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Daily News Analysis

The Hindu Important News Articles & Editorial For UPSC CSE

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Daily News Analysis

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A new species of jumping spider belonging to the Pilia genus has been discovered in Madhugundi village, Mudigere taluk, Chikkamagaluru district, Karnataka. Named Pilia malenadu, the discovery marks a significant addition to India's arachnid biodiversity, especially since the last known Pilia species was discovered over a century ago (in 1902, Kerala).

Researchers discover new species of *Pilia genus* of jumping spider in Chikkamagaluru

Sathish G.T.
SHIVAMOGGA

A team of researchers exploring biodiversity in the Western Ghats discovered a new species of spider belonging to *Pilia*, a genus of jumping spiders, at Madhugundi village in Mudigere taluk of Chikkamagaluru. Interestingly, the researchers named it "*Pilia malenadu*", to give credit to the place it was found.

The discovery, which has been published in *Zootaxa*, an international journal, is significant because the last time a species of spiders belonging to *Pilia genus*, was discovered about 123 years ago (1902) in Kerala. There are multiple species in one genus.

The new species of spider "*Pilia malenadu*" that was discovered in Madhugundi, Chikkamagaluru. AJITH PADIYAR

Further, the researchers, for the first time, have found both male and female spiders of the species.

Ajit Padiyar, working as a naturalist at a resort at Madhugundi, spotted the 24 individuals of the spider species, which were later named "*Pilia malenadu*". They included 17 males, three females and four juveniles.

Padiyar had found saffron reedtail, a rare species of damselfly endemic to the Western Ghats at the same place last year.

Healthy ecosystem

"The discovery of such rare species at Madhugundi village at the foothills of Western Ghats, indicates the healthy ecosystem at the place and stress the need to retain it," Mr. Padiyar said.

The researchers noticed that these spiders were found only two plant species – *Memecylon umbellatum* and *Memecylon malabaricum*.

"Our study shows the spiders are habitat specific. If we fail to conserve the habitat, there are chances of losing the species," said Mr. Padiyar.

Key Details of the Discovery

- Species Name: Pilia malenadu
- Location: Madhugundi village, Chikkamagaluru district, Karnataka (Western Ghats region)
- Researchers: Team including Ajit Padiyar, a naturalist based in Madhugundi
- Specimens Found: 24 individuals – 17 males, 3 females, and 4 juveniles
- Published In: Zootaxa, an international scientific journal
- Habitat: Found exclusively on two plant species — Memecylon umbellatum and Memecylon malabaricum

Significance of the Discovery

1. Biodiversity Indicator: The presence of such unique species highlights the rich and still underexplored biodiversity of the Western Ghats, a UNESCO World Heritage site and one of the eight "hottest biodiversity hotspots" in the world.
2. Ecological Health: The discovery indicates a healthy local ecosystem in Madhugundi, emphasizing the importance of conserving microhabitats at the foothills of the Western Ghats.
3. Conservation Importance: As the spiders are habitat-specific, any disturbance or destruction of the Memecylon-dominated vegetation could lead to their extinction. This underlines the urgent need for habitat-based conservation strategies.
4. Scientific Relevance: Finding both male and female specimens for the first time provides a more complete understanding of the species' morphology and behavior, contributing to taxonomic and evolutionary studies.

Conclusion

The discovery of Pilia malenadu reaffirms the ecological richness of the Western Ghats and underscores the need for sustainable conservation practices that protect microhabitats and endemic species. Such findings also remind policymakers and researchers of the unexplored potential within India's natural landscapes, calling for continued biodiversity research and habitat protection.

UPSC Prelims Practice Question

Ques: Recently, the species Pilia malenadu was in news. It refers to—

(A) A newly discovered species of butterfly in the Nilgiris

(B) A new species of jumping spider discovered in the Western Ghats

(C) A medicinal plant endemic to the Eastern Ghats

(D) A bird species found in the Himalayas

Ans: b)

Page 07 : GS 3 : Environment / Prelims

The Supreme Court of India has agreed to examine whether the **ban on married couples with one existing child from availing surrogacy** under the Surrogacy (Regulation) Act, 2021 violates their **reproductive rights and personal liberty** under Article 21 of the Constitution. The case raises vital questions about the balance between **individual reproductive autonomy** and **state-imposed population or ethical regulations**.

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Daily News Analysis

SC to review surrogacy ban on couples with one child

Centre says there is no basic right to surrogacy, which involves the use of another woman's body; petitioner cites secondary fertility is emotionally taxing, notes India has no one-child policy

Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Tuesday decided to examine whether a law banning married couples facing secondary infertility from using surrogacy to have a second child amounts to a state restriction on the reproductive choices of citizens.

The Union government has supported the constitutionality of the legal provision, Section 4(iii)(C)(II) of the Surrogacy (Regulation) Act, 2021, arguing that availing surrogacy cannot be claimed as a fundamental right. It has contended that surrogacy involves the use of the womb of another woman, the surrogate mother, and should be availed only after all other options to attain parenthood have failed, including natural birth and assisted reproductive technologies (ART).

"The Constitution does not recognise a right over another individual's body. Thus, the right to avail surrogacy cannot be claimed as a fundamental right and exists purely as a statutory right subject to conditions/restrictions prescribed in the 2021 Act," the government submitted in the top court.

> Secondary infertility is a complex and emotionally challenging condition faced by couples who struggle to conceive a second child. Often burdened by stigma and misconceptions, this can be as distressing as primary infertility
>
> **MOHINI PRIYA**
> Advocate for petitioner

'Emotional toll'

Appearing before a Bench headed by Justice B.V. Nagarathna on Tuesday, advocate Mohini Priya, representing a couple facing secondary infertility and seeking to use surrogacy, argued that the state cannot interfere in the private lives and reproductive choices of citizens.

"Secondary infertility is a complex and emotionally challenging issue that many couples face when they struggle to conceive a second child after having successfully given birth to one or more children previously. This condition, often shrouded in stigma and misconceptions, can be just as distressing as primary infertility," Ms. Priya submitted.

The lawyer submitted that the definition of "infertility" in the context of surrogacy both in the ART Act and the Surrogacy Act was not restricted to primary infertility. She urged the court to read down Section 4(iii)(C)(II) to allow couples with secondary infertility to have a second child through surrogacy.

Balancing interests

The government pointed to the proviso to the Section, which offers an exception for couples with a child who is mentally or physically challenged or suffers from a life-threatening disorder or a fatal illness with no permanent cure. This applies whether their existing child is biologically theirs, adopted, or through surrogacy.

"This is a well-considered provision which balances the interests of an intending couple who may have a genuine, grave need to have a second child through surrogacy, while ensuring that a surrogacy procedure is not availed and a surrogate mother does not undergo an entire pregnancy when the intending couple already has a healthy, living child," the Centre said, backing the restriction.

'No one-child policy'

Justice Nagarathna orally remarked in court that the restriction imposed under the provision was "reasonable". The judge, on one occasion, referred to the burgeoning population of the country.

Ms. Priya noted that the country does not have a "one-child policy", insisting that couples could ensure the best interests of their first child while availing of surrogacy for a second child. She referred to the Adoption Regulations, 2017 under the Juvenile Justice Act, 2015, which allow three children of any gender to be adopted.

What is Surrogacy?

- **About:** Surrogacy is an arrangement where a woman, known as the surrogate mother, agrees to carry and deliver a baby for another individual or couple, known as the intended parents.
- Types:
    - **Traditional Surrogacy:** Traditional surrogacy involves using the intended father's sperm to fertilise the surrogate's egg. The surrogate carries the pregnancy to term, and the resulting baby is biologically related to the surrogate mother and the intended father.

- **Gestational Surrogacy:** In gestational surrogacy, the baby is not biologically related to the surrogate. An embryo, created using the intended father's sperm (or donor sperm) and the biological mother's egg (or donor egg), is implanted into the surrogate's uterus for her to carry to term.

- **Surrogacy Arrangements:**
  - **Altruistic Surrogacy:** It refers to a surrogacy arrangement where the surrogate does not receive financial compensation beyond reimbursement for medical expenses and other related costs. The primary motivation for the surrogate in altruistic surrogacy is typically to help another individual or couple achieve their dream of having a child.
  - **Commercial Surrogacy:** It involves a contractual agreement where the surrogate mother receives financial compensation beyond just reimbursement for medical expenses and other costs associated with the pregnancy. This compensation may vary depending on factors such as location, legal regulations, and the specific terms of the surrogacy agreement.

Key Issues Before the Court

1. **Reproductive Rights vs. State Control:**
   - Whether banning surrogacy for couples with one child infringes on the **constitutional right to reproductive autonomy** under Article 21.
   - The petitioner argues that **secondary infertility** is equally distressing and should not disqualify couples from accessing surrogacy.
2. **Ethical and Social Concerns:**
   - The government contends that surrogacy should be the **last resort**, used only after exhausting natural and assisted reproductive technologies (ART).
   - It also aims to **protect surrogate mothers** from unnecessary exploitation or medical risk.
3. **Policy Perspective:**
   - The restriction seeks to ensure **ethical use of surrogacy** and discourage its commercialization.
   - However, critics argue that India does **not follow a one-child policy**, and thus, the restriction seems inconsistent with broader reproductive and family norms.

Legal and Ethical Dimensions

- **Article 21 (Right to Life and Personal Liberty):** Includes the right to privacy, dignity, and reproductive choice (Justice K.S. Puttaswamy v. Union of India, 2017).
- **Balancing Rights:** The Court must weigh **individual liberty** against **societal interests** and the **protection of women's bodies** involved in surrogacy.
- **Judicial Observations:** Justice B.V. Nagarathna termed the restriction "reasonable," referencing India's growing population, but acknowledged the need to review its proportionality.

What are the Major Provisions of the Amended Surrogacy Rules?

- **Background:** The March 2023 amended rules only permitted the use of the intending couple's own gametes, barring couples with specific medical conditions from having biological children through surrogacy.
- These restrictions caused distress and challenged the right to parenthood for affected couples.
- It faced legal challenges in the Supreme Court by a woman with Mayer-Rokitansky-Kuster-Hauser (MRKH) Syndrome, a congenital disorder causing infertility.
- The Supreme Court expressed skepticism regarding the efficacy of these regulations, asserting that such rules undermined the fundamental objectives of surrogacy.
- Recent Amended Provisions: It allows surrogacy with donor gametes if either spouse in the intending couple is certified by the District Medical Board to require donor gametes due to a medical condition.
- This implies that couples still cannot opt for surrogacy if both partners have medical issues.
- For divorced or widowed women opting for surrogacy, it mandates the use of the woman's own eggs alongside donor sperm.

Conclusion

The Supreme Court's review of the surrogacy restriction is a critical moment in defining **India's reproductive rights jurisprudence**. The case reflects the ongoing tension between **individual freedom and state regulation** in matters of family, morality, and public health. A balanced judgment could help ensure both — **ethical use of surrogacy** and **respect for reproductive autonomy**, aligning India's laws with constitutional values of dignity and choice.

UPSC Prelims Practice Question

Ques: Under the Surrogacy (Regulation) Act, 2021, which of the following statements is/are correct?

1. Only altruistic surrogacy is permitted in India.

2. A married couple having one biological or adopted child cannot opt for surrogacy, except under specific medical conditions.

3. The Act allows single women to become surrogate mothers.

Select the correct answer using the code given below:

(A) 1 and 2 only

(B) 2 and 3 only

(C) 1 and 3 only

(D) 1, 2 and 3

Ans: a)

UPSC Mains Practice Question

Ques: Reproductive autonomy is an essential part of the right to privacy under Article 21. In light of this statement, critically analyse the constitutional and ethical issues surrounding the ban on surrogacy for couples with one child under the Surrogacy (Regulation) Act, 2021. **(150 Words)**

Daily News Analysis

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A recent theoretical study, published in Nuclear Physics B (August 2024), has proposed that tiny remnants of black hole mergers — dubbed "black hole morsels" — may produce detectable gamma-ray bursts, potentially offering the first observational evidence of quantum gravity. This research bridges the long-standing gap between Einstein's theory of general relativity (gravity at large scales) and quantum mechanics (physics at subatomic scales).

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Daily News Analysis

Gamma-ray bursts from black hole 'morsels' could expose quantum gravity

Gravity and quantum physics interact at the event horizons of black holes, though physicists don't understand all the details; a new theoretical study has proposed that very small black holes, dubbed black hole 'morsels,' possibly formed in violent cosmic collisions could serve as more unique probes of quantum gravity

Qudsia Gani

We know gravity as the force that keeps our feet on the ground and makes things fall 'down.' It also keeps the moon orbiting the earth and holds the planets around the Sun. However, when we zoom into the tiniest scales of reality, far smaller than atoms, the rules of physics begin to change. The strange laws of quantum mechanics take over, where particles can appear and vanish, or even exist in a superposition of two places at once. Nothing is completely certain in this quantum realm.

The other forces of nature, such as electromagnetism, have been successfully described in the quantum framework. Gravity has however resisted such treatment. Its strength is extraordinarily low compared to the other forces, making the quantum effects of gravity hard to probe. The mathematics required to merge quantum mechanics with gravity is also notoriously difficult. Physicists also lack the technology and experiments to fully explore it.

Natural laboratory

This is why a black hole is often cited as the best natural laboratory to study quantum gravity. These are regions of spacetime where gravity is so intense that nothing, not even light, can escape. Yet black holes are not entirely 'black'. In the 1970s, the English theoretical physicist Stephen Hawking showed that they should leak a faint amount of energy, now called Hawking radiation, due to quantum effects near the event horizon, the boundary beyond which nothing can escape.

This prediction suggested that gravity and quantum physics do interact, though physicists don't yet understand all the details. In this context, a new theoretical study proposes that very small black holes – dubbed "black hole morsels" – possibly formed in violent cosmic collisions could serve as more unique probes of quantum gravity.

"Black hole morsels are hypothetical micro black holes, far smaller than their parent black holes – roughly comparable in mass to asteroids – and therefore much hotter," Giacomo Cacciapaglia, a researcher at the French National Centre for Scientific Research (CNRS) and co-author of the new study, said in a statement.

The paper was accepted for publication in *Nuclear Physics B* in August.

Radiate strongly

Black hole morsels are remnants of black hole mergers and could provide unprecedented insights into the quantum nature of space and time. Remarkably, the researchers have argued that signals from these morsels could, in favourable conditions, already be detectable with present-day gamma-ray telescopes.

"Our work shows that if these objects form, their radiation might already be observable using current gamma-ray telescopes," Francesco Sannino, a theoretical physicist at the University of Southern Denmark and another coauthor, said.

The idea rests on the question: how does gravity behave at the quantum level?

Like their parent black holes, the morsels would also emit Hawking radiation, but at much higher temperatures. Large astrophysical black holes are far too cold for their radiation to be detectable. Small black holes, however, would radiate strongly, in principle producing observable high-energy photons and neutrinos.

Because of their elevated temperatures, the morsels would also evaporate quickly, releasing bursts of high-energy particles. The calculations suggest that these bursts would form a distinct, detectable signature that could manifest as a delayed emission of gamma rays after a black hole merger event.

Delayed burst

Although morsels have not yet been observed, the researchers have contended that their formation is plausible. In the extreme conditions of a black hole merger, the collision might "pinch off" small, dense pockets of spacetime sufficient to form morsels. These would then evaporate through Hawking radiation, with lifetimes ranging from milliseconds to years depending on their mass.

Detectors such as HAWC in Mexico would be well-suited to search for the predicted observational signature of radiation from black hole morsels. JORDANKOZDRON (CC BY-SA)

> We showed that if black hole morsels are created during mergers, they would produce a burst of high-energy gamma rays, with the delay time related to their mass
>
> GIACOMO CACCIAPAGLIA
> FRENCH NATIONAL CENTRE FOR SCIENTIFIC RESEARCH

Detecting Hawking radiation from morsels would be more than an observational novelty. Hawking radiation carries imprints of the underlying quantum structure of spacetime. Its spectrum could, in principle, reveal deviations from existing theories of subatomic particles and point to 'new physics.' While such interpretations remain speculative, the morsel scenario offers a rare and testable window into quantum gravity – an area that usually lies far beyond experimental reach.

Because particle accelerators like the Large Hadron Collider in Europe can't probe such extreme energy scales, these natural laboratories could act as "cosmic accelerators," giving physicists access to energy regimes otherwise inaccessible on the earth.

The predicted observational signature would be a delayed burst of high-energy gamma rays radiating more isotropically – i.e., equally in all directions – than traditional gamma ray bursts, which are usually concentrated into beams. Several existing instruments are well suited to search for such bursts. They include the High Energy Stereoscopic System (HESS) in Namibia, the High-Altitude Water Cherenkov Observatory (HAWC) in Mexico, the Large High Altitude Air Shower Observatory (LHAASO) in China, and the Fermi Gamma-ray Space Telescope in orbit around the earth.

True nature of space

Going beyond theory, the researchers also analysed data collected by HESS, when it followed up on the large black hole merger events, to place upper limits on the masses that could have been pinched off as morsels. They called this their first attempt to test their hypothesis observationally.

"We showed that if black hole morsels are created during mergers, they would produce a burst of high-energy gamma rays, with the delay time related to their mass," Dr. Cacciapaglia said. "Our analysis shows this new type of multi-messenger signal could give us direct experimental access to quantum gravitational phenomena."

Despite the excitement, many uncertainties remain. The precise conditions in which morsels might form are not yet known, and full simulations of the merger dynamics are lacking. The authors also said they plan to refine their models and explore more realistic mass scenarios, while astronomers continue to search through current and future datasets.

Ultimately, if morsels exist, they could help answer some of the deepest questions in physics about the true nature of space, time, and gravity.

(Qudsia Gani is an assistant professor in the Department of Physics, Government Degree College Nattan, Baramulla. qudsiagani6@gmail.com)

THE GIST

Gravity has resisted description in the quantum framework. Its strength is extraordinarily low, making the quantum effects of gravity hard to probe. The mathematics required is also notoriously difficult.

A black hole is cited as the best natural laboratory to study quantum gravity. Yet black holes are not entirely 'black.' Stephen Hawking showed that they should leak a faint amount of energy, now called Hawking radiation, due to quantum effects near the event horizon.

To verify this radiation, researchers are exploring black hole morsels. This is important because Hawking radiation carries imprints of the underlying quantum structure of spacetime. It could reveal deviations from existing theories of subatomic particles and point to 'new physics'.

Background: The Gravity–Quantum Puzzle

- Gravity explains the structure of the universe but fails at quantum scales.
- Quantum mechanics successfully describes subatomic interactions but doesn't include gravity.
- Quantum gravity seeks to unify these two frameworks — one of modern physics' greatest unsolved challenges.
- Black holes act as natural laboratories where gravitational and quantum effects intersect, especially at their event horizons.

Key Concept: Black Hole 'Morsels'

- Proposed by researchers Giacomo Cacciapaglia (CNRS) and Francesco Sannino (University of Southern Denmark).
- Black hole morsels are micro black holes — remnants formed when two massive black holes merge.
- They are much smaller (asteroid-sized masses) but extremely hot, leading to intense Hawking radiation — a quantum effect predicted by Stephen Hawking (1970s).

Theoretical Highlights

1. **Formation Mechanism:**
   - During a black hole merger, violent spacetime distortions might "pinch off" small, dense fragments — the morsels.
2. **Observable Signature:**
   - These morsels could emit high-energy gamma rays and neutrinos as they evaporate.
   - The delayed gamma-ray bursts (milliseconds to years after merger) could serve as unique observational evidence.
3. **Detection Potential:**
   - Instruments such as HAWC (Mexico), HESS (Namibia), LHAASO (China), and Fermi Gamma-ray Space Telescope are capable of detecting such bursts.
4. **Empirical Tests:**
   - Researchers analysed HESS data from previous black hole mergers to set upper limits on potential morsel masses.
   - This marks the first observational attempt to test a quantum gravity-related prediction using real astronomical data.

Challenges and Uncertainties

- Formation of morsels remains theoretical — not yet observed.
- Requires extreme astrophysical conditions and advanced simulations.
- Distinguishing morsel signals from conventional gamma-ray bursts will be complex.

Conclusion

The "black hole morsel" hypothesis represents a promising step toward observing quantum gravity in action. If confirmed, it would revolutionize our understanding of space, time, and fundamental physics — bridging the gap between Einstein's relativity and quantum mechanics. These cosmic micro black holes could thus serve as nature's own quantum laboratories, pushing the boundaries of experimental astrophysics and theoretical physics alike.

Daily News Analysis

Ques. Consider the following statements about black hole morsels, recently mentioned in scientific news:

1. They are hypothetical micro black holes possibly formed during massive black hole mergers.

2. They are expected to emit intense Hawking radiation detectable as gamma-ray bursts.

3. They can be produced in high-energy particle accelerators like the Large Hadron Collider (LHC).

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2, and 3

Ans : a)

UPSC Mains Practice Question

Ques Discuss how the study of "black hole morsels" can contribute to our understanding of quantum gravity. **(150 Words)**

Daily News Analysis

Page : 10 : GS 2 : International Relations / Prelims

The BRICS (Brazil, Russia, India, China, and South Africa) grouping has increasingly sought to reshape the global financial architecture dominated by Western powers and the U.S. dollar. The recent unveiling of the BRICS Pay system and discussions on a new financial network mark the bloc's strongest effort yet to challenge the SWIFT system, a backbone of global interbank transactions controlled by Western institutions. This move reflects BRICS' long-standing ambition for financial sovereignty, de-dollarisation, and resilience against sanctions.

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Daily News Analysis

How BRICS is challenging SWIFT

The BRICS grouping's motivation to challenge Western financial dominance is driven by a desire for greater financial sovereignty and reduced exposure to U.S. sanctions. However, navigating the maze of individual countries' ambitions with respect to their own payment systems could dent early progress towards this goal

ECONOMIC NOTES

Biswajit Dhar

For over a decade, the BRICS have taken a series of steps showing their increasing determination to reduce dependence on the dollar-dominated international financial system. The Fortaleza Summit in 2014 marked the beginning of this process with the grouping taking the initiative of setting up financial institutions to meet not only their needs but also of other developing countries. The New Development Bank, the BRICS' development bank, and the Contingent Reserve Arrangement, their lender of last resort, was the first time developing countries had established financial institutions, until then, the exclusive preserve of advanced countries.

The following year, after the imposition of Western sanctions on Russia for deployment of its troops in Crimea, the BRICS grouping decided to explore the potential of expanding the use of their national currencies in inter se transactions. In 2017, the grouping agreed to communicate closely to enhance currency cooperation, including through currency swap, local currency settlement, and local currency direct investment. At the turn of the decade, the grouping agreed to set up the BRICS Payments Task Force to develop systems to facilitate transactions between member countries. This step seemed to come together at the Kazan Summit in 2024 wherein BRICS leaders underscored the importance of "strengthening of correspondent banking networks within BRICS and enabling settlements in local currencies in line with BRICS Cross-Border Payments Initiative".

Challenging status quo

The BRICS Cross-Border Payments Initiative, or BRICS Pay is the most concrete step that the grouping has taken to explore the possibility of reducing their dependence on the "SWIFT network", the messaging system used by over 11,000 banks and financial institutions worldwide for international money transfers, and which is controlled by the G-10 central banks. BRICS' motivation to challenge Western financial dominance is driven by a desire for greater financial sovereignty and reduced exposure to U.S. sanctions. The decision to include Iran in the grouping in 2024, a country that has long faced similar sanctions, lent further relevance to this objective. However, the development that attracted most attention was the symbolic step taken by the BRICS during the Kazan summit to unveil a BRICS banknote. This symbolic move ignited discussions about the intent of emerging economies to move away from the dominance of the dollar. This was especially so since it raised the hackles of the then President-elect Donald Trump who threatened to impose 100% tariffs on members of the grouping if they were to "create a new BRICS currency, [or] back any other currency to replace the mighty U.S. Dollar".

New currency: The plenary session of the 16th BRICS summit, in Kazan, Russia on October 23, 2024. ANI

Building BRICS Pay

Amid these developments, the possibility that holds out maximum promise is BRICS Pay. This sentiment was reflected in the grouping's Rio Summit Declaration earlier in the year wherein they "agreed to continue the discussion on the BRICS Cross-Border Payments Initiative, and [acknowledged] the progress made by the BRICS Payment Task Force (BPTF) in identifying possible pathways to support the continuation of discussions on the potential for greater interoperability of BRICS payment systems".

Clearly, BRICS is in a good position to develop a new financial network. Besides the strong motivation to bypass the dollar-dominated system and avoid Western sanctions, these countries have the necessary infrastructure to put in place BRICS Pay. The Russian System for Transfer of Financial Messages (SPFS), the Chinese Cross-Border Interbank Payment System (CIPS), India's Unified Payments Interface (UPI) and Brazil's Pix system are well-equipped to support the proposed network. Of course, the interoperability of these systems is essential for creating a cohesive BRICS-led payment infrastructure that can rival SWIFT in scope and reliability, albeit within a more limited geographic and political bloc.

A prototype demonstration of BRICS Pay was unveiled in Moscow in October 2024, marking an important landmark in the project's progress. Expectedly, Russia is most enthusiastic about this project, but the remaining original BRICS nations seem to be more circumspect because of interests in promoting their own platforms globally. India's UPI is accepted in nine countries, but is yet to find acceptance within BRICS. China's increasing clout in the international financial system and the prominence its currency (the RMB) has received after it was included in the basket of currencies making up the Special Drawing Right has increased the acceptance of CIPS, which currently has participants in more than 120 countries, including all BRICS members with the exception of India. Brazil's Pix system, introduced in 2020 and operated by the country's central bank, is used across several Latin American countries. While navigating through the maze of ambitions of individual countries to promote their own payment systems could dent the progress towards an early realisation of BRICS Pay, Mr. Trump's aggressive intent, particularly against members of the grouping, could force them into a political understanding towards launching their payment system, sooner than expected.

Biswajit Dhar is a trade economist and former professor, Jawaharlal Nehru University.

THE GIST

- In 2017, the grouping agreed to communicate closely to enhance currency cooperation, including through currency swap, local currency settlement, and local currency direct investment.
- The BRICS Cross-Border Payments Initiative, or BRICS Pay is the most concrete step that the grouping has taken to explore the possibility of reducing their dependence on the "SWIFT network", the messaging system used by over 11,000 banks and financial institutions worldwide for international money transfers.
- A prototype demonstration of BRICS Pay was unveiled in Moscow in October 2024, marking an important landmark in the project's progress.

Background

The push for financial autonomy among BRICS countries is not new.

- The 2014 Fortaleza Summit was the starting point, leading to the establishment of the New Development Bank (NDB) and the Contingent Reserve Arrangement (CRA) — the first major global financial institutions created by developing economies.

- Post the 2015 Western sanctions on Russia (Crimea crisis), BRICS intensified discussions on using local currencies in trade and investment.
- By 2024, this ambition culminated in the BRICS Cross-Border Payments Initiative, or BRICS Pay, unveiled during the Kazan Summit.

Why BRICS Wants to Challenge SWIFT

1. Dependence on Dollar-Dominated Systems: SWIFT, controlled by the G10 central banks, underpins the global financial system. Overreliance on it makes countries vulnerable to geopolitical manipulation.
2. Exposure to U.S. Sanctions: The U.S. can weaponize financial networks by cutting off countries from SWIFT — as seen with Iran and Russia. Hence, BRICS members seek an alternative network immune to Western pressure.
3. Pursuit of Financial Sovereignty: By conducting trade in local currencies and building independent payment systems, BRICS aims to strengthen domestic monetary autonomy and promote multipolarity in global finance.

The BRICS Pay Framework

- Objective: Develop an interoperable, secure, and efficient payment mechanism connecting member nations' domestic payment systems.
- Existing Infrastructure Supporting BRICS Pay:
    - Russia: System for Transfer of Financial Messages (SPFS)
    - China: Cross-Border Interbank Payment System (CIPS)
    - India: Unified Payments Interface (UPI)
    - Brazil: Pix system
- A prototype of BRICS Pay was demonstrated in Moscow (October 2024) — marking a tangible step toward operationalization.

Challenges to Implementation

1. Interoperability Issues: Integrating distinct national systems like UPI, CIPS, and SPFS requires technological and regulatory harmonization.
2. Divergent National Ambitions:
    - China's CIPS already operates globally and aligns with its RMB internationalization goals.
    - India is expanding UPI internationally and may prefer to retain control rather than merge it under a BRICS framework.
    - Brazil's Pix system is regionally dominant but lacks global connectivity.
3. Political and Strategic Divergences: While Russia is the most enthusiastic, others are cautious — balancing their relations with the West and sovereign interests.

4. External Pressure from the U.S.: The symbolic BRICS banknote unveiled in 2024 triggered strong reactions from U.S. leadership. Former President Donald Trump even threatened 100% tariffs on BRICS members if they launched an alternative currency — highlighting potential geopolitical retaliation.

Geopolitical and Economic Implications

- De-Dollarisation Momentum: If BRICS Pay gains traction, it could reduce global dollar dependency, especially in South-South trade.
- Alternative Financial Order: The system could serve as a parallel infrastructure to SWIFT, reshaping the rules of global finance.
- Empowering the Global South: Developing countries could access payment autonomy and reduced transaction costs, promoting inclusive development.
- Strategic Leverage for BRICS: Greater financial integration can bolster BRICS' geopolitical weight vis-à-vis Western alliances such as G7.

Conclusion

The BRICS Pay initiative represents a critical step in the bloc's quest for financial independence and multipolarity in global governance. While the technical feasibility exists—given the strong digital infrastructure in member states—the real challenge lies in aligning diverse national ambitions and overcoming geopolitical resistance. If successful, BRICS Pay could emerge as the first credible alternative to SWIFT, marking a historic shift in global financial power. However, its future depends on political unity, technological integration, and strategic patience among member nations.

UPSC Prelims Practice Question

Ques : Consider the following statements regarding SWIFT:

1. It is a global messaging network used by banks and financial institutions for secure cross-border money transfers.

2. It is controlled by the G10 central banks and headquartered in Belgium.

3. It facilitates international trade settlements in cryptocurrencies.

Which of the above statements is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Ans: a)

UPSC Mains Practice Question

Ques: The BRICS Pay initiative represents a strategic attempt to create a multipolar financial order. Discuss how BRICS is attempting to challenge the dominance of Western-led financial systems like SWIFT and what challenges it faces in doing so. **(250 Words)**

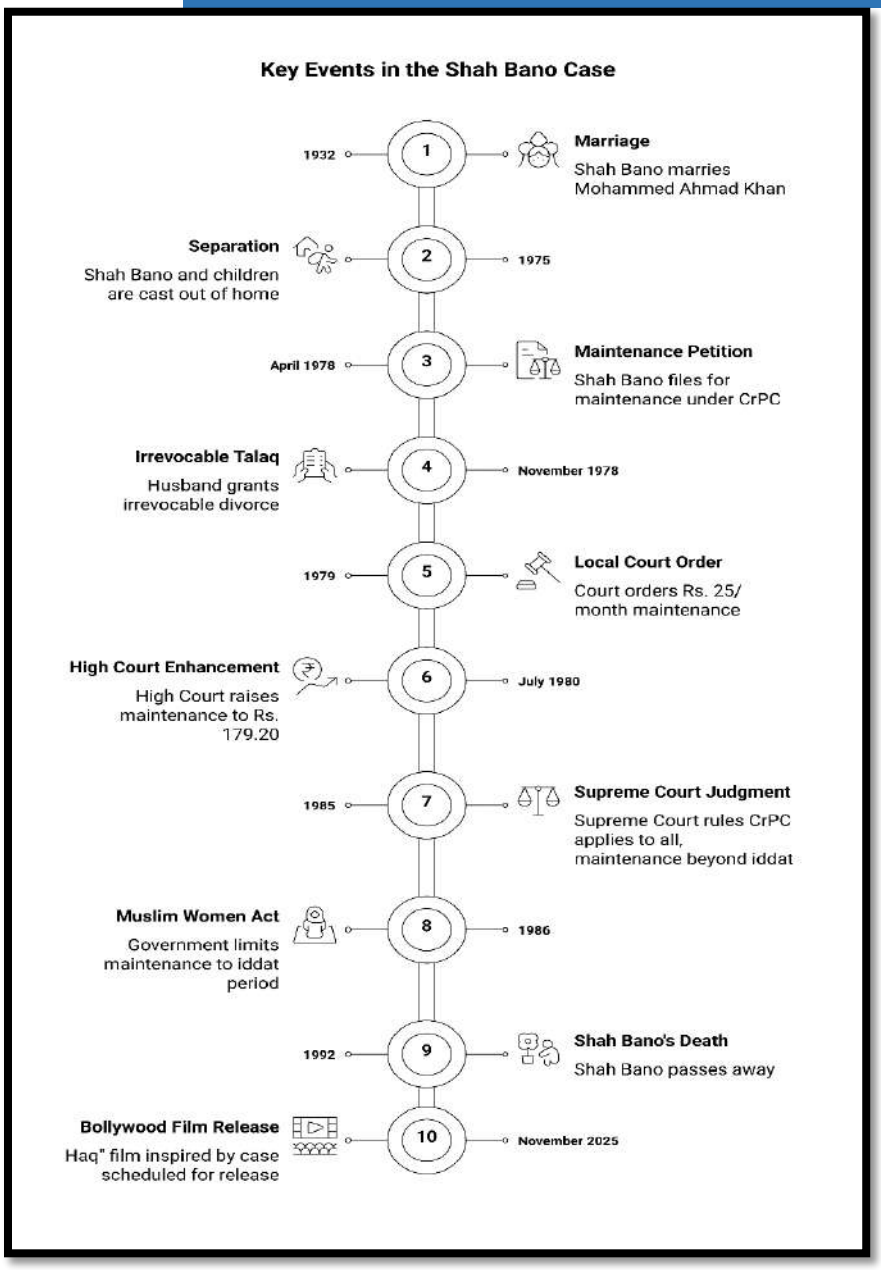
Daily News Analysis

In News : Recalling the landmark Shah Bano Case

The upcoming Bollywood film revisits the historic Shah Bano case (1985), one of India's most politically charged legal battles.

Recalling the landmark Shah Bano Case

Daily News Analysis



- **Background of the Case:**
  - Origin: In 1978, Shah Bano Begum, a 62-year-old Muslim woman from Indore, was divorced by her husband, Mohammad Ahmad Khan, a lawyer, via triple talaq after 43 years of marriage.

- Legal Action: She filed for maintenance under Section 125 of the CrPC (1973), a secular law ensuring financial support for dependents unable to maintain themselves.
- Husband's Argument: Claimed that under Muslim personal law, his obligation ended after the iddat period (~3 months) and that payment of mahr (dower) fulfilled his duty.
- Lower Court Ruling: Ordered payment of ₹25/month; the Madhya Pradesh High Court raised it to ₹179.20. Khan appealed to the Supreme Court, triggering the landmark 1985 judgment.

- **Supreme Court Verdict of April 23, 1985:**
  - Bench & Ruling: A five-judge Constitution Bench led by CJI Y.V. Chandrachud dismissed the appeal, upholding the High Court's decision.
  - Secular Applicability: Held that Section 125 CrPC applies to all religions, as its purpose is to prevent destitution, not to regulate personal law.
  - Maintenance Beyond Iddat: Affirmed that a divorced Muslim woman is entitled to maintenance beyond the iddat period if she cannot sustain herself.
  - Religious Harmony: Cited Quranic verses to show consistency between Islamic principles and maintenance under secular law.
  - Uniform Civil Code (UCC): Expressed concern that Article 44 remained a "dead letter," urging steps toward a common civil code.
- **Muslim Women (Protection of Rights on Divorce) Act, 1986:**
  - Enactment: Passed after protests from Muslim organisations and AIMPLB, reversing the Shah Bano ruling.
  - Key Provision: Limited husband's liability to maintenance during iddat, shifting later responsibility to relatives or Waqf Boards.
- **Judicial Interpretation:**
  - Danial Latifi v. Union of India (2001) – Upheld the Act but read it progressively, requiring lump-sum payment within iddat for lifetime support.
  - Mohd. Abdul Samad v. State of Telangana (2024) – Reaffirmed that Muslim women may still claim relief under Section 125 CrPC, preserving the choice of remedy.
- **Legacy and Significance:**
  - Landmark Impact: Became a watershed case in India's struggle between gender justice and religious identity.
  - Political Consequence: The 1986 Act was seen as appeasement politics, deepening the secularism debates.
  - Reform Catalyst: Revived the UCC discourse, influenced feminist legal reform, and reinforced constitutional morality.
  - Enduring Symbol: Continues to shape discussions on minority rights, women's empowerment, and judicial activism in India's plural legal framework.

UPSC Mains Practice Question

Daily News Analysis

Ques: The Shah Bano judgment of 1985 remains a defining moment in India's constitutional history, balancing secular law with personal law. Discuss how the case highlighted the tension between gender justice, religious identity, and the principle of secularism. **(250 Words)**

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Daily News Analysis

India's forests hold the future

C.K. Mishra

Former secretary, Ministry of Health & Family Welfare, and Ministry of Environment, Forest and Climate Change. Views expressed are personal

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As India navigates the twin imperatives of economic growth and sustainable development, forests are once again finding their rightful place in the national climate conversation. The recent release of the revised blueprint for the Green India Mission (GIM) puts restoration at the forefront. The ambition is bold: restore 25 million hectares of degraded forest and non-forest land by 2030.

This isn't just about greening land for its own sake. It directly ties to India's climate pledge to create an additional carbon sink of up to 3.39 billion tonnes of CO_2 equivalent by the end of this decade. The big question is not just how much land India restores, but how it restores it.

Quality question

A 2025 study by IIT Kharagpur, in collaboration with IIT Bombay and BITS Pilani, reported a 12% decline in photosynthetic efficiency of dense forests across India. The main cause? Rising temperatures and drying soil. Put simply, while India may be growing its forest cover, these forests are becoming less effective at absorbing carbon. This discovery challenges the old assumption that "more trees equal more carbon sinks" and instead highlights the need for restoration that enhances ecological resilience, not just canopy cover.

The revised GIM is not starting from scratch. Between 2015 and 2021, the Mission supported afforestation across 11.22 million hectares, with ₹575 crore disbursed to 18 states. During this period, forest and tree cover increased from 24.16% in 2015 to 25.17% in 2023.

The new blueprint expands the lens, focusing on biodiversity-rich landscapes like the Aravalli Hills, Western Ghats, mangroves, and Himalayan catchments. It also aims to link efforts with other government programmes such as the National Agroforestry Policy, watershed initiatives, and the Compensatory Afforestation Fund Management and Planning Authority (CAMPA). But as with most ambitious missions, the challenge lies in turning policy into practice.

India's afforestation story has long wrestled with three gaps - community participation, ecological design, and financing

India's afforestation story has long wrestled with three stubborn gaps: community participation, ecological design, and financing.

Nearly 200 million Indians depend on forests for daily survival. The Forest Rights Act (2006) legally empowers them to manage and protect their landscapes. Yet in practice, many plantation drives bypass these communities, ignoring their claims and consent. This erodes trust and undermines both legality and social legitimacy. However, there are bright spots. In Odisha, Joint Forest Management Committees are integrated into planning and revenue-sharing. In Chhattisgarh, forest departments are experimenting with biodiversity-sensitive plantations and reviving barren cattle shelters by planting mahua trees, aligning ecology with tribal livelihoods.

Going native

For decades, afforestation has leaned heavily on monocultures of eucalyptus or acacia, which are fast-growing, yes, but ecologically damaging. They deplete groundwater, crowd out native biodiversity, and leave forests vulnerable to climate stress. The revised GIM promises a shift toward native, site-specific species, which is encouraging.

However, the real test is whether local forest departments possess the necessary expertise and capacity to deliver. India already has training institutes in Uttarakhand, Coimbatore, and Byrnihat that could be harnessed to equip frontline staff with ecological know-how. Some States are leading the way. Tamil Nadu, for instance, has nearly doubled its mangrove cover in just three years, offering both carbon storage and coastal protection.

Perhaps the biggest bottleneck is financing. The CAMPA fund now holds a staggering ₹95,000 crore, yet utilisation is inconsistent. Delhi, for example, spent only 23% of its approved funds between 2019 and 2024. GIM itself has had to make do with modest allocations, relying heavily on CAMPA.

The way forward isn't just about more money, but about smarter use of it. The good news is that some States are experimenting with new financing tools. Himachal Pradesh has launched a biochar programme to generate carbon credits while reducing fire risks. Uttar Pradesh has planted over 39 crore saplings this year and is exploring how to connect village councils to carbon markets.

Building blocks

Despite the hurdles, India has the building blocks: strong legal frameworks, sizeable financing pools, institutional capacity, and promising local models. What's needed is alignment.

Communities must be empowered to lead. Forest departments need the skills and incentives to prioritise ecological restoration over plantation targets. The central government can enhance accountability by implementing public dashboards that track survival rates, species mix, fund utilisation, and community participation. CAMPA could broaden its scope to cover participatory planning and adaptive management, rather than sticking narrowly to planting. Civil society and research institutions also have a role, from providing technical expertise to designing participatory monitoring tools. This shared effort is what can transform GIM from a government programme into a national movement.

As India looks toward Viksit Bharat 2047, forests are not merely an environmental concern; they are the future capital. The path to restoring 25 million hectares is not easy, but if pursued with rigour, inclusion, and foresight, it could reshape how the world thinks about restoration.

Daily News Analysis

GS. Paper 3 Environment

UPSC Mains Practice Question: . India's forest restoration policy must move from quantity to quality. Discuss in the context of the revised Green India Mission. **(150 Words)**

Context :

India stands at a critical juncture where economic growth and environmental sustainability must move hand in hand. The government's renewed focus on ecological restoration, particularly through the revised Green India Mission (GIM), reflects this understanding. The mission's ambitious goal — to restore 25 million hectares of degraded forest and non-forest land by 2030 — is not just a greening initiative but a cornerstone of India's climate action strategy, aligning with its Nationally Determined Contributions (NDCs) under the Paris Agreement.

However, the key issue, as the article argues, lies not in how much forest area is restored but in how well it is restored — with ecological, social, and institutional sustainability at the center.

1. Context and Climate Commitment

- The Green India Mission (GIM), one of the eight missions under the National Action Plan on Climate Change (NAPCC), seeks to enhance forest-based carbon sinks and improve ecosystem services.
- The revised GIM aims to create an additional carbon sink of up to 3.39 billion tonnes of CO_2 equivalent by 2030.
- This target aligns with India's updated climate pledge and contributes to the global effort to limit warming to 1.5°C.

Yet, India's approach to restoration must evolve beyond simple tree planting to embrace ecological resilience, community participation, and climate adaptation.

2. The Quality Challenge: Beyond Canopy Cover

A 2025 study by IIT Kharagpur, IIT Bombay, and BITS Pilani revealed a 12% decline in photosynthetic efficiency in dense Indian forests due to rising temperatures and soil dryness.

- This means that while forest cover is increasing, its carbon absorption capacity is weakening.

- Therefore, "quantity without quality" cannot deliver true carbon sequestration or ecological balance.
- Restoration must focus on soil health, biodiversity, and water retention, not just increasing canopy density.

3. Major Gaps in India's Afforestation Policy

a. Community Participation Deficit

- Around 200 million Indians depend directly on forests.
- The Forest Rights Act (FRA), 2006 empowers local communities to manage forests, yet many plantation drives bypass them.
- Lack of consent and inclusion erodes both social legitimacy and legal compliance.
- Best practices:
  - *Odisha*: Integration of Joint Forest Management (JFM) committees into planning and revenue sharing.
  - *Chhattisgarh*: Plantation of **Mahua trees** to revive local livelihoods and biodiversity.

b. Ecological Design Flaws

- For decades, afforestation leaned on monocultures like eucalyptus and acacia — fast-growing but ecologically destructive.
- These species deplete groundwater, reduce biodiversity, and increase vulnerability to climate stress.
- The revised GIM now emphasizes native, site-specific species, which can improve ecosystem resilience.
- Capacity building of forest departments is essential — training institutes in Uttarakhand, Coimbatore, and Byrnihat can play a pivotal role.

c. Financing and Fund Utilisation

- The CAMPA Fund holds over ₹95,000 crore, but utilization remains poor (e.g., Delhi spent only 23% between 2019–2024).
- The GIM's implementation depends heavily on CAMPA and lacks independent, sustained funding.
- Innovative financing models emerging:
  - *Himachal Pradesh*: Biochar-based carbon credits to fund fire prevention and carbon sequestration.
  - *Uttar Pradesh*: Village-level carbon markets linked with mass plantation (39 crore saplings in 2024).

4. Institutional and Policy Integration

To make restoration truly effective, the revised GIM aims for convergence with:

- National Agroforestry Policy (2014)

- Watershed Development Programmes
- CAMPA schemes
- National Biodiversity Mission (under discussion)

However, policy convergence must translate into field-level coordination, which remains weak due to departmental silos.

5. The Way Forward: Building Blocks for Ecological Restoration

a. Empowering Communities:

- Decentralized management under FRA and Panchayati Raj institutions must be strengthened.
- Incentivize local stewardship through benefit-sharing mechanisms (e.g., non-timber forest produce, carbon credit earnings).

b. Ecological Restoration, Not Plantation:

- Focus on diverse native species, soil-water regeneration, and biodiversity conservation.
- Prioritize degraded lands near rivers, mangroves, and hill ecosystems (Aravallis, Western Ghats, Himalayas).

c. Smarter Financing & Accountability:

- Public dashboards tracking survival rates, species diversity, and fund use can enhance transparency.
- CAMPA funds should include adaptive management and participatory planning, not merely tree planting.

d. Science-Based Policy and Monitoring:

- Collaboration with research institutions and civil society for real-time data, ecological mapping, and citizen science monitoring.
- Leverage remote sensing and GIS tools for impact evaluation.

6. Broader Significance for India's Development Vision

- As India moves toward Viksit Bharat 2047, forests are not just ecological assets but natural capital supporting water security, rural livelihoods, and climate resilience.
- Forest restoration links directly to SDG 13 (Climate Action), SDG 15 (Life on Land), and SDG 1 (No Poverty) through livelihood generation.

Conclusion

Daily News Analysis

India's revised Green India Mission represents a vital step in integrating climate action with ecological and social justice. The country has the foundational strengths — robust laws, funding, and institutional capacity — but success will depend on inclusive governance, scientific planning, and accountable execution.

If restoration is pursued as a people-centered, ecosystem-driven movement, not a top-down plantation drive, it can redefine India's environmental policy paradigm. In doing so, India's forests will indeed become the future capital — sustaining both its ecological integrity and developmental aspirations.