

**The Hindu Important News Articles & Editorial For UPSC CSE**

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—It's about quality—

The National Health Mission (NHM) has played a significant role in improving public health in India according to an assessment report (2021-24) presented to the Union Cabinet. It has led to a reduction in maternal mortality, tuberculosis (TB) cases, and sickle cell anaemia.

## National Health Mission has curbed several public health concerns, says Centre's report

**Bindu Shajan Perappadan**  
NEW DELHI

The National Health Mission (NHM) has significantly contributed to improving India's public health, including lowering of the maternal mortality ratio, incidence of tuberculosis (TB), and sickle cell anaemia.

It has also contributed to expanding human resources in the field while fostering an integrated response to health emergencies, the Union government said on Wednesday in its assessment report (2021-24) presented to the Union Cabinet.

Listing out key achievements of the NHM in the past three years, the Centre noted that there had been a significant increase in human resources within the healthcare sec-

**With NHM, maternal mortality ratio has declined by 83% since 1990, which is higher than the global decline of 45%**

tor. "In FY 2021-22, NHM facilitated the engagement of 2.69 lakh additional healthcare workers, including general duty medical officers, specialists, staff nurses, AYUSH doctors, allied healthcare workers, and public health managers. Additionally, 90,740 community health officers (CHOs) were engaged. This number grew in subsequent years, with 4.21 lakh additional healthcare professionals engaged in FY 2022-23, including 1.29 lakh CHOs, and 5.23 lakh workers engaged in FY 2023-24, which includ-

ed 1.38 lakh CHOs," the report stated.

It further noted that under NHM, the Maternal Mortality Ratio (MMR) has declined by 83% since 1990, which is higher than the global decline of 45%. Infant Mortality Rate (IMR) has fallen from 39 per 1,000 live births in 2014 to 28 in 2020.

Moreover, the Total Fertility Rate (TFR) decreased from 2.3 in 2015 to 2.0 in 2020, according to the National Family Health Survey (NFHS-5). These improvements indicate that India is on track to meet its U.N. Sustainable Development Goals (SDG) targets for maternal, child, and infant mortality well ahead of 2030. The NHM has also been instrumental in the elimination and control of various diseases, including the incidence of TB.

### Achievements in Human Resources

- NHM has expanded human resources in the healthcare sector.
- In FY 2021-22, NHM added 2.69 lakh healthcare workers, including doctors, nurses, allied health professionals, and public health managers.
- In FY 2022-23, 4.21 lakh workers were engaged, including 1.29 lakh community health officers (CHOs).
- In FY 2023-24, 5.23 lakh healthcare professionals were added, including 1.38 lakh CHOs.

### Decline in Maternal and Infant Mortality

- The Maternal Mortality Ratio (MMR) has dropped by 83% since 1990, a much higher reduction than the global average of 45%.
- The Infant Mortality Rate (IMR) fell from 39 per 1,000 live births in 2014 to 28 in 2020.
- The Total Fertility Rate (TFR) decreased from 2.3 in 2015 to 2.0 in 2020.

### India's Progress Toward SDG Targets

- These improvements are indicators that India is on track to meet its United Nations Sustainable Development Goals (SDG) targets for maternal, child, and infant mortality ahead of the 2030 deadline.
- NHM has also contributed to the elimination and control of various diseases, including reducing the incidence of tuberculosis (TB).

### National Health Mission (NHM)

- Launched: 2005 by the Government of India under the Ministry of Health and Family Welfare.
- Objective: To improve healthcare delivery in rural and urban areas, particularly focusing on maternal and child health, and communicable diseases.
- Components: Reproductive, Maternal, Newborn, Child Health + Adolescent Health: Focus on reducing maternal and child mortality.
- Health System Strengthening: Improving health infrastructure and human resources.
- National Disease Control Programs: Addressing diseases like TB, malaria, and leprosy.
- AYUSH: Promoting traditional medicine for holistic health.
- Implementation: Primarily through State and District Health Missions.
- Funding: Shared between the central and state governments.
- Key Initiatives: Village health and sanitation committees, Janani Suraksha Yojana, ASHA workers.

### UPSC Mains Practice Question

**Ques :** Discuss the objectives, components, and challenges of the National Health Mission (NHM) in India. How does NHM contribute to achieving Universal Health Coverage? (150 Words /10 marks)

Researchers using NASA's James Webb Space Telescope (JWST) and Chandra X-ray Observatory have discovered a unique black hole, LID-568, offering new insights into supermassive black hole growth.

# Space telescopes stumble on rule-breaking black hole

LID-568 is a low-mass supermassive black hole that existed just 1.5 billion years after the Big Bang. An analysis of its effects on its neighbourhood has indicated that it was feeding on a surrounding cloud of matter at almost 40 times greater than what astrophysicists thought was the upper limit

Shreejaya Karantha

**A**n international team of researchers using NASA's James Webb Space Telescope (JWST) and the Chandra X-ray Observatory has discovered a bizarre black hole that may provide insights into the genesis and growth of supermassive black holes.

Supermassive black holes are among the most common types of black holes in the universe. Most galaxies contain a supermassive black hole at their centres. These black holes have masses ranging from millions to billions of times that of the sun. The supermassive black hole Sagittarius A\*, located at the center of the Milky Way galaxy, has a mass of approximately 4.3 million solar masses.

However, scientists are not yet fully certain how these giants grow to become so big.

### Beyond the upper limit

The newfound black hole, designated LID-568, is a low-mass supermassive black hole that existed just 1.5 billion years after the Big Bang. If the universe were a human, it could be said to be around eight years old at this time.

A detailed analysis of its effects on its neighbourhood indicated that the black hole was feeding on a surrounding cloud of matter at an exceptional rate – almost 40 times greater than what astrophysicists thought was the upper limit.

The study was led by International Gemini Observatory/NSF NOIRLab astronomer Hyewon Suh, and the results were published in the journal *Nature Astronomy* in November 2024.

"We first identified this unusual object through Chandra X-ray observations, as it was exceptionally bright in X-rays but completely invisible in the deepest optical and near-infrared observations, even with the Hubble Space Telescope," Suh, the lead researcher, said.

"Because it was only detected in X-rays, we couldn't determine its nature. With JWST's unparalleled sensitivity in the infrared, we were finally able to uncover this exotic object, highlighting the complementary power of these observatories," she added.

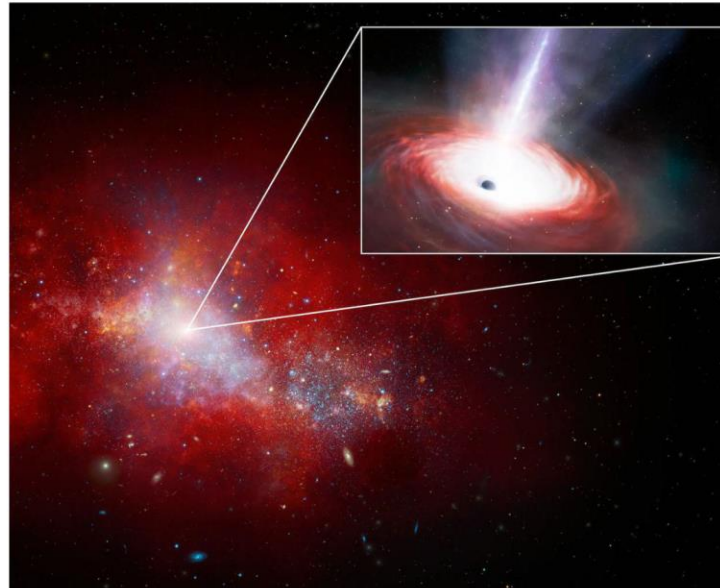
### A class apart

The rate at which a black hole feeds on matter is governed by what astronomers call the Eddington limit. This limit – named after the English astronomer Arthur Stanley Eddington because he worked it out first – is also related to how brightly a black hole can shine.

Nothing can escape a black hole, of course. But when a black hole pulls surrounding matter towards itself, the infalling material becomes compressed, heats up, and emits radiation, especially X-rays.

The concept behind the Eddington limit is straightforward: as matter collects around the black hole and gets packed into the disc, it heats up and emits radiation that generates an outward pressure capable of counteracting the gravitational pull of the black hole. When this radiation pressure balances the force of gravity, the black hole will stop accreting the matter. Ergo, there is a limit on how brightly the black hole can shine.

If this limit is crossed, the scenario is called a super-Eddington accretion. This



An artist's concept of a red, early-universe dwarf galaxy that hosts the black hole LID-568 at its centre. While short-lived, this black hole's 'feast' could help explain how supermassive black holes grew so quickly in the early universe. NOIRLab/NSF/AURA/J. DA SILVA/M. ZAMANI

is the category in which LID-568 lies.

Suh said that they measured the total light coming from the black hole and its mass using observations from Chandra and JWST's Near-Infrared Spectrograph instrument, which revealed the exceptional accretion behavior of LID-568.

Experts have hypothesised that super-Eddington black holes can exist. They have even found a few. But LID-568 has defied their expectation in two ways. First, it's much, much farther away. The most distant of these other black holes is "only" around 2.3 billion light years from earth. Second, while the known rule-breakers exceeded the Eddington limit by a factor of two or three, LID-568 has done so by a factor of roughly 40, according to Suh.

Super-Eddington episodes in black holes are expected to be short-lived, so it is also remarkable that researchers captured LID-568 in action.

### Making sense of the oddball

The existence of supermassive black holes that are millions or even billions of times more massive than our sun poses a challenge to current models of black hole formation and growth. Scientists have confirmed that such black holes reside at the centres of many galaxies that should have formed when the universe was less than a billion years old. However, they can't explain how these objects came to be when the universe was so young, when there shouldn't have been enough matter for them to form.

According to some traditional models, Suh said, "supermassive black holes are thought to form from the death of the first star, i.e., light seeds with 10-100 times the mass of the sun, and/or through the direct collapse of primordial gas clouds, such as heavy seeds with 1,000-100,000 times the mass of the sun."

"However, these models lack direct observational confirmation and require sustained, continuous accretion of large amounts of matter over several hundred million years to account for the most extreme supermassive black holes observed in the early universe, which is likely difficult," she added.

The discovery of LID-568 is crucial because it suggests that large black holes could have put on a significant fraction of their weight during short-lived episodes of rapid feeding. If true, this mechanism would do away with black holes having to feed on large quantities of matter for a very long time and offer "a convincing explanation for how supermassive black holes could form so quickly, regardless of their initial seed mass," whether heavy or light.

### Chasing more black holes

Suh also said there are several theories to explain how black holes can exceed the Eddington limit, including geometrically thick accretion discs, powerful black hole jets, and black-hole mergers. However, she said that her team still doesn't fully understand the exact mechanism that allowed LID-568 to feed so fast and that follow-up observations with JWST will be

**The existence of supermassive black holes millions or even billions of times more massive than our sun poses a challenge to current models of black hole formation. Scientists can't explain how they came to be when the universe was so young, when there shouldn't have been enough matter for them to form**

crucial to admitting or eliminating other hypotheses.

The researchers also found that the galaxy where LID-568 resided wasn't producing many new stars – the result of the black supermassive hole driving powerful streams of material outward from the centre, called outflows. These outflows could be preventing matter from accumulating in enough quantities to form stars.

To confirm this idea as well as to inform it with more data, Suh said she and her team are planning to examine similar galaxies and examine their outflows, especially those driven by very large black fast-snacking holes.

The research team is also planning to find out how long a black hole can accrue matter at a super-Eddington rate as well as what percentage of all black holes do so.

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### Exceptional Accretion Rate

- LID-568 is a low-mass supermassive black hole that existed 1.5 billion years after the Big Bang, a time when the universe was just 8 years old.
- LID-568's accretion rate exceeds the Eddington limit by a factor of 40, making it an extreme example of super-Eddington behavior.

### Eddington Limit:

- The Eddington limit is the maximum rate at which a black hole can pull in matter.
- It occurs when the outward pressure from the radiation emitted by the matter equals the black hole's gravitational pull.
- If this limit is exceeded, the black hole can start emitting powerful radiation.

### Implications for Black Hole Growth

- This discovery challenges current models of black hole formation.
- It suggests that supermassive black holes could have gained significant mass in shorter periods through rapid feeding, offering an explanation for how they can form quickly in the early universe.
- The findings also indicate that black hole jets and powerful accretion discs might explain this rapid feeding.

### Future Research

- Further observations are needed to understand how black holes like LID-568 can exceed the Eddington limit.
- The team plans to study other galaxies with similar black holes to confirm these findings and explore their long-term implications.

The Maharashtra Food and Drugs Administration (FDA) has issued a directive allowing homeopathic practitioners, who have completed a certificate course in modern pharmacology, to prescribe allopathic medications.

# Is the government encouraging 'crosspathy'?

Why did the Maharashtra Food and Drugs Administration issue a directive allowing homeopathic practitioners to prescribe allopathic medicines?

**Zubeda Hamid**

**The story so far:**

The Maharashtra Food and Drugs Administration has, in a recent directive, allowed homeopathic practitioners, who have completed a certificate course in modern pharmacology, to prescribe allopathic medications.

**Why is it being challenged?**

In 2017, the Maharashtra Medical Education and Drug Department had issued a notification allowing homeopathic practitioners to practise modern medicine. As per this notification, doctors who had obtained the Licentiate of the Court of Examiners of Homeopathy degree from 1951-1982 (the degree was abolished in 1982), and were registered with the Maharashtra Medical Council, were allowed to practise

modern medicine. This directive was challenged in the Bombay High Court by the Indian Medical Association (IMA). The High Court issued a stay, with the Bench questioning the risk that could be posed to patients if these doctors were allowed to practise allopathy.

IMA Maharashtra president Santosh Kadam said it was unclear why the Maharashtra FDA had now issued this directive. He said that even the central body for homeopathy had no provision to allow its practitioners to practise another stream of medicine and that 'crosspathy' was banned by the Supreme Court. Following the Bombay High Court stay, homeopathic practitioners were not allowed to prescribe allopathic medication, until the final decision of the court came in, he said.

Former secretary of the IMA, Maharashtra, Parthiv Sanghvi, pointed out that the issue has been portrayed as

the Maharashtra government allowing homeopathic practitioners to practise modern medicine – which is not the case, as this has already been stayed by the High Court. "This was a direction to chemists to entertain allopathic prescriptions of homeopathic practitioners. But who has given the FDA the authority to issue such a directive, in light of the fact that court has stayed the order allowing homeopathic practitioners to practise modern medicine," he asked.

**What is SC's stance on 'crosspathy'?**

In 1996, in *Poonam Verma versus Ashwin Patel and Others*, which involved a homeopath treating a patient with allopathic medications and the patient subsequently dying, the Supreme Court held the homeopath liable for negligence as he had prescribed medications that he was not qualified to. A 2015 research paper by Suresh Bada Math et al states:

"Across judgments, the judiciary has held that cross-system practice is a form of medical negligence; however, it is permitted only in those states where the concerned governments have authorised it by a general or special order."

**Is there a shortage of doctors?**

The Central government has been promoting AYUSH medicine for some years now, with a push being given to integrative/integrated medicine. The rationale, in general, has been that India has a shortage of doctors, particularly in rural areas, and that the AYUSH cadre of practitioners can help fill in these gaps.

As per a Parliament statement in February 2024, there are 13,08,009 allopathic doctors registered with the State medical councils and the National Medical Commission as on June 2022, and 5.65 lakh AYUSH doctors. The shortage of specialists is dire – the Health Dynamics of India 2022-23 report reveals a nearly 80% shortage of specialist doctors in community health centres across rural India. Public health specialist Soham Bhaduri pointed out that while there is evidence that mid-level providers can provide care of comparable quality to that of medical doctors, their orderly integration into the system is crucial.

"Allowing just any cadre of alternative medical practitioners to assume roles and functions that are meant for medical doctors is a recipe for anarchy."

**THE GIST**

▼ In 2017, the Maharashtra Medical Education and Drug Department had issued a notification allowing homeopathic practitioners to practise modern medicine. This directive was challenged in the Bombay High Court by the Indian Medical Association.

▼ The Central government has been promoting AYUSH medicine for some years now, with a push being given to integrative/integrated medicine.

▼ The rationale, in general, has been that India has a shortage of doctors, particularly in rural areas, and that the AYUSH cadre of practitioners can help fill in these gaps.

## Previous Notification and Legal Challenge

- In 2017, the Maharashtra Medical Education and Drug Department had issued a notification allowing homeopathic practitioners with the Licentiate of the Court of Examiners of Homeopathy degree (issued from 1951-1982) to practice modern medicine.
- This was later challenged in the Bombay High Court by the Indian Medical Association (IMA), questioning the safety and risk of allowing these homeopathic practitioners to prescribe modern medicines.
- The court issued a stay on the notification, raising concerns about potential harm to patients if homeopathic practitioners were allowed to practice allopathy.

## Confusion Over Recent FDA Directive

- The IMA expressed confusion over the Maharashtra FDA's recent directive, as the central homeopathy body does not permit its practitioners to prescribe allopathic medicines.

- The IMA also clarified that the directive issued by the FDA does not allow homeopathic practitioners to practice modern medicine, as the High Court's stay is still in place.

### What is 'crosspathy'?

- Crosspathy is when a practitioner of one medical system, like homeopathy, prescribes treatments from another system, such as allopathy.
- For example, a homeopath prescribing allopathic drugs for a patient's illness.
- The practice of 'crosspathy'—the act of practicing medicine outside one's qualifications—is banned by the Supreme Court, which has previously ruled it as medical negligence.

### Supreme Court's Stance on 'Crosspathy'

- In the 1996 case Poonam Verma versus Ashwin Patel, the Supreme Court found that a homeopath who prescribed allopathic medications was guilty of negligence, as they lacked the required qualifications.
- The Court has consistently ruled that cross-system practice, or prescribing treatments outside one's medical expertise, is considered negligent, unless authorized by the government through specific orders.

### Concerns Regarding 'Crosspathy':

- Potential for Misdiagnosis and Incorrect Treatment: Practitioners outside their expertise may lack necessary knowledge, leading to misdiagnosis and inappropriate treatments.
- Drug Interactions and Side Effects: Combining medications from different systems increases the risk of harmful drug interactions and unexpected side effects.
- Ethical Concerns: Cross-pathy practice may violate ethical principles of providing competent, safe care and be considered professional misconduct.
- Lack of Clear Regulations: The absence of regulations governing cross-pathy practice creates ambiguity and potential legal issues.

### Shortage of Doctors in India

- India faces a severe shortage of doctors, especially in rural areas. As of June 2022, there are over 13 lakh allopathic doctors and 5.65 lakh AYUSH doctors in India.
- The shortage of specialist doctors is critical, with reports revealing an 80% shortage in community health centers in rural areas.

- Experts argue that while mid-level health providers can offer quality care, it is important to integrate them properly into the system.
- Allowing alternative medical practitioners to take on roles meant for trained doctors could lead to confusion and mismanagement.

### Conclusion

- The Maharashtra FDA's directive has raised legal concerns and confusion regarding the role of homeopathic practitioners.
- Patient safety is at risk if proper guidelines are not followed.
- A more structured integration of healthcare professionals is essential.

### UPSC Mians Practice Question

**Ques :** Evaluate the implications of "crosspathy" on patient safety, medical ethics, and the healthcare system's integrity. **(150 Words /10 marks)**



The Indian maritime sector requires \$1 trillion by 2047 and ₹5 lakh crore by 2030 to realize its full potential, according to the Secretary of Ports Ministry.

# ‘India’s maritime sector needs investment of \$1 trillion by 2047’

## The Hindu Bureau

MUMBAI

The Indian maritime sector would need an investment of \$1 trillion by 2047 and ₹5 lakh crore by 2030 to harness its full potential, T.K. Ramachandran, Secretary, Union Ministry of Ports, Shipping & Waterways said on Wednesday.

He said steps have been taken for the establishment of green hydrogen production hubs at Paradip, Tuticorin and Kandla ports for the decarbonisation of the shipping sector.

Speaking at the FICCI Maritime Conference and Expo 2025 in Mumbai he said that several companies had already leased 4,000 acres of land near at these ports for green hydrogen facilities and production is expected to be



T.K. Ramachandran

gin within a year.

“Half a dozen companies have come forward to invest in these places,” Mr. Ramachandran added.

He said the Hong Kong Convention on Ship Recycling which would take effect from June, would benefit Indian shipyards as recycling yards at Alang are already complying with the Convention’s standards, positioning India as a global ship recycling market. Speaking on the occasion, Union Minister for

Ports, Shipping & Waterways said India’s maritime sector has become cornerstone of the country’s economic resurgence and India’s port capacity would increase sixfolds to 10,000 MT per annum by 2047.

This would make India one the top 10 maritime countries in the globe, he said. He said India’s major ports are already handling 820 MMT of cargo annually, which is a 47% growth since 2014. The overall port capacity has doubled to 1,630 MMT during the same period he said.

Stating that India has entered era of Mega Ports, the Minister said the VadHAVAN Port in Maharashtra is set to become India’s largest container facility, and the International Container Transshipment Port at Galathea Bay in Great Nico-

bar would capture transshipment trade along key global routes.

“These achievements epitomise our vision of Ports for Prosperity, where infrastructure serves as a springboard for economic growth and job creation,” he added.

Emphasising that the modernisation drive in the maritime sector has already yielded significant efficiency gains, he said the container dwelling time has now reduced to three days, while vessel turnaround time has improved to 0.9 days, surpassing several advanced economies.

“Nine Indian ports now feature in the World Bank’s Container Port Performance Index 2023, with Visakhapatnam ranking among the top 20 globally,” he said.

## Analysis of the news:

- ➔ Steps have been taken to establish green hydrogen production hubs at Paradip, Tuticorin, and Kandla ports to decarbonize the shipping sector.

- ▶ India's port capacity is set to increase sixfold by 2047, making the country one of the top 10 maritime nations.
- ▶ India's major ports have shown significant growth, with a 47% increase in cargo handling since 2014.
- ▶ Modernization efforts have reduced container dwell time to three days and vessel turnaround time to 0.9 days.
- ▶ Nine Indian ports are listed in the World Bank's Container Port Performance Index 2023, with Visakhapatnam among the top 20.



### In News : Minimum Support Prices (MSP) for Raw Jute

The Cabinet has approved an increase in the MSP of Raw Jute for the 2025-26 season to Rs.5,650 per quintal.

#### What is Minimum Support Price (MSP)?

- ▶ Minimum Support Price (MSP) is the price at which the Government of India guarantees the purchase of certain agricultural products from farmers, ensuring they receive a fair and stable income. It is set annually for various crops, including cereals, pulses, oilseeds, and commercial crops.
- ▶ MSP aims to protect farmers from price fluctuations in the market, ensuring they are compensated for their production costs and providing a safety net.
- ▶ The Government of India fixes the Minimum Support Price (MSP) for 22 mandated agricultural crops based on the recommendations of the Commission for Agricultural Costs & Prices (CACP). Additionally, the views of State Governments and relevant Central Ministries/Departments are considered in the process.

#### List of Crops Covered Under Minimum Support Price (MSP):

- ▶ MSP is declared for 22 crops, including various Kharif, Rabi, and other crops.
- ▶ Kharif crops – Paddy, Jowar, Bajra, Ragi, Maize, Tur, Moong, Urad, Groundnut, Sunflower Seed, Soyabean, Sesamum, Nigerseed, and Cotton.
- ▶ Rabi crops – Wheat, Barley, Gram, Masur, Rapeseed & Mustard, and Safflower.
- ▶ Other crops – Copra (Milling and Ball) and Jute.

### UPSC Mains PYQ 2018

**Ques : What do you mean by Minimum Support Price (MSP)? How will MSP rescue the farmers from the low income trap? (150 words/10m)**

**Page : 08 Editorial Analysis**

## **An exit of bluster**

The rest of the world must reassess the U.S.'s role in fighting climate change

**P**resident Donald Trump has fired his hoitzers at multilateralism by signing into decree the United States' withdrawal from the 2015 Paris Agreement. This sets records that are in a class of their own. The U.S. is the only country to have withdrawn thrice from a climate agreement – beginning with George W. Bush's withdrawal, in 2001, from the Kyoto Protocol. Mr. Trump, of course, sets a new low by being the only President to withdraw from a climate agreement twice. In the run-up to the decree, there is a pall of gloom in the climate world over what the U.S.'s latest exit might mean, particularly when the globe has finished its first full calendar year above the 1.5° Celsius mark.

The U.S. is the second largest emitter of greenhouse gases. By virtue of being the most powerful economy, it has arrogated to itself the mantle of 'global leadership' in addressing climate change. But now that the leader has had the spottiest track record of keeping to the terms of a significant agreement – one, whose rule book the U.S. played a major role in compiling – perhaps it is time for the rest of the world to reassess America's role in addressing climate change. Under both Republican and Democratic governments, U.S. domestic policy on greenhouse gas emissions has been subservient to business interests. Oil and gas production increased under the Biden administration. The U.S. remains the world's largest crude oil producer, achieving record production in 2023. The country is also the world's largest producer of gas and, in 2022, became the world's largest exporter for liquified natural gas (LNG). Mr. Trump has only committed to add on to this already substantial base. The U.S. is critically short of achieving its target of greenhouse gas emissions. As of 2022, the U.S. has achieved only about one-third of its 2030 emissions reduction target. In the last weeks of his Presidency, Mr. Biden increased the U.S.'s emission-reduction commitments to 61%-66% of 2005 levels by 2035. This too, calculations suggest, will be insufficient to meet a 1.5° C target. Private capital propping up renewable energy has grown exponentially since Mr. Bush, and is now too substantial for Mr. Trump and his financial backers to ignore. While it will take a year for the exit to be formalised, it is likely that the U.S.'s behind-the-scenes engagement – especially at the next climate meet (COP 30) in Brazil in November 2025 – will continue. The politics of Mr. Trump suggests that he is not averse to running with the hare and hunting with the hounds.

**GS Paper 02 : International Relations**

**UPSC Mains Practice Question:** Analyze the implications of the United States' withdrawal from the Paris Agreement on global climate change efforts and the challenges it poses for international cooperation. **(150 Words /10 marks)**

**Context :**

- President Donald Trump signed a decree for the U.S. to withdraw from the 2015 Paris Agreement on climate change.
- The U.S. is the only country to have withdrawn three times from climate agreements, including the Kyoto Protocol in 2001 and twice from the Paris Agreement under Trump.

**U.S.'s Greenhouse Gas Emissions**

- This move casts doubt on global climate commitments, especially as the Earth has exceeded the 1.5°C warming mark for a full calendar year.
- The U.S. is the world's second-largest emitter of greenhouse gases and is viewed as a global leader in addressing climate change.

**Impact of U.S. Withdrawal from the Paris Agreement**

- **Global Climate Leadership:** The U.S. withdrawal weakens global climate leadership, making it harder to drive international cooperation on climate change.
- **Delayed Emission Reductions:** Reduced U.S. commitment may delay progress toward achieving global emissions reduction targets, exacerbating climate change impacts.
- **Shift in Global Dynamics:** Other countries may adjust their climate strategies, potentially weakening the collective effort to meet the 1.5°C target.
- **Geopolitical Tensions:** U.S. actions could heighten geopolitical tensions, particularly with countries focused on sustainable development.

**Inconsistencies in U.S. Climate Policy**

- Both Republican and Democratic administrations have prioritized business interests in domestic climate policies.

- Despite climate commitments, oil and gas production in the U.S. has increased, making it the largest global producer of crude oil and gas.
- In 2022, the U.S. became the largest exporter of liquefied natural gas (LNG).

### Shortfalls in Emission Targets

- The U.S. has achieved only one-third of its 2030 greenhouse gas reduction targets as of 2022.
- President Biden committed to a 61%-66% reduction in emissions by 2035, which experts believe is insufficient to meet the 1.5°C global warming target.

### Future Prospects

- Renewable energy investments have grown significantly, limiting the extent of policy rollback.
  - While formal withdrawal will take a year, U.S. engagement in global climate forums like COP 30 in Brazil may persist.
  - Trump's approach suggests a dual strategy, balancing domestic interests while engaging selectively in international climate discussions.
-