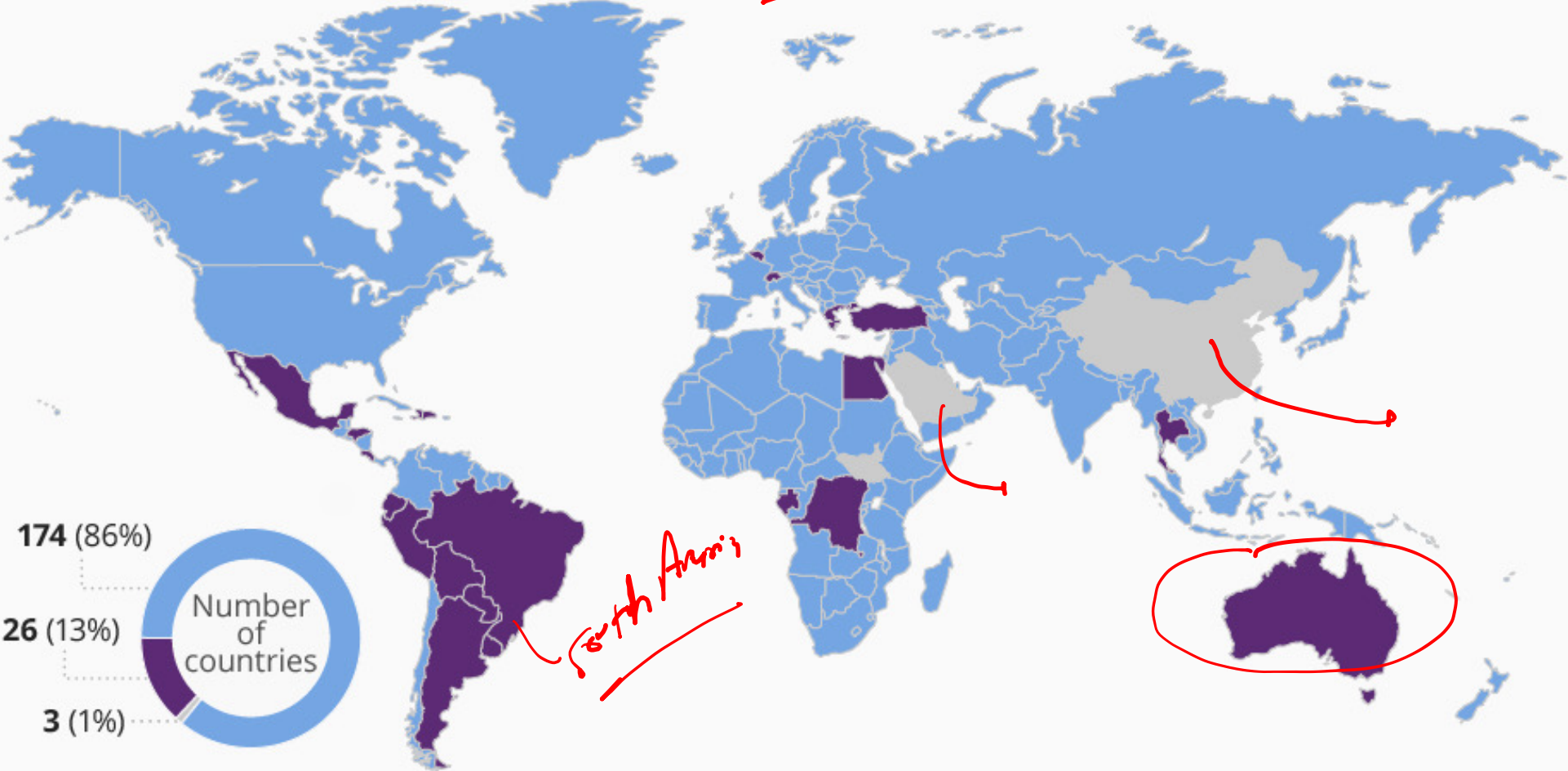
Reliability: Questions have been raised about the reliability of EVMs, including the possibility of **technical malfunctions** or errors that could affect the outcome of an election.

Trust Issues: Despite security measures, there is still a lack of trust among some political parties and voters regarding the reliability and authenticity of EVMs, leading to calls for additional safeguards or alternative voting methods.

- 
- **Functionality:**
 - When a vote is cast, a slip is printed containing the serial number, name and symbol of the candidate and **remains exposed through a transparent window for 7 seconds.**
 - Thereafter, the printed slip automatically gets cut and falls in the sealed drop box of the VVPAT.
 - The machines can be accessed by polling officers only.

The Countries Where Voting Is Compulsory

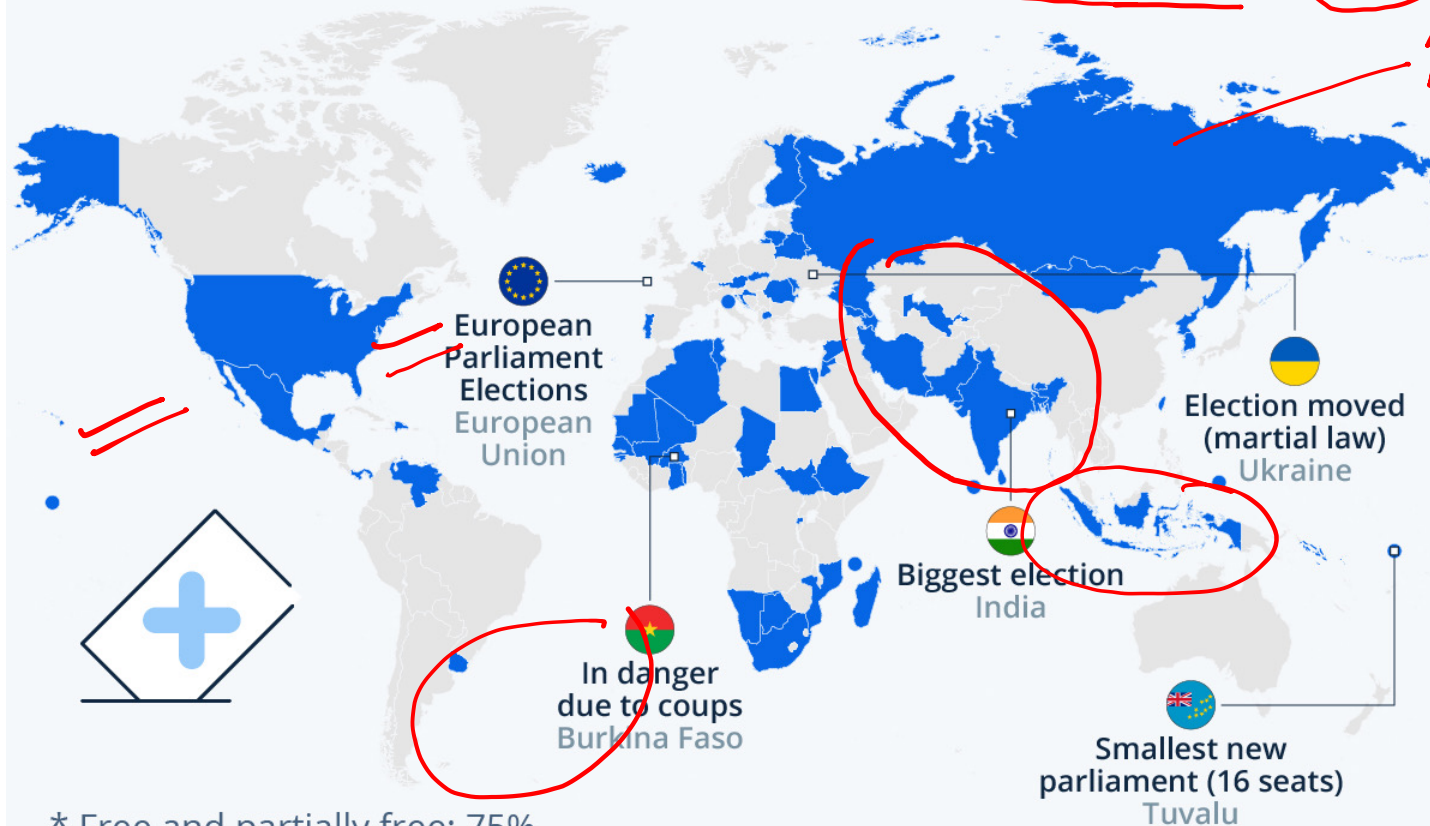
- Countries with no compulsory voting
- Countries with compulsory voting
- Countries with no elections



2024: The Super Election Year

Countries where a national election is/was held in 2024

Expected number of voters: **2B** (~25% of world pop.) Share of free elections* **38%**



* Free and partially free: 75%
General, parliamentary, presidential and economic union elections
Sources: Anchor Change Election Cycle Tracker, Statista research



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KD

ANALYSIS GOVERNMENT

Whereabouts of 19 Lakh EVMs Not Known, Reveals RTI-Based Court Case

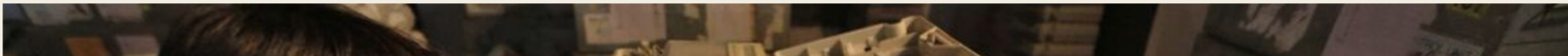


The Wire Staff

22/May/2019 · 5 min read



EC denies claims in Frontline's story, says it has no jurisdiction over State Election Commissions which also procure EVMs.



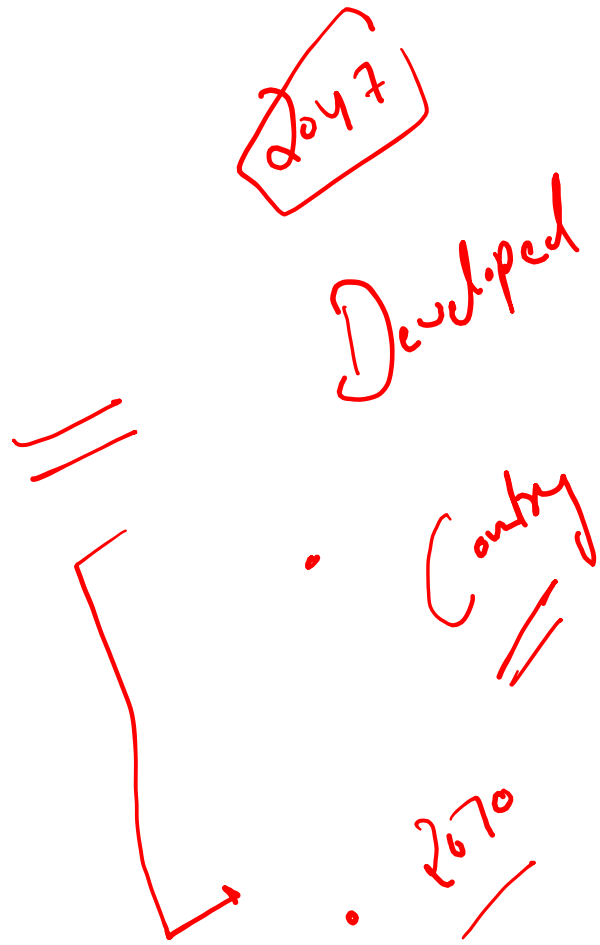
• **Consider the following statements: (2017)**

1. The Election Commission of India is a five-member body.
2. The Union Ministry of Home Affairs decides the election schedule for the conduct of both general elections and bye-elections.
3. Election Commission resolves the disputes relating to splits/mergers of recognised political parties.

• **Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 3 only

3



Nuclear power key to India's development, says report

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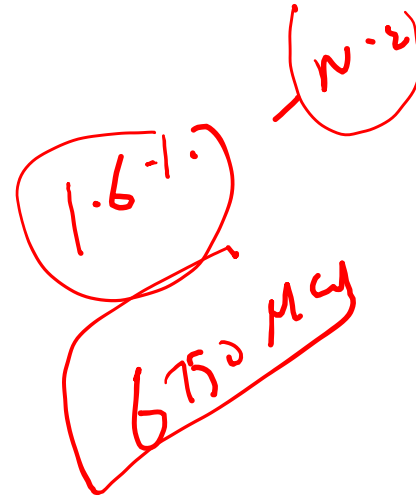
Jacob Koshy
NEW DELHI

For India to be a developed country by 2047 and be on track to achieve net zero – or effectively zero carbon dioxide emissions by 2070 – it must significantly prioritise investments in nuclear energy and expand related infrastructure, says a study by academics at the Indian Institute of Management, Ahmedabad.

The results of the study were made public on Wednesday. Currently, nuclear energy makes up only 1.6% of India's energy mix.

The authors used mathematical models to estimate what proportion of various sources of energy would be required by 2030 and 2050 to arrive at an ideal scenario of net zero emissions by 2070.

IIM Ahmed

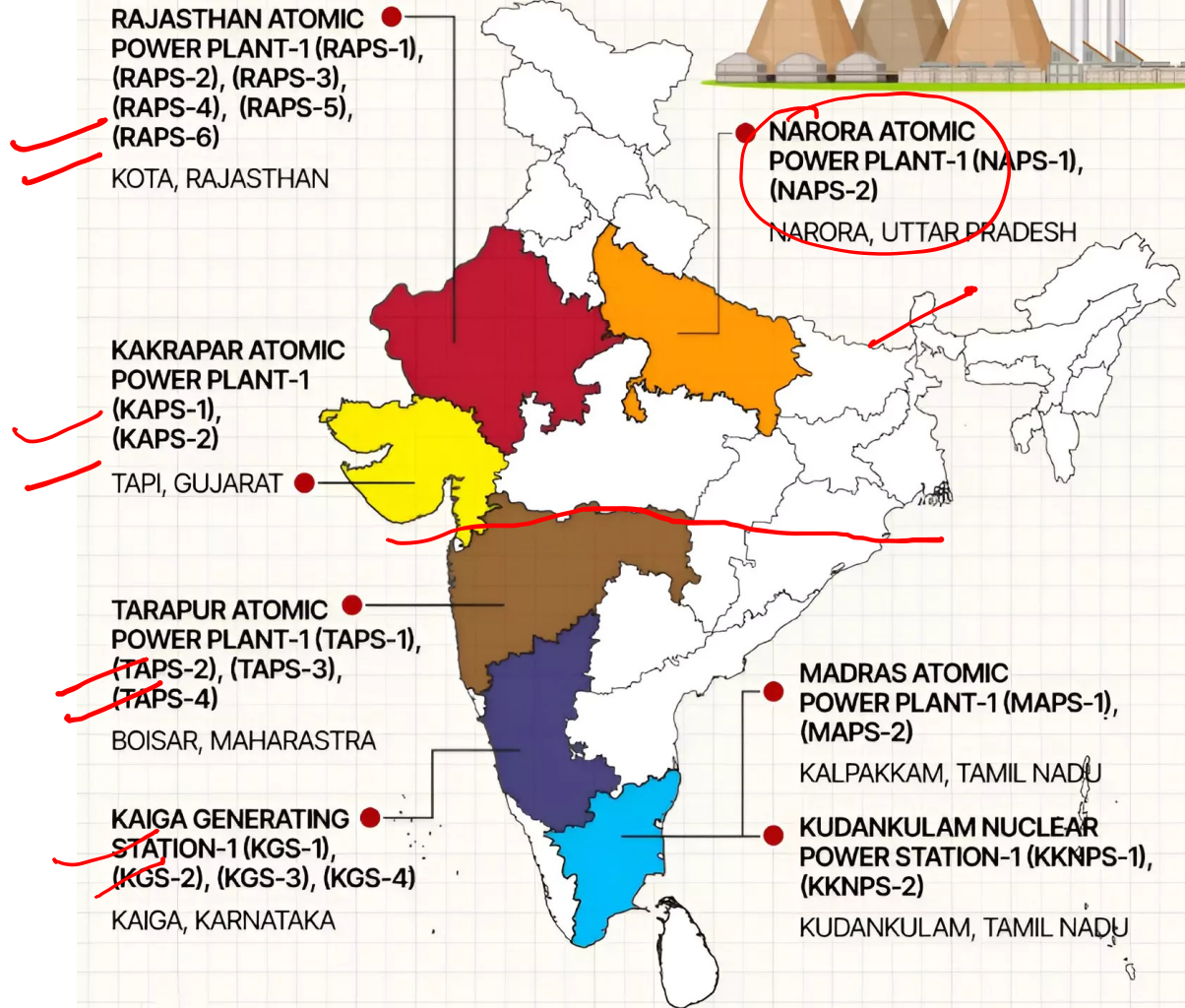


Nuclear Power Plants under operation in India



22nd C

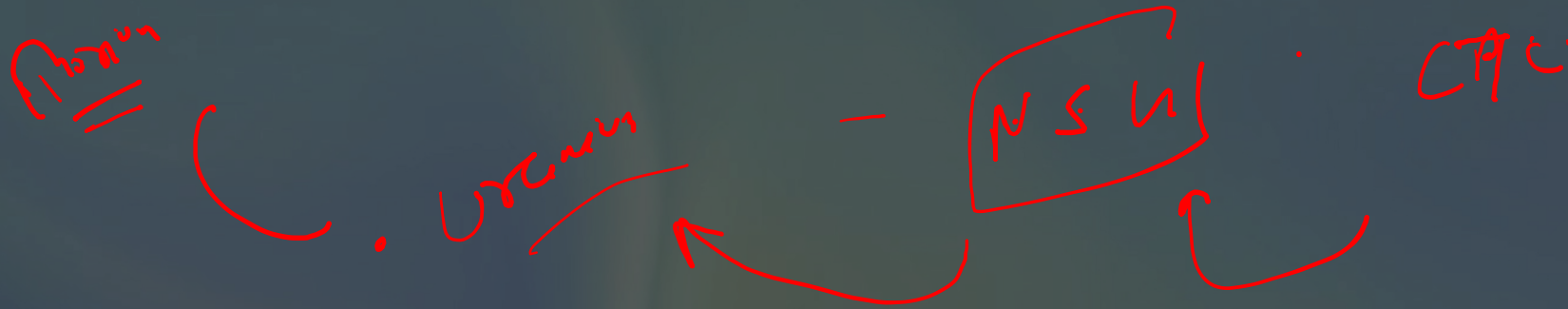
7



THE NUCLEAR ENERGY SPREAD



Nuclear Power plants in Operation	Nuclear Power Plants under Construction	Planned Nuclear Power Plants
<ul style="list-style-type: none">▪ Rawatbhata (Rajasthan)▪ Tarapur (Maharashtra)▪ Kudankulam (Tamil Nadu)▪ Kakrapar (Gujarat)▪ Kalpakkam (Tamil Nadu)▪ Narora (Uttar Pradesh)▪ Kaiga (Karnataka)	<ul style="list-style-type: none">▪ Kakrapar 3&4 (Gujarat)▪ Rawatbhata (Rajasthan)▪ Kudankulam 3&4 (Tamil Nadu)▪ Kalpakkam PFBR (Tamil Nadu)	<ul style="list-style-type: none">▪ Jaitapur (Maharashtra)▪ Koyvada (Andhra Pradesh)▪ Mithi Virdi (Gujarat)▪ Haripur (West Bengal)▪ Gorakhpur (Haryana)▪ Bhimpur (Madhya Pradesh)▪ Mahi Banswara (Rajasthan)▪ Kaiga (Karnataka)▪ Chutka (Madhya Pradesh)▪ Tarapur (Maharashtra)



India's Indigenous Move:

The world's first thorium-based nuclear plant, "Bhavni," using Uranium-233, is being set up at Kalpakkam in Tamil Nadu.

This plant will be entirely indigenous and will be the first of its kind. The experimental thorium plant "Kamini" already exists in Kalpakkam.

Jacob Koshy

NEW DELHI

For India to be a developed country by 2047 and be on track to achieve net zero – or effectively zero carbon dioxide emissions by 2070 – it must significantly prioritise investments in nuclear energy and expand related infrastructure, says a study by academics at the Indian Institute of Management, Ahmedabad.

The results of the study, funded by the Office of the Principal Scientific Adviser and the Nuclear Power Corporation of India, were made public on Wednesday. Currently, nuclear energy makes up only 1.6% of India's energy mix.

The report postulates several scenarios. These are a high-, medium-, and low-economic growth scenario, a scenario where there is a “thrust” on nuclear energy, another with a thrust on expanding fossil fuel use along with employing carbon capture and storage, a scenario with an emphasis on renewable energy (solar, wind), and finally one that combines all of these.

The authors used mathematical models to estimate what proportion of



Larger goals: Currently, nuclear energy makes up only 1.6% of India's energy mix. FILE PHOTO

various sources of energy would be required by 2030 and 2050 to arrive at an ideal scenario of net zero emissions by 2070. This was further tempered by scenarios of India's population achieving a human development index like Western European countries and the price of access to energy going down.

The best case, their calculations showed, were where emissions in 2070 fell to 0.55 billion tonnes of carbon dioxide ('net zero' scenario). This translated to nuclear power rising five-fold from today's levels to 30 GW (gigawatt) by 2030 and 265 GW by 2050. To put in perspective, it means nuclear power contributing 4% of India's total

energy by 2030 and sharply rising to 30% by 2050. In the same scenario, the share of solar power falls from 42% in 2030 to 30% in 2050.

Uranium availability

Currently, figures from the Central Electricity Authority say solar energy accounts for 16% of India's installed generation capacity and coal 49%. To achieve these idealistic figures for nuclear energy would require a doubling of investments as well as the assumption that uranium, a critical fuel but restricted by international embargo, is available in necessary quantities.

The authors, led by Professor Amit Garg of IIM, Ah-

medabad, said at a press conference that there was no “silver bullet” to achieve net zero and “myriad technologies needed to coexist” in India's energy basket.

Coal would likely be the “backbone” of the Indian energy system and if the country has to phase down coal in the next three decades, it would need to build adequate infrastructure for alternative sources such as nuclear power, in addition to flexible grid infrastructure and storage to support the integration of renewable energy.

Overall, India would need close to ₹150-200 lakh crore between 2020-2070 to finance these transitions, the report added.

4%
30 GW - 2030

265 GW = 2050

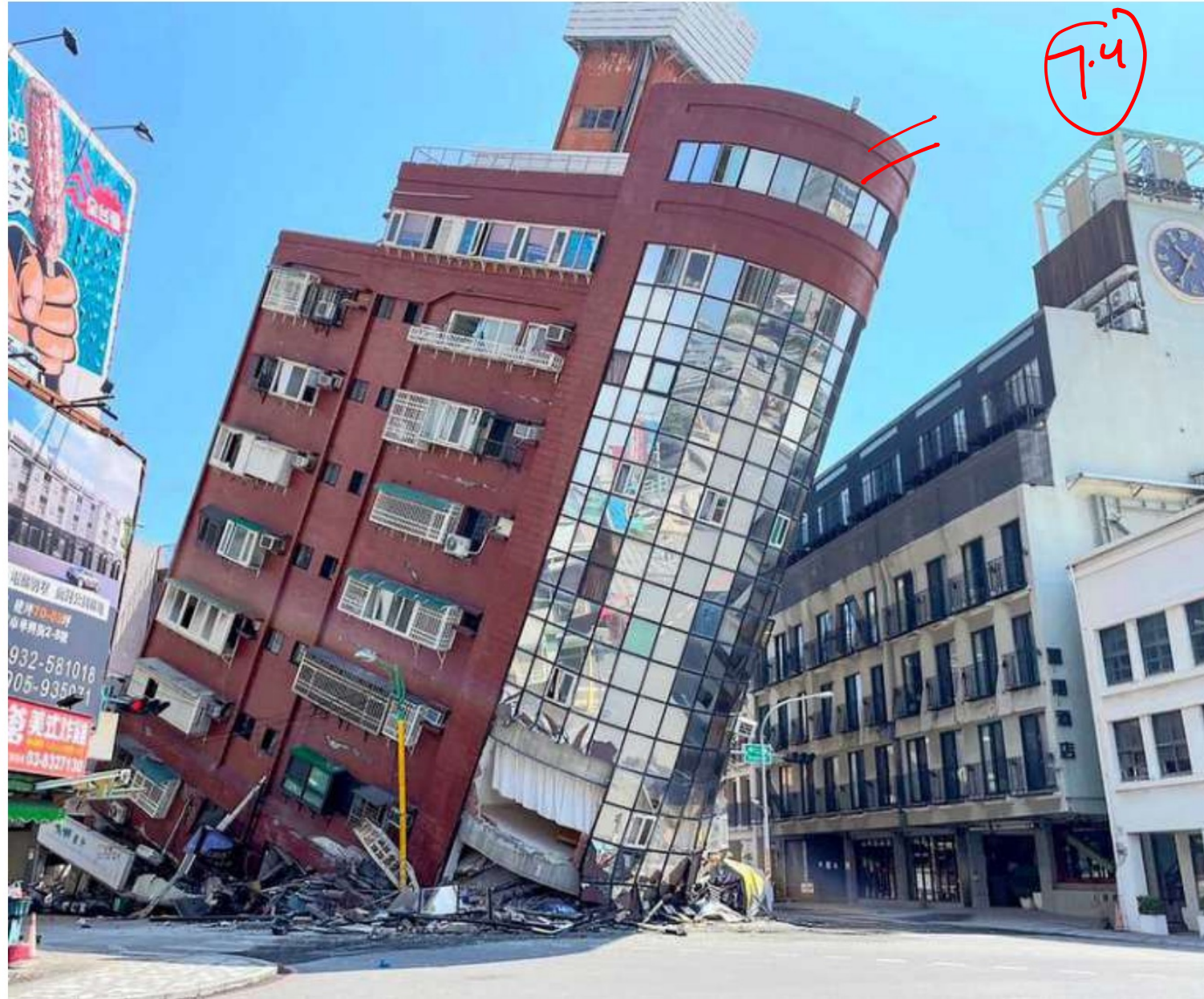
30%

4%
30%

30%

150-200 lakh
Cr

Taiwan rocked



On edge: A building damaged in a 7.4 magnitude earthquake that struck east Taiwan on Wednesday. Nine people were killed and over 1,000 injured. The toll was relatively low owing to the nation's high levels of quake preparedness, say experts. AFP (REPORT ON PAGE 14)

Nine dead, 1,000 injured as 7.4-strong quake hits Taiwan

It was the strongest ~~earthquake~~ to have struck the island in the past 20 years; strict building regulations and widespread public disaster awareness believed to have staved off a catastrophe

Agence France-Presse
TAIPEI

At least nine persons were killed and more than 1,000 injured on Wednesday by a powerful earthquake in Taiwan that damaged dozens of buildings and prompted tsunami warnings that extended to Japan and the Philippines before being lifted.

Dozens of people were believed safe but unreachable in areas cut off by massive landslides triggered by the quake.

Strict building regulations and widespread public disaster awareness appear to have staved off a catastrophe for the earth-



Crumbled blocks: A damaged building in New Taipei City, after a major earthquake hit Taiwan's east on Wednesday. AFP

quake-prone island, which lies near the junction of two tectonic plates.

The quake was the strongest since one of 7.6-magnitude struck in September 1999, killing

around 2,400 people in the deadliest natural disaster in the island's history.

Wednesday's magnitude-7.4 quake hit just before 8:00 am local time (0000 GMT), with the U.S.

Geological Survey (USGS) putting the epicentre 18 km south of Taiwan's Hualien City, at a depth of 34.8 km.

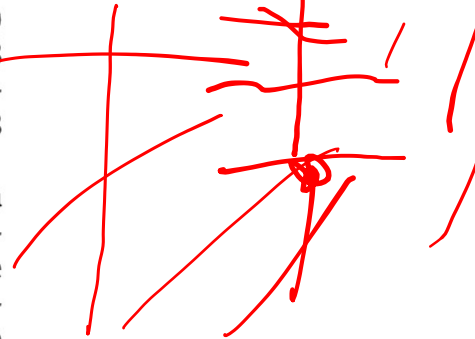
Three people among a group of seven on an early-morning hike were crushed to death by boulders loosened by the earthquake.

Separately, the drivers of a truck and a car died when their vehicles were hit by tumbling rocks, while another man died at a mine quarry. The National Fire Agency did not immediately offer details on the other three deaths, but said all the fatalities had been in Hualien county, adding that 1,011 people had been injured.

Tectonic

earthquake

Epicenter



Jan

Zme 5 - 10.797.

Danox

Moralli

1-12

Capital	Taipei ^{[a][2]} 🌐 25°04'N 121°31'E
Largest city	New Taipei City
Official languages	Standard Chinese ^{[b][5][6][7]}
Official script	Traditional Chinese ^[8]
National languages^[e]	Mandarin ^[c] Hokkien ^{[c][d]} Hakka ^[9] Formosan ^[10] Matsu ^[c] Wuqiu ^[c] Taiwan Sign Language
Ethnic groups (2016)^[12]	95–97% Han 2.3% indigenous ^[f] 0.7–2.7% other
Religion (2020)^[13]	35.1% Buddhism 33.0% Taoism 26.7% no religion 3.9% Christianity 1.3% other
Demonym(s)	Taiwanese ^[14]
Government	Unitary semi-presidential republic ^{[15][16]}
• President	Tsai Ing-wen
• Vice President	Lai Ching-te
• Executive Yuan President / Premier	Chen Chien-jen
• Legislative Yuan President	Han Kuo-yu
• Judicial Yuan President	Hsu Tzong-li

Legislature	Legislative Yuan ^[9]
Establishment	<ul style="list-style-type: none"> Republic of China established 10 October 1911^[h] Taiwan under ROC rule^[i] 25 October 1945 Retreat of ROC to Taiwan 7 December 1949
Area	<ul style="list-style-type: none"> Total 36,197 km² (13,976 sq mi)^{[17][14]}
Population	<ul style="list-style-type: none"> 1 July 2022 estimate = ▲ 23,894,394^[18] (56th) 2010 census 23,123,866^[19] Density 650/km² (1,683.5/sq mi) (17th)
GDP (PPP)	<ul style="list-style-type: none"> Total 2023 estimate ▲ \$1.685 trillion^[20] (20th) Per capita ▲ \$72,485^[20] (15th)
GDP (nominal)	<ul style="list-style-type: none"> Total 2023 estimate ▼ \$751.930 billion^[20] (21st) Per capita ▼ \$32,339^[20] (30th)
Gini (2017)	▲ 34.1 ^[21] medium
HDI (2021)	▲ 0.926 ^{[j][22]} very high (19th)
Currency	New Taiwan dollar (NT\$) (TWD)

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RING OF FIRE

Taiwan is in a seismically active zone ringing the Pacific.
Most of the world's earthquakes happen in this Ring

ALIND CHAUHAN
NEW DELHI, APRIL 3

NINE people were killed and more than 900 injured after Taiwan was hit by the biggest earthquake in at least 25 years on Wednesday morning. Taiwan's earthquake monitoring agency said the magnitude of the quake was 7.2; the US Geological Survey (USGS) put it at 7.4.

The epicentre of the quake was 18 kilometres south-southwest of Hualien County in eastern Taiwan. Multiple aftershocks were experienced, one of which was of 6.5 magnitude, USGS said.

Taiwan lies on the Pacific "Ring of Fire", where 90% of the world's earthquakes take place. The island and its surrounding waters have registered about 2,000 earthquakes of magnitude 4.0 or greater since 1980, and more than 100 earthquakes of magnitude more than 5.5, according to the USGS.

What is the Ring of Fire?

The Ring of Fire is essentially a string of hundreds of volcanoes and earthquake-sites that runs along the fringes of the Pacific Ocean. The horseshoe-shaped ring is nearly 40,250 km long, and traces the meeting points of many tectonic plates, including the Eurasian, North American, Juan de Fuca, Cocos, Caribbean, Nazca, Antarctic, Indian, Australian, Philippine, and other smaller plates that encircle the large Pacific Plate.

The Ring of Fire runs through Pacific coast countries including the US, Indonesia, Mexico, Japan, Canada, Guatemala, Russia, Chile, Peru, and the Philippines.

Why is the Ring of Fire vulnerable to earthquakes?



The earthquakes are triggered as tectonic plates constantly slide past, collide with, or move above or below each other along the ring. The rough edges of the plates get stuck to each other, while the rest of the plate keeps moving. An earthquake occurs when the plate has moved far enough and the edges get unstuck along one of the faults.

The quakes in Taiwan are due to the interaction of two tectonic plates — the Philippine Sea Plate and the Eurasian Plate.

Why are there so many volcanoes in the Ring of Fire?

The volcanoes in the Ring of Fire are also due to the movement of tectonic plates. Many of these volcanoes have been formed through a process known as subduction, which takes place when two plates collide, and the heavier plate is shoved under another, creating a deep trench.

"Basically, when a 'downgoing' oceanic plate [like the Pacific Plate] is shoved into a hotter mantle plate, it heats up, volatile elements mix, and this produces the magma. The magma then rises up through the overlying plate and spurts out at the surface," which leads to the formation of volcanoes, according to a report by DW.

Most of the subduction zones on the planet are located in the Ring of Fire.

horseshoe shaped

— 40,250 km

Living wills implementation lags in India

In early March this year, 30 people in Thrissur in Kerala executed living wills. Living wills have been legal since 2018, when the Supreme Court of India created a process to allow terminally-ill patients, with no hope of a cure, to withhold or withdraw treatment and die with dignity. Since patients may not be able to communicate their wishes for a variety of reasons, including being unconscious or suffering from dementia, living wills allow them to make choices about future medical care. Six years after the judgment, however, the Court's process is unavailable in most of India. Officials remain unlikely to implement the procedure without direct orders and guidance from State governments.



Nihal Sahu
is a lawyer, writer, and research fellow at the Health Justice Centre for Legal Policy, New Delhi.

When the Court created the process, it was unworlably complex. As the Court worried that "unscrupulous persons who wish to inherit or otherwise grab the property of the patient" might abuse the process, it created elaborate bureaucratic procedures as safeguards. One particular requirement — that living wills must be countersigned by a judicial magistrate — was too much of a burden. Predictably, few living wills were executed in the first five years after the judgment. In January 2023, the Court recognised that requiring a judge to countersign each living will "impaired, if not completely defeated, the objectives of its judgment, and streamlined the procedure."

Under the streamlined procedure, living wills have to be signed in the presence of two witnesses, attested before a notary or a gazetted officer, and handed over to a "competent officer" — the local government who will act as a custodian. If the patient becomes terminally ill and does not have decision-making capacity, the treating doctor is to authenticate the living will against the copy held with the custodian or against digital health records, if

any. However, local governments have not generally designated custodians for living wills, nor are they likely to. In Maharashtra, a public interest litigation had to be filed in the High Court of Bombay, with the result that Maharashtra appointed 417 custodians across the State recently. As for digital health records, the National Health Authority is yet to produce a protocol that will allow living wills to be authenticated through digital health records.

Making a living will does not automatically imply that it will be given effect. The guidelines require that the decisions on withholding or withdrawing treatment are certified first by a primary medical board and then confirmed by a secondary medical board. The secondary board must have a doctor nominated by the chief medical officer. Practically, this means that hospitals cannot have secondary medical boards unless the chief medical officer has nominated a doctor in the hospital where you are a patient. As a consequence, terminally-ill patients — that living wills have made living wills — may not be able to make critical decisions about medical care.

It is not difficult to imagine why this is. Officials are often disoriented, like many of us, by the subjects of death, mortality, and the right to die with dignity, our subject is strange and unfamiliar. The guidelines are sometimes ambiguous, and the stakes are high. For example, the Supreme Court requires the primary medical board, if the patient does not have a living will, to obtain the written consent before the doctor for withdrawing/withholding treatment.

But Indian law does not have a clear definition for "next of kin". When family members disagree about the best course of action, the law does not provide a clear answer about whose decision finally governs. They are bound to argue in the absence of a clear

legal commandment. Officials will not be eager to issue orders, at their own risk, for the implementation of a Supreme Court judgment on such a sensitive subject. They will want a direct order from their superiors and a detailed process created by the State government before proceeding. They do not seek discretion. They want to anchor the policy to a rock.

And, similarly, State governments are reluctant to wade in; the area is complex and requires attention from medical and legal experts. Last year, Haryana issued directions to civil surgeons across the State to follow the judgment but did not offer essential guidance or protocols on how to implement it. A more thorough approach is being followed in Odisha, where the State government has formed a committee of experts to consider detailed draft orders for implementing the judgment. More States, hopefully, will follow suit.

The Central government can bridge the gap in expertise by developing and publishing model orders and protocols which can provide State governments the confidence and the guidance to effectively implement the judgment. Officials are project started with such a bang in 2014 when the Telugu Desam Party (TDP) came to power but five years down the line, it remains with a whimper as Mr. Reddy had a different plan of "three capitals", which he pursued till these years.

That the construction of the capital city needed at least 10,000 acres was the official stand taken by him when he was the leader of the Opposition. But then for the sake of political expediency or perhaps a more justifiable reason, he changed his tack, thereby giving Amravati into oblivion but with a promise to develop it as the "Legislative Capital".

Legal battles and political tensions

A.P. CMs proposal to shift the capital from Amaravati has sparked controversy

STATE OF PLAY

Y. Raghavachandra
yraghavendra.v@thehindu.co.in

Andhra Pradesh Chief Minister Y. S. Jagan Mohan Reddy's proposal to shift the capital from Amravati to Visakhapatnam in the name of decentralisation had come as a bolt from the blue for the thousands of farmers who visualised a global city taking shape on the multi-cropped lands given by them under the much hyped Land Pooling Scheme.

They were, for obvious reasons, gushing with exuberance over N. Chandrababu Naidu's "dream project" of a greenfield "people's capital" modelled on the lines of some of the world's great cities like Singapore.

Ironically, the Singapore government played a significant role in designing the model orders and protocols which can provide State governments the confidence and the guidance to effectively implement the judgment. Officials are project started with such a bang in 2014 when the Telugu Desam Party (TDP) came to power but five years down the line, it remains with a whimper as Mr. Reddy had a different plan of "three capitals", which he pursued till these years.

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ANDHRA PRADESH

comprising the Legislative Council and Assembly, while shifting the CMO, the Secretariat and offices of Heads of Departments to Visakhapatnam (executive capital) and the High Court to Kurnool (judicial capital).

The land-givers challenged the Andhra Pradesh Decentralisation and Inclusive Development of All Regions Act, 2020 in the courts and a protracted legal battle waged by them since then ended on a positive note with the Andhra Pradesh High Court ruling on March 3, 2022 that the State government lacked the legislative competence to shift or even split the capital and that Amravati should be developed as the single capital city. But their happiness was short-lived as the State challenged the High Court judgment by filing a Special Leave Petition in the Supreme Court. There are also a slew of contempt petitions to be decided by the apex court.

Meanwhile, the debate is still raging outside the legal realm as the ruling YSR Congress Party (YSRCP) is bent on giving the "three capitals" a tangible shape, if it retains power subject, of course, to the outcome of the cases being looked into by the Supreme Court.

The TDP took it as a prestige issue having promised to build a world class capital city

but the situation became topsy-turvy after Mr. Jagan Mohan Reddy took the reins. The issue had already inflamed a lot of bad blood between the YSRCP and the TDP while the BJP had been saying that the capital should not be shifted to Visakhapatnam but the High Court could be moved to Kurnool. This is seen as a dubious stand taken by the BJP, which has said that the Centre "notified" Amravati as the capital, and remained non-committal beyond that position.

The TDP has argued that Mr. Jagan Mohan Reddy's idea of decentralisation is driven by his political objectives and vowed to start rebuilding Amravati if people vote for this time around.

'Failed experiment'
On his part, Mr. Jagan Mohan Reddy kept the issue alive, rather, he ensured that the "three capitals" was a failed experiment. He is pertinent to mention that the TDP and the Jana Sena Party (JSP) have been saying that the "three capitals" was a failed experiment. He is pertinent to mention that the TDP and the Jana Sena Party (JSP) have been saying that the "three capitals" was a failed experiment.

The mega Amravati project from South Africa which tried Pretoria, Cape Town and Bloemfontein as the executive, legislative and judicial capitals, Mr. Naidu and some of the Ministers in his Cabinet faced serious allegations of 'insider trading' of land in Amravati. Eventually, criminal cases were booked against them which, Mr. Naidu and others argued, was nothing but a "cover-up" of the "insider trading" of land in Amravati.

On the flip side, whether it will yield electoral dividends for the YSRCP or the TDP-BJP combine and the turn it is likely to take after the elections are for anyone to hazard a guess.

FROM THE ARCHIVES

The Hindu

FIFTY YEARS AGO APRIL 4, 1974

'River awards outside Supreme Court purview'

New Delhi, April 3: A Constitution Bench of the Supreme Court has permitted the State of Karnataka (petitioner) to withdraw its special leave petition filed in the court against the award of the Krishna Waters Tribunal.

The Tribunal had, in its awards, directed that the distribution of the waters of the Krishna and its tributaries, among Karnataka, Maharashtra and Andhra Pradesh was limited to 75 per cent of the "dependable flows" and had determined 2, 060 tmc feet, during a water year on the basis of the agreement of the parties. Of this total availability, the Tribunal had allocated 100 tmc feet to Andhra Pradesh, 695 tmc feet to Karnataka and 365 tmc feet to Maharashtra.

According to the petitioner, the Tribunal had allocated water to Maharashtra and Andhra Pradesh keeping intact the existing utilisations without recording a finding whether the interests of Karnataka were or were likely to be affected prejudicially as required by the Inter-State Water Disputes Act and without further finding as to the optimum use to which the water might be put.

Mr. C. K. Daphary, former Attorney-General, who argued for the petitioner State, contended that the jurisdiction of the Supreme Court to entertain an appeal under Article 136 of the Constitution (special leave jurisdiction) against a decision of an Inter-State Water Tribunal was barred only in respect of a "water dispute" within the meaning of Inter-State Water Disputes Act.

Counsel said the jurisdiction of the Supreme Court under Article 136 was not ousted because of Article 152 (adjudication of disputes relating to waters of Inter-State rivers or river valleys, etc.)

A HUNDRED YEARS AGO APRIL 4, 1924

Trichy-Villupuram line.

Trichinopoly, April 3: In the final list of railway stations sanctioned for the Trichy-Villupuram line, two more new stations have been added at the 51st mile between Pennadam and Sendarai, a flag station will be opened at Marur and at mile 62 between Sendarai and Ariyalur. There will be a station at Kuttur. At mile 100.5, the proposed station will be named Bilsbandarkoil instead of Kuthur between Srirangam and Salgudi.

How firms without profits donated through bonds

An analysis reveals that at least 45 companies that donated electoral bonds to the ruling BJP have suspect funding sources

DATA POINT

Prasanna Bose
The Hindu Data Team

At least 45 companies that donated electoral bonds to various political parties, and whose financials could be matched with data from the CMIE (Prossess IQ Database) are found to be suspect based on a joint analysis by The Hindu and an independent research team. These 45 companies are subdivided into four categories (A, B, C & D). 33 companies donated an aggregate sum of ₹576.2 crore in ESIs, out of which ₹434.2 crore (nearly 75%) was encashed by the BJP. These companies had negative or near zero profit after tax in aggregate over seven years, from 2016-17 to 2022-23. The aggregate net losses of these 33 companies were over ₹1 lakh crore. 16 out of these 33 companies (category A) paid zero or negative direct taxes in aggregate. That these loss-making companies made such substantial donations indicate they might be acting as fronts for other firms or have misreported their profits and losses — raising the possibility of money laundering.

Six companies donated a total of ₹64.6 crore, out of which ₹60.1 crore (93%) was encashed by the BJP. They had positive net profits in aggregate from 2016-17 to 2022-23, but the amounts donated through ESIs exceeded their aggregate net profit significantly. These companies (category B) could also have acted as fronts for other companies or have misreported their profits and losses.

Three companies donated an aggregate sum of ₹193.6 crore, out of which ₹28.3 crore (around 15%) was encashed by the BJP. The remainder, the Congress received ₹165.3 crore (47%), the Trinamool - ₹45.9 crore & 24%, BJS and BJP - ₹10 crore, close to 5% each, and the AAP - ₹7 crore & 3.6%. These three companies had positive net profits but reported negative direct taxes

Losses no bar

Electoral bond donations by firms, their net profits, direct taxes and share of bonds donated to the ruling party

Rank	Company name	Total amount of electoral bonds purchased ₹ Cr	Share of electoral bonds donated to BJP %	Sum of net profits, FY17 to FY23 ₹ crore	Sum of direct taxes paid, FY17 to FY23 ₹ crore
CATEGORY A: SUM OF NET PROFITS, 2016-2017 TO 2022-2023 = 0 (POSITIVE CONTRIBUTION WITH ZERO PROFIT/NET LOSS)					
1	Harvi Export Ltd.	100	100	0	0
2	Dharwad Infrastructure Ltd.	13.5	21.7	0	0
3	S.P. Finance Pvt. Ltd.	100	100	0	0
4	D.L.F. Luxury Homes Ltd.	25	100	0	0
5	S.P. Development Pvt. Ltd.	100	100	0	0
6	S-D Corporation Pvt. Ltd.	100	100	0	0
7	Egga Pharma Specialities Ltd.	100	100	0	0
8	Motion Enterprise Medical Pvt. Ltd.	100	100	0	0
9	Sarvesh Envor Engg. Buildcon Pvt. Ltd.	100	100	0	0
10	Shree Infracon Pvt. Ltd.	100	100	0	0
11	Bright Star Invest. Pvt. Ltd.	100	100	0	0
12	Chandrababu Estates and Developments Pvt. Ltd.	100	100	0	0
13	Puggalur Properties Pvt. Ltd.	100	100	0	0
14	Prerna Capital & Housing Finance Ltd.	100	100	0	0
15	Prerna Constructions Ltd.	100	100	0	0
16	Solvayam Properties Ltd.	100	100	0	0
17	Greenways Properties Pvt. Ltd.	100	100	0	0
18	Warora-Chandrababu-Balajiappan Tollroad Ltd.	7	100	0	0
19	Central South Delhi Pvt. Ltd.	100	100	0	0
20	Village De Nandiv Pvt. Ltd.	100	100	0	0
21	Ush Kablin Ltd.	66.7	100	0	0
22	Omkar Realtors & Developers Pvt. Ltd.	4.5	66.7	0	0
23	Equinox Lanes Sports Pvt. Ltd.	100	100	0	0
24	Andhra Electricals Pvt. Ltd.	100	100	0	0
25	S.N.S. Clothing Pvt. Ltd.	2	100	0	0
26	Chowdhury Co. Pvt. Ltd.	100	100	0	0
27	Garrison Dumberry & Co. Ltd.	1.5	100	0	0
28	Leisure Pvt. Ltd.	100	100	0	0
29	J.N.S. Instruments Ltd.	1	100	0	0
30	Parvathi Housing Ltd.	100	100	0	0
31	Ashant Enterprises Ltd.	0.4	100	0	0
32	Genico Industries Pvt. Ltd.	0.2	75	0	0
33	Neelika Investment Services Ltd.	0.2	38	0	0
TOTAL		693.7	74.7	0	0
CATEGORY B: DONATION AMOUNT HIGHER THAN SUM OF NET PROFITS, 2016-17 TO 2022-23					
1	Govt Supply Chain Pvt. Ltd.	510	91.5	144.3	62.45
2	Mediantia Ltd.	180.5	100	0	0
3	Neer Devices Pvt. Ltd.	35	100	28.85	14.99
4	A.R.S. Investment Ltd.	35	100	0	0
5	Prasanti Enterprises Ltd.	15.5	100	0	0
6	Shree Krishna Infrastructure Ltd.	10	100	0	0
TOTAL		646	93	173.15	77.44
CATEGORY C: DONATION AMOUNT POSITIVE BUT SUM OF DIRECT TAXES, 2016-17 TO 2022-23 = 0 (ZERO OR NEGATIVE DIRECT TAXES)					
1	M.R. Enterprises Pvt. Ltd.	152.4	14	60.33	105.62
2	Central Highway Motors Pvt. Ltd.	10	100	0	0
3	A.B.C. India Ltd.	0.4	100	0	0
TOTAL		162.8	14	60.33	105.62
CATEGORY D: NO DATA ON PROFITS OR TAXES AVAILABLE					
1	Harvi Export Ltd.	100	100	NA	NA
2	Prerna Trading Co. Ltd.	100	100	NA	NA
3	Shree Suspension Systems Ltd.	0.8	100	NA	NA
TOTAL		200.8	100	NA	NA
(Grand total 45 companies)		1,437.9	74.3	173.15	77.44

NA: No information available

How firms without profits donated through bonds

An analysis reveals that at least 45 companies that donated electoral bonds to the ruling BJP have suspect funding sources

DATA POINT

Prasenjit Bose
The Hindu Data Team

The sources of funds of at least 45 companies that donated electoral bonds to various political parties (and whose financials could be matched with data from the CMIE Prowess IQ Database) are found to be suspect based on a joint analysis by *The Hindu* and an independent research team. These 45 companies are subdivided into four categories (A, B, C & D). 33 companies donated an aggregate sum of ₹576.2 crore in EBs, out of which ₹434.2 crore (nearly 75%) was encashed by the BJP. These companies had negative or near zero profit after tax in aggregate over seven years, from 2016-17 to 2022-23. The aggregate net losses of these 33 companies were over ₹1 lakh crore. 16 out of these 33 companies (category A) paid zero or negative direct taxes in aggregate. That these loss-making companies made such substantial donations indicates they could be acting as fronts for other firms or have misreported their profits and losses – raising the possibility of money laundering.

Six companies donated a total of ₹646 crore, out of which ₹601 crore (93%) was encashed by the BJP. They had positive net profits

in aggregate from 2016-17 to 2022-23. Such companies (category C) could have engaged in tax evasion.

Three companies (category D) donated a total of ₹16.4 crore in EBs, out of which ₹4.9 crore (around 30%) was encashed by the BJP and the rest by the Congress (58%), Akali Dal and JD(U), 6.1% each. These three companies had no reported data on net profits or direct taxes paid for the entire seven-year period which raises the question of whether the donors were shell companies that were involved in money laundering.

Internal communications between the RBI and the Finance Ministry brought to light the central bank's doubts regarding the EB scheme since its inception. In a letter to a Finance Ministry official dated January 30, 2017, the Chief General Manager of the RBI wrote: "Even the intended purpose of transparency may not be achievable, as the original buyer... need not be the actual contributor to a political party. The bonds are bearer bonds and are transferable by delivery. Hence, who finally... contributes the bond to the political party will not be known. While the person/entity buying the bearer bond will be as per [KYC] parameters, the identities of the intervening persons/entities will not be known. Thus... the spirit of the Prevention of Money Laundering Act (PMLA) 2002 [is] affected."

Losses no bar

Electoral bond donations by firms, their net profits, direct taxes and share of bonds donated to the ruling party

Rank	Company name	Total amount of electoral bonds purchased ₹ cr ₹ crore	Share of electoral bonds donated to BJP (%)	Sum of net profits, FY17 to FY23 ₹ crore	Sum of direct taxes paid, FY17 to FY23 ₹ crore
CATEGORY A: SUM OF NET PROFITS, 2016-2017 TO 2022-2023 <= 0 (POSITIVE DONATION WITH ZERO PROFIT/NET LOSS)					
1	Bharti Airtel Ltd.	198	99.7	-76954.7	-8250
2	Dhariwal Infrastructure Ltd.	115	21.7	-299	0
3	S E P C Power Pvt. Ltd.	40	12.5	-147.9	0.8
4	D L F Luxury Homes Ltd.	25	100	-128.2	-19.3
5	P R L Developers Pvt. Ltd.	20	50	-1550.5	-4.7
6	S D Corporation Pvt. Ltd.	17	100	-10.4	26.4
7	Eugia Pharma Specialities Ltd.	15	100	-28.9	-7.2
8	Mytrah Energy (India) Pvt. Ltd.	19	52.6	-86.8	-126.3
9	Satec Envir Engg. (India) Pvt. Ltd.	12	100	-146.4	-1.6
10	Athena Infrastructure Ltd.	10	100	-198.6	70
11	Bright Star Invsts. Pvt. Ltd.	10	100	-492.5	110.5
12	Chandrajyoti Estate Developers Pvt. Ltd.	10	100	-22.3	1.1
13	Pegasus Properties Pvt. Ltd.	10	100	-91.3	17.1
14	Piramal Capital & Housing Finance Ltd.	10	100	-16376.6	-5178.5
15	Selene Constructions Ltd.	10	100	-52.4	15.3
16	Sylvanus Properties Ltd.	10.5	100	-278.6	80.3
17	Greenko Energy Projects Pvt. Ltd.	8	100	-120.3	12.7
18	Warora-Chandrapur-Ballarpur Tollroad Ltd.	7	100	-4.6	4.9
19	Oriental South Delhi Hotels Pvt. Ltd.	5	100	-49.1	0
20	Village De Nandi Pvt. Ltd.	5	100	-48	0
21	U M Cables Ltd.	4.5	88.9	-19.4	8.3
22	Omkar Realtors & Developers Pvt. Ltd.	4.5	66.7	-1560	9.3
23	Taquito Lease Operators Pvt. Ltd.	4	100	-167.4	-0.2
24	Arvind Beauty Brands Retail Pvt. Ltd.	3	100	-111.7	-13.2
25	S N S Clothing Pvt. Ltd.	2	100	-0.7	0.1
26	Chowgule & Co. Pvt. Ltd.	2	85	-413.9	128.5
27	Gannon Dunkerley & Co. Ltd.	1.5	100	-121.9	-42.1
28	Inox Leisure Ltd.	1	100	-283.5	-17.1
29	J N S Instruments Ltd.	1	100	-35	0
30	Panacea Biotec Ltd.	1	100	-466.6	53.3
31	Arihant Enterprises Ltd.	0.4	100	-0.3	0
32	Dempo Industries Pvt. Ltd.	0.2	75	-1.9	6.7
33	Geojit Investment Services Ltd.	0.1	25	-3.48	0.64
	TOTAL	581.7	74.7		

	TOTAL	2017	17.1		
CATEGORY B: DONATION AMOUNT HIGHER THAN SUM OF NET PROFITS, 2016-2017 TO 2022-2023					
1	Qwik Supply Chain Pvt. Ltd.	410	91.5	144.1	62.45
2	Madanlal Ltd.	185.5	94.6	2.07	-3.11
3	Nexg Devices Pvt. Ltd.	35	100	28.85	14.99
4	A B N L Investment Ltd.	10	100	8.97	4.69
5	Pragati Enterprises Ltd.	3.5	100	0.02	0
6	Shree Krishna Infrastructure Ltd.	2	100	0.16	0.04
	TOTAL	646	93		

**CATEGORY C: DONATION AMOUNT POSITIVE BUT SUM OF DIRECT TAXES, 2016-17 TO 2022-23 <= 0
(ZERO OR NEGATIVE DIRECT TAXES)**

1	M K J Enterprises Ltd.	192.4	14	60.33	-10.62
2	Patel Highway Mgmt. Pvt. Ltd.	1	100	24.86	-1.53
3	A B C India Ltd.	0.4	100	11.85	-2.24
	TOTAL	193.8	14.6		

CATEGORY D: NO DATA ON PROFITS OR TAXES AVAILABLE

1	Bharti Infratel Services Ltd.	12	16.7	NA	NA
2	Kamal Trading Co. Ltd.	3.5	57.1	NA	NA
3	Jai Suspension Systems Ltd.	0.9	100	NA	NA
	TOTAL	16.4	29.9		
	Grand total (45 companies)	1437.9	74.3		

NA: No information available

BUSINESS AS USUAL



CHHATTISGARH Cong leader's call for violent method to counter Modi kicks up row



Charan Das Mahant, Leader of Opposition in Assembly

JAYPRAKASH S NAIDU RAIPUR, APRIL 3

CHHATTISGARH CONGRESS Leader Charan Das Mahant, Leader of Opposition in the Assembly and a former Union Minister of State, is at the centre of a storm over his remarks that a "sticker wedding" person who can "break Modi's head" is needed to take on the Prime Minister.

Campaigning for Rajnandgaon Congress candidate and former Chief Minister Bipush Bahgeth on Tuesday, Mahant, speaking in Chhattisgarh and sharing the stage with Bahgeth, said, "You need him to stand up for farmers, youngsters, women. A protector is needed who wields a stick (lathi). Narendra Modi ke khilaf agar koi lathi dhar ke khade ho vohar hat to rehne sambad kharo hosakar hat. Hamako lathi dharayo sandi chahye."

Narendra Modi ke mur ghirona admi chahye... aur mat din tang karke. Bolo Chh behjne wala admi chahye. There is someone who can stand against Modi with a lathi, it is this parliamentarian (Bahgeth). We need a stick-wielding man. Someone who can break Modi's head. Someone who can trouble him day and night and send him to China."

Mahant's remarks drew a sharp response from Chief Minister Vishnu Deo Sai who, in a post on X, said, "The Congress mindset thinks of hitting Prime Minister Narendra Modi with a stick."

CONTINUED ON PAGE 2

INSIDE

BOXER VIJENDER SINGH LEAVES CONGRESS FOR BJP EC REVIEWS LAW & ORDER SITUATION AHEAD OF ELECTIONS

APRIL 3

NEW DELHI, APRIL 3

EIGHT YEARS ago, a same-sex couple in Delhi had a daughter through surrogacy. But when they chose to have another child this year, hoping to complete the picture of an ideal family, the law had changed. They realised that they could not have a local surrogate as before and had to find one from within their circle of family and friends. What's more,

AFTER 6 MONTHS IN CUSTODY, RELEASED FROM TIHAR JAIL. Out on bail, AAP's Sanjay Singh: Time to struggle... Jail ka jawab vote se



AAP MP Sanjay Singh after being released from Tihar jail in New Delhi on Wednesday. Tushar Baghel

What if Opposition-ruled states file cases, will Modi, Shah join probe, he asks

NEW DELHI, APRIL 3

AS HE walked out of Tihar Jail Wednesday evening, AAP Rajya Sabha MP Sanjay Singh had two messages for his party and supporters: "This was not a time to celebrate, but struggle (Jashn manane ki wagt nahi aaye hai, sangharsh ki wagt hai)"; and the word would be the people's response to the jailing of the party leadership ("Jail ka jawab janata vote se dega").

Singh's first stop after his release — a day earlier he had been granted bail by the Supreme Court following his arrest six months ago in the Delhi excise policy case — was the house of Chief Minister Arvind Kejriwal, currently in Tihar. Stepping out of the car, Singh touched the feet of Kejriwal's wife Surita and spoke to her.

From there, he headed to the AAP office where, addressing a large crowd, he promised to take the fight to the BJP, and ensure his jailed colleagues walk free. Launching a frontal attack on

the BJP leadership, Singh asked if the law would be any different for Prime Minister Narendra Modi — this was hours after the Enforcement Directorate, opposing Kejriwal's plea against his arrest and remand, told the Delhi High Court that a Chief Minister who has "committed a heinous crime" cannot claim immunity.

"You say that the aam aadmi and a Chief Minister are equal. Will the law be different for Prime Minister Modi? Does he get any exemption?" he asked. Warning the BJP that several states in the country are still

ruled by non-NDA parties, Singh said, "Tomorrow, if a case is registered in Mohali, two inspectors (daroga) come from there; if a case is registered in Jharkhand, and three inspectors come from there; a case is registered in Tamil Nadu and five inspectors come from there; and in West Bengal, our Mamata didi registers five cases and 10 inspectors come." The inspectors from Mohali and Bopal will go and ask "is Narendra Modi at home?" Tell me, will the Prime Minister of the country go to a court? CONTINUED ON PAGE 2

Can't commit crime, then cite polls for immunity: ED on Kejriwal

MALAVIKA PRASAD NEW DELHI, APRIL 3

OPPOSING CHIEF Minister Arvind Kejriwal's plea against his arrest in the Delhi excise policy case and subsequent remand in custody, the Enforcement Directorate told the Delhi High Court Wednesday that "criminals, underlings have no business to say that they will commit the crime and get immunity on the grounds that elections are coming".

ED's submissions were countered by Kejriwal's counsel and the High Court, after hearing the matter for around four hours, reserved its verdict. Appearing for the ED before the single-judge bench of Justice Swaminathan K. Sharma, Additional Solicitor General SV Raju said "suppose a political person commits a murder just two days before the elections. He is arrested by the State Structure of the Constitution is not to be applied in these cases. Criminals are supposed to be arrested and put in jail. If they are arrested and put in jail, there is no infringement of Basic Rights." CONTINUED ON PAGE 2

BISHOPS' CONFERENCE Recite Preamble, don't force Christian traditions: Catholic body to its schools

Cites 'emerging challenges due to social, religious, political situation'

R RADHIKA NEW DELHI, APRIL 3

RESPECT ALL faiths and traditions, don't force Christian traditions on students of other religions, have students recite the Preamble to the Constitution during the daily morning Assembly, and set up an "inter-religious prayer room" on school premises. These are some of the major suggestions made by the Catholic Bishops' Conference of India (CBI) to all educational institutions under its jurisdiction to help address "emerging challenges due to the current socio-cultural, religious, and political situation" in the country.

The CBI is the apex decision-making body representing the Catholic community in India. Under its aegis, are approximately 14,000 schools, 650 colleges, seven universities, five medical colleges and 450 technical schools and institutions. These suggestions are part of a 12-page document issued by the

CBI's Office for Education and Culture Monday, following the 35th General Body Meeting of the CBI in January in Bengaluru, where one of the central themes discussed was the Church's response to the current socio-political situation in the country.

Issued for the first time, these guidelines have been introduced against the backdrop of recent attacks and protests against principals and staff of educational institutions run by the Christian community.

The most recent incident took place in February when a group of Bajrang Dal activists staged a protest after a teacher of a private Christian missionary run school in Tripura allegedly prohibited a student from wearing the Hindu symbol and conch shell.

The same month, a radical Hindu group in Assam gave Christians seven days to leave a 15-day ultimatum to remove all Christian symbols and religious habits worn by priests, nuns, and brothers.

CONTINUED ON PAGE 2

DECISION 2024 RAHUL GANDHI FILES NOMINATION PAPERS FROM WAYANAD

MEHBOOBA FITCHES PFP AGAINST INC IN VALLEY PAGE 8

Sanjay Nirupam expelled from Congress, set to join Shinde-led Sena faction

ALOK DESHPANDE & SHUBHANGI KHAPRE MUMBAI, APRIL 3

THE CONGRESS expelled Sanjay Nirupam, its former Mumbai chief, for six years on Wednesday, days after he gave a "one-week ultimatum" to the party over the Mumbai North West seat. Sources close to Nirupam said that he is set to join the Shiv Sena led by Chief Minister Eknath Shinde.

Citing "complaints of discipline and anti-party statements" to the Congress, in a late night statement, said Nirupam was being expelled for "undermining the party's unity and integrity".

Following the expulsion, Nirupam said he would be "returning to the market to sell fish through his firm only. He also threatened to shut his business."

CONTINUED ON PAGE 2

Near Kutch Harappan graveyard, a skeleton & the key to a puzzle

Excavation site at Padta Bet (Gujarat). Prof Rajesh SV, Alibaug CS

SOHINI GHOSH & GOPAL KATESHIYA AHMEDABAD, GUJARAT, APRIL 3

A HUMMAN skeleton, degraded and in a flexed posture, found on the slope of a hillock in Gujarat village could hold the key to a mystery that is puzzling a team of archaeologists.

In 2018, archaeologists from the University of Kerala, working in collaboration with Krantiguru Shyamji Kothna Varma Kachchh University, Bhuj, had unearthed a mass burial site with 500 graves on the outskirts of Khatiyava village in Gujarat's Kutch

district. The question then was: whose graves are these? Was this a mass grave?

CONTINUED ON PAGE 2

NCERT CHANGES Class 12 history book tweaked: Harappans indigenous, no Aryan clarity

RETIKA CHOPRA NEW DELHI, APRIL 3

FROM THE assertion that recent studies of ancient DNA obtained from archaeological sites at Rakhigarhi, an Indus Valley site in Haryana, rule out Aryan immigration to the region, these changes are part of the revision and updating of history textbooks undertaken by NCERT for the academic year 2024-25, which were recently communicated to the Central Board of Secondary Education (CBSE).

NCERT, which advises the Union government on school education, is the apex body tasked with drafting school textbooks used by more than four crore students annually.

CONTINUED ON PAGE 2

ED details how TMC's Shahjahan 'used fishery firm to launder crores'

ATRI MITRA KOLKATA, APRIL 3

LAND GRABBING, laundering money through his fishery business, and creating an atmosphere of fear and intimidation, these figures among submissions made by the Enforcement Directorate (ED) in court while seeking custody of suspended Trinamool Congress (TMC) leader Sheikh Shahjahan.

According to the ED's submissions, made as part of its

anything between \$200,000 (approximately Rs 2 crore) and \$700,000 (approximately Rs 7 crore). Some couples prefer Mexico, Colombia and Argentina, considering them safe for the LGBTQ community. Besides, the costs in Latin America are halved compared to what they charge in the US. In Georgia, the costs range between \$40,000 (approximately Rs 34 lakh) and \$60,000 (approximately Rs 50 lakh), and in South American countries, the entire procedure can be wrapped up in \$75,000 (approximately Rs 64 lakh).

The domestic surrogacy law has a slew of conditions that

Home Ministry cancels registration of five NGOs for 'violation' of FCRA

EXPRESS NEWS SERVICE NEW DELHI, APRIL 3

THE UNION Home Ministry has cancelled the registration of at least five non-governmental organisations (NGOs) under the Foreign Contribution (Regulation) Act (FCRA) for alleged violation of various provisions, sources said Monday.

"With the cancellation of their FCRA registration, these NGOs will no longer be able to receive foreign contributions nor utilise the existing available funds," sources said.

The five NGOs are: Voluntary Health Association of India, CNS Synodical Board of Social Services, Indo-Global Social Service Society, Church's Auxiliary for Social Action, and Evangelical Fellowship of India.

None of the NGOs were available for comment. According to sources, the NGOs face action for allegedly utilising funds for works that were not in their mandate. The NGOs violated the laws by being involved in activities that are contrary to the provisions of FCRA, they said.

The Voluntary Health Association of India (VHAI), set up in 1970, is a federation of 27 State Voluntary Health Associations, linking more than 4,500 health and development institutions across the country, according to its website.

Services is the development and health care of the people of North India (CNI). CNI SBSS was formed as a response of the Church to the whole question of poverty and related social justice issues. CONTINUED ON PAGE 2

Sheikh Shahjahan was arrested on Feb 29

PMLA (Prevention of Money Laundering Act) against him. "Shahjahan and others... had created an atmosphere of terror and intimidation in the region of giving threats to injury, murder, attempt to murder, extortion, etc. and also grabbed land

of the general public and obtained illegal monetary gains/benefits."

According to the agency, Shahjahan ran a fishery company named Sabina in West Bengal's Sandeshkhali. The agency, which questioned the company's manager, submitted: "In 2019, Shahjahan conducted a meeting in Shahjahan market where he threatened all fish farmers in the market to sell fish through his firm only. He also threatened to shut his business."

Advertisement for SURROGACY IN INDIA. Who can access it? Married couples with medical conditions that makes conception impossible. Widows or divorcees aged 35-45 years, but they need to use their own eggs. Who can't access it? Single persons. Low-income couples. LGBTQ couples.

Restricted by surrogacy laws, Indians are going abroad to become parents

even couples with children of their own, all of whom are hemmed in by the Surrogacy Regulation Act of 2021 from becoming parents through the commercial route. The law in its current form allows only altruistic surrogates, that too with several conditions.

The number of would-be parents seeking surrogacy overseas has been consistently rising over the past year, with the US and Canada figuring high among those who will enter the European and Latin American countries are draws among those looking for budget options.

"A surrogacy in the US costs

whom may have had their first child biologically and are more cost-conscious, go to Georgia. Some couples prefer Mexico, Colombia and Argentina, considering them safe for the LGBTQ community. Besides, the costs in Latin America are halved compared to what they charge in the US. In Georgia, the costs range between \$40,000 (approximately Rs 34 lakh) and \$60,000 (approximately Rs 50 lakh), and in South American countries, the entire procedure can be wrapped up in \$75,000 (approximately Rs 64 lakh).

The domestic surrogacy law has a slew of conditions that

would-be parents are finding cumbersome. Under the law, which has been amended a few times, straight couples, widows or a divorcee between 35 and 45 years of age can avail surrogacy only if they have a medical condition. "Once they have the condition, they need to find a volunteer who will carry their baby to full term for the cost of approximately Rs 4 lakh and insurance," says Dr Ranjane Parvathani, an Apollo Fertility in Chennai.

The law also requires that if they pay the surrogate, "the altruistic law has turned many families into members of the underground economy."

CONTINUED ON PAGE 2

Path to Viksit Bharat: why India should target per capita, not aggregate GDP

HARISH DAMODARAN
NEW DELHI, APRIL 3

BACK IN 1990, China's per capita GDP was below India's, and its overall GDP was only 23% higher. That year, China and India were the world's 11th and 12th largest economies by nominal GDP (at prevailing dollar-converted prices without adjusting for inflation).

China's real GDP (in constant inflation-adjusted US dollars) grew by an average of around 10% per year in the 1990s and 2000s. By 2010, it had become the world's second biggest economy, with a nominal GDP of \$6.1 trillion — 15.4 times the 1990 level.

India's real GDP grew much slower — by 5.8% in the 1990s and 6.3% in the 2000s. At the end of 2010, India's nominal GDP, at \$1.7 trillion, was 5.2 times its 1990 level. Its world ranking in terms of economic size was No. 9.

The China decades

The charts show the per capita and overall GDP of the two countries. In 1990, China's economy was just over 1.2 times India's; it

became 3.6 times and 5.3 times in 2010 and 2022 respectively.

The 1990s and 2000s were China's decades. The size of its economy in 2010, measured by nominal GDP, was larger than that of the US in 1990. Since 2010, China's annual growth has eased to an average of 7%, and to 5.3% in the five years ended 2022. But the sustained double-digit growth of the 1990s and 2000s, and of 7.7% in the decade that followed, led to China's per capita GDP crossing \$10,000 by 2019.

EXPLAINED ECONOMICS

In 2022, China's economic size, at \$18 trillion, was more than that of the US in 2014. At current growth rates, China could replace the US (\$25.4 trillion GDP in 2022) as the world's largest economy by the early to mid-2030s.

Where India stands

India, on the other hand, has seen its real GDP growth in dollar terms fall to an average of 5.9% during 2010-22 and 5.7% for the nine years from 2014 when the Narendra Modi government came to power.

While India's nominal GDP, at \$3.4 trillion in 2022, is just short of China's in 2007,

India has been a relative growth underperformer. Even the improvement in its overall GDP ranking from No. 10 to No. 5 between 2013 and 2022 has come on the back of a not-so-high average annual growth of 5.7%.

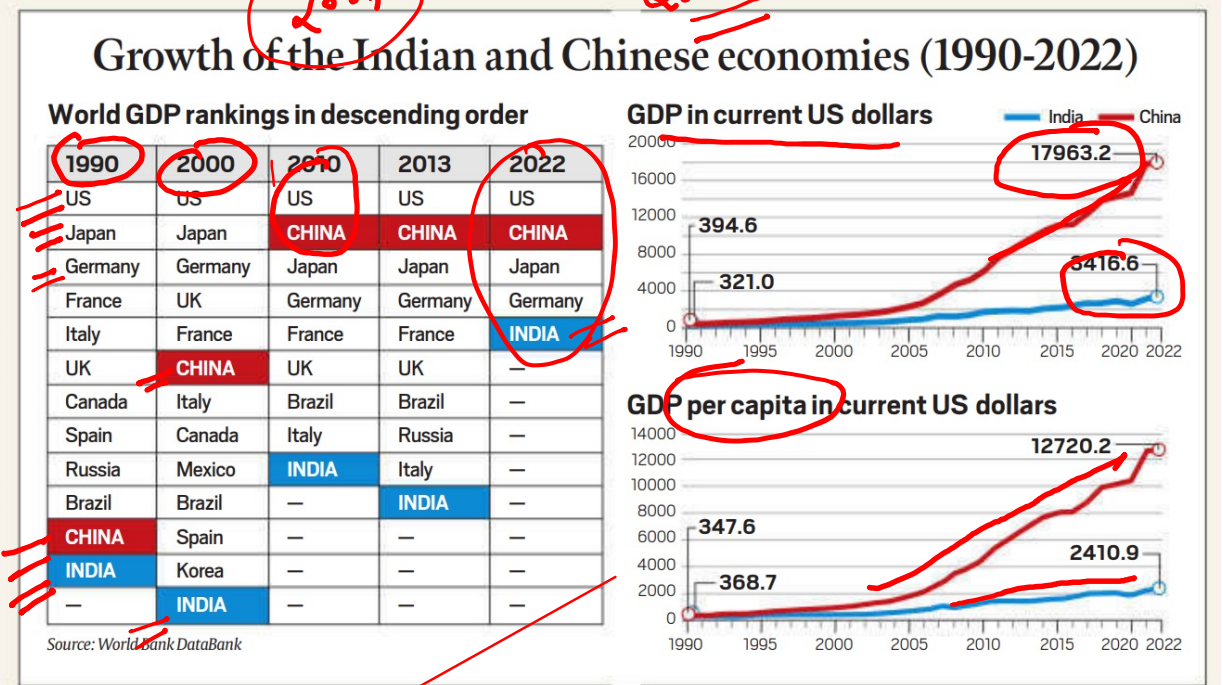
Japan's and Germany's nominal GDP were \$4.3 trillion and \$4.1 trillion respectively in 2022. Back-of-the-envelope calculations show that India needs to grow at only 6% per year in current dollars, and the other two economies at 2%, for India to become the world's No. 3 economy by 2028.

Per capita must be focus

Aggregate GDP matters, not least because it adds to a country's geopolitical heft. However, given India's massive population and present levels of development, per capita GDP is at least as important.

An annual GDP growth rate of even 5% over 30 years would result in an economy expanding by 332% or 4.32 times. This has to do with what the economist Thomas Piketty calls "the law of cumulative growth" — seemingly low growth rates, when sustained over a long time-frame (in this case, a generation), can bring about considerable progress.

India has witnessed such transforma-



tion with an average annual real GDP growth of 6% during 1990-2022. The scale of the transformation would obviously have been higher with a 7-8% growth.

The Chinese story is extraordinary for not just the almost 46-fold expansion in its economy between 1990 and 2022 (against India's 11-fold), but also because it has been accompanied by an increase in per capita

GDP from \$348 (less than India's \$369) to \$12,720 (far more than India's \$2,411).

The World Bank's per capita GNI (gross national income) threshold for categorising a country as "high income" is \$13,846, and China isn't far from attaining this status.

The Modi government has targeted a "Viksit Bharat" or developed India by 2047. At current per capita GDP levels, India is a

"lower-middle income" (\$1,136-4,465 range) country, and China is an "upper-middle income" (\$4,466-13,845) economy. Since a developed country is one where the average standard of living is high — linked to a per capita GDP of \$13,846 or more — that's a target worth aiming for.

LONGER VERSION ON
indiaexpress.com/explained

1990 - China - 1.2 x India
- per capita < India

2010 - 13,000

101 = 1990-2000

44500 - 13845

Tropical Cyclones Need New Category

- Recently, a study has been published in the journal *Proceedings of National Academy of Sciences*, where researchers have claimed that wind speed during a hurricane can cross 309 km/hour and therefore wind scale must add a Category 6.

-

What are the Key Highlights of the Study?

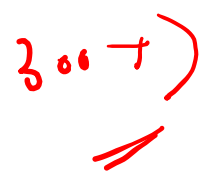
Reconsideration of Saffir-Simpson (SS) Scale:

- There are concerns about the adequacy of the Saffir-Simpson (SS) Hurricane Wind Scale, which has been used for over 50 years to communicate hurricane risk based solely on wind speed.
- There are **five categories on the SS hurricane wind scale — category 1 to category 5** — with category 5 wind speed **exceeding 252 km/hour**.
- The combined effects of wind, storm surge, and rainfall in a category 5 impact would **completely raze any structure**.

- The open-ended Category 5 may no longer be sufficient to communicate the **increasing risk of hurricane** damage in a warming climate

Cyclones are classified into five different levels on the basis of wind speed. They are further divided into the following categories according to their capacity to cause damage:-

Cyclone Category	Wind Speed in Km/h	Damage Capacity
01	120-150	Minimal
02	150-180	Moderate
03	180-210	Extensive
04	210-250	Extreme
05	250 and above	Catastrophic



27°C

Introduction of Hypothetical Category 6:

Due to Global Warming, there is now a need to define a category 6 cyclone.

The warming can be observed not only at the sea surface, but also in the depths of the ocean, which increases the heat content of the ocean and thus favours the intensification of tropical cyclones.

- To address the limitations of the existing scale the introduction of a hypothetical **Category 6** to the Saffir-Simpson Wind Scale is **proposed with the wind speed above 309 km/hour.**

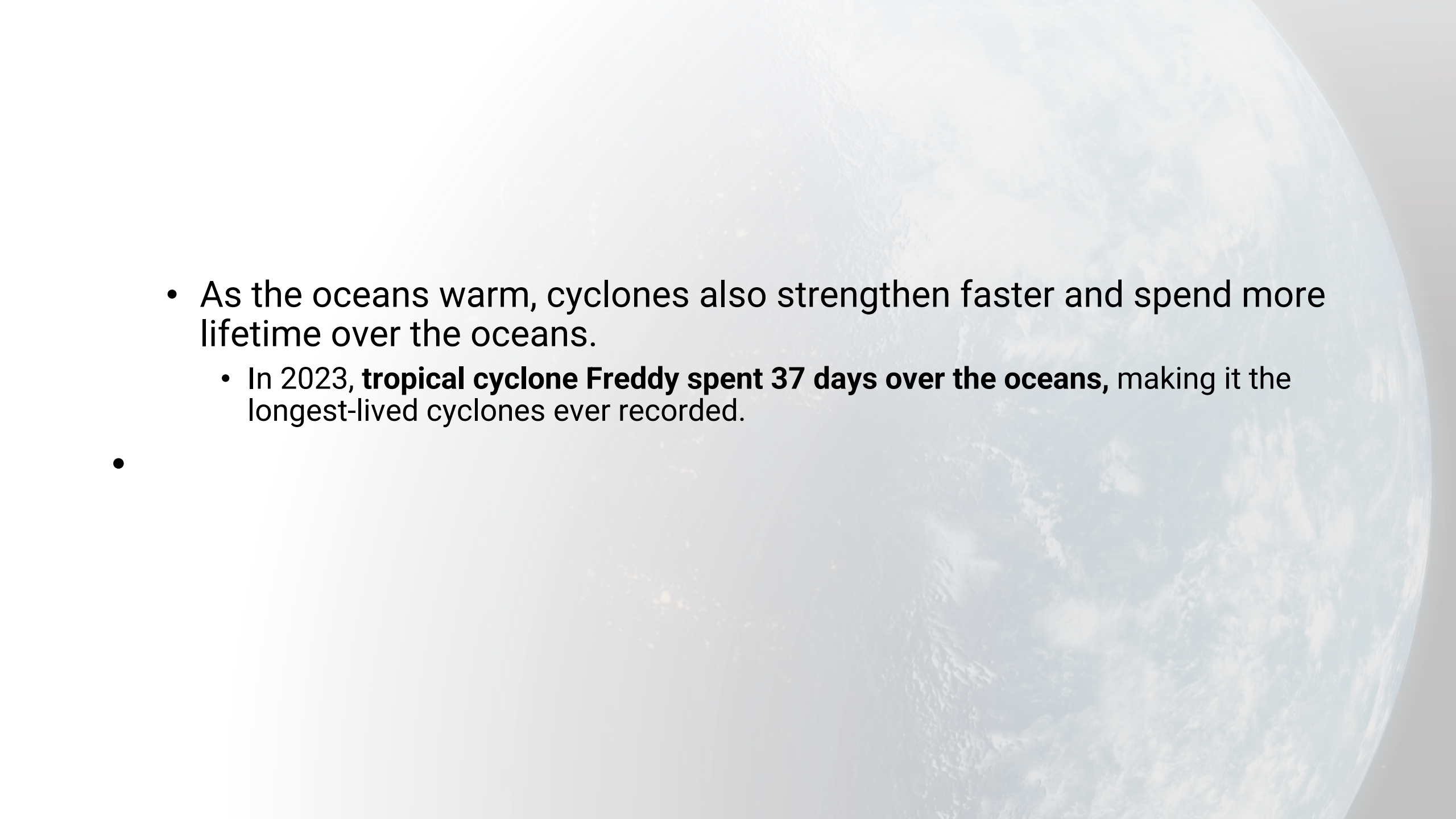
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Impact of Global Warming on Hurricane Intensification:

Increased greenhouse gas emissions have caused the Earth to warm by about 1.10 degrees Celsius since pre-industrial times and caused more intense tropical cyclones in the oceans.

For every degree of warming, the strongest cyclones are getting 12% stronger, making them 40% more destructive.

- 
- As the oceans warm, cyclones also strengthen faster and spend more lifetime over the oceans.
 - In 2023, **tropical cyclone Freddy spent 37 days over the oceans**, making it the longest-lived cyclones ever recorded.

-

- **Implications for Risk Messaging:**
- The findings underscore the **importance of revising risk messaging** to better inform the public about the increased risk of major hurricanes due to global warming.
- SS Scale **does not address issues related to inland flooding** and storm surge, which are also critical components of hurricane risk.

-
- Once a tropical cyclone reaches maximum sustained winds of **119 km/hour** or higher, it is then classified as a **hurricane, typhoon, or tropical cyclone**, depending upon where the storm originates in the world.
 - In the North Atlantic, central North Pacific, and eastern North Pacific, the term hurricane is used.
 -



The **Western Pacific basin** is the **most active region for tropical cyclones** and accounts for **about a third of the world's tropical cyclones**.

The North Indian basin accounts for only about 4% of the global total, although it is one of the **most vulnerable regions in the world** to the effects of such cyclones

CYCLONE

Cyclones are rapid **inward** air circulation around a **low-pressure** area.

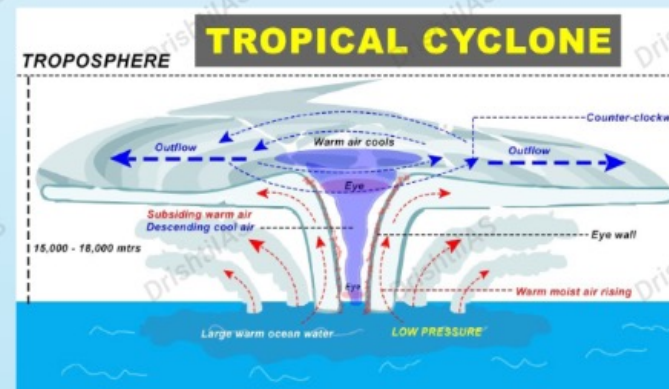


Cyclone v/s Anticyclone

Pressure System	Pressure Condition at the Center	Pattern of Wind Direction	
		Northern Hemisphere	Southern Hemisphere
Cyclone	Low	Anticlockwise	Clockwise
Anticyclone	High	Clockwise	Anticlockwise

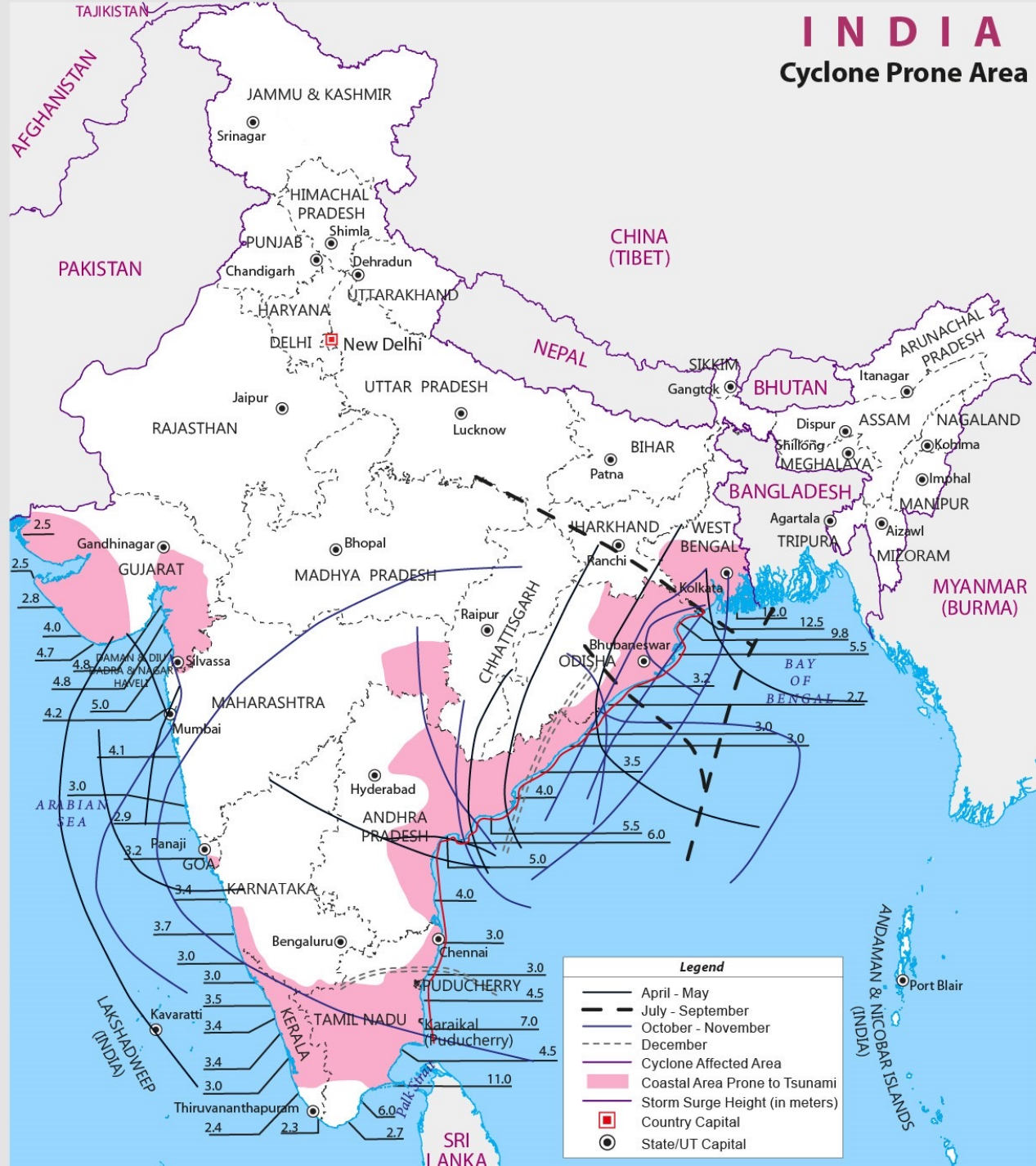
Classification

- **Tropical Cyclones;** originate between the **Tropics of Capricorn and Cancer**
- **Extra Tropical/ Temperate Cyclones;** originate in the **Polar Regions**



INDIA

Cyclone Prone Area

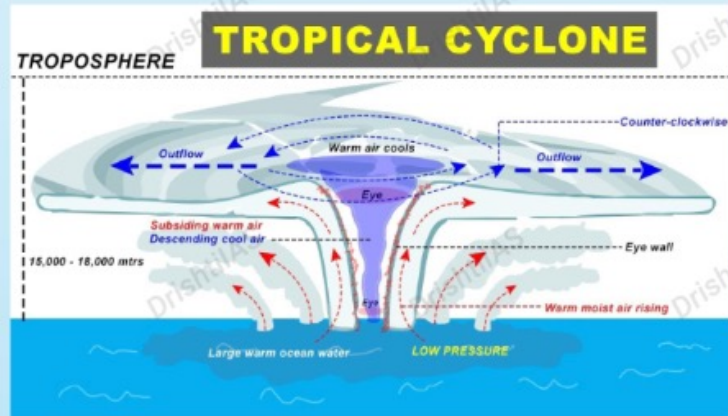


Legend

- April - May
- July - September
- October - November
- - - December
- Cyclone Affected Area
- Coastal Area Prone to Tsunami
- Storm Surge Height (in meters)
- Country Capital
- State/UT Capital

Classification

- **Tropical Cyclones;** originate between the **Tropics of Capricorn and Cancer**
- **Extra Tropical/ Temperate Cyclones;** originate in the **Polar Regions**



Conditions for Formation

- Large sea surface with temperature $>27^{\circ}\text{C}$.
- Presence of the **Coriolis force**
- Small **variations in the vertical wind speed**
- **A pre-existing weak low- pressure area**
- **Upper divergence** above the sea level system

Different Names for Tropical Cyclones

- **Typhoons** - Southeast Asia and China
- **Hurricanes** - North Atlantic and eastern Pacific
- **Tornados** - West Africa and southern USA
- **Willy-willies** - Northwest Australia
- **Tropical Cyclones** - Southwest Pacific and Indian Ocean

Nomenclature

- Nodal Authority - **World Meteorological Organization (WMO)**
- Indian Ocean Region - **Bangladesh, India, Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand** contribute to naming cyclones that occur in this region.

Cyclones in India

- **Bi-annual Cyclone Season** - March to May and October to December
- Recent Cyclones - **Tauktae, Vayu, Nisarga and Mekanu** (in Arabian Sea) and **Asani, Amphan, Fani, Nivar, Bulbul, Titli, Yaas and Sitrang** (in Bay of Bengal)

Space science and
Technology Awareness
Training (START) 2024



Recently, the Indian Space Research Organisation (ISRO) announced an active space science programme, the Space Science and Technology Awareness Training (START), 2024.



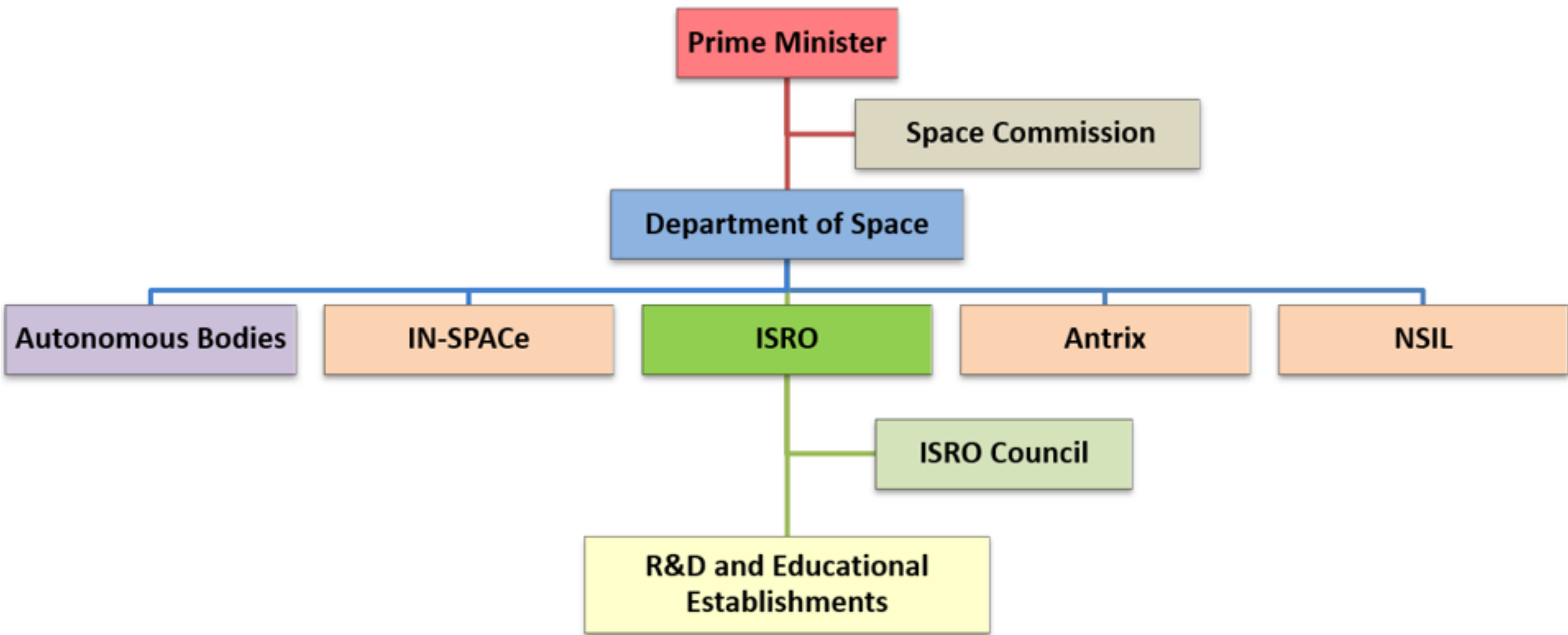
START is an introductory-level online training in space science and technology.



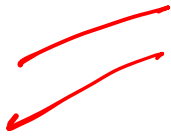
The undergraduate (UG) and postgraduate (PG) students of physical sciences (Physics and Chemistry) and technology (e.g. Electronics, Computer Science, Mechanical,) studying in various educational institutes within India will be eligible to be considered for the training.



The main objective of the training programme is to attract youngsters to the fields of space science and technology.



Artificial Sun Produced Heat of 100
Million Celsius for a Record Period



-
- **South Korean scientists** have been able to **produce heat of 100 million Celsius** for a **record period of 48 seconds** through **Artificial Sun**.
 - **About**
 - The Korea Institute of Fusion Energy's (KFE) Korea Superconducting Tokamak Advanced Research (KSTAR) fusion reactor reached temperatures **seven times that of the Sun's core**.
 - The temperature of the **core of the Sun** is **15 million degrees Celsius**.

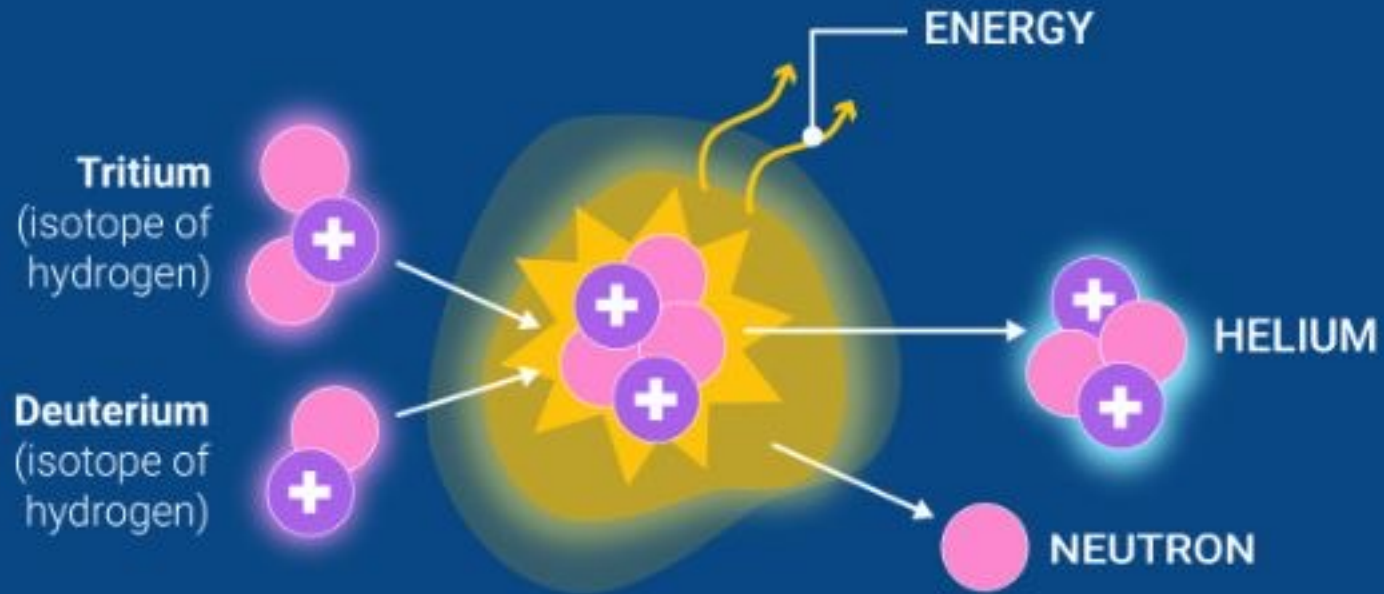


Artificial Sun

It is a nuclear fusion reactor facility, and it is called an “artificial sun” because it **mimics the nuclear fusion reaction that powers the real sun** – which uses hydrogen and deuterium gases as fuel.

Scientists generally use a **donut-shaped reactor called a tokamak** in which hydrogen variants are heated to extraordinarily high temperatures **to create a plasma**

Nuclear fusion



PROTON



NEUTRON

A detailed close-up photograph of a mechanical watch movement. The image shows a complex arrangement of metal gears, plates, and jewels. Several large, silver-colored gears with fine teeth are visible, along with smaller brass gears. The components are held together by screws and small red jewels. The lighting is dramatic, highlighting the metallic textures and the precision of the engineering. The text "Atomic Clock" is overlaid in the center of the image.

Atomic Clock

- Recently, India is willing to join an exclusive group of four other countries — the US, the UK, Japan, and South Korea — to have their own atomic clocks.

- **About the Atomic Clock**

- It is a type of clock that uses the **vibrations of atoms** to measure time with **extraordinary precision**.

- They are the **most accurate** timekeeping devices in the world, with the ability to measure **billionths of a second**.

- **Working:**

- Most modern clocks keep time using a quartz crystal oscillator.

- These devices take advantage of the fact that quartz crystals vibrate at a precise frequency when voltage is applied to them.

- However, by space navigation standards, quartz crystal clocks aren't very stable.

- After only an hour, even the best-performing quartz oscillators can be off by a nanosecond (one billionth of a second), and after six weeks, they may be off by a full millisecond.

-
- Atomic clocks **combine a quartz crystal oscillator with an ensemble of atoms to achieve greater stability.**
 - **NASA's Deep Space Atomic Clock** will be off by less than a nanosecond after four days and less than a microsecond (one millionth of a second) after 10 years.

Atomic Clocks in Space Navigation

To determine a spacecraft's distance from Earth, navigators send a signal to the spacecraft, which then returns it to Earth.

The time the signal requires to make that two-way journey reveals the spacecraft's distance from Earth, because the signal travels at a known speed (the speed of light).

- **Atomic Clocks in India:**

- **India's NAVIC satellite navigation system** works on Indian atomic clocks.

- **ISRO and the National Physical Laboratory (NPL)** have signed an **MoU** under which the latter will help authenticate precise timings for the space agency, and also **end its dependence on the US-built GPS.**



PM-SUMAN Scheme

PM-SUMAN – Prime Minister Surakshit Matritva Aashwasan (SUMAN) - ‘An Initiative for Zero Preventable Maternal and Newborn Deaths’.

It is a *maternity benefit program* that provides affordable healthcare services *to pregnant women and newborns.*

Launched by - Ministry of Union Health and Family Welfare (MoHFW) in 2019.

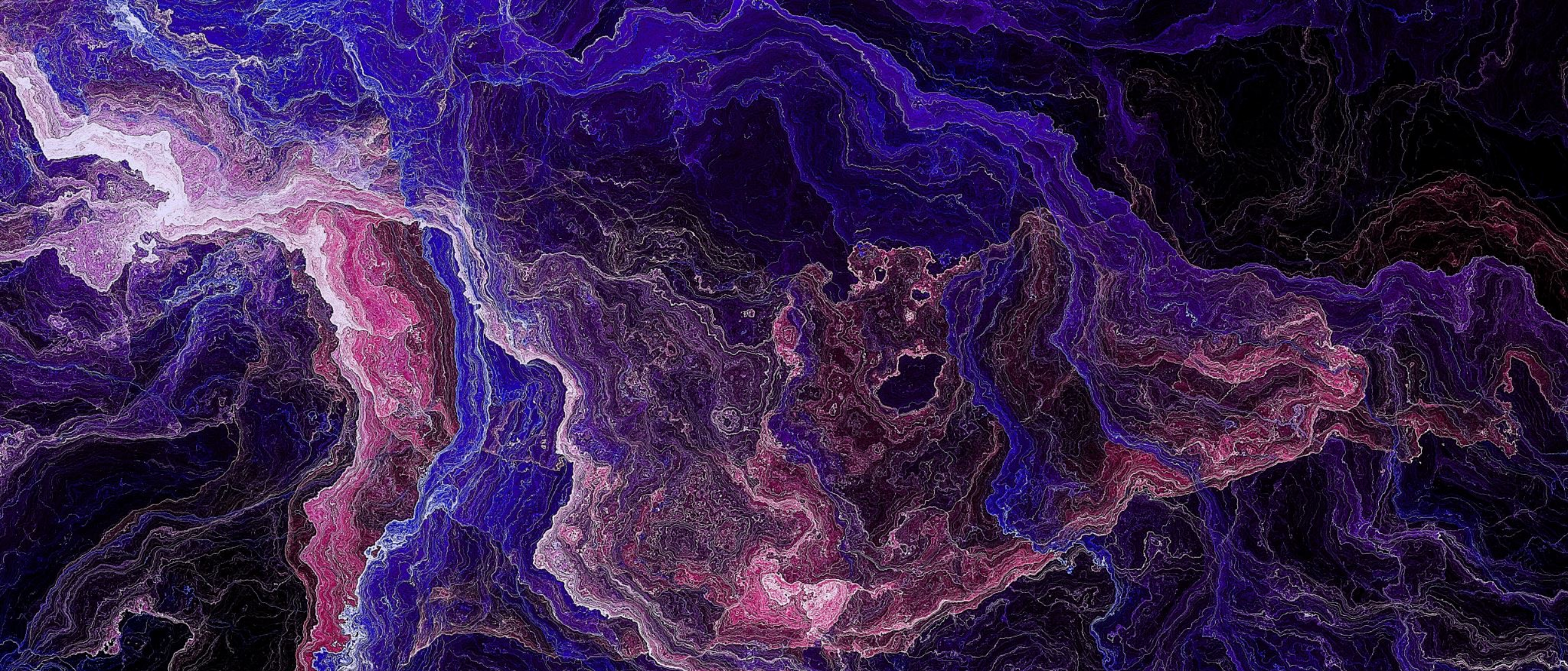
Eligibility

- **Pregnant women** – Pregnant women from all categories, including APL and BPL, are eligible to get the benefits.
- **Newborns** – Newborns aged **0 to 6 months** old will be able to avail the benefits of this scheme.
- **Lactating mothers** - After delivery, lactating mothers up to 6 months from delivery are also eligible for this scheme.

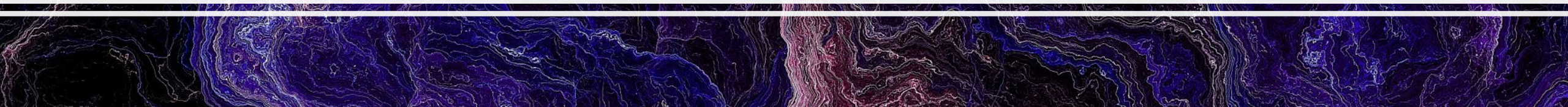
Objectives This scheme offers zero expenses and access to detection and management of complications *during and after pregnancy.*

Pregnant women can avail a *zero-expense delivery and C-section facility* at public health facilities.

It ensures zero-tolerance for denial of services to children and pregnant women.



Fun fact



1947
1 year



After Independence, India printed Pakistan's currency note for 1 year and Pakistan used India's currency as its own with little tweaks.

Skill24 ₹59999

SOFTWARE ENGINEERING PROFESSIONAL CERTIFICATION via Singapore Academy

- Duration: 6 Months
- Live Online
- Student Handouts
- Industrial Projects
- 100% Career Assistance
- Industry Based Trainers

Software Engineering Course

Skill24 ₹59999

CYBER SECURITY PROFESSIONAL CERTIFICATION via Singapore Academy

- Duration: 6 Months
- Live Online
- Student Handouts
- Industrial Projects
- 100% Career Assistance
- Industry Based Trainers

Cyber Security Course

Skill24 ₹59999

DATA SCIENCE PROFESSIONAL CERTIFICATION via Singapore Academy

- Duration: 6 Months
- Live Online
- Student Handouts
- Industrial Projects
- 100% Career Assistance
- Industry Based Trainers

Data Science Course

Skill24 ₹59999

BLOCKCHAIN PROFESSIONAL CERTIFICATION via Singapore Academy

- Duration: 6 Months
- Live Online
- Student Handouts
- Industrial Projects
- 100% Career Assistance
- Industry Based Trainers

Blockchain Course

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