theIAShub

the IAS hub
Be Your Dream.

AUGUST
1

CRUX 10

10 News. 10 Sources. One Place

THE HINDU
ET
BS
TOI
The Indian EXPRESS
livemint
pib
DownToEarth
FORTNIGHTLY ON POLITICS OF DEVELOPMENT, ENVIRONMENT AND HEALTH
Science Reporter
विज्ञान एवं प्रौद्योगिकी मन्त्रालय
MINISTRY OF SCIENCE AND TECHNOLOGY



MK Yadav Sir

Table of Contents

1. Axis of Resistance
2. RPwD Act 2016
3. Achanakmar Tiger Reserve
4. Uttar Pradesh Anti Conversion Law
5. Vattezhuthu Script
6. Eco Sensitive Zones
7. Methane
8. Liquidity Coverage Ratio (LCR)
9. PM-PRANAM Scheme
10. Nano-MIND Technology

AXIS OF RESISTANCE

(Syllabus: GS Paper 2 – IR)

'AXIS OF RESISTANCE'

Iran-backed anti-US, anti-Israel grouping comprising Hezbollah, Hamas and the Houthis, among others

EXPRESS NEWS SERVICE
NEW DELHI, JULY 31

HAMAS LEADER Ismail Haniyeh was assassinated in an air strike in Tehran in the early hours of Wednesday. Athough Israel has not claimed responsibility for Haniyeh's killing, Hamas and Iran have blamed Israel for the strike, and promised "major repercussions".

Experts believe that Iran could hike up attacks against Israel through its allies – a coalition of Iranian-backed groups known as the 'axis of resistance'. Hezbollah, Hamas, the Palestinian Islamic Jihad (PIJ), and the Houthis are some of the major groups in the alliance.

How was the coalition formed?

The roots of the 'axis of resistance' go back to the Iranian Revolution of 1979, which paved the way for radical Shia Muslim clerics to come to power. To expand its political and military influence in a region where most powers – such as US-ally Saudi Arabia – are Sunni-majority nations, Iran's new regime began to support non-state actors. Another reason for this was to deter threats from Israel and the US – Iran has seen Israel's creation in 1948 as a means for the US (and the West) to influence the region for its strategic interests.

The coalition's name is said to be inspired by former US President George W Bush's use of the term 'axis of evil' – referring to Iran, Iraq and North Korea – in his 2002 State of the Union address.

Which groups are part of the Iran-led 'axis of resistance'?

■ Set up by Iran's Revolutionary Guards in the early 1980s, Hezbollah (meaning 'Party of God') is a Shiite militant organisation. It was formed to fight Israeli forces that had invaded Lebanon in 1982. Hezbollah is the biggest and most powerful member of the axis. It is believed to possess a significant arsenal, and has 30,000 to 45,000 members. Hezbollah and Israel have clashed with each other on many occasions. They fought a war for the first time in 2006, and have since then often exchanged fire, especially after October 7.

■ Hamas, a Palestinian Sunni militant group, has been running the region of Gaza since 2007. It emerged during the first Intifada, or Palestinian uprising, against Israeli rule in 1987. Hamas opposes Zionism, the 19th-century political project that advocates for an ethnic homeland for the Jewish people. Iran is known to supply funding, weapons, and expertise to the militant group.

■ PIJ is a Sunni Islamist militant group, which aims to establish an Islamic state in Palestine. According to the US government, "It is the second-largest militant group in the Gaza Strip and the West Bank, founded in 1979 as an offshoot of the Muslim Brotherhood in Egypt".

■ Houthis are a Zaydi Shia militant group which has been involved in the civil war in Yemen for over a decade. They seized Sana'a, Yemen's capital, in 2014, and today control northern Yemen. They also have a presence in most regions of the country. In response to Israel's onslaught on Gaza after October 7, the group began to attack ships crossing the Red Sea, demanding an end to the invasion of the Palestinian enclave.

WITH INPUTS FROM REUTERS

Context: Hamas leader was assassinated in an airstrike in Tehran. The attack marks a significant escalation in regional tensions.

Axis of Resistance

- **Origins:** The axis of resistance traces its roots back to the Iranian Revolution of 1979, which led to the rise of radical Shia Muslim clerics in Iran.
- **Iran's Strategic Interests**: To counterbalance the Sunni-majority nations and to deter threats from Israel and the US, Iran began supporting non-state actors.
- **Naming of the Coalition**: The term "axis of resistance" was inspired by former US President George W. Bush's "axis of evil," which included Iran, Iraq, and North Korea.

Groups in the Iran-led Axis of Resistance

- **Hezbollah:** Formed by Iran's Revolutionary Guards in the early 1980s to fight Israeli forces in Lebanon, Hezbollah is the largest and most powerful member of the axis with 30,000 to 45,000 members.
- **Hamas**: Emerging during the first Intifada in 1987, Hamas is a Palestinian Sunni militant group that has governed Gaza since 2007 and receives support from Iran.
- **Palestinian Islamic Jihad (PIJ)**: Established in 1979 as an offshoot of the Muslim Brotherhood, PIJ aims to create an Islamic state in Palestine and is the second-largest militant group in Gaza and the West Bank.
- **Houthis**: A Zaydi Shia group engaged in Yemen's civil war, the Houthis control northern Yemen and have attacked ships in the Red Sea in response to Israel's actions in Gaza.

THE HINDU

Page 12

RPWD ACT 2016

(Syllabus GS Paper 2 – Vulnerable Sections)



Centre plans stricter norms for disability certificates; activists fear fresh hurdles

Abhinay Lakshman
NEW DELHI

In a bid to tighten the requirements for obtaining a disability certificate, the Union government on Wednesday published draft amendments to the Rules of the Rights of Persons with Disabilities Act (RPwD Act) of 2016.

The proposed changes – including mandatory identity proof, medical authority involvement, and a longer process – come in the wake of the row over Puja Khedkar, a dismissed IAS probationer accused of faking her disability certificate, among other transgressions. Government sources told *The Hindu* that this controversy was among the factors considered while drafting the amendments.

The amended Rules will require people with disabilities to mandatorily submit proof of identity, a photo not older than six months, and an Aadhaar card.

The draft suggests that the time taken to process each application should be increased

The draft amendments propose that only medical authorities be considered competent to receive and process applications for disability certificates, further suggesting that the time taken to process each application should be increased from one to three months.

Experts and activists in the disability sector said that these proposed amendments will not do much to tackle the menace of fake disability certificates, which they argued was a result of systemic corruption. Instead, they said, the potential new Rules will make it harder for genuine applicants to get through the system.

These amendments to the Rules governing the RPwD Act, 2016 were published by the Ministry of Social Justice and Empowerment in The Gazette of India as a draft and made public on Wednesday for objections and suggestions. Comments must be sent to Vineet Singhal, Director, Department of Empowerment of Persons with Disabilities in 30 days.

V. Muralidharan of the National Platform of the Rights of the Disabled told *The Hindu*, "These amendments would not help cut the corruption that leads to fake certificates, no amount of rules might help this. It will only make things unnecessarily complex and difficult for genuine applicants to obtain their disability certificates."

He added that the colour-coding of Unique Disability Identity (UDID) cards was another redundant proposal that will most likely add to hostility and harassment faced by people with disabilities.

Context: The Union government released draft amendments to the Rules of the Rights of Persons with Disabilities Act (RPwD Act) of 2016, aiming to tighten the requirements for obtaining a disability certificate.

Rights of Persons with Disabilities Act (RPwD Act) of 2016

- **About:** The Act implemented the United Nations Convention on the Rights of Persons with Disabilities, adopted in 2006 and ratified by India in 2007.
- **Replacing the Previous Legislation**: The 2016 Act superseded the Persons with Disabilities Act of 1995, initiating significant changes in disability rights legislation.
- **Mandates for Accessibility:** The Act mandated the central government to establish guidelines and standards for public buildings to ensure accessibility for persons with disabilities, with provisions for periodic review and updates.
- **Reservation for PwDs**:
  - Not less than 5% reservation in Government/Government aided higher educational institutions.
  - Not less than 4% reservation in Government jobs.
  - Reservation exemptions for certain police forces.
- **Free Education Provision**: Every child with benchmark disability between the age of 6 to 18 years entitled to free education.
- **Recognition of Disabilities**: 21 types of disabilities recognized, including intellectual disability, acid attack victims, etc.

Draft of Amendments

- **Published by**: Ministry of Social Justice and Empowerment.
- The amended Rules will require people with disabilities to mandatorily submit proof of identity, a photo not older than 6 months, and an Aadhaar card.
- **Medical Authority**: The draft amendments propose that only medical authorities be considered competent to receive and process applications for disability certificates, further suggesting that the time taken to process each application should be increased from 1 to 3 months.
- The government proposes to standardise the requirements to apply for a disability certificate and a UDID card.
- In subsequent amendments, the government has proposed that the applications can only be received by "a medical authority or any other notified competent medical authority" as opposed to "a medical authority or any other notified competent authority".

TIMES OF INDIA

July 31

ACHANAKMAR TIGER RESERVE

(Syllabus: GS Paper 3 – Env and Eco)

Tiger count jumps from 5 to 10 in Chhattisgarh's Achanakmar reserve

Context: The All-India Tiger Estimation (AITE) 2022 census reveals a significant rise in the tiger population at Achanakmar Tiger Reserve in Chhattisgarh, with numbers doubling from 5 to 10.

Achanakmar Tiger Reserve

- **Location**: It is situated in Bilaspur district of Chhattisgarh.
- **Establishment**: Achanakmar Wildlife Sanctuary was established in 1975 and was declared a tiger reserve in 2009.
- **Area**: It covers an area of 553.286 sq. km.
- **Biosphere Reserve:** It is part of the huge Achanakmar-Amarkantak Biosphere Reserve.
- **Tiger Corridor**: It has a corridor connecting to Kanha and Bandhavgarh Tiger Reserve and plays a critical role in the dispersal of tigers among these reserves.
- **River:** The Maniyari River flows right from the centre of this reserve, which is the forest's lifeline.
- **Tribe:** It is home to the Baigas, a forest-dwelling tribal community classified as a "Particularly Vulnerable Tribal Group (PVTG)".
- **Vegetation:** Tropical moist deciduous vegetation covers the majority of the area.
- **Flora**: Sal, bija, saja, haldu, teak, tinsa, dhawara, lendia, khamar, and bamboo bloom here, along with over 600 species of medicinal plants.
- **Fauna**: It includes the tiger, leopard, bison, flying squirrel, Indian giant squirrel, chinkara, wild dog, hyena, sambar, chital, and over 150 species of birds.

INDIAN EXPRESS Page 16

UTTAR PRADESH ANTI CONVERSION LAW

(Syllabus: GS Paper 2 – Polity)



Anti-conversion law in UP

The Uttar Pradesh Assembly has passed an amendment to its 2021 anti-conversion law. What is the UP government's explanation for updating the law? What change has the amendment brought in?

AJOY SINHA KARPURAM
NEW DELHI, JULY 31

THE UTTAR PRADESH Prohibition of Unlawful Conversion of Religion Act, 2021, which prohibits religious conversion through "unlawful" means, was passed by the state assembly four years ago. On Tuesday, the assembly passed an amendment to this Act, making it stricter and more widely enforceable.

Why was the amendment brought in?

The Amendment was introduced by the BJP government in UP with the stated aim of protecting certain groups of people, including minors, people with disabilities, women, and persons belonging to Scheduled Caste (SC) and Scheduled Tribe (ST) communities. It says that the penal provisions under the 2021 Act were "not sufficient to prevent and control religious conversion and mass conversion" of persons belonging to these groups.

This reflects the view expressed by Justice Rohit Ranjan Agarwal of the Allahabad High Court on July 1. In his order rejecting a bail application filed by an accused under the 2021 Act, he stated that "unlawful activity of conversion of people of SC/ST castes and... economically poor persons into Christianity is being done at rampant pace throughout the State of Uttar Pradesh".

The Amendment is also set to resolve certain difficulties that have arisen in the past pertaining to Section 4 of the 2021 Act which allowed "Any aggrieved person, his/her parents, brother, sister, or any other person who is related to him/her by blood, marriage or adoption" to file an FIR for unlawful conversion with the police.

The Allahabad High Court, on at least two occasions in 2023, has held that the phrase "any aggrieved person" does not mean that anyone can file an FIR for unlawful conversion. In September 2023, in the case of Jose Papachen vs. State of Uttar Pradesh, the court held that this phrase is "qualified" and "completely whittled down" by the categories that follow it (parents, brother, sister, etc). The court gave a similar analysis in a February 2023 order in the Fatehpur Mass Conversion case.

What changes does the Amendment introduce to the 2021 Act?

The Amendment removes restrictions on who can file an FIR, proposes stringent bail conditions similar to those for accused persons in terrorism and money laundering cases, and increases the punishment for unlawful conversion.

■ **'Any person' can file FIR**

The Amendment changes the wording of Section 4 to address the aforementioned "difficulties". The revised provision states that "any person" can file an FIR related to violation of the 2021 Act in the manner provided under the new law governing criminal procedure, the Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS).

Under Section 173 of the BNSS, which deals with the registration of an FIR, information regarding a crime can be given to the officer in charge of a police station "irrespective of the area where the offence is committed". This means that any individual can approach any police station to file an FIR for alleged crimes under the Act.

■ **Strict bail conditions**

Section 3 of the 2021 Act punishes religious conversion through "misrepresentation, force, undue influence, coercion, allurement or by any fraudulent means", which also includes "conversion by solemnisation of marriage or relationship in the nature of marriage" through the use of the listed illegal means.

For those accused under Section 3, the Amendment introduces stringent bail conditions that are akin to the bail conditions under the Prevention of Money Laundering Act, 2002, and the Unlawful Activities (Prevention) Act, 1967.

Under the new Section 7, an accused cannot be released on bail unless two conditions have been met. First, the public prosecutor (the advocate representing the state government prosecuting the crime) must be given the opportunity to oppose the bail application. Second, the court must be satisfied that there are "reasonable grounds for believing that he is not guilty of such an offence and that no offence can be committed by him while on bail".

■ **Enhancement of punishments**

Apart from increasing the years of imprisonment under Section 5 of the Act (refer to the box), the Amendment also adds two new categories of offences.

First, if the accused has received money from "foreign or illegal institutions" in connection with unlawful conversion, they may be punished with 7-14 years imprisonment and a fine of at least Rs. 10,00,000.

Second, if the accused causes any person to "fear of his life or property, assaults or uses force, promises or instigates marriage, conspires or induced any minor, woman or person to traffics or otherwise sells them", they shall be punished with a minimum 20 years imprisonment which can be extended to life imprisonment.

With the inclusion of "promises or instigates marriage" in the category of offences that carries a prison sentence of 20 years to life, the Amendment greatly enhances the punishment for unlawful conversion through marriage from a maximum of the previous maximum of 10 years.

What is next for anti-conversion laws?

With other BJP-ruled states such as Uttarakhand, Gujarat, and Madhya Pradesh having enacted similar anti-conversion laws, Uttar Pradesh's Amendment could see them follow suit.

That said, such laws have been challenged in court by various individuals and organisations such as the NGO Citizens for Justice and Peace (CJP) and the Jamiat-Ulama-i-Hind. CJP has filed a petition seeking to transfer all the challenges to anti-conversion laws before various High Courts to the Supreme Court.

The apex court is yet to rule on the matter.

The Amendment was passed in Uttar Pradesh Assembly on Tuesday. PTI

AMENDMENT HAS INTRODUCED STRICTER PUNISHMENTS

BEFORE	AFTER
1-5 YEARS imprisonment and a fine of at least Rs 15,000 for the base offence;	3-10 YEARS imprisonment and a fine of at least Rs 50,000 for the base offence;
2-10 YEARS imprisonment and a fine of at least Rs 20,000 if the victim is a minor, woman, or a person belonging to an SC or ST community;	5-14 YEARS imprisonment and a fine of at least Rs 1,00,000 if the victim is a minor, a woman, from an SC or ST community, has a physical disability, or has a mental illness;
3-10 YEARS and a fine of at least Rs 50,000 in cases of mass conversion.	7-14 YEARS imprisonment and a fine of at least Rs 1,00,000 in cases of mass conversion.

AMENDMENT HAS INTRODUCED STRICTER PUNISHMENTS

BEFORE

1-5 YEARS imprisonment and a fine of at least Rs 15,000 for the base offence;

2-10 YEARS imprisonment and a fine of at least Rs 20,000 if the victim is a minor, woman, or a person belonging to an SC or ST community;

3-10 YEARS and a fine of at least Rs 50,000 in cases of mass conversion.

AFTER

3-10 YEARS imprisonment and a fine of at least Rs 50,000 for the base offence;

5-14 YEARS imprisonment and a fine of at least Rs 1,00,000 if the victim is a minor, a woman, from an SC or ST community, has a physical disability, or has a mental illness;

7-14 YEARS imprisonment and a fine of at least Rs 1,00,000 in cases of mass conversion.

Context: The Uttar Pradesh Assembly passed the Prohibition of Unlawful Conversion of Religion Act, 2021, which prohibits religious conversion through "unlawful" means. The UP government has now tabled a new bill to amend the Act, aiming to make it stricter and more widely enforceable.

Uttar Pradesh Unlawful Conversion of Religion (Amendment) Bill, 2024

- **Expanded Access to FIR Filing**: The Bill removes restrictions on who can file a First Information Report (FIR), allowing anyone to register a complaint in cases of unlawful conversion.
- **Stringent Bail Conditions**: It proposes stringent bail conditions, similar to those applied to accused persons in terrorism and money laundering cases. Bail pleas will not be considered without an opportunity for the public prosecutor to be heard.
- **Increased Punishment**: The punishment for unlawful conversion is increased, with penalties including 20 years imprisonment or life imprisonment for severe offenses.
- **Serious Offenses Categorization**: The Bill categorizes certain acts, such as threatening, attacking, marrying, promising marriage, or conspiring to do so with the intention of conversion, as serious crimes, potentially leading to life imprisonment.
- **Expanded Court Jurisdiction**: Cases of unlawful conversion will now only be heard by Sessions Courts, removing jurisdiction from lower courts.
- **Non-Bailable Offenses**: All crimes under the amended Act are made non-bailable, restricting the possibility of release on bail.
- **Protection Against Coercion and Trafficking**: The Bill also includes severe penalties, including a minimum of 20 years imprisonment, for causing fear of life or property, assault, use of force, promises or instigations of marriage, or trafficking of any minor, woman, or person.

Prohibition of Unlawful Conversion of Religion Act, 2021

- **About**: The Act aims to control conversions that occur through misrepresentation, force, undue influence, coercion, allurement, or fraudulent means.
- **Increased Penalties for Repeat Offenders:** Individuals who repeatedly violate the law may face up to double the standard punishment.
- **Void Marriages for Conversion**: Marriages conducted solely for the purpose of unlawful conversion are declared legally void.

TIMES OF INDIA

July 31

VATTEZHUTHU SCRIPT

(Syllabus: GS Paper 1 – Art & Culture)

Vattezhuthu script found in 1,000-year-old temple in Tirupur

Context: Archaeologists have uncovered a Vattezhuthu script and eight Tamil inscriptions at the century-old Thalikiswarar temple in Tirupur district, Tamil Nadu.



Vattezhuthu Script

- **About:** The Vatteluttu script first appeared in stone inscriptions in southern India dating from the 4th century AD.
- **Origin**: It probably developed from the Tamil-Brahmi script, a variant of the Brahmi script used to write Old Tamil between the 3rd century BC and the 1st century AD.
- **Meaning of the Name**: The name Vatteluttu is thought to mean either 'rounded script,' 'northern script,' or 'chiseled script.'
- **Evolution into Modern Scripts**: The modern Tamil alphabet developed from the Pallava script, created in the 4th century AD, with some letters based on Vatteluttu.
- **Continued Use in Kerala**: Vatteluttu continued to be used until the 15th century, eventually evolving into the Malayalam script with some letters borrowed from the Grantha script.
- **Development of Koleluttu Script**: Vatteluttu also developed into the Koleluttu script, used by Christians and Muslims in Kerala until the 19th century.
- **Inscriptions in Sri Lanka**: Vatteluttu script dating from the 5th-8th century AD have been found near Trincomalee in northeastern Sri Lanka.
- **Notable Features**
  - **Type of Writing System**: Abugida / Syllabic Alphabet
  - **Writing Direction**: Left to right in horizontal lines
  - **Used to Write**: Tamil and Malayalam

FINANCIAL EXPRESS

Page 8

ECO SENSITIVE ZONES

(Syllabus: GS Paper 3 - Env and Eco)

Eco-insensitive

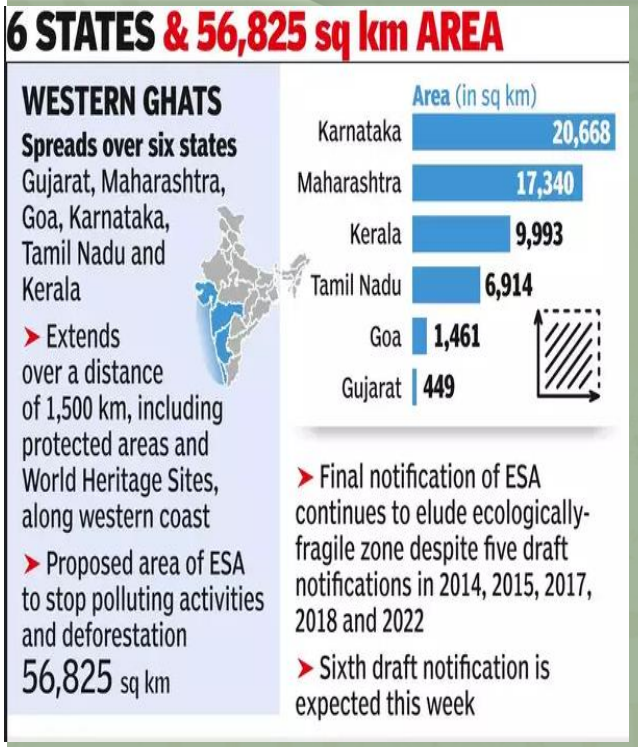
The deadly landslide in Wayanad is a wake-up call for heeding environmental warnings

THE TORRENTIAL DOWNPOUR in Wayanad district in Kerala has triggered deadly landslides, resulting in habitations being washed away and a mounting death toll. This tragedy doubtless is a wake-up call for India's policymakers to cope with extreme weather events by promoting sustainable development, especially in ecologically fragile zones like the Western Ghats — which is the second-most landslide-prone region in the country after the Himalayas. Madhav Gadgil, who was chairman of the Western Ghats Ecology Expert Panel, has termed this disaster as a "man-made tragedy" attributing it to the state government for not following the panel's recommendations to prevent such incidents at a time of climate change. Four years ago, the state disaster management authority had, in fact, advised relocating families from landslide-prone areas in Wayanad.

This disaster was a chronicle foretold as there has been massive deforestation, mining activities, and construction of tourist resorts and artificial lakes in the hilly district. In an ecologically sensitive zone, these developments loosen the topsoil and impact hillside stability triggering frequent rain-induced landslides. The proximate cause of the Wayanad disaster no doubt is the extremely heavy rainfall. The India Meteorological Department has predicted above-normal rainfall of 106% of the long period average this year, with the second half being better than the first half. While the number of rainy days is declining, the incidence of very heavy and extremely heavy rainfall events — 115.6 to 204.4 mm and above 204.4 mm respectively — has been rising.

Due to climate change, the warming of the Arabian Sea is allowing the formation of deep cloud systems that has resulted in copious rainfall not just in Wayanad, but also in Kozhikode, Malappuram, and Kannur according to S Abhilash, director of the Advanced Centre for Atmospheric Radar Research at the Cochin University of Science and Technology. The state government has identified a waterlogged hillock not far from the affected villages in Wayanad as the origin of the landslides. These deep cloud systems are similar to those seen in 2019, which resulted in heavy floods. Rising sea surface temperatures also result in a higher frequency of cyclone formation in the Arabian Sea and Bay of Bengal causing high-intensity rainfall.

The policy imperative must be to check the degradation of the natural ecosystem in the Western Ghats on a war footing. This applies not just to Kerala but also to other states like Karnataka, Tamil Nadu, Maharashtra, Goa, and Gujarat. Kerala's experience stands out as there has been a rising frequency of landslides as its wetlands, forests, and tree cover have been degraded. This ecologically fragile zone is unable to withstand heavy downpour resulting in considerable loss of lives. The state must therefore work on a priority basis to ensure that development in Wayanad is sustainable. Looking beyond Kerala, it is high time that the Western Ghats is tagged as an eco-sensitive zone to protect it from environmentally hazardous economic development. Despite five draft notifications from the Centre since 2014, the states in the Western Ghats, especially Karnataka, are not on board for the final notification. A couple of years ago, Karnataka even urged the Centre to withdraw the draft as it would impact livelihoods in the state. Maharashtra and Goa, for their part, sought a reduction in the eco-sensitive area to allow development activities. The Wayanad tragedy must trigger a swift response from these states to notify Western Ghats as an eco-sensitive area.



Context: Much of northern Kerala, including Meppadi panchayat in Wayanad district, is prone to landslides, which led to its designation as an eco-sensitive area by two expert committees a decade ago.

Eco Sensitive Zones

- **About:** The Indian Government designates Eco-Sensitive Zones (ESZs) around Protected Areas, National Parks, and Wildlife Sanctuaries.
- **Ministry**: Ministry of Environment, Forest and Climate Change (MoEF&CC).
- **Regulatory Framework**: This declaration falls under the Environmental (Protection) Act, 1986.
- **Area**: The 10-km rule is applied as a general guideline, with some variation in its implementation.
- **Extended ESZ Notification**: The Union government can also designate areas beyond 10 km as ESZs if they are part of ecologically important "sensitive corridors."
- **Prohibited Activities**: Mining, sawmills, the establishment of major hydroelectric projects, commercial use of wood, Tourism.

Kasturirangan and Gadgil Report on Western Ghats

- **Gadgil Committee Recommendations**
  - **Ecological Sensitive Areas**: Recommended declaring the entire Western Ghats as Ecological Sensitive Areas (ESA) with restricted development in graded zones.
  - **Coverage:** Classified the Western Ghats across six states, 44 districts, and 142 talukas as Eco-Sensitive Zones (ESZ).
- **Kasturirangan Committee Recommendations**
  - **Balanced Approach**: Aimed to balance development with environmental protection, contrasting with the Gadgil report.
  - **Partial ESA**: Suggested that only 37% of the Western Ghats be designated as ESA and imposed a complete ban on mining, quarrying, and sand mining in these areas.

DTE July 31

METHANE

(Syllabus: GS Paper 3 – Sci and Tech)

Methane levels are spiking since 2020s; La Niña & warming wetlands behind it, suggests study

Context: A new study reveals a startling increase in methane levels since the early 2020s, with substantial rises linked to wetlands and fossil fuel emissions. The potent greenhouse gas, crucial in global warming, has seen a significant uptick.

Methane

- **About**: It is a hydrocarbon that is a primary component of natural gas.
- **Properties**: Colourless, odourless and highly flammable gas.
- **Greenhouse Gas Properties**: Methane is classified as a greenhouse gas (GHG), influencing Earth's temperature and climate patterns.
- **Diverse Emission Sources**: Methane emissions stem from various anthropogenic and natural origins, contributing to its presence in the atmosphere.
- **Anthropogenic Emission Sources**: Human activities such as landfills, oil and gas systems, agriculture, and industrial processes are major contributors to methane emissions.

Key Points of Study

- **Methane Growth Rate Increase**: In 2015-2019, methane growth rates were 7-10 parts per billion (ppb) per year, which jumped to roughly 12–18 ppb per year between 2020–2023, said the study.
- **Methane's Impact on Global Temperatures**: Methane is responsible for roughly a third of the rise in global temperatures.
  - The greenhouse gas is about 80 times more potent than carbon dioxide (CO_2) in 20 years after it is released into the atmosphere.
- **Wetland Emissions and Microbes:** It can be attributed to microbes that consume organic material and produce methane as a byproduct.
- **Influence of La Niña and ENSO Patterns:** The persistent La Niña pattern and cool phases of the El Niño-Southern Oscillation, also known as ENSO, may contribute to this phenomenon.
- **Mitigating Methane Emissions**: The US, Canada, Russia, Saudi Arabia, Libya, and 10 other countries have been identified as having the highest potential to mitigate methane emissions from oil and gas.
- **Mitigation Potential in Landfills and Energy Generation**: Some countries with large populations, such as India, Brazil, and Mexico, have significant mitigation potential in landfills (waste sector), as do others with smaller populations, such as Azerbaijan, Poland, Peru, and the United Arab Emirates.
  - India, for instance, can benefit the most from energy generation, the study showed.

MONEY CONTROL

July 31

LIQUIDITY COVERAGE RATIO (LCR)

(Syllabus: GS Paper 3 – Economy)

Banking Central | RBI's proposed norms on LCR could be a dampener for some banks

Context: The RBI has issued draft guidelines for banks on the Liquidity Coverage Ratio (LCR), requiring them to maintain a higher stock of liquid securities as a buffer against deposits.

Liquidity Coverage Ratio (LCR)

- **About:** It refers to the proportion of highly liquid assets held by financial institutions to ensure that they maintain an ongoing ability to meet their short-term obligations (i.e., cash outflows for 30 days).
- **Purpose**: It is intended to make sure that banks and financial institutions have a sufficient level of capital to ride out any short-term disruptions to liquidity.
- **Basel III Origin**: LCR in banking resulted from the Basel III agreement, which is a series of measures undertaken by the Basel Committee on Bank Supervision (BCBS).
- **Implementation in India:** In India, RBI issued Basel III liquidity guidelines in 2012. RBI implemented LCR in January 2015, and as per a circular in 2020, banks should maintain sufficient HQLA at all times to meet unexpected withdrawals.
- **Calculation Formula**: LCR = (High Quality Liquid Assets (HQLA)) / (Total net cash outflows over the next 30 calendar days).

Related Terms

- **Capital Adequacy Ratio (CAR):** It is a regulatory measure that assesses banks' ability to pay liabilities and withstand credit and operational risks.
- **Statutory Liquidity Ratio (SLR)**: It is the minimum percentage of deposits that commercial banks are required to keep in the form of liquid cash, gold, or other securities.
- **Cash Reserve Ratio (CRR)**: It is one of the main components of the RBI's monetary policy, which is used to regulate the money supply, level of inflation and liquidity in the country.
- **High Quality Liquid Assets (HQLA):** Every asset that can be easily and instantly converted into cash at minimal or no cost of value is a HQLA.
    - These assets include cash, reserves with central banks, and central government bonds, which can easily be converted into cash.

PIB July 31

PM-PRANAM SCHEME
(Syllabus: GS Paper 3 – Agriculture)

PM-PRANAM initiative aims to complement the efforts of States/UTs to save the health of Mother Earth by promoting sustainable and balanced use of fertilizers, adopting alternate fertilizers, promoting organic & natural farming

Context: The Cabinet Committee on Economic Affairs (CCEA) has recently approved the PM-PRANAM scheme.

PM-PRANAM Scheme

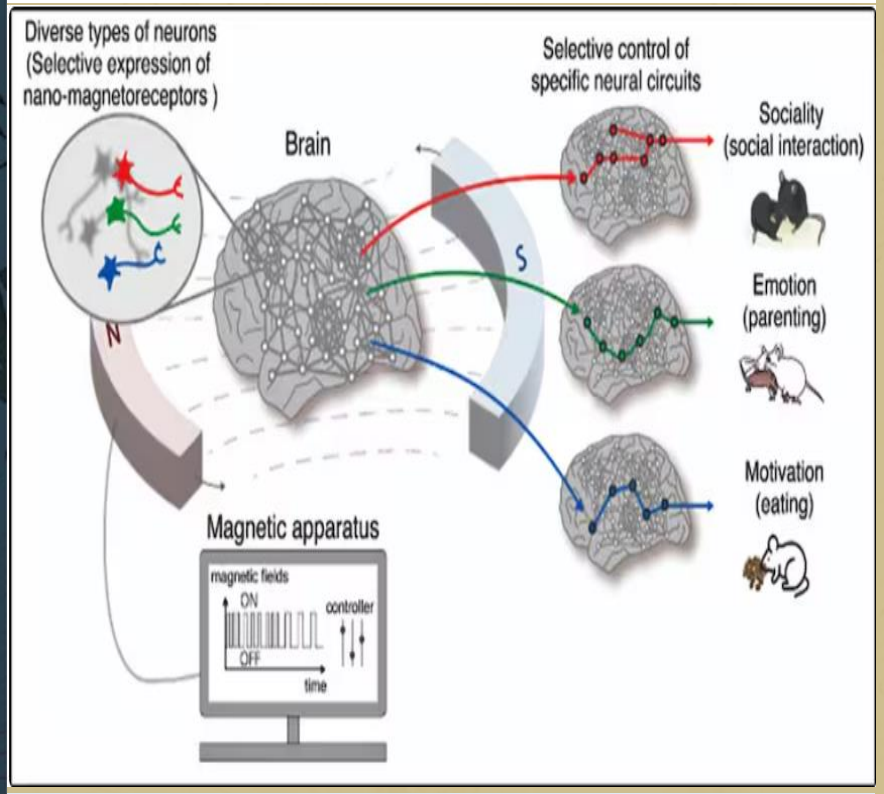
- **Full form:** The PM Programme for Restoration, Awareness Generation, Nourishment, and Amelioration of Mother-Earth.
- **Launched in:** Union Budget 2023–24.
- **Aim**: Protects the environment through sustainable fertilizer use, alternative fertilizers, and organic farming.
- **Focus:** PM-PRANAM specifically addresses the growing concerns about the use of chemical fertilizers and pesticides, which, despite boosting crop yields, have a detrimental long-term impact on soil quality.
- **Nodal Agency**: Ministry of Chemicals and Fertilizers.
- **Coverage**: Includes all States and Union Territories (UTs).
- **Encouragement**: The initiative promotes a balanced approach to fertilizer use and encourages the adoption of sustainable farming methods to counteract the negative effects of chemical inputs.
- **Reward System for States**: A key feature of PM-PRANAM is a reward system where states that reduce their reliance on chemical fertilizers can receive a portion of the saved subsidies.
- **Benefits**: States/UTs reducing chemical fertilizer use receive 50% of saved subsidy; 70% of grant for technological adoption and production units; 30% for incentivizing farmers and related groups.

INDIA TODAY July 31

NANO-MIND TECHNOLOGY

(Syllabus: GS Paper 3 – Sci and Tech)

Scientists use magnetism to mind-control mice in world's first experiment



Context: Researchers from the Korean Institute of Basic Science have developed a new magnetogenetics technology called Nano Magnetogenetic Interface for NeuroDynamics (Nano-MIND), which has been successfully demonstrated in mice.

Nano-MIND Technology

- **About:** Nano-MIND (Magnetogenetic Interface for NeuroDynamics) technology enables advanced understanding and control of complex brain functions such as cognition, emotion, and motivation.
- **Wireless and Precise Modulation**: It allows for wireless, remote, and accurate modulation of specific deep brain neural circuits using magnetic fields.
- **Innovative Activation Method:** The technology utilizes magnetic fields and magnetized nanoparticles to selectively activate targeted brain circuits, marking a significant improvement over traditional brain manipulation methods.
- **Highlights of the Research:**
  - **Neuron Activation in Mice**: The research team demonstrated Nano-MIND's capabilities by activating specific neurons in various brain regions of mice.
  - **Maternal Behaviors Induction**: A notable achievement was the activation of inhibitory GABA receptors in the medial preoptic area (MPOA), leading non-maternal female mice to exhibit increased nurturing behaviors.
  - **Feeding Behaviors Regulation**: The team regulated feeding behaviors by targeting motivation circuits in the lateral hypothalamus, achieving a 100% increase in appetite with inhibitory neuron activation, and a more than 50% reduction with excitatory neuron activation.
- **Significance of the Research**: The research represents a major advancement in neuroscience and holds potential for developing brain-computer interfaces (BCIs) and treating neurological disorders.

FREE Download PDF

Login to theiashub.com

- Aaj Ka Quality Enrichment (Toppers' Favourite PDF)
- News-CRUX-10 (10 News. 10 Sources. One Place)
- Monthly Editorials (The Hindu & Indian Express)
- Daily Quiz (Prelims)
- Government Schemes & Ministry Wise Year End Review
- Free Enrichment PDFs (Tailor Made Crisp Study Material)



Log On To Our Unique
Free Answer Writing Sessions with Toppers (FAST) Portal
& Start Practicing!

SCAN HERE

9560082909

t.me/theiashub

/mkyadav

www.theiashub.com

www.theiashub.com