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### Index

1. India at the G7: Amplifying the Voice of the	3-7
Global South	3-7
2. Plastic Ban in Hills: Kerala HC Prioritises	8-10
<b>Ecology Over Convenience</b>	
3. Cold-Blooded Inheritance: How Rice is	11-14
Rewriting Evolution	
4. Designing Dignity: Why India Must Build	15-18
an Inclusive Pension System Now	



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# India at the G7: Amplifying the Voice of the Global South

#### Why in the News?

In June 2025, **Prime Minister Narendra Modi** arrived in Calgary, Alberta, to
participate in the **G7 Outreach Summit hosted by Canada**. During his visit, PM
Modi emphasised that India will focus on
highlighting the concerns and
developmental priorities of the Global
South.

- The summit, themed around "Protecting our communities around the world,"
   "Building energy security and accelerating the digital transition," and "Securing the partnerships of the future," marks a critical juncture where India's role as a bridge between developed nations and emerging economies is under the spotlight.
- As geopolitical tensions intensifyranging from the ongoing Russia-Ukraine conflict and the escalating Iran-Israel tensions to debates on energy security and multilateral reform- the outreach by the Global South has become more urgent.
- Modi's expected meetings with leaders from Ukraine, Canada, Germany, and Italy, and his prior statements supporting negotiated settlements, signal India's strategic balancing act in a polarised global environment.

## Background What is the G7?

 The G7 (Group of Seven) is an informal bloc of seven industrialised democracies- Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States Established in 1975.



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- It aims to discuss and coordinate economic policy, address global security challenges, and promote liberal democratic values.
- While not a treaty-based organisation, its outcomes influence international financial institutions, trade norms, and geopolitical alignments.
- Over time, the G7 has been criticised for excluding the voices of the developing world.
- In response, the Outreach Summits were initiated, inviting countries like India, Brazil, and South Africa to represent the broader Global South and provide diverse perspectives on global challenges.

## India and the G7: A Strategic Observer

- India has consistently been invited to G7 Outreach Summits, reinforcing its stature as a rising power. Its presence underscores the G7's recognition of India's demographic weight, technological ambitions, and pivotal role in multilateral negotiations like climate change, global taxation, and peacebuilding.
- India's consistent foreign policy pursuit of strategic autonomy, especially in the wake of the Ukraine war and shifting energy geopolitics, has elevated its role as a "voice of moderation."



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 This year's summit takes place amid unprecedented global flux-war, trade disruptions, climate uncertainty, and the urgency of equitable digital transitions.

#### Features: India's Role at the G7 and the Voice of the Global South Championing the Priorities of the Global South

Modi's declaration to raise the concerns of the Global South reflects a consistent policy narrative. India has positioned itself as the diplomatic and developmental bridge between the developed and developing worlds. These priorities include:

- Climate justice and equitable energy transition
- · Debt distress and financial sustainability for low-income nations
- Technology transfer and equitable digital access
- Reformed multilateralism, including UN and WTO reforms
- Access to affordable healthcare and essential medicines

Through forums like the Voice of Global South Summit and India's G20 presidency in 2023, New Delhi has systematically articulated that sustainable solutions must be rooted in inclusivity.

#### Bilateral Diplomacy in a Multilateral Setting

Apart from addressing the G7 plenary, PM Modi's bilateral engagements with leaders of Ukraine, Germany, Canada, and Italy were crucial. Most notable is his meeting with Ukrainian President Volodymyr Zelenskyy, set against the backdrop of Russia's upcoming visit to India.

These interactions enable India to:

 Reiterate its call for a negotiated end to hostilities.

- Maintain its delicate balancing act between the West and Russia.
- Convey Indian peacebuilding interests without endorsing bloc politics.

#### The Modi Doctrine: Strategic Autonomy 2.0

India's foreign policy is increasingly characterised by a doctrine of "multialignment." It neither fully aligns with the West nor sides with revisionist powers like China or Russia. By attending the G7, engaging with Ukraine, and maintaining ties with Moscow, India projects:

- Diplomatic agility without ideological rigidity
- Realpolitik is grounded in civilizational and developmental ethos
- A counter-narrative to the Cold Warstyle binary blocs

#### The Shadow of Great Power **Rivalries**

The summit was overshadowed by U.S. President Donald Trump's early departure amid rising military tensions in the Gulf and his call to expand the G7 into the G9, including Russia and China. Trump also claimed that excluding Russia was a "very big mistake." These developments reflect:

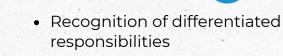
- A fractured West, uncertain about its future structure and unity
- Recurrent proposals for restructuring global platforms
- The importance of inclusive multipolarity something India strongly advocates

India's consistent opposition to unilateralism and its push for a multipolar world order aligns with the broader Global South sentiment.

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# Challenges Representation Paradox: G7 but not G20

While India represents the Global South at the G7, it does not have permanent membership in global financial governance bodies like the OECD or the UNSC. This limits the effectiveness of its advocacy.

- G7 remains an exclusive club with disproportionate global influence.
- Outreach participation lacks decision-making rights.
- True equity demands structural reforms in the Bretton Woods institutions.

## **Balancing Peace and Power Politics**

India's attempt to stay neutral in the Ukraine-Russia war has been appreciated by some and criticised by others. PM Modi's bilateral with Zelenskyy is seen as a move to balance optics ahead of Putin's expected India visit.

However, this balancing act involves risks:

- Potential diplomatic backlash from either camp
- Mixed global perception of India's stand on human rights
- Pressure to clarify its position more explicitly.

#### Climate Diplomacy vs. Developmental Needs

India supports energy transition but insists on climate justice. At the G7, where climate goals are often aligned with net-zero deadlines for rich nations, India's plea for:

- Finance for loss and damage
- Technology transfer without patents.

## 9

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#### **Global South Cohesion**

The term "Global South" encompasses diverse economies- Brazil, South Africa, Bangladesh, Indonesia, etc., with differing interests. India's leadership claim may face internal competition, and regional rivalries could fragment the collective voice. Also:

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- China's Belt and Road Initiative has wooed many developing nations.
- India's constraints (energy imports, defence deals) limit the consistency of its advocacy.

#### Digital Divide and Tech Sovereignty

India's concern about fair digital transformation aligns with the G7 agenda of digital acceleration. However, barriers such as:

- Monopoly of Western Big Tech in Al and cloud infrastructure
- Inadequate cross-border data regulation
- Dependence on foreign hardware (e.g., semiconductors)

## Way Forward Institutionalising the Voice of the Global South

India should push for the formal inclusion of Global South issues in G7 communiqués, beyond token representation. Some actionable ideas:

- Annual "Global South Development Report" in G7 summits
- Establishment of a South-North Consultative Council
- Rotational co-hosting of Outreach Summits with Global South partners

This would deepen engagement and elevate Southern priorities beyond summits.





#### Strengthening South-South **Diplomacy**

India must deepen trilateral cooperation with African and Latin American countries. Examples include:

- India-Brazil-South Africa (IBSA)
- Development finance cooperation with the African Union
- Joint digital commons initiatives with ASEAN and African nations

This would create a counterweight to North-dominated narratives.

#### **Reforming Multilateral Institutions**

India should renew its push for:

- UNSC expansion with Global South representation
- Greater voice for LICs in IMF quota reforms
- WTO rule changes to protect developmental space

India's G20 presidency had initiated this discourse, and the G7 provides a platform to continue it.

#### **Energy Justice and Technology Partnerships** India can propose:

- A "Global South Energy Transition Fund" backed by the G7
- Shared R&D platforms for clean tech
- A patent-free vaccine/drug innovation regime for LDCs

This would align Western innovation with the needs of the South.

Promoting a Balanced Digital Order

#### India can play a mediating role in:

- Framing fair AI ethics regulations globally
- Encouraging open-source digital public infrastructure
- Establishing cross-border data governance frameworks.

The India Stack, UPI, and Digital Public Infrastructure models offer scalable blueprints.

#### Conclusion

Prime Minister Modi's participation in the 2025 G7 Outreach Summit marks a transformative moment in India's foreign policy, where the nation is no longer just a passive invitee but an active articulator of Southern concerns. In a world marked by fragmentation and great-power rivalry, India's call for inclusive, balanced, and iustice-oriented multilateralism resonates with many.

#### **Main Question**

How is India leveraging the 2025 G7 Outreach Summit to project itself as the voice of the Global South while navigating global power dynamics?

#### Q. Consider the following statements regarding India's participation in the 2025 G7 Outreach Summit:

- 1. The 2025 G7 Outreach Summit was hosted by Germany and focused on rebuilding multilateral trade partnerships after COVID-19 disruptions.
- 2.India used the forum to advocate for climate adaptation finance, equitable digital governance, and reform of global institutions like the IMF and UN Security Council.
- 3. PM Modi's bilateral meetings during the Summit included leaders from Canada, Germany, Ukraine, and Mexico.
- 4. India's positioning at the Summit aligns with the principles of South-South Cooperation and strategic autonomy.



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## Which of the statements given above is/are correct?

A. 2 and 4 only B. 1, 2 and 3 only C. 1 and 3 only D. 2, 3 and 4 only

Correct Answer: A. 2 and 4 only

#### **Explanation:**

- Statement 1 is incorrect: The 2025 G7 Summit was hosted by Canada, not Germany, and it focused on energy security, global partnerships, and digital transition, not trade recovery post-COVID.
- Statement 2 is correct: India raised issues of climate finance, digital equity, and institutional reform.
- Statement 3 is partially incorrect:

  Modi met leaders from Canada,
  Germany, Ukraine, and Italy, not
  Mexico (Mexico's meeting was
  informal).
- Statement 4 is correct: India's diplomatic approach is rooted in South-South Cooperation and strategic autonomy.





## **Plastic Ban in Hills: Kerala HC Prioritises Ecology Over** Convenience

#### Why in the News?

The Kerala High Court has issued a ban on single-use plastic items in hilly areas and public events such as weddings and government functions, effective October 2, 2025 (Gandhi Jayanti). The decision is in response to the growing threat posed by plastic pollution to ecosystems and wildlife, especially in ecologically sensitive regions like Munnar.

#### **Background**

- Plastic pollution in Kerala has become a persistent issue due to increasing tourism, urbanisation, and ineffective waste management systems.
- Hilly regions like Munnar, Wayanad, and Idukki, rich in biodiversity and frequented by tourists, are particularly vulnerable to environmental degradation.
- Reports and visual documentation have shown wild elephants and other animals ingesting plastic waste, which often ends up in open dumping yards near forests.
- Single-use plastics (SUPs) such as water bottles, plates, straws, and food containers are non-biodegradable and frequently disposed of irresponsibly.
- The Kerala State Pollution Control Board and various local environmental organisations have flagged the issue multiple times, but enforcement has been lax.



#### **Features of the High Court Order** Scope of the Ban:

Applies to hilly tourist areas, eateries, and functions like weddings.

 Extended to government-organised events and official functions.

#### **Items Banned:**

- Plastic water bottles with a capacity of less than 5 litres.
- Soft drink bottles under 2 litres.
- Food containers, cups, plates, and straws are made from single-use plastic.

#### **Implementation Date:**

 October 2, 2025, to coincide with Gandhi Jayanti, a symbolically important day for promoting sustainable practices.

#### **Supplementary Directions:**

- Install safe drinking water kiosks at tourist spots and events.
- Use glass or stainless steel containers instead of plastic.
- A ban on dumping plastic into waterbodies like lakes, rivers, and reservoirs.
- · Mandate awareness campaigns on the harmful effects of SUPs.



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#### **Way Forward Robust Implementation** Mechanism:

- Assign responsibility to local bodies, forest officials, and tourism departments for enforcing the ban.
- Introduce penalties for noncompliance and incentives for compliance.

#### **Sustainable Alternatives:**

- Promote eco-friendly substitutes such as banana leaves, paper, cloth bags, and biodegradable containers.
- Support local entrepreneurs and startups producing sustainable packaging.

#### **Community Engagement and Education:**

- Launch targeted public awareness campaigns, especially in schools, tourist hubs, and hotels.
- Involve resident associations, tribal communities, and tour operators in behaviour change initiatives.

#### **Infrastructure Upgrades:**

- Ensure the availability of water refill stations and waste segregation units at key locations.
- Implement a plastic take-back scheme for tourists and vendors.

#### **Legislative and Policy Backing:**

- Align state action with the Plastic Waste Management Rules, 2016 and its subsequent amendments.
- Explore state-level Plastic Credit Mechanism and Extended Producer Responsibility (EPR) mandates.

#### **Monitoring and Feedback:**

- Set up a citizen dashboard or grievance redressal system to report violations.
- Periodically review outcomes with third-party audits and involve civil society.

#### Conclusion

The Kerala High Court's decisive intervention against single-use plastics marks a critical step toward environmental preservation in ecologically fragile regions. By targeting tourist hotspots, public events, and government functions, the court has signalled that sustainability must become a non-negotiable element of development and governance. However, the success of this ban will depend on strong implementation, community participation, and the promotion of viable alternatives.s

Q. Discuss the significance of the Kerala High Court's 2025 ban on single-use plastics in hilly areas and public functions. How does this reflect the role of the judiciary in environmental governance in India?

#### Q. About the Kerala High Court's 2025 order on single-use plastics, consider the following:

- 1. The ban applies to plastic water bottles below 5 litres and soft drink bottles below 2 litres.
- 2. It covers all events, including private weddings, eateries, and government functions.
- 3. The implementation date is January 1, 2026.





## Which of the above statements is/are correct?

A. 1 and 2 only B. 2 and 3 only C. 1 only D. 1, 2 and 3

Answer: A. 1 and 2 only

Statement 1: "The ban applies to plastic water bottles below 5 litres and soft-drink bottles below 2 litres."

Correct. The court specifically outlawed small plastic water bottles (under 5 L) and soft-drink bottles (under 2 L) as part of a broader crackdown on single-use plastics.

Statement 2: "It covers all events, including private weddings, eateries, and government functions." Correct. The directive extends to all wedding halls, hotels, restaurants, private events (like weddings), and official government functions.

**Statement 3:** "The implementation date is January 1, 2026." Incorrect. The court set the effective date as October 2, 2025, coinciding with Gandhi Jayanti. There's no mention of January 1, 2026.



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# Cold-Blooded Inheritance: How Rice is Rewriting Evolution

#### Why in the News?

In a groundbreaking study published in the journal Cell on May 22, 2025, scientists demonstrated that rice plants (Oryza sativa) can adapt to cold environments not through slow evolutionary changes in DNA, but through rapid epigenetic modifications that are heritable across five generations.

- This adaptation was traced to an epigenetic modification of a gene called ACT1, responsible for plant growth and development. Crucially, this change was triggered by exposing rice plants to cold temperatures natural environmental stimulus.
- The findings have reignited global scientific interest in the Lamarckian idea that environmental influences can shape heredity, a theory long dismissed by the dominance of Darwinian evolution and Mendelian genetics.
- The study serves as a major turning point in understanding non-genetic inheritance, particularly in an era where climate resilience in crops is becoming vital.

# Background Lamarck vs. Darwin: Competing Theories of Evolution

In 1809, Jean-Baptiste Lamarck, a
 French naturalist, proposed the theory of inheritance of acquired characteristics, suggesting that traits developed during an organism's lifetime due to use, disuse, or environmental influence could be inherited by offspring.



For instance, a blacksmith's muscular arms could be passed down to his children.

 This theory held sway until Charles Darwin, in 1859, proposed natural selection, a process where variations that offer survival advantages are naturally selected and inherited, while those that are detrimental are phased out.

# Further scientific developments eventually dismissed Lamarck's theory:

- August Weismann's experiment in the 1880s showed that even after cutting off mice' tails for multiple generations, the offspring were still born with tails.
- Gregor Mendel's work, rediscovered in 1900, introduced the concept of stable particulate inheritance through genes.
- The discovery of DNA as the carrier of genetic information provided a material basis for Darwinian evolution and Mendelian inheritance.

Thus, the Modern Synthesis emerged in the 20th century, integrating Darwin's selection with Mendelian genetics, sidelining Lamarckian ideas.

#### The Rise of Epigenetics

In 1956, plant geneticist Royal
 Alexander Brink observed that some maize plants with genes for dark purple kernels produced only weak pigmentation.



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An anomaly that persisted in subsequent generations. This hinted at a non-genetic mode of inheritance.

• By the 1970s, scientists began discovering epigenetic marks chemical modifications like methylation that regulate gene expression without altering the DNA sequence. Arthur Riggs proposed that such changes could be heritable.

This opened the door to a new understanding: genes must be expressed (switched on or off) to affect traits, and epigenetic regulation plays a key role in this.

Epigenetics suggested that environmental triggers could create changes that are passed down without altering the DNA, a subtle vindication of Lamarck's hypothesis. However, until recently, no experiment had convincingly demonstrated that natural environmental stressors could cause a stable, heritable epigenetic change that impacted organismal traits.

#### **Feature**

#### The Experiment: Adapting Rice to Cold

A research team subjected rice plants (Oryza sativa) to low temperature conditions. Instead of using artificial genetic modifications, they merely exposed plants to cold and monitored changes in their seed production.

- From the second generation onwards, the rice plants began producing higher quality and quantity of seeds, indicating improved cold tolerance.
- This enhancement was stable across five generations, a clear sign of heritability.
- Importantly, the control group, grown in the same conditions minus the cold exposure, did not show this improvement.

#### Genetic vs. Epigenetic Investigation

Researchers then sequenced the DNA of both the cold-adapted and control rice strains:

- Though multiple genetic differences were observed, none could explain the increased cold tolerance.
- They turned to gene expression studies, which showed 12 genes with altered activity levels in cold-tolerant plants.
- Further epigenetic analysis revealed 12,380 distinct epigenetic differences, one of which was particularly crucial, near the gene ACT1.

#### The Role of ACT1

- ACT1 is usually expressed at high levels in rice and is essential for plant growth.
- Under cold stress, normal rice plants add a methyl group to ACTI's regulatory region, silencing it, leading to poor growth and survival.
- Cold-adapted rice did not methylate this region, thus maintaining ACT1 expression and enabling growth even under stress.
- These epigenetic tags were passed to progeny, enabling inherited cold resistance without any change in the DNA sequence.

#### Challenge Scientific Validation and Replicability

- While the results are promising, one key challenge is replication across other species and environmental contexts.
- More extensive, longitudinal studies are needed to verify if similar heritable epigenetic changes can occur in other crops like wheat, maize, or millet under drought or salinity stress.



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#### **Epigenetic Stability**

- · Epigenetic marks are generally more reversible than genetic mutations.
- In many organisms, they are reset during gamete formation or early development.
- The mechanisms enabling the stability of these marks across multiple generations remain poorly understood.

#### **Ethical and Ecological Concerns**

- If induced epigenetic traits are exploited commercially or ecologically, what impact could they have on biodiversity or ecosystem balance?
- Will companies attempt to patent epigenetically modified plants, leading to monopolies similar to those seen with genetically modified organisms (GMOs)?

#### **Policy and Regulation**

- There are no clear regulatory frameworks for crops enhanced through epigenetic inheritance.
- Should these plants be classified as GMOs or not? This is a grey area in biosafety laws globally.

#### **Overcoming Agricultural** Conservatism

- Farmers may hesitate to adopt crops that haven't undergone conventional breeding or genetic modification.
- Ensuring trust in science and awareness about epigenetic inheritance will be crucial for widespread application.

#### Way Forward Strengthening Research Infrastructure

 Promote interdisciplinary research in molecular biology, plant physiology, epigenetics, and agronomy.

 Establish long-term field studies to assess how epigenetic traits perform under real-world agricultural conditions.

#### **Incorporating Epigenetics into Crop Breeding**

- · Conventional breeding has focused on genetic diversity; a shift is now needed to consider epigenetic variation.
- Future climate-smart breeding should evaluate heritable gene expression patterns in response to environmental stressors.

#### **Leveraging AI and Bioinformatics**

- Use machine learning models to predict gene expression patterns based on environmental cues and epigenetic profiles.
- This can accelerate the development of adaptive agricultural systems.

#### **Regulatory Frameworks**

- Develop new guidelines for evaluating and approving epigenetically primed crops.
- Separate them from traditional GMOs, given that there is no foreign DNA insertion involved.

#### Global Collaboration and **Knowledge Sharing**

- Encourage South-South cooperation in epigenetic agriculture, especially among tropical nations facing similar climate challenges.
- Platforms like FAO, CGIAR, and UNEP can facilitate joint efforts in epigenetics-driven food security.

#### **Revamping Evolution Education**

 Include epigenetic inheritance in school and college biology curricula alongside Darwinian and Mendelian concepts.



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 This will provide students with a more nuanced view of evolution, adaptation, and heredity.

#### **Ethical Frameworks**

- Establish ethical boundaries to ensure that epigenetic technology is used for the public good, especially in addressing hunger and climate change.
- Ensure that traditional knowledge systems that have long understood environment-heredity interactions are respected and integrated.

#### Conclusion

The discovery that rice can adapt to cold by passing on epigenetic modifications across generations is a remarkable moment in modern biology. It challenges our longstanding views of evolution and heredity, offering a potential bridge between Darwin and Lamarck, between genes and environment, and between past theories and future innovations.

#### **MAIN QUESTION:**

How does the recent discovery of cold adaptation in rice through epigenetic inheritance challenge traditional views of evolution, and what are its implications for climate-resilient agriculture in India and globally?

## Q. Consider the following statements regarding the recent study on rice cold adaptation and epigenetics:

- 1. The study provides direct evidence that natural environmental stressors can induce heritable epigenetic changes in plants.
- 2.The ACTI gene, which plays a key role in rice plant growth, was silenced in coldadapted rice due to DNA methylation

3. The findings support the theory of natural selection as the sole mechanism of heritable adaptation in plants.

4. Epigenetic marks, unlike genetic mutations, alter the DNA sequence to enable long-term adaptation to stress.

## Which of the statements given above is/are correct?

A. 1 only

B. 1 and 2 only

C. 1, 2 and 3

D. None of the above

#### **Correct Answer: A. 1 only**

#### **Explanation:**

- Statement 1 is correct: The study demonstrates that cold exposure led to heritable epigenetic changes (specifically non-methylation of ACTI) across five rice generations.
- Statement 2 is incorrect: In coldadapted rice, ACTI was not silenced; instead, it remained active because it did not undergo methylation.
- Statement 3 is incorrect. The study challenges the idea of natural selection being the only mode of heritable adaptation by reintroducing Lamarckian concepts via epigenetics.
- Statement 4 is incorrect. Epigenetic marks do not alter the DNA sequence; they modify gene expression without changing the genetic code.





## **Designing Dignity: Why India Must Build** an Inclusive Pension **System Now**

#### Why in the News?

India's pension coverage remains alarmingly low, especially for its vast informal workforce. According to the Economic Survey 2025–26, pension assets in India stand at only 17% of GDP, a stark contrast to 80 %+ in developed economies.

- Only about 12% of the workforce is covered by formal pension schemes. In a country where the informal sector constitutes over 85% of the labour force, this gap presents a severe socioeconomic risk.
- Further, with India's old-age dependency ratio projected to rise to 30% by 2050, there is an urgent need for a comprehensive and inclusive pension framework that ensures income security, especially for those outside the formal economy.

#### **Background** What is a Pension System?

A pension system is a financial arrangement designed to provide income to individuals during retirement, ensuring economic stability and dignity in old age. It can be public, occupational, or individual, and may be contributory or noncontributory, mandatory or voluntary.

#### **Global Pension Practices**

- Japan: Mandatory flat-rate contributory scheme for all residents aged 20-59, including the self-employed and dependents.
- New Zealand: Universal flat-rate pension for those over 65 with a 10-year residency requirement.

#### Old vs New

A look at the difference between the old and the new pension schemes

#### **Old Pension Scheme**

- ■The scheme guarantees a life-long income, postretirement
- ■Government bears the expenditure incurred on the pension
- ■Under the scheme, a monthly payment is assured, where the amount is equivalent to 50% of the last drawn salary

#### **National Pension Scheme**

- It is a participatory scheme, where employees contribute to their pension corpus from their salaries, with matching contribution from the government
- ■The funds are invested in earmarked investment schemes through Pension Fund Managers
- On retirement, 60% of the corpus, which is tax-free, is withdrawn while the remaining 40% is invested in annuities, which is taxed
- UK: Auto-enrolment system with optout provisions.
- Nigeria: Digital pension infrastructure to boost inclusion.
- Australia: Financial literacy integrated into school curricula under the "superannuation" model.
- Netherlands & Denmark: Use of private pension funds alongside public systems for sustainability.

#### **India's Existing Pension Framework**

India's pension system is fragmented and exclusionary, with three main components:

- Public sector pensions: Old Defined Benefit Schemes (now replaced by NPS).
- Employees' Provident Fund (EPF) for organised private sector workers.
- National Pension System (NPS) and Atal Pension Yojana (APY) for informal workers, but both are voluntary, and coverage remains low.

#### **Demographic Transition**

India's population is ageing. According to UN estimates, those above 60 years will account for 20% of India's population by 2050. This demographic shift mandates a forward-looking pension strategy.



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#### **Features**

#### **Current Status of Pension** Coverage in India

- Only 12% of the workforce has formal pension access.
- Informal sector coverage is below 5.3% (FY24), primarily through NPS and APY.
- The public and organised private sector enjoy layered protection; informal workers face significant gaps.

#### Gig and Informal Economy Growth

- Gig workers (delivery personnel, freelancers, drivers) are growing rapidly.
- The informal sector contributes over 50% of India's GDP, yet lacks pension safeguards.
- Aggregator-funded social security schemes exist but are fragmentary and underutilised.

#### Financial Instability in Retirement

- Rising health costs and inflation outpace retirement savings.
- Lack of pension can push the elderly into poverty traps, burdening families and public welfare systems.

#### Digital and Financial Illiteracy

- Low awareness of pension schemes.
- Barriers in digital onboarding and documentation prevent wider participation in schemes like NPS and APY.

#### Challenge Scalability

- India's pension system is a patchwork of schemes lacking coordination.
- Informal and gig workers are difficult to track, enrol, and ensure compliance.
- No universal pension system exists; instead, numerous overlapping schemes cause inefficiencies.

#### Sensitisation and Awareness

- · Informal workers are unaware of voluntary pension options.
- · No pension education in schools or community outreach programs.
- · Language and trust barriers limit uptake, especially among rural and marginalised groups.

#### Sustainability of Pension Funds

- The Mercer CFA Global Pension Index 2024 gave India a score of 44%, indicating poor adequacy.
- NPS corpus is growing but remains modest.
- India lacks strong investment regulation and liquidity safeguards for pension funds.
- Over Reliance on public financing makes pensions fiscally vulnerable.

#### **Policy Fragmentation**

- No unified pension regulator or framework.
- New social security codes are yet to be fully operationalised.
- Gig economy laws are still evolving and lack clarity on pension contributions.

#### **Private Sector Apathy**

- Employers in MSMEs or informal setups avoid contributing to pensions.
- Inconsistent implementation of mandates like EPFO or NPS-Lite due to a lack of enforcement.

#### **Way Forward Adopt a Three-Tiered Pension Architecture**

#### Inspired by global best practices:

• Tier I: Basic Pension Guarantee mandatory flat-rate contributory pension for all adults (e.g., ₹100/month).



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- Tier II: Occupational Pensions autoenrolled, employer-linked schemes (opt-out allowed), minimum matching contributions.
- Tier III: Voluntary Pensions incentivised through tax benefits, flexible returns, and digital ease-of-use.

## Universalise Access Through Digital Infrastructure

- Integrate pension schemes with Aadhaar-linked databases.
- Develop a unified pension dashboard accessible via smartphone in multiple languages.
- Expand the use of DigiLocker, UPI, and Jan Dhan accounts for direct pension transactions.

#### **Enhance Financial and Pension Literacy**

- Launch national awareness drives on pension savings, starting from schools to community centres.
- Integrate pension literacy modules in school curricula, as done in Australia.
- Use local governance bodies (Panchayats, SHGs, Anganwadis) to conduct pension camps.

#### Strengthen Investment and Regulatory Oversight

- Empower PFRDA with more powers to oversee all pension products.
- Introduce stress-testing and minimum return guarantees to pension schemes.
- Mandate annual disclosure of accrued pension wealth, like in the Netherlands.

## Incentivise Private Sector Participation

- Provide tax breaks to employers who auto-enrol informal workers or gig employees.
- Create pooled pension models for MSMEs and cooperatives.

 Encourage fintech and insurance tech startups to develop low-cost pension products.

#### **Legal and Social Inclusion**

- Fast-track the implementation of the Social Security Code, 2020, with emphasis on gig and platform workers.
- Establish a minimum pension floor indexed to inflation.
- Ensure pensions are portable across jobs, sectors, and states.

## Promote Global and South-South Collaboration

- Collaborate with international pension experts (ILO, OECD, World Bank) to design scalable models.
- Learn from Bangladesh's pilot rural pension projects and Nigeria's mobile pension apps.

#### Conclusion

India stands at a demographic crossroads. A rising elderly population, combined with the dominance of informal labour, makes it imperative to design an inclusive, scalable, and sustainable pension system. Without urgent reforms, millions risk falling into poverty in their old age, jeopardising India's development aspirations.

#### Main Question:

Why does India urgently need to redesign its pension system to be inclusive, sustainable, and responsive to the needs of the informal sector in the face of demographic and economic transitions?

## Q. Concerning pension reforms in India, consider the following statements:

1. The Atal Pension Yojana is a mandatory contributory scheme for all informal sector workers.



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- 2. Japan and New Zealand follow flat-rate public pension systems with varying eligibility criteria.
- 3. India's pension-to-GDP ratio is higher than that of most advanced economies, indicating strong retirement security.
- 4. The Mercer CFA Institute Global Pension Index 2024 highlighted India's strength in adequacy and coverage of pension systems.

## Which of the statements given above is/are correct?

A. 2 only

B. 1 and 3 only

C. 2 and 4 only

D. 1, 3 and 4 only

#### Answer: A. 2 only

#### **Explanation:**

- Statement 1: Incorrect. The Atal Pension Yojana (APY) is voluntary, not mandatory.
- Statement 2: Correct. Both Japan and New Zealand use flat-rate systems but differ in eligibility (e.g., Japan mandates contributions; New Zealand requires 10 years of residency).
- Statement 3: Incorrect. India's pension-to-GDP ratio is only 17%, much lower than the 70–80% seen in many advanced economies.
- Statement 4: Incorrect. The Mercer Index assigned India a low adequacy score, not a high one.

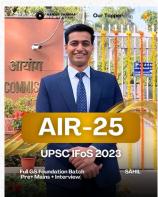
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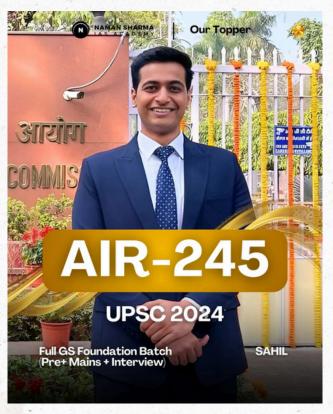
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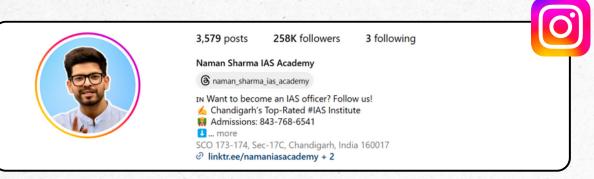


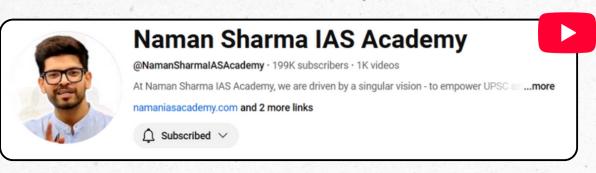
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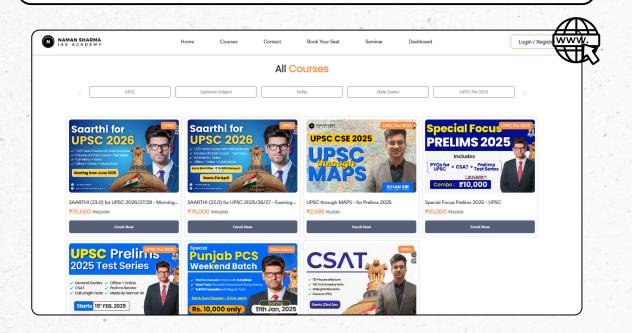






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