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● POLICY

VB-G RAM G rules: What changes as scheme set to replace NREGS

Harikishan Sharma
New Delhi, May 27

THE VIKSIT Bharat-Guarantee for Rozgar and Aajeevika Mission (Gramin) Act, 2025, is set to come into force from July 1, replacing the two-decade-old Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Ahead of the nationwide roll-out of the new rural jobs scheme, the Union government has released a draft of the rules that will govern its implementation.

The VB-G RAM G Act increases the number of guaranteed wage employment days, shifts a significant portion of the funding burden onto states, and turns resource allocation into a top-down process. The rules create a new provision (not mentioned directly in the Act) allowing those with verified MGNREGS job cards to avail work under the new scheme. They call for using the Sixteenth Finance Commission's formula to determine the Centre's normative allocation for states. And another new provision also allows the Union government to keep aside a portion of the normative allocation based on certain parameters. Here's a look at the new rules and their implications.

What are the new rules?

The Ministry of Rural Development on May 23 released eight draft rules that cover the VB-G RAM G scheme's provisions regarding wage payment, unemployment allowances, allocations to states and implementation monitoring. These are the rules:

- National Level Steering Committee Rules
- Grievance Redressal Rules
- Administrative Expenses Rules
- Transitional Provisions under VB-G RAM G Rules
- Objective Parameters for Normative Allocation Rules
- Central Gramin Rozgar Guarantee Council Rules
- Manner of Payment of Wages and Unemployment Allowance Rules
- Manner and Procedure of Expenditure incurred by the State in excess of the Normative Allocation, and Expenses of the Scheme for UTs without Legislature Rules

The ministry has sought objections and suggestions from the public within a month, after which it will notify the rules.

How do these affect NREGS workers?

Among the new rules, the Transitional Provisions are the most significant for exist-

VB-G RAM G vs MGNREGS

● VB-G RAM G increases the number of working days from 100 to 125 and provides for a 60-day pause during sowing and harvesting seasons to ensure the availability of farm labour.

● In MGNREGS, the Centre paid 100% of the wage bill. VB-G RAM G shifts a significant portion of the funding burden onto states.

● VB-G RAM G flips the MGNREGS model of Central allocations based on state labour budgets, with Centre now determining devolutions.

ing MGNREGS workers. Their MGNREGS job cards, once renewed and verified through e-KYC, will remain valid for seeking employment under the VB-G RAM G Act. This arrangement will continue until state governments issue Gramin Rozgar Guarantee Cards under the new law. The rules also specify that all wage and unemployment allowance payments will be made through Direct Benefit Transfer into bank or post office accounts. The Union government, however, is yet to declare the wage rate under the VB-G RAM G scheme.

How do they affect the states?

The Union government has allocated Rs 95,692.31 crore for the VB-G RAM G scheme for this financial year (2026-27).

For states, the rules that are the most crucial are those related to fund allocation and excess expenditure.

According to the draft Objective Parameters for Normative Allocation Rules, 2026: "The Central Government shall, for each financial year, determine the normative allocation of the funds, for every State, based on the objective parameters specified in these rules."

According to the rules, the Centre will

use the Sixteenth Finance Commission's horizontal devolution recommendations to determine the normative allocation to states. Using the Sixteenth Finance Commission formula, some states may receive lower VB-G RAM G allocations than they did under MGNREGS in 2025-26. These include Tamil Nadu, Andhra Pradesh, Rajasthan and Maharashtra. On the other hand, the shares of Uttar Pradesh, Gujarat, Madhya Pradesh, Assam, Haryana, Punjab and Bihar will likely increase.

Crucially, the draft rules have a provision regarding keeping aside a portion of the normative allocation, which will be distributed among states based on certain parameters — timely payment of wages; compliance with social audit requirements; the percentage of completion of work in a financial year; and other performance-related indicators as may be specified by the Centre. The proportion of the normative allocation that can be kept aside has not been decided yet. This provision will take effect from the next financial year.


Another significant rule, as already set out in the Act, says that states will have to bear any additional expenditure over the normative allocation.



- **Key Terms and Explanations**

- **VB-G RAM G (Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission - Gramin):** The newly proposed rural employment framework intended to replace the existing MGNREGA model, operationalizing from July 2025. It represents a shift from a purely demand-driven model to a normative, top-down allocation model.
- **Normative Allocation:** A method of distributing resources where the central government determines a fixed quantum of funds for states based on predefined criteria or formulas (like those of the Finance Commission), rather than purely responding to bottom-up labor demand.
- **Horizontal Devolution:** The formulaic distribution of financial resources among states at the same tier of government. The 16th Finance Commission's recommendations will guide this specific distribution, factoring in criteria like demographic performance, income distance, and geographic area.
- **e-KYC (Electronic Know Your Customer):** A digital verification process used to authenticate the identity of job card holders. This is a crucial transitional tool to migrate existing workers into the new systemic framework while weeding out ghost beneficiaries.
- **Social Audit:** A democratic accountability mechanism where the community audits the quality of work, financial propriety, and execution of the scheme. Under the new rules, compliance with social audits becomes a metric for unlocking performance-based central funds.

- **Main Arguments and Substantive Parts**

- 
- The core thesis of this policy evolution is the recalibration of fiscal federalism and agricultural labor dynamics within India's rural welfare architecture.
 - **Shift in Fiscal Burden:** The most profound change is moving away from the Centre bearing 100% of the wage bill. The new model shifts a significant portion of this funding burden onto the states. Furthermore, states must bear any expenditure that exceeds the Centre's normative allocation.
 - **Top-Down Devolution over Bottom-Up Budgets:** The traditional model relied on state labor budgets dictating central allocations. The new framework flips this, allowing the Centre to determine state-wise devolutions using the 16th Finance Commission's horizontal formula.
 - **Incentivizing Performance:** A portion of the normative allocation will be withheld by the Centre and distributed based on performance parameters. These parameters include the timely payment of wages, the percentage of completed works, and strict adherence to social audit requirements.
 - **Balancing Agriculture and Welfare:** While guaranteed workdays increase from 100 to 125, the introduction of a mandatory 60-day pause during sowing and harvesting seasons acts as a mechanism to prevent labor shortages in the agricultural sector.

- **Historical Evolution of the Issue**

- To appreciate this transition, aspirants must trace the lineage of rural employment guarantees in India:

- **Pre-2000s (The Formative Years):** The genesis of guaranteed employment lies in the Maharashtra Employment Guarantee Scheme of the 1970s, which was born out of severe drought conditions. Over the decades, various schemes like the Jawahar Rozgar Yojana and Sampoorna Grameen Rozgar Yojana (SGRY) attempted to provide wage employment but lacked statutory backing.

- **2005 (The Rights-Based Era):** The enactment of the National Rural Employment Guarantee Act (later MGNREGA) marked a watershed moment. It shifted rural welfare from a scheme-based privilege to a legally enforceable right, guaranteeing 100 days of unskilled manual work.

- **2014-2024 (Technological Integration):** The last decade saw the integration of Direct Benefit Transfers (DBT), Aadhaar linkage (ABPS), and geo-tagging of assets to plug leakages and improve accountability.

- **2025 Onwards (The Fiscal Consolidation Era):** The introduction of the VB-G RAM G Act signifies a maturation phase, pivoting toward fiscal consolidation, performance-linked funding, and explicit harmonization with the agricultural cycle.

- **Way Forward**

- To ensure this transition strengthens rather than weakens rural safety nets, several balanced reforms are necessary:

- **Phased Fiscal Burden Transition:** States should not face an immediate shock. The shift in the wage bill burden must be gradual, perhaps phased over a five-year period, allowing state exchequers to build adequate reserves.

- **Nuanced Agricultural Pauses:** A rigid nationwide 60-day pause is unscientific given India's varied agro-climatic zones. The pause must be decentralized, allowing District Magistrates to declare the 60-day freeze based on local harvesting timelines and distress levels.

- **Capacity Building for Performance:** Before penalizing states by withholding normative allocations, the Centre must invest heavily in building their capacity for timely DBT payments and executing robust social audits.

- **Fallback Mechanisms:** If an agricultural season fails (e.g., due to El Niño), the 60-day pause must automatically be rescinded to prevent starvation.

COMPREHENSIVE EDUCATIVE ANALYSIS OF VB-G RAM G RULES: NEW RURAL JOBS SCHEME & ITS IMPLICATIONS

A DETAILED GUIDE FOR UPSC CSE PREPARATION | AXIA IAS ACADEMY

PARADIGM SHIFT: NREGA to VB-G RAM G

ERA OF NREGA (Rights-Based)



- Demand-Driven
- 100 Guaranteed Days (Baseline)
- Centre pays 100% of wage bill
- Bottom-up State Labour Budgets

ERA OF VB-G RAM G (Normative-Federal)



- Normative Allocation based on Formula
- Increase to 125 Working Days (w/ Caveat)
- Shifted Funding Burden onto States
- Top-Down Devolution using 16th FC

UPSC SYLLABUS LINKAGES



GS II

- Federal Challenges
- Welfare Schemes



GS III

- Government Budgeting
- Inclusive Growth
- Agriculture

RECALIBRATED FISCAL FEDERALISM & AGRICULTURAL HARMONY

125 ENHANCED WORKING DAYS



60-DAY AGRICULTURAL PAUSE (Sowing & Harvesting)

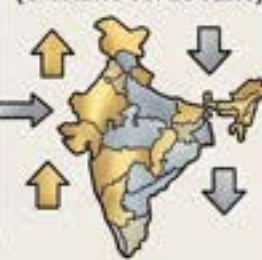


60-DAY AGRICULTURAL PAUSE (Sowing & Harvesting)

FISCAL FEDERALISM



PROJECTED SHARE (GAINERS vs. LOSERS)



- Demographic Performance
- Income Distance
- Area, etc.

Note: States bear ALL excess expenditure.



CLASS

- Economics 9-11
- Political 10



to NCERT

- Economics 9-11
- Political 10

NEW POLICY FEATURES & GOVERNANCE

PERFORMANCE-BASED ALLOCATION



EXPENDITURE CONDITIONS



Note: No additional Central allocation after normative quota.

MULTIDIMENSIONAL IMPACT



- Legal rights
- Social security vs. market needs
- Ethical funding

MASTER STRUCTURAL POLICY SHIFTS | KEY TO UPSC CSE MAINS

The Ebola species with no vaccine

The *Bundibugyo ebolavirus* outbreak in Congo and Uganda has exposed gaps in vaccine preparedness, with no licensed vaccine yet for the rare species, funding constraints, weak commercial incentives, and limited research investment continue to hamper vaccine development for neglected tropical diseases

FULL OPINION

Yusefman Makumbi

The World Health Organization (WHO) declared the *Bundibugyo ebolavirus* (BDBV) outbreak in the Democratic Republic of the Congo and Uganda to be a public health emergency of international concern on May 11.

The outbreak exposes a critical gap in international vaccine preparedness. There is no licensed vaccine yet for the *Bundibugyo* species of the *ebolavirus* because the resources required to develop one have not been allocated and because of the specific economic realities of neglected tropical diseases (NTDs).

BSL-4 facilities

To study, develop, and test a vaccine, medical researchers need the strict staff as to genetic sequences to ensure the vaccine's antigens match the circulating virus. To end this, the National Institute of Biomedical Research in the Congo and the Central Public Health Laboratories in Uganda defined the sequence.

Second, to work with a live *ebolavirus*, scientists need Biosafety Level (BSL) 4 facilities. These are research facilities with the highest level of biological containment, required when dealing with deadly viruses – like *ebolavirus* and *Nipah virus* – as viruses that are very easily transmitted or which have no known treatment.

BSL-4 facilities are strongly isolated, with maze-like walls, doors, and ceilings, tightly sealed pipes and wires, multiple air-to-air systems with specialized filters, negative air pressure so that a leak causes air to flow into the facility, dedicated ventilation systems, and redundant HEPA filters. All waste from the facility is first neutralized before being disposed of.

Presented at a BSL-4 facility have to don positive pressure suits. Staff, coming in to flow out and pass through decontamination showers. They also have to undergo rigorous medical tests. There are just over a hundred BSL-4 facilities worldwide, including two in India.

Primate trials

To design the vaccine, researchers need to identify which proteins of the virus provoke the antibody response in the human body. There, they need to infect a *chimpanzee* – the technology that will carry the antigen into the body and present it to the immune system. The options for *ebolavirus* include viral vectors such as rVSV or ChAdV101, mRNA-based systems, and protein subunits.

Finally, the vaccine may be tested in animal models, in particular non-human primates, as they are the gold standard to assess the safety and efficacy of a vaccine against a disease with a mortality rate of 25% to 90%.

Human clinical trials would be better but such an enterprise would be extraordinarily complicated during an ongoing outbreak.

Once a vaccine is ready, manufacturing it will require hundreds of millions of dollars in addition to development costs, including specialized facilities, cold storage and transport chains (at 40°C to 40°C), quality control, regulatory approvals, and advance purchase commitments.

Then, at the very last stage of this long pipeline, health-care workers and public health officials must direct an outbreak early and administer the vaccine to avoid its spread.



Once a vaccine is ready, manufacturing it will require hundreds of millions of dollars in development costs, including specialized facilities, cold storage and transport chains, quality control, regulatory approvals, and advance purchase commitments. (2017/2022)

What 'neglect' means

The *ebolavirus* is not a single virus species but a genus with multiple species, including *Zaire*, *Sudan*, *Bundibugyo*, and *Tai Forest*. If a person has become immune to one species, they are not expected to be sufficiently cross-protected against infection by another species. This is because the different species have different surface proteins, so each outbreak may require species-specific research.

Ebolavirus outbreaks are also sporadic and hard to predict as to their location – which is unlike influenza or COVID-19, which circulate continuously in populations. So by the time an *ebolavirus* vaccine reaches the third phase of a clinical trial, the outbreak may have already subsided, leaving fewer cases to test for the trial.

The commercial market for *ebolavirus* vaccines is small and concentrated in lower-income countries, which means the financial incentive for pharmaceutical companies is lower without substantial backing from governments and/or conditions like Gavi and the Coalition for Epidemic Preparedness Innovations (CEPI) is minimal.

All of the same factors attend to most NTDs, and illustrate what the 'neglect' in their name entails. NTDs are almost always diseases of poor, rural, and geographically marginalized populations in the world's tropical and subtropical areas. In fact, these people are employed – and that's why their diseases are neglected as well.

Two declarations

Historically, funding for infectious diseases was dominated by just three: HIV/AIDS, tuberculosis, and malaria. The situation changed somewhat following the London Declaration in 2002 and the *Egypt Declaration* in 2002.

With the participation of the WHO, the World Bank, 12 pharmaceutical companies, and representatives from

several countries, the London Declaration committed to eliminate or control 35 NTDs by 2020 with more than \$200 million for research and development. The *Egypt Declaration*, sponsored by donors, aimed to reorganize commitments to eliminate the NTDs, as a June 21, 2012, event, the country reported a pledge of \$1.5 billion by various governments, pharmaceutical companies, and NGOs.

However, M&D has often been patchy, compromised by weak health-care delivery and poor universal surveillance. Governments have also often prioritized diseases affecting patients in richer countries. But the worst is perhaps market failure, as affected populations have little purchasing power while developing a single vaccine these days costs more than a million dollars. The vaccine also cannot be sold for much in countries most of whose populations live on two dollars a day.

These NTDs are caused by eukaryotic parasites, i.e. worms and protozoa, which develop in multiple stages across multiple hosts, complicating researchers' efforts to identify a viable antigen for vaccines to target. The immune system also struggles to confer lasting protection against infection by these organisms, making them conceptually harder to vaccinate against than, say, measles.

Local response

At this time, there are two licensed *ebolavirus* vaccines – *Ebola* and a combination of *Zaire* and *Sudan* – but they are both for the *Zaire* species. The *Bundibugyo* species is also much rarer, having caused only two outbreaks before the current one. As a result, research on it hasn't drawn significant investments.

Promising *Bundibugyo* vaccine candidates are currently in preclinical or early development, with the WHO and the United States (US) providing at least six months more to manufacture

strongly down for a small clinical trial.

Taken together, the local health-care systems – already strained by conflict and climate change – are left with weakly functioning centers, including patients, contact tracing, safe burial practices, and community engagement to manage the *Bundibugyo ebolavirus* outbreak.

Causes for hope

That said, in the meantime, the Road Map 2020-2030 of the WHO has specified objectives by target for particular NTDs and has been pushing demonstrably led programmes that combine mass drug administration, vector control, sanitation, and surveillance.

In February this year, the African Union launched *ACTHIVE Africa*, a programme to build indigenous R&D for vaccine development for NTDs that vaccine manufacturers have overlooked. Using the help of such programmes, the African Union plans to manufacture 90% of the continent's vaccine needs by 2040. Likewise, CEPI has increasingly funded work on pathogens that currently present weak commercial incentives.

This marker this year, India initiated phase I human clinical trials for an indigenous vaccine against *Egyptian* *ebolavirus*, a regional NTD. India established its South Africa and Senegal to manufacture mRNA vaccines for COVID-19 are being encouraged to produce experimental vaccines for NTDs, including *ebolavirus*.

Brazil and Cuba have built state manufacturing capacity to address diseases that institutional firms have shipped although this may no longer be a priority to Cuba, which has faced prolonged fuel and medicine shortages thanks to crippling US embargoes.

But for now, the *Bundibugyo ebolavirus* outbreak continues to unfold against infrastructure and financing gaps and a broader system that struggles to respond to diseases of the poor and the peripheral.

THE GIST

Scientists need BSL-4 facilities and non-human primates trials to safely study and test vaccines against deadly viruses like *ebolavirus*.

Different *ebolavirus* species have different surface proteins, meaning immunity against one species may not sufficiently protect against another.

Local health-care systems are straining to carry infection, sanitation, contact tracing, safe burial practices, and community engagement to manage the outbreak.

- **Key Terms and Explanations**

- **Neglected Tropical Diseases (NTDs):** A diverse group of communicable diseases that prevail in tropical and subtropical conditions. They are "neglected" because they almost exclusively affect the poorest, most marginalized communities, drawing little commercial R&D interest. Examples include Leishmaniasis, Kyasanur Forest Disease (KFD), and various Ebolavirus strains.
- **Biosafety Level 4 (BSL-4) Facilities:** The highest tier of biological containment used to study the world's most dangerous pathogens (those with high mortality rates and no known treatments). These labs feature monolithic walls, negative air pressure (so a leak pulls air in, preventing escape), redundant HEPA filters, and mandate positive-pressure suits for scientists.
- **Antigens and Vaccine Platforms:** An antigen is the specific part of a pathogen that triggers an immune response. To deliver this into the human body, scientists use a "platform"—a carrier mechanism. Common platforms include viral vectors (using a harmless virus to carry the antigen), mRNA (genetic instructions), and protein subunits.
- **Cross-Protection:** The phenomenon where immunity to one strain of a virus provides protection against a different but related strain. In the case of complex viral genera with different surface proteins, cross-protection is often absent, necessitating strain-specific vaccines.
- **Eukaryotic Parasites:** Organisms with complex cell structures (like worms and protozoa) that cause many NTDs. Unlike simple viruses, they often develop through multiple life stages across different hosts, making it incredibly difficult for scientists to identify a stable antigen for vaccine targeting.

- **Main Arguments and Substantive Parts**

- When we look at the underlying narrative of disease preparedness, a few central themes emerge that highlight systemic global inequalities.
- **The Market Failure in Public Health:** The central thesis is that the pharmaceutical industry operates on a profit-driven model. Developing a modern vaccine costs upwards of a billion dollars. Because NTDs primarily affect populations living on less than two dollars a day, there is virtually no commercial incentive to develop these vaccines without massive public subsidies.
- **The Scientific and Logistical Bottlenecks:** Developing a rapid response to a localized outbreak is scientifically grueling. It requires sequencing the virus, isolating it in rare BSL-4 facilities, conducting expensive non-human primate trials, and establishing an ultra-cold supply chain (-60°C to -80°C).
- **The Conundrum of Clinical Trials:** Outbreaks of such diseases are often sporadic and unpredictable. By the time a vaccine candidate reaches Phase III human trials, the outbreak might have naturally subsided. This leaves researchers without enough active cases to statistically prove the vaccine's efficacy.
- **The Shift Toward Regional Self-Reliance:** The systemic neglect by multinational corporations is forcing the Global South to build its own indigenous capacities, shifting the focus from international dependency to regional self-sufficiency in biotechnology and R&D.

- **Historical Evolution of the Issue**

- Understanding how our global priorities regarding infectious diseases have evolved is essential for giving your answers historical depth.

- Colonial & Cold War Era

- Pre-2000s

- Global health funding was heavily skewed toward diseases that affected colonial troops, trade routes, or geopolitical interests. Research on localized tropical diseases was largely ignored unless it threatened the Global North.

- The Era of the 'Big Three'

- Early 2000s

- International funding and institutional focus (like the Global Fund) were intensely concentrated on just three infectious diseases: HIV/AIDS, Tuberculosis, and Malaria. Other tropical diseases were sidelined.

- The London Declaration

- 2012

- A watershed moment where the WHO, World Bank, and pharmaceutical companies explicitly recognized NTDs. They committed over \$785 million to control or eliminate 10 specific neglected diseases by 2020.

- The Kigali Declaration

- 2022

- A renewed push led by Rwanda to reinvigorate the fight against NTDs, resulting in a pledge of \$1.5 billion. It marked a shift toward greater leadership and ownership by the affected countries themselves.

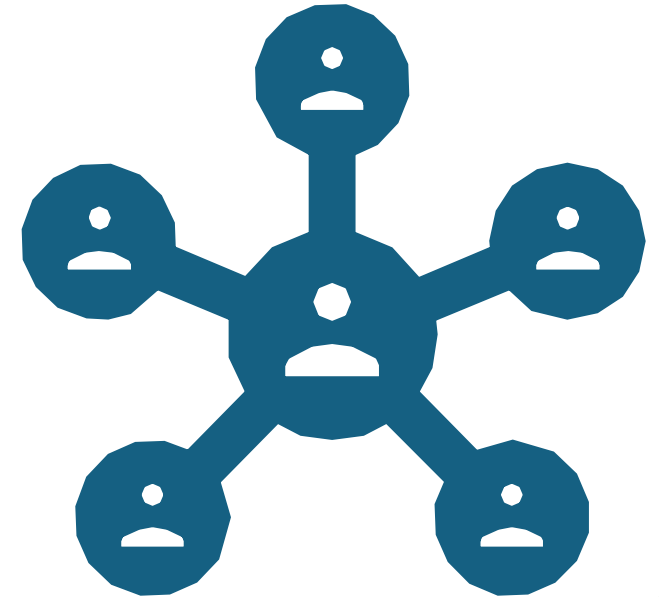
- Rise of Indigenous R&D

- Present

- Initiatives like the African Union's 'ACHIEVE Africa' (aiming for 60% indigenous vaccine manufacturing by 2040) and India's localized KFD vaccine trials mark a transition toward Global South self-reliance.

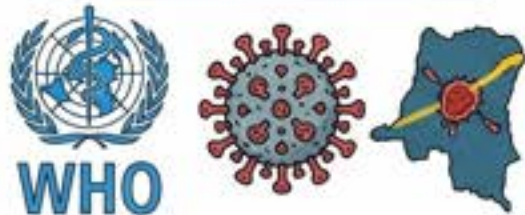
- **Way Forward**

- **De-linking R&D from Product Pricing:** Shift to a model where research is funded through global public grants and prizes, rather than relying on patent monopolies that artificially inflate the cost of the final vaccine.
- **Bolstering Regional Biomanufacturing:** India and Africa must continue to expand their domestic capabilities (like the KFD trials and ACHIEVE Africa) to break the reliance on Western multinational firms.
- **Adopting a 'One Health' Approach:** Since many of these diseases are zoonotic, robust environmental and veterinary surveillance must be integrated with human healthcare to detect pathogens before they jump to humans.
- **Strengthening Alternative Financing:** Empower coalitions like CEPI and Gavi, and encourage BRICS nations to establish a dedicated fund for R&D into tropical diseases endemic to their regions.



COMPREHENSIVE ANALYSIS: BUNDIRUGYO EBOLAVIRUS (BDBV) OUTBREAK & NEGLECTED TROPICAL DISEASES (NTDs) - UPSC CSE ESSENTIALS

THE BDBV OUTBREAK & CRITICAL GAP

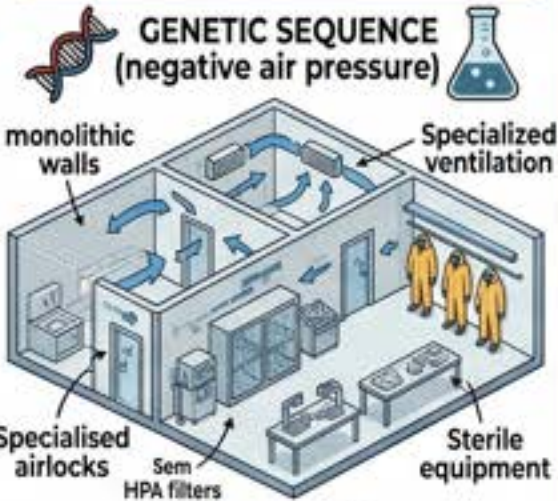


Outbreak in Congo & Uganda.
Public Health Emergency of International Concern (May 17, WHO)

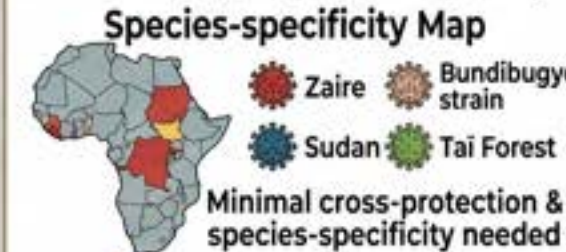


GAP: No licensed vaccine for BDBV species (resources not mustered, economic realities)

RESEARCH & CONTAINMENT (BSL-4 FACILITIES)



ECONOMIC REALITIES: WHAT 'NEGLECT' MEANS?

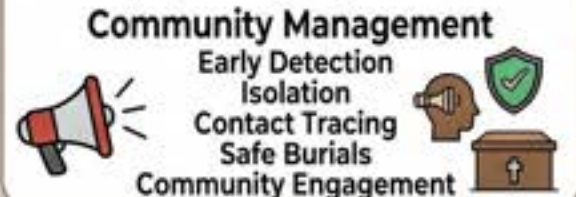
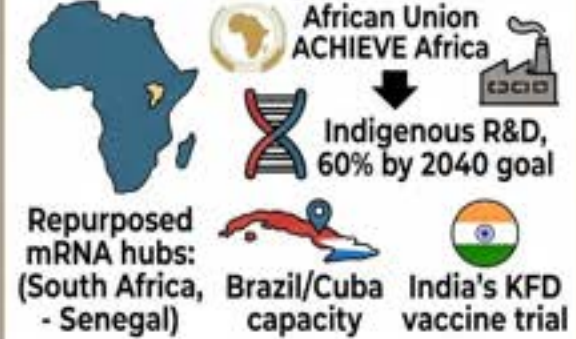


THE PATH FORWARD & LOCAL RESILIENCE

HISTORICAL DECLARATIONS



LOCAL SELF-RELIANCE & RESPONSE



Kerala scientists discover new evergreen tree species at Shendurney Sanctuary

Sarath Babu George
THIRUVANANTHAPURAM

Scientists from the Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI), in Palode, Kerala, have discovered a new evergreen tree species from the southern Western Ghats of Kerala. The newly discovered species identified in the riparian forests of the Shendurney Wildlife Sanctuary has been officially named as *Humboldtia nairiana*.

The species, belonging to the genus *Humboldtia*, has been named in honour of G.M. Nair, a distinguished plant biotechnologist and former Director of JNTBGRI. The initial breakthrough for the discovery



Humboldtia nairiana has been named in honour of G.M. Nair, a distinguished plant biotechnologist. SPECIAL ARRANGEMENT

came in 2010 during a floristic exploration along the Cheenikkala-Pandimotta forest trail within the Shendurney Wildlife Sanctuary. Three scientists from JNTBGRI collected an unusual and taxonomically

intriguing specimen.

To carefully observe and safeguard the plant, a few healthy seedlings were brought back and successfully established *ex-situ* within the JNTBGRI Arboretum. After a prolonged

juvenile phase, the cultivated trees began flowering and fruiting in 2022. This allowed the research team to conduct a comprehensive morphological assessment, which confirmed that its distinct vegetative and reproductive characters set it apart as a brand-new species to science.

The species is strictly endemic to Kerala and is presently known only from the biodiversity-rich Agasthyamala Biosphere Reserve. Alarmingly, field surveys indicate a fragile wild population. Based on the IUCN Red List criteria, the species has been categorised as 'data deficient' to highlight the need for extensive field tracking and habitat protection.

- **Key Terms and Explanations**

- **Agasthyamala Biosphere Reserve:** Located in the southernmost end of the Western Ghats, spanning Kerala and Tamil Nadu. It is part of UNESCO's World Network of Biosphere Reserves. It is a unique genetic reservoir, famous for highly localised biodiversity and endemic species.
- **Endemism:** This refers to a species being unique to a defined geographic location, such as an island, nation, country, or other defined zone. An endemic tree species found in Kerala's riparian forests exists nowhere else on Earth, making its conservation a global imperative.
- **Riparian Forests:** These are forested areas adjacent to bodies of water, like rivers or streams. They act as vital ecological buffers, preventing soil erosion, maintaining water quality, and providing distinct microclimates necessary for specialised flora to thrive.
- **Ex-situ Conservation:** The preservation of components of biological diversity outside their natural habitats. Bringing seedlings from a fragile wild population to a controlled botanical garden or arboretum is a classic example of this. It acts as an ecological insurance policy.
- **IUCN 'Data Deficient' (DD) Category:** A species is categorised as Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution or population status. It highlights an urgent need for baseline ecological research.
- **Taxonomy and Morphological Assessment:** Taxonomy is the science of naming, describing, and classifying organisms. Morphological assessment involves studying the structural features (leaves, flowers, fruits) of a plant over a long period to definitively prove it is a distinct, previously unrecorded species.

- **Main Arguments and Substantive Parts**

- When we conceptualise the discovery and preservation of a new plant species, several core arguments and thematic pillars emerge that are highly relevant for a civil services aspirant.
- **The Incompleteness of Our Ecological Inventory:** The discovery of a new tree species in the 21st century proves that our biological mapping of the Western Ghats is still incomplete. It argues for sustained funding and institutional support for continuous botanical and zoological explorations.
- **The Power of Ex-situ to In-situ Synergy:** The narrative of collecting fragile seedlings, nurturing them in an arboretum for over a decade until they flower, and finally categorising them, demonstrates that conservation requires immense patience. Ex-situ conservation is not just about keeping plants in museums; it is about studying them to eventually aid their in-situ (wild) recovery.
- **Vulnerability of Micro-Endemism:** Species confined to highly specific niches, like a single forest trail's riparian zone, face an existential threat from minor climatic shifts or human disturbances. The argument here is that macro-level conservation policies must be fine-tuned to protect micro-habitats.
- **The Burden of 'Data Deficiency':** A critical thesis is that a 'Data Deficient' tag is a double-edged sword. While it acknowledges scientific caution, it often means the species misses out on the immediate protective funding and policy urgency afforded to 'Critically Endangered' species.



- **Historical Evolution of the Issue**


- The approach to botanical discovery and forest conservation in India has undergone a massive paradigm shift from the colonial era to the modern day.

- **Pre-Independence Era (Exploitation and Cataloguing):** Colonial forestry was largely driven by commercial interests. Institutions like the Botanical Survey of India (established in 1890) initially focused on identifying flora that had economic, timber, or medicinal value for the British Empire, rather than intrinsic ecological conservation.

- **Post-Independence Awakening (1970s-1980s):** Following the Stockholm Conference (1972), India enacted the Wildlife (Protection) Act of 1972. The focus began shifting from mere timber extraction to ecosystem protection. The Silent Valley movement in Kerala during this era was a watershed moment that highlighted the need to protect the endemic biodiversity of the Western Ghats.

- **The Biosphere Reserve Framework (2000s):** The notification of the Agasthyamala Biosphere Reserve in 2001 marked a mature phase of conservation. It acknowledged that landscapes must be protected holistically—core zones for strict protection of endemic species, and buffer zones where human-nature coexistence is managed.

- **Present Day (Micro-conservation and Climate Change):** Today, the historical evolution has led us to molecular taxonomy and biotechnology. Modern conservation relies on ex-situ arboretums and gene banks to protect newly discovered, fragile populations from the accelerating threats of extreme weather events and habitat fragmentation.



- **Way Forward**

- **Strengthening Taxonomic Capacities:** The government must revitalise institutions like the Botanical Survey of India (BSI) and regional research institutes with modern infrastructure and attractive grants to draw young researchers back into the field of fundamental taxonomy.
- **Upgrading 'Data Deficient' Profiles:** Establish a dedicated task force under the Ministry of Environment, Forest and Climate Change (MoEFCC) to conduct rapid ecological assessments of newly discovered species, moving them from 'Data Deficient' to appropriate actionable categories.
- **Expanding Ex-situ Infrastructure:** Create a highly connected network of regional arboreta and seed banks across different climatic zones in India to act as safe havens for fragile, highly endemic flora.
- **Community-Led Monitoring:** Train indigenous communities residing in Biosphere Reserves as 'para-taxonomists' to monitor the flowering, fruiting, and population health of endangered species in the wild, ensuring local stakeholder participation.

- **All Previous Years' UPSC Questions (PYQs)**

- **UPSC Prelims 2023:** In which one of the following regions was a new species of plant (often tested based on current affairs) discovered? (Conceptual parallel)
- **UPSC Prelims 2012, 2017:** Questions specifically distinguishing between In-situ and Ex-situ conservation methods (e.g., botanical gardens vs. national parks).
- **UPSC Prelims 2011, 2014:** Questions related to the biodiversity hotspots of India, specifically targeting the Western Ghats and its endemic characteristics.
- **UPSC Mains GS 3 (2013):** "What do you understand by 'biodiversity hotspots'? Name the hotspots present in India. Why are they considered so important?"
- **UPSC Mains GS 3 (2019):** "How is the Government of India protecting traditional knowledge of medicine from patenting by pharmaceutical companies?" (Relates to the bio-prospecting of endemic plants).

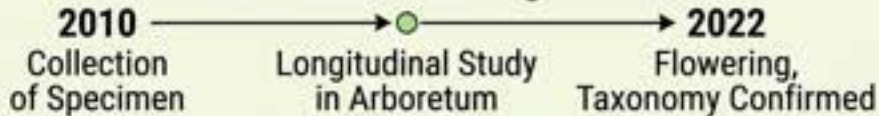


BIODIVERSITY FRONTIER: *HUMBOLDTIA NAIRIANA* DISCOVERY IN WESTERN GHATS

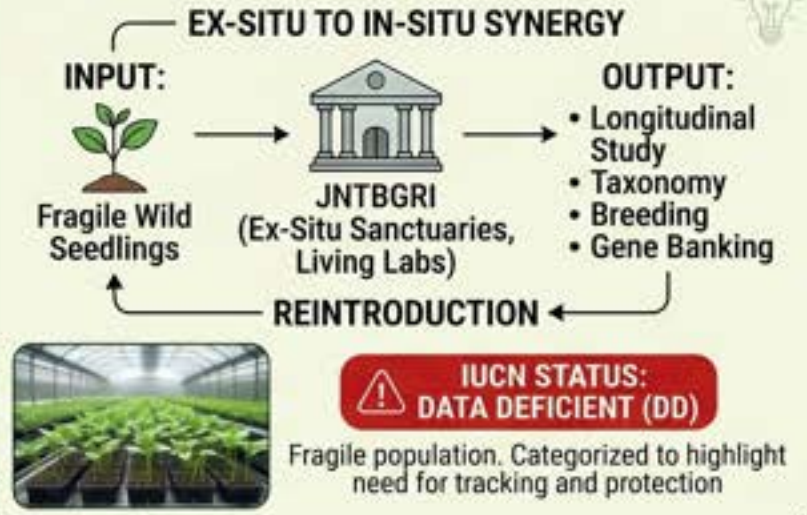
THE DISCOVERY & THE SCIENCE



Humboldtia nairiana evergreen tree



CONSERVATION MODEL & STATUS



MULTIDIMENSIONAL ANALYSIS

LEGAL Biological Diversity Act, 2002 ABS Mechanism, law book	ETHICAL Deep Ecology vs. Anthropocentrism Human-nature balance, intrinsic value
ENVIRONMENTAL Micro-Endemism Vulnerability Small climatic plant	ECONOMIC Untapped Genetic Resource, Future Pharma

MULTIDIMENSIONAL ANALYSIS

LEGAL (Biological Diversity Act, 2002 - law book)	ETHICAL (Deep Ecology vs. Anthropocentrism)
ENVIRONMENTAL (Micro-endemism, clock, symbols)	ECONOMIC (Untapped Genetic Resource, Future Pharma)

UPSC CSE SYLLABUS CONNECTION

- GS 1 (Geography of India: Flora, Fauna, Biosphere Reserves)**
- GS 3 (Environment & Conservation: Biodiversity, Climate Change, Ex-situ Methods)**
- GS 4 (Ethics: Environmental Ethics, Sustainable Development)**
- OPTIONALS: Geography, Botany, Forestry, Zoology, Anthropology (Textbooks)**

WAY FORWARD: CONSERVATION POLICY

- Strengthen Taxonomy** (BSI Grants, Young Researchers)
- Accelerate DD Status Upgrades** (Task Force - Clock, rapid assessment)
- Network Regional Arboretums** (Gene Banks - Tree cluster, safety)
- Community-Led Monitoring** (Para-Taxonomists - Local map, shared data)

Rare dragonfly resurfaces in Arunachal, underscores need for habitat protection

Rahul Karmakar
GUWAHATI

An insect that enjoys a near-360° vision with thousands of lenses, and can stay still in the air, has resurfaced in Arunachal Pradesh's Changlang district, about 600 km east of where it was first recorded 110 years ago.

A team of four citizen scientists recorded *Gynacantha khasiaca*, a rare dragonfly commonly known as the long-tailed duskhawker, from the Namdapha National Park and Tiger Reserve. This insect with two compound eyes, each with thousands of tiny lenses and photoreceptor clusters, was last described from the erstwhile Abor Hills in 1914.



The insect with two compound eyes was last described from the erstwhile Abor Hills area of the State in 1914. SPECIAL ARRANGEMENT

Mahesh R. from Kerala's Ernakulum, Rajesh Gopinath from Karnataka's BMS Institute of Technology and Management, Gaurav Joshi from Uttarakhand's Haldwani, and Roshan Upadhaya, a policeman from Arunachal Pradesh's Basar, are the authors of a study on the "rediscovery"

published in the *Journal of Threatened Taxa*.

According to the authors, the long-tailed duskhawker was sighted at Deban in October 2024 and confirmed through photographs taken in the presence of the forest staff. They said that the finding has underscored the need

for continued monitoring and habitat protection in India's easternmost State.

Dragonflies and damselflies, belonging to the order Odonata, are crucial components of freshwater ecosystems, as predators and prey in the aquatic food web. The global diversity of Odonata comprises 6,442 species across 693 genera.

Home to 504 species

India is home to 504 species and 27 subspecies. The total number of species in Arunachal Pradesh is 110.

Beyond Arunachal Pradesh, the long-tailed duskhawker has been documented in Assam, Maharashtra, Meghalaya, Uttarakhand, and West Bengal.

- **Key Terms and Explanations**

- **Odonata:** This is an order of flying insects that includes dragonflies and damselflies. They are considered crucial "indicator species" because their presence, absence, or population health directly reflects the quality of freshwater ecosystems. If a water body is polluted, odonates are usually the first to disappear.
- **Compound Eyes:** Unlike human eyes, which have a single lens, many insects possess compound eyes made up of thousands of individual photoreceptor units called ommatidia. This evolutionary marvel grants them a near-360° field of vision, making them formidable predators and highly sensitive to motion.
- **Citizen Science:** This refers to public participation and collaboration in scientific research. When everyday citizens—like policemen, teachers, or students—collect data, photograph wildlife, or monitor habitats, they act as citizen scientists. This democratizes science and massively expands the geographic reach of data collection.
- **Taxonomic Rediscovery:** This occurs when a species, previously thought to be locally or globally extinct (often unseen for decades or centuries), is found alive. It highlights both the resilience of the species and the historical gaps in our scientific surveying.
- **Endemism and Relict Populations:** Endemism refers to species found only in one specific geographic area. A relict population is a remnant of a formerly widespread species that now survives in a few isolated pockets, often due to habitat fragmentation or climate shifts.

- **Main Arguments and Substantive Parts**

- When we look beyond the mere sighting of a rare insect, several profound ecological and administrative themes emerge. Let us break down the substantive core of this biological event.
- **The Power of Democratized Conservation:** The traditional model of science relies solely on highly credentialed researchers. However, the active involvement of citizens from diverse professional backgrounds proves that grassroots engagement can lead to monumental ecological discoveries. It bridges the massive manpower gap faced by institutions like the Zoological Survey of India (ZSI).
- **Micro-Fauna as Ecological Pillars:** While conservation narratives are heavily skewed towards "charismatic megafauna" (tigers, elephants, rhinos), the foundational health of an ecosystem rests on micro-fauna like insects. As both apex predators of the insect world and crucial prey for birds and amphibians, dragonflies sustain the complex aquatic food web.
- **Data Deficits in Biodiversity Hotspots:** The fact that a species can go unnoticed for over a century in regions like the Eastern Himalayas underscores a critical vulnerability. It suggests that our baseline data regarding regional biodiversity is severely incomplete, meaning species might be going extinct before we even catalog them.
- **The Imperative of Habitat Preservation:** The presence of such rare species validates the ecological integrity of protected areas like National Parks and Tiger Reserves. It acts as empirical evidence supporting the need to maintain pristine freshwater habitats against the pressures of infrastructure development and deforestation.

- **Historical Evolution of the Issue**

- To understand the present context of biodiversity mapping in India, we must trace its historical trajectory from colonial curiosity to modern conservation.
- **Colonial Naturalism (Pre-1947):** Much of India's early taxonomic cataloging was driven by British military expeditions and colonial naturalists. Expeditions into remote areas like the Abor Hills in the early 20th century laid the groundwork. However, this era viewed nature primarily through the lens of extraction, cataloging, and museum preservation rather than holistic conservation.
- **Institutional Conservation Era (1970s–1990s):** Post-independence, India woke up to severe ecological degradation. The establishment of the Wildlife (Protection) Act, 1972, and the launch of Project Tiger in 1973 marked a shift toward state-led, fortress conservation. The focus was heavily on large mammals, leaving entomological research underfunded and marginalized.
- **The Technological and Participatory Turn (2000s–Present):** With the advent of affordable digital photography, GPS, and internet connectivity, a new paradigm emerged. The rigid walls of institutional science began to soften, allowing citizen-led biodiversity platforms (like India Biodiversity Portal) to flourish. This era marks a shift from top-down protection to collaborative, data-driven ecological stewardship.

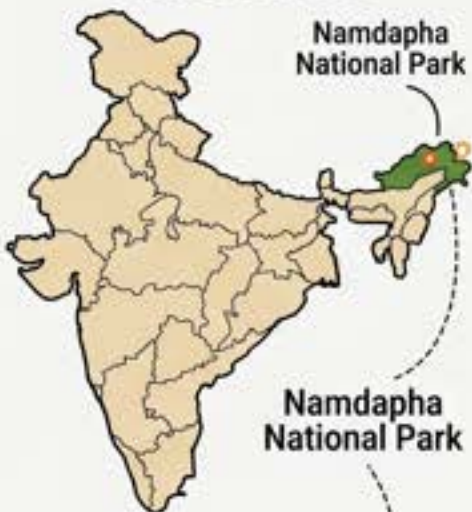
- **Way Forward**

- To move from analysis to solutions, here are pragmatic policy recommendations:
- **Institutionalizing Citizen Science:** The Ministry of Environment, Forest and Climate Change (MoEFCC) should create a formal integration between citizen data portals and the Zoological Survey of India, ensuring rapid validation of crowdsourced data.
- **Micro-Habitat Mapping:** National Parks must update their management plans to include the mapping and protection of micro-habitats (like specific marshlands, streams, and undergrowth) rather than just broad zoning for large mammals.
- **Indicator Species in EIA:** Environmental Impact Assessments for developmental projects in the Northeast must mandate the surveying of Odonata and other indicator micro-fauna to gauge the true ecological cost of disrupting water bodies.
- **Capacity Building:** Grants and fellowships should be introduced to encourage students toward taxonomy and entomology, addressing the severe skill deficit in identifying lesser-known taxa.

REDISCOVERY OF GYNACANTHA KHASIACA: A RARE DRAGONFLY REGAINS ITS WINGS.

A DETAILED ANALYSIS FOR UPSC CSE PREPARATION

EVENT: LONG-TAILED DUSKHAWKER REDISCOVERED



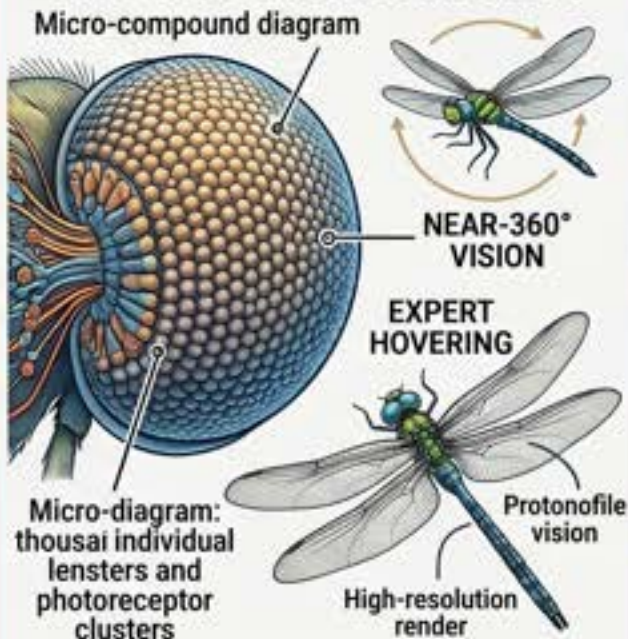
- Location: Namdapha NP.
- Last recorded 1914.
- Distance: ~600 km East.
- Team of four citizen scientists.

CITIZEN SCIENCE IN ACTION: DEMOCRATIZING CONSERVATION



- Team of Four (Police, Academics, Engineer).
- Published Study.
- Community Data Collection.

EVOLUTIONARY MARVELS: THE GYNACANTHA KHASIACA



NCERT & SYLLABUS LINKS



Class 11/12
Biology



Class 11
Geography

UPSC Syllabus

GS 1 (Fauna & Features)

GS 3 (Conservation)

GS 4 (Ethics)

HISTORICAL CONTEXT & TIMELINE

Pre-independence
Colonial naturalism

1914 —————> 2024

Pre-independence
Colonial
naturalism (1914: Abor
Hills) VS Modern,
multi-stakeholder
monitoring (2024:
Namdapha NP)

110-Year Gap:
Understanding the unseen

UPSC RELEVANCE: MULTIDIMENSIONAL IMPACT



Social
Community
Engagement



Political
Interstate
cooperation



Economic
Ecosystem
health indicator



Ethical
Environmental
Responsibility



International
Biodiversity
Convention



Legal
Wildlife
Protection
Act Schedules

WAY FORWARD: FEASIBILITY & SUSTAINABILITY



Habitat
Protection

Monitoring
Systems

Educational
Integration

Policy
Reform

SC upholds SIR as EC's constitutional duty

Court says EC has constitutional duty to verify citizenship for inclusion or exclusion from rolls

EC asked to refer names of purged Bihar electors to Centre for adjudication under Citizenship Act

The second phase of the SIR commenced even as a challenge was pending in the Supreme Court

Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Wednesday upheld the special intensive revision (SIR) of electoral rolls as an exercise done by the Election Commission (EC) in furtherance of its constitutional obligation to conduct free and fair elections.

"SIR bears a direct nexus to the constitutional goal of a free and fair election. Free and fair elections do not rest merely upon the mechanics of polling. They equally depend upon the integrity, accuracy, and purity of the electoral roll which forms the foundation of the democratic process," a Bench of Chief Justice of India Surya Kant and Justice Joymaya Bagchi said.

The judgment affirming the constitutionality of the Bihar SIR will have an impact on next rounds of SIR.



Citizenship is a condition precedent for enrolment [in electoral rolls]. The EC, in the course of preparing or revising electoral rolls, is undoubtedly empowered to examine questions bearing upon citizenship

SURYA KANT
Chief Justice of India



The court dismissed the view of the petitioners that the SIR was a backdoor attempt to conduct citizenship screening in the name of "purifying" the electoral roll of aliens. The EC was well within its authority to verify citizenship to the limited extent of determining inclusion or exclusion from the electoral roll, it said. "Citizenship is a condition precedent for enrolment. The EC, in the course of preparing or revising electoral rolls, is undoubtedly empowered to examine questions bearing

upon citizenship," Chief Justice Kant, who authored the 124-page judgment, observed.

Adjudication of cases

The court directed the poll body to refer, within the next four weeks, the names of electors who were part of the 2003 electoral roll but were purged in the Bihar SIR on the grounds of being non-citizens, to the Centre for adjudication by a competent authority under the Citizenship Act.

The authority must de-

Respectfully disagree: Cong.

NEW DELHI

The Congress on Wednesday said it "respectfully disagreed" with the Supreme Court order upholding the legality of the special intensive revision (SIR) of electoral rolls. » PAGE 4

cide their cases before the next Vidhan Sabha or local body elections. Their names should be restored to the rolls if they are found to be citizens.

The second phase of the SIR, covering 51 crore voters in 12 States and Union Territories, including West Bengal, Tamil Nadu, and Kerala, had commenced even as the challenge to the exercise in Bihar was pending in the Supreme Court.

The Bench also directed that persons domiciled in Bihar, whose names may

Verdict a defeat for Congress: BJP

NEW DELHI

The BJP on Wednesday hailed the Supreme Court verdict on the SIR, describing it as a defeat of the Congress and its allies on "constitutional" grounds. » PAGE 4

have been wrongly deleted on the grounds of absence, death, duplication or shifting could challenge the EC's decision before the courts. The final Bihar electoral roll published on September 30 last year contained 7.42 crore electors, compared with 7.89 crore when the SIR was notified by the EC on June 24, 2025.

The court said the SIR did not supplant the Representation of the People Act (RP Act) or the Registration of Electors Rules of 1960. Rather, it breathed

life into the constitutional mandate of Article 324 (EC's power to conduct and supervise elections).

Cogent justifications

The court said the EC had "cogent justifications" to conduct the SIR, namely the passage of more than two decades since the last intensive revision, large-scale additions and deletions over that period, rapid urbanisation, migration, and the resulting possibility of repeated or defective entries. The court said the electoral roll was not a static document and must evolve in response to changes in population, residence, and eligibility.

It rejected the petitioners' argument that the SIR did not have an empirical foundation. Chief Justice Kant justified that large-scale migration, non-reporting of deaths, and duplication of entries were

matters of "common administrative experience".

The Bench said the Commission's supervisory authority under Article 324 was a "continuous wellspring of power" encompassing every facet and stage of the electoral machinery to ensure the sanctity of the democratic process.

SIR suffering

The court refused to believe that the SIR caused suffering. It said appropriate safeguards were in place or introduced to mitigate hardship and arbitrary exclusion. These involved the inclusion of Aadhaar as the 12th "indicative" document for citizenship verification; a direction to publish the complete list of approximately 65 lakh excluded electors in Bihar and the active assistance rendered by the booth-level agent of political parties at the grassroot level.

- **Key Terms and Explanations**

- **Special Intensive Revision (SIR):** Unlike summary revisions that rely on voluntary disclosures or minor corrections, an SIR is a comprehensive, door-to-door enumeration and verification drive conducted by the Election Commission of India (ECI). It aims to completely overhaul and rebuild the electoral rolls in specific regions where demographic shifts, large-scale migrations, or administrative gaps have made existing data unreliable.

- *Example:* Think of a summary revision as a routine patch update on software, whereas an SIR is a complete system reinstall to eliminate accumulated bugs and outdated data.

- **Article 324 of the Constitution:** This constitutional provision vests the superintendence, direction, and control of elections—including the preparation of electoral rolls—squarely in the ECI. It operates as an plenary, continuous reservoir of power, ensuring that the commission is not paralyzed by legislative silence or statutory ambiguity when maintaining democratic integrity.

- **Purity of the Electoral Roll:** This legal doctrine posits that a democratic mandate is valid only if the list of voters is entirely accurate. It requires the systematic removal of "dead weight"—duplicate entries, deceased individuals, shifted voters—and the exclusion of non-citizens, ensuring that only genuine, eligible stakeholders influence legislative outcomes.

- **Condition Precedent:** A foundational legal rule stating that an absolute prerequisite must be satisfied before a right can be claimed. In Indian electoral law, holding citizenship of India is the strict condition precedent under Article 326 before an individual can be registered as an elector.

- **Backdoor Citizenship Screening:** A socio-political critique alleging that administrative exercises designed for civil or electoral cleanup are covertly used to bypass standard judicial or statutory frameworks to identify, isolate, or target individuals based on their nationality or legal status.

- **Indicative Document:** A piece of documentary evidence that serves to corroborate or suggest a status (such as residence or identity) without acting as conclusive legal proof of citizenship. In this framework, documents like Aadhaar function as indicative proof of identity and residence rather than definitive legal proof of citizenship.



- **Main Arguments and Substantive Parts**
- The core debate centers on balancing state administrative authority with civil liberties. The structural arguments are divided as follows:
- **The Constitutional Mandate of the Election Commission**
- The primary thesis holds that the ECI possesses an inherent, non-negotiable obligation to ensure that the electoral process is clean and accurate. The judiciary affirms that free and fair elections do not begin at the polling booth; they begin with the integrity of the voter database. Because citizenship is an absolute prerequisite for franchise, the ECI holds the implicit administrative power to verify citizenship to the limited extent of deciding whether an individual should be included in or excluded from the voter list.
- **Rejection of the "Backdoor Screening" Hypothesis**
- The counter-argument raised by critics claimed that the revision process was a masked attempt to execute a citizenship screening drive without formal legislative sanction. The legal resolution explicitly rejected this view, establishing a clear conceptual boundary: the ECI is not acting as a final citizenship tribunal. Its scrutiny is a preliminary, administrative gatekeeping exercise confined entirely to electoral eligibility, which does not replace or supplant existing statutory frameworks like the Citizenship Act.
- **Remedial and Adjudicatory Safeguards**
- To prevent arbitrary disenfranchisement and mitigate human suffering, specific procedural firewalls are mandatory:
- **Statutory Referrals:** The names of individuals removed from the rolls on suspicion of non-citizenship must be referred to competent authorities under the Citizenship Act within strict timelines for definitive legal adjudication.
- **Temporal Protections:** These citizenship determinations must be resolved before upcoming local or state elections to prevent long-term political neutralization.
- **Judicial Redress:** Voters deleted due to routine administrative errors (such as shifting, duplication, or mistaken entry of death) retain the absolute right to challenge these errors before civil courts, preserving due process.

- **Historical Evolution of the Issue**

- **The Colonial and Early Post-Independence Era (Pre-1950 to 1970s)**

- During the colonial period, the franchise was highly restricted based on property, tax assessment, and education. With the adoption of the Constitution in 1950, India pioneered universal adult suffrage under Article 326. The initial decades focused on the massive logistical challenge of expanding the rolls to include millions of newly enfranchised citizens, relying primarily on routine summary revisions.

- **The Era of Demographic Friction and Litigation (1980s to 1990s)**

- The intersection of electoral rolls and citizenship became a central political and legal issue during the Assam movement, leading to the Assam Accord of 1985. The jurisprudence of this era—including the eventual striking down of the Illegal Migrants (Determination by Tribunal) Act in the *Sarbananda Sonowal* case (2005)—emphasized that unverified voter lists pose a direct threat to honest democratic governance. It established that the state has a duty to protect the political community from external demographic distortion.

- **The Modern Technological and Regulatory Phase (2000s to Present)**

- Over the past two decades, the ECI shifted toward technological solutions, introducing Electoral Photo Identity Cards (EPIC) and automated de-duplication software. However, technology alone could not resolve systemic gaps caused by rapid urbanization, structural migration, and unreported deaths. This led back to the necessity of field-based initiatives like the Special Intensive Revision (SIR), which integrated modern identification documents as indicative tools to clean database entries while preserving constitutional protections.



- **Way Forward**
- **Structural Reforms and Institutional Coordination**
- **Seamless Data Integration:** Establish a secure, real-time data link between municipal birth-and-death registries and the ECI's voter database. Automating the removal of deceased individuals reduces the need for disruptive, emergency deletion drives.
- **Clear Administrative Boundaries:** Issue unambiguous guidelines to field staff making it clear that voter identity verification is not a citizenship inquiry. This protects vulnerable or illiterate voters from facing unfair burdens of proof from local officials.
- **Enhancing Grassroots Transparency**
- **Proactive Local Disclosure:** Instead of relying solely on digital portals, draft voter exclusion lists should be clearly displayed at local Panchayat Bhavans and ward offices. These lists should be distributed to recognized local political representatives well ahead of final publication.
- **Strengthening Local Appeals:** Create accessible, civil-court-backed grievance desks at the sub-divisional level. This gives citizens a clear, local path to correct erroneous deletions without needing to navigate complex, distant legal channels.





SUPREME COURT UPHOLDS ELECTION COMMISSION'S SPECIAL INTENSIVE REVISION (SIR) OF ELECTORAL ROLLS

CONSTITUTIONAL VALIDATION



- SIR bears direct nexus to Constitutional goal of **Free & Fair Elections**.
- Free & Fair Elections depend on **Integrity, Accuracy, and Purity of Electoral Roll**

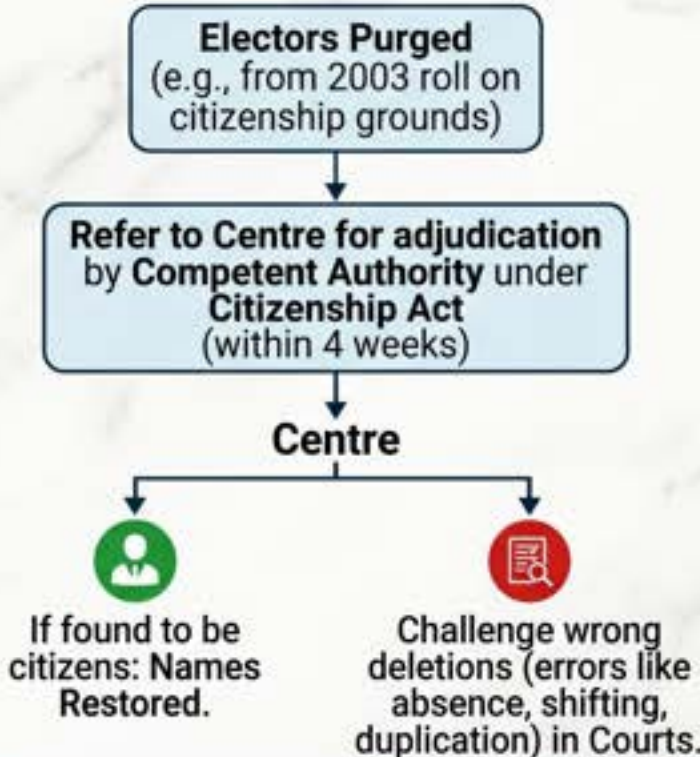
(Derogation of)
(Democratic Foundation).

SCOPE OF EC AUTHORITY



- EC is empowered to verify citizenship to the limited extent of enrollment determination.
- Citizenship is a **condition precedent** for enrollment.
- SIR is not a 'backdoor attempt' at citizenship screening.

PROCEDURAL SAFEGUARDS FOR PURGED ELECTORS



Authority must decide cases before next Vidhan Sabha/Local elections.

JUSTIFICATIONS & REMEDIES

A NEED FOR SIR (Evolvable Roll)



- Passage of more than two decades since last intensive revision.
- Large-scale Additions & Deletions.
- Rapid Urbanization, Migration, Duplicate Entries.

B MITIGATING HUMAN SUFFERING



- Aadhaar as 12th 'indicative' document for citizenship verification.
- Directive to publish complete lists of excluded electors (e.g., 65 lakh list in Bihar).
- Active assistance by Booth-Level Agents of political parties.

C RELATIONSHIP TO LAW



- SIR breathes life into Article 324 (EC's powers).
- Does not supplant RPA 1950 or 1960 Rules.

Home Secretary-led panel to draw up plan to clean Yamuna

Krishnadas Rajagopal
NEW DELHI

The Supreme Court has constituted a committee headed by Union Home Secretary Govind Mohan, and comprising the Chief Secretaries of all the States and Union Territories through which the Yamuna river flows, and given them eight weeks to come up with a comprehensive plan to clean up the river, which is considered a lifeline for over 57 million people in the national capital.

A Bench of Justices Ma-

noj Misra and Manmohan issued the direction to the committee to prepare a Yamuna Action Plan while conveying “profound grief” that the river has been reduced to “little more than a sewage canal”. “This court has repeatedly emphasised the absence of a single, comprehensive action plan for the rejuvenation of the Yamuna. A river is greater than the sum of its parts. Its revival requires a long-term, integrated strategy akin to the Namami Gange programme,” the apex



At work: Fishermen near Sur Ghat in New Delhi on Monday. PTI

court observed in its May 21 order that was published on Wednesday.

The court said the action plan for the Yamuna must clearly state the objectives, implementation

strategy, roles and responsibilities of each agency, budgetary allocations, as well as timelines. Coordination and monitoring must be entrusted to a single authority, it said.

The Centre had previously suggested that the Union Home Secretary could act as the nodal officer to coordinate efforts between States, UTs and the Centre. The court's *amicus curiae*, senior advocate K. Parameshwar, had recommended that the action plan must contain details of the cities and towns discharging effluents into the river; the kinds of industries polluting its waters; geotagging of sewage treatment plants, and drains, etc. on its banks; uploading of the river's water quality

data, among other measures. “Rivers are the lifeblood of civilisation. They provide fresh drinking water, sustain ecosystems and drive economic growth through agriculture, fisheries, and tourism,” observed the two-judge Bench.

It added that multiple agencies worked in silos to achieve nothing. Instead of curbing pollution, they had aggravated it, said the court, adding that the time had come for “hard decisions”. The court listed the case next on August 8.

- **Key Terms and Explanations**

- **Yamuna Action Plan (YAP):** A bilateral project initially launched in 1993 to clean the Yamuna. It is vital to understand that it has seen multiple phases (YAP I, YAP II, and YAP III), yet the river remains highly polluted, highlighting a gap between policy formulation and execution.
- **Namami Gange Programme:** An integrated conservation mission approved as a "Flagship Programme" by the Union Government. It serves as a benchmark model because it shifted the approach from merely "cleaning" to "rejuvenating" the river ecosystem holistically, bringing all stakeholders under one umbrella.
- **Amicus Curiae:** A Latin term meaning "friend of the court." In environmental jurisprudence, the Supreme Court often appoints a senior advocate or expert to assist it impartially in complex cases, ensuring the court has a 360-degree view of technical and administrative realities.
- **Biological Oxygen Demand (BOD):** A crucial metric for Prelims. It is the amount of dissolved oxygen needed by aerobic biological organisms to break down organic material present in a given water sample. High BOD indicates high pollution (e.g., untreated sewage).
- **Geotagging:** The process of adding geographical identification metadata to various media. In governance, geotagging drains and Sewage Treatment Plants (STPs) ensures accountability, as physical assets can be monitored remotely via satellites and dashboards, preventing ghost projects.
- **Ecological Flow (E-flow):** The minimum flow of water required to maintain a river's ecosystem. A river cannot clean itself if it lacks the natural volume of fresh water to dilute pollutants.

- **Main Arguments and Substantive Parts**

- The discourse around the Yamuna's current state brings to light several substantive arguments regarding environmental governance in India:
- **The Fallacy of Siloed Governance:** The most glaring issue is that multiple agencies—state pollution control boards, municipal corporations, water boards, and central ministries—operate in isolated silos. Instead of curbing pollution, overlapping jurisdictions often lead to a diffusion of responsibility, or a "passing the buck" syndrome.
- **A River is a Living Ecosystem, Not Just H₂O:** The narrative emphasizes that a river is greater than the sum of its parts. It is not merely a channel for water but a complex ecosystem that requires an integrated, basin-wide management approach, much like the Namami Gange model.
- **Need for Centralized Coordination:** Because rivers cross state boundaries, interstate disputes inevitably arise (e.g., Delhi, Haryana, and Uttar Pradesh blaming each other for Yamuna's pollution). There is a strong argument for a single, powerful nodal authority—such as a high-ranking Union official—to coordinate efforts, bypassing state-level political friction.
- **Data-Driven Accountability:** The push for modern strategies—like mapping effluent sources, geotagging infrastructure, and uploading real-time water quality data—highlights the argument that transparency and public data are prerequisites for holding civic bodies accountable.

- **Historical Evolution of the Issue**
- **Pre-Independence Era:** The Yamuna flowed cleanly through Delhi, heavily utilizing natural floodplains for self-purification. It was deeply integrated into the cultural and daily life of the city.
- **The Post-Liberalization Urban Boom (1990s):** Rapid, unplanned urbanization and industrialization in the National Capital Region (NCR) led to a population explosion. Civic infrastructure, especially sewage treatment, failed to keep pace, turning natural stormwater drains into open sewers carrying toxic industrial effluents.
- **1993 - Launch of Yamuna Action Plan I:** The first major bilateral attempt to clean the river. It focused heavily on creating physical infrastructure but ignored ecological flow and the capacity of civic bodies to maintain these assets.
- **2000s - YAP II and Supreme Court Interventions:** As pollution levels soared, the Supreme Court began taking suo motu cognizance. YAP II was launched with greater funding but suffered from the same localized, fragmented approach.
- **2012 onwards - YAP III and the NGT:** The National Green Tribunal (NGT) stepped in, ordering the "Maily Se Nirmal Yamuna" project. However, execution remained sluggish due to interstate disputes and lack of funds.
- **Present Day:** The judicial realization has peaked that piecemeal action plans are futile. The current paradigm demands a master strategy, strict timelines, and a unified command structure to undo decades of damage.

- **Way Forward**
- **Emulate the Namami Gange Model:** Implement an integrated basin-wide approach. Establish a statutory "National Yamuna Council" with the authority to penalize polluting entities and override conflicting state agendas.
- **Ensure Ecological Flow (E-flow):** Mandate the release of fresh water from barrages upstream (like Hathnikund). A river requires a steady volume of fresh water to revive its natural, self-purifying biological processes.
- **Decentralized Sewage Treatment:** Instead of relying solely on massive, centralized STPs that require extensive pipeline networks, invest in decentralized, localized wastewater treatment systems (like constructed wetlands and phytoremediation) at the neighborhood level.
- **Strict Enforcement of 'Polluter Pays':** The CPCB and SPCBs must transition from being advisory bodies to strict enforcement agencies. Heavy, deterrent financial penalties must be levied on industries discharging untreated effluents.
- **Community Stewardship:** Move towards *Jan Andolan* (people's movement). Involve riverbank communities, NGOs, and citizens in monitoring the river, making them stakeholders in its cleanliness rather than bystanders.

SUPREME COURT'S MANDATE: REVIVING THE YAMUNA RIVER (UPSC ANALYSIS).

THE CRISIS: FROM LIFELINE TO SEWAGE CANAL



- **CRISIS:** Reduced to 'little more than a sewage canal'.
- **LIFELINE:** For over 57 Million people in Delhi NCR.
- **GOVERNANCE ISSUE:** Multiple agencies working in 'silos'.

THE SUPREME COURT ORDER (MAY 21, 2026)



BENCH
(Manoj Misra & Manmohan)

COMPREHENSIVE PLAN DEMANDED

EIGHT WEEKS DEADLINE

Key observation: "A river is greater than the sum of its parts. Its revival requires a long-term, integrated strategy akin to Namami Gange."

COMMITTEE COMPOSITION & MANDATE

UNION HOME SECRETARY (GOVIND MOHAN) - HEAD & NODAL OFFICER

CHIEF SECRETARIES
of all riparian States/UTs.

Comprehension of Plans

Mandate:

- Prepare a comprehensive Action Plan.
- Set Objectives, Strategies, Roles, Budgets, Timelines.
- Single Authority for Coordination & Monitoring.

UPSC RELEVANT CONCEPTS & ACCOUNTABILITY



BIOLOGICAL OXYGEN DEMAND (BOD): Pollutant Metric.



ECOLOGICAL FLOW (E-FLOW): For Ecosystems.



ACCOUNTABILITY PLAN (Amicus Curiae Recs.):

1. City & Town Effluent Details
2. Geotagging STPs/Drains
3. Online Water Quality Data.

MULTI-DIMENSIONAL ANALYSIS & WAY FORWARD



SOCIAL (Disproportionate impact on poor)

POLITICAL (Interstate Coordination)

LEGAL (Enforcement & NGT)

ECONOMIC (GDP drain, health costs)

ETHICAL (Intergenerational Equity)

WAY FORWARD:

- Establish National Yamuna Council
- Strict 'Polluter Pays', Community Stewardship

AMCA fighter project moves ahead as Centre issues RFP to shortlisted firms

Saurabh Trivedi

NEW DELHI

The Ministry of Defence on Wednesday issued the Request for Proposal (RFP) for the indigenous fifth-generation Advanced Medium Combat Aircraft (AMCA) programme to three shortlisted bidders, marking a major step forward in India's push for self-reliance in advanced combat aviation.

The shortlisted entities include the Larsen and Toubro-Bharat Electronics Limited combine, Tata Advanced Systems, and the Bharat Forge-BEML consortium. A top official in the Ministry of Defence confirmed the development to *The Hindu*. "It is a huge step towards the Make in India initiative of the Centre to develop an indigenous fifth-generation



Next-gen project: An Advanced Medium Combat Aircraft fighter jet designed by the Aeronautical Development Agency. K. MURALI KUMAR

fighter jet," the official said.

Interestingly, the State-run aerospace major Hindustan Aeronautics Ltd. has been kept out of the process, sources said.

After the shortlisted companies submit their responses to the RFP, the selection process is likely to be completed within four to five months based on technical and commercial evaluations.

Under the programme, the government plans to build five prototypes of the AMCA, a stealth fighter aircraft being developed to meet the Indian Air Force's long-term operational requirements.

The selected private defence entity will work in partnership with the Aeronautical Development Agency, functioning under the Ministry of Defence,

for the development of the prototypes.

The AMCA programme is considered one of India's most ambitious indigenous aerospace projects aimed at developing a fifth-generation stealth combat aircraft with advanced avionics, supercruise capability, and reduced radar signature.

On May 15, Defence Minister Rajnath Singh and Andhra Pradesh Chief Minister N. Chandrababu Naidu laid the foundation stone for the ₹15,803-crore AMCA infrastructure project in Andhra Pradesh's Sri Sathya Sai district.

Last year, the Defence Minister approved the AMCA Programme Execution Model, under which the Aeronautical Development Agency will execute the project through industry partnership.

- **Key Terms and Explanations**

- **AMCA (Advanced Medium Combat Aircraft):** This is India's ambitious indigenous program to build a fifth-generation stealth fighter jet. Think of it as India's answer to the American F-35 or F-22 Raptor. It is designed for multi-role capabilities, meaning it can handle air-to-air combat, ground strikes, and electronic warfare seamlessly.
- **Fifth-Generation Fighter:** A classification of fighter jets that incorporate the most advanced technologies currently available. Key hallmarks include stealth (low observability), internal weapons bays, advanced avionics, network-centric warfare capabilities, and supercruise.
- **Supercruise:** The ability of an aircraft to sustain supersonic flight (faster than the speed of sound) without using fuel-guzzling afterburners. This allows the jet to fly faster for longer periods while maintaining a low thermal signature.
- **Stealth Technology (Reduced Radar Signature):** Design and material features that make an aircraft nearly invisible to enemy radar. This is achieved through angled surfaces that deflect radar waves and radar-absorbent materials (RAM) coating the aircraft.
- **RFP (Request for Proposal):** A formal document issued by the government to prospective suppliers, outlining a project's requirements and inviting them to submit comprehensive technical and financial bids.
- **ADA (Aeronautical Development Agency):** The nodal agency under the Ministry of Defence (specifically under DRDO) responsible for the design and development of India's combat aircraft, such as the LCA Tejas and now the AMCA.

- **Main Arguments and Substantive Parts**

- The shift in how India procures and develops its defense technology represents a fundamental pivot in national strategy.
- **Breaking the Public Sector Monopoly:** The deliberate exclusion of traditional state-run aerospace majors (like HAL) from this specific prototyping phase signals a major policy shift. The government is actively trying to incubate a parallel, private-sector aerospace manufacturing ecosystem to induce competition and efficiency.
- **Consortium Approach for Risk Mitigation:** The shortlisting of hybrid consortia (like L&T with BEL, or Bharat Forge with BEML) shows a strategy of marrying the agility and capital of the private sector with the institutional experience of defense public sector undertakings (DPSUs).
- **Transition from Buyer to Creator:** The initiative moves India away from being the world's largest arms importer toward indigenous design, development, and intellectual property (IP) ownership, which is the core of true strategic autonomy.
- **Geographic Decentralization of Defense Hubs:** Establishing the multi-crore infrastructure project in Sri Sathya Sai district, Andhra Pradesh, indicates a move to create new aerospace manufacturing clusters outside traditional hubs like Bengaluru or Kanpur.

- **Historical Evolution of the Issue**

- The journey toward indigenous combat aviation has been long, marked by early struggles and recent aggressive reforms.
- **Post-Independence Reliance (1950s–1980s):** India relied heavily on license-producing foreign aircraft (primarily Soviet MiGs) through HAL. Indigenous design was attempted (e.g., HF-24 Marut) but failed to evolve due to a lack of sustained R&D and engine technology.
- **The LCA Era (1980s–2010s):** The Light Combat Aircraft (Tejas) program was initiated in the 1980s to replace the MiG-21s. Plagued by technological sanctions (post-1998 nuclear tests) and bureaucratic delays, it took decades to mature, exposing the limitations of relying on a single state entity.
- **Opening the Doors (2001 onwards):** The defense sector was gradually opened to 100% private sector participation, though actual big-ticket manufacturing remained elusive for private players.
- **Strategic Partnership and Atmanirbhar Bharat (Present):** The introduction of the Strategic Partnership (SP) model and recent aggressive push for self-reliance have culminated in projects like the C-295 transport aircraft (Tata-Airbus) and now the AMCA, where private players are given prime roles.

- **Way Forward**

- To ensure this initiative does not become another bureaucratic quagmire, several proactive steps are required:
- **Engine Joint Venture Autonomy:** Fast-track the co-development of a 110kN thrust engine with a foreign partner, ensuring complete Transfer of Technology (ToT) specifically for the hot engine core.
- **Stable Procurement Commitments:** The Ministry of Defence must sign advance procurement contracts. Private players cannot survive on R&D grants alone; they need the assurance of mass production.
- **MSME Integration:** Mandate that the primary consortium partners source a fixed percentage of components from Indian MSMEs to create a deep, resilient supply chain.
- **Agile Testing Clearances:** Set up a dedicated, fast-tracked certification agency (perhaps a specialized wing within CEMILAC) to ensure prototype testing does not suffer from red tape.



COMPREHENSIVE ANALYSIS: INDIA'S INDIGENOUS 5TH-GEN FIGHTER PROGRAM (AMCA).

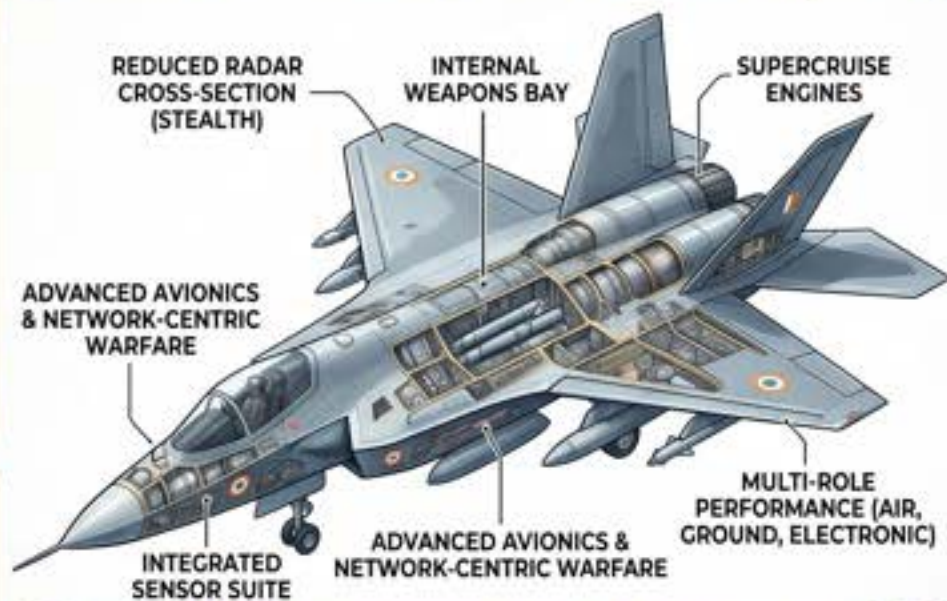
KEY DEVELOPMENTS & PROCESSES (Points 2-3 of analysis)

- **RFP FOR 5 PROTOTYPES:** Sent to 3 shortlisted private entities for a major step forward.
- **PRIVATE INDUSTRY LEADS:** Consortia include L&T-BEL, Tata Advanced Systems, and Bharat Forge-BEML.
- **STATE-RUN HAL EXCLUDED:** Strategic Partnership model aims to build a private aerospace manufacturing pipeline. partners: **HAL**
- **ADA AS KEY DEVELOPER:** Private partners work with Aeronautical Development Agency (ADA) function under Ministry of Defence.

CHALLENGES & RISKS (7)

- **THE ENGINE CHALLENGE:** Lack of indigenous engine (Kaveri failure) means initial reliance on foreign ones (e.g., GE-F414), creating vulnerability.
- **IMPLEMENTATION TIMELINES:** Multi-decade process prone to global-standard delays and cost inflation.
- **HUMAN CAPITAL & TESTING:** Urgent need for specialized aerospace engineers and dedicated radar cross-section (RCS) wind tunnels.
- **GUARANTEED PROCUREMENT:** Private entities require concrete long-term order commitments from Indian Air Force to remain financially viable.

ADVANCED MEDIUM COMBAT AIRCRAFT (AMCA)



MULTI-DIMENSIONAL ANALYSIS (8)

- **ECONOMY:** Stimulates MSMEs, retains massive foreign capital domestically, prevents capital flight (billions of US dollars).
- **POLITICS:** Demonstrates 'Make in India' and 'Atmanirbhar Bharat' political will and national stature.
- **SOCIAL:** Creates aerospace manufacturing clusters (e.g., Sri Sathya Sai district, Andhra Pradesh), attracting regional development, education, and social uplifting.
- **INTERNATIONAL:** Elevates India from lucrative market to emerging aerospace power, enables future Global South exports.

STRATEGIC RATIONALE (Points 4, 11, Way Forward)

- **REDUCING IMPORT DEPENDENCE:** Move from world's largest arms importer to self-reliant creator (Strategic Autonomy).
- **NATIONAL SECURITY:** Protecting sovereignty and national interests without foreign vulnerabilities (prevents sanctions, kill-switches).
- **KAUTILYAN BALA (INTERNAL STRENGTH):** Building institutional knowledge and deep technological base.
- **WAY FORWARD:** Engine autonomous JV with complete Transfer of Technology (ToT) is critical next step.

UPSC CSE RELEVANCE & CONNECTION (Point 10)

- **GS PAPER 3: (CORE LINKAGE)** Science & Technology, Indigenization of Technology, Security Challenges.
 - **GS PAPER 2:** Government Policies & Interventions, Effects of developed/developing countries' policies (e.g., imports).
 - **ETHICS & ESSAY:** Themes on Self-reliance, Private Sector in Nation Building, and Changing Nature of Warfare. High-Yield Area.
- Note: This was correct only because being a top topic.

Govt. approves new SARTHAK PDS scheme to strengthen food security

The Hindu Bureau
NEW DELHI

The Cabinet Committee on Economic Affairs chaired by Prime Minister Narendra Modi on Wednesday approved the SARTHAK Public Distribution System (PDS) scheme for a period of five years at a cost of ₹25,530 crore to improve food security.

The scheme will use advanced technologies for “transparency, security and sustainability” in PDS operations across India.

The approval covers the entire PDS value chain, Union Minister Ashwini Vaishnaw told presspersons after the Cabinet meeting.

“Right from the selection of beneficiaries to the movement of foodgrains, to getting proactive feedback from citizens, to reducing transportation distance – all those activities have been approved with



Modern boost: The scheme envisages taking feedback from beneficiaries to ensure structural reform. FILE PHOTO

an outlay of ₹25,530 crore for five years,” he said.

‘Not replacement’

SARTHAK-PDS does not replace the existing PDS system but will ensure structural reform across the delivery of foodgrains, logistics, transportation, material handling, and grievance redressal, Mr. Vaishnaw said.

It is conceived as an um-

rella scheme which integrates the ongoing ‘Assistance to State Agencies for intra-State movement of foodgrains and FPS dealers’ margin under NFSA (National Food Security Act)’ and the ‘Scheme for Modernisation and Reforms through Technology in Public Distribution System (SMART PDS)’, an official statement said.

The merger is expected

to strengthen the NFSA’s implementation under a single administrative framework.

The merged scheme is slated to operate up to March 31, 2031.

Financial support

The scheme will provide financial support for intra-State movement and handling of PDS goods, and the fair price shops’ dealers’ margin. It also envisages a citizen-centric, interoperable PDS architecture for last-mile service delivery, and minimising leakages.

Advanced technologies, including AI, machine learning, blockchain, and natural language processing will enable real-time monitoring, grievance and analytics systems, data-driven oversight by State Command Control Centres, and ISO-certified process frameworks for security and transparency.

- **Key Terms and Explanations**

- **SARTHAK PDS:** A newly conceptualized umbrella framework designed to integrate and modernize the food distribution network over a five-year horizon. It acts as a digital and administrative canopy over existing systems.
- **National Food Security Act (NFSA), 2013:** The legal backbone that shifted the right to food from a welfare approach to a rights-based approach, legally entitling 67% of the population to highly subsidized food grains.
- **Umbrella Scheme:** A master policy that folds multiple smaller, related schemes into one cohesive framework to reduce administrative duplication and pool financial resources efficiently.
- **Interoperable Architecture:** A technological design allowing different state-level and central systems to seamlessly "talk" to each other. This is the bedrock of initiatives like "One Nation, One Ration Card," where a migrant worker from Bihar can draw rations in Kerala without systemic friction.
- **Fair Price Shops (FPS) Dealers' Margin:** The commission paid to the owners of local ration shops. Enhancing this margin is crucial because a financially viable FPS dealer is less likely to resort to the black-market diversion of grains.
- **Blockchain in PDS:** A decentralized digital ledger system used to track the movement of grain bags from the Food Corporation of India (FCI) godowns to the local ration shop. Because the data cannot be altered retroactively, it creates a tamper-proof audit trail that virtually eliminates phantom leakages.

- **Main Arguments and Substantive Parts**

- The core philosophy driving this modernization is that India does not need to scrap its legacy food distribution network; rather, it needs a deep structural upgrade. Here is the conceptual breakdown of this shift:
- **Evolution, Not Replacement:** The approach deliberately avoids disrupting the legacy PDS. Instead, it overlays modern logistics and grievance mechanisms onto the existing network. This is critical for maintaining stability in a system that feeds over 800 million people.
- **The Power of Consolidation:** By merging intra-state movement support and technology modernization into a single administrative framework, the government aims to eliminate bureaucratic silos. This single-nodal approach speeds up decision-making and fund allocation.
- **Tech-Driven Transparency:** Moving away from manual ledgers, the framework introduces predictive and transparent technologies. The focus shifts from "detecting" corruption after it happens to "preventing" it in real-time using data analytics and state-level command centers.
- **Citizen-Centric Feedback Loops:** Historically, PDS has been top-down. The current paradigm introduces a bottom-up feedback mechanism, treating the beneficiary not just as a passive recipient of state charity, but as an active stakeholder with a voice in the quality and delivery of services.

- **Historical Evolution of the Issue**
- Rationing during WWII
- 1940s
- The origins of the PDS lie in the rationing systems introduced by the British during World War II, heavily influenced by the tragic Bengal Famine of 1943.
- Green Revolution & FCI Establishment
- 1960s
- Faced with severe ship-to-mouth existence, India invested heavily in agriculture. The Food Corporation of India (FCI) and the Commission for Agricultural Costs and Prices (CACP) were established to manage procurement and buffer stocks.
- Revamped PDS (RPDS)
- 1992
- The system shifted focus toward remote, hilly, and inaccessible areas where poverty was most acute, marking the first major attempt at targeted delivery.
- Targeted PDS (TPDS)
- 1997
- A watershed moment where beneficiaries were officially divided into Below Poverty Line (BPL) and Above Poverty Line (APL), introducing differential pricing based on economic vulnerability.
- National Food Security Act (NFSA)
- 2013
- A paradigm shift transforming food security from a government scheme into a justiciable legal right for nearly two-thirds of the Indian populace.
- One Nation One Ration Card (ONORC)
- 2020s
- Triggered by the migrant crisis during the pandemic, this tech-enabled reform allowed national portability of food entitlements.
- Tech-Integrated Umbrella PDS
- Present
- The current era focuses on deploying AI, Blockchain, and interoperability to plug leakages and optimize the entire supply chain up to 2031.



- **Way Forward**

- **Mandatory Offline Fallbacks:** Technology must serve the citizen, not vice versa. There must be legally mandated, non-biometric, offline fallback protocols (like OTPs or local panchayat overrides) to ensure zero exclusion errors due to network failures.
- **From Food Security to Nutritional Security:** While modernizing delivery is excellent, the contents of the delivery must evolve. The system should increasingly integrate fortified rice, millets (Shree Anna), and proteins to combat hidden hunger (micronutrient deficiency).
- **Capacity Building of the Ground Staff:** An AI command center is useless if the local FPS dealer does not understand how to use the digital point-of-sale machine. Massive, vernacular-based training programs are required for the last-mile operators.
- **Independent Social Audits:** Do not let the machine grade its own homework. While state control centers monitor data, community-led social audits (like those pioneered in Meghalaya) must continue to verify ground realities independently.

- **Mains:**

- *2022 (GS3):* What are the major challenges of the Public Distribution System (PDS) in India? How can it be made effective and transparent?
- *2019 (GS3):* What are the reformative steps taken by the Government to make the food grain distribution system more effective?
- *2017 (GS2):* Hunger and Poverty are the biggest challenges for good governance in India still today. Evaluate how far successive governments have progressed in dealing with these humongous problems. Suggest measures for improvement.

- **Prelims:**

- *2018:* With reference to the provisions made under the National Food Security Act, 2013, consider the following statements... (Focused on beneficiary identification and nutritional support for pregnant women).



SARTHAK PDS REFORM: A COMPREHENSIVE UPSC ANALYSIS BY AXIA IAS ACADEMY

From Bengal Famine to SARTHAK PDS



TRANSFORMING THE PDS SUPPLY CHAIN: OLD VS. NEW

OLD PDS (Asymmetric Info)



NEW SARTHAK PDS (Algorithmic Truth)



SARTHAK PDS INNOVATIONS



AI Monitoring



ONORC Interoperability App

- Biometric scanner data-stream
- NLP interferences
- Local interchability data (NLP interface)
- Local language and language texts

NCERT LINKAGES:
Class 9 Eco
Class 11 Eco
Class 12 Pol Sci

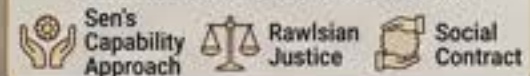
MULTIDIMENSIONAL ANALYSIS

Social • Women Empowerment • Child Nutrition	Political • Political Capital • Federalism	Legal • Art 21 • Data Privacy Act
Ethical • Equity • Cost of Exclusion	International • WTO • Domestic Welfare	Economic • Fiscal Viability • Less Prevention

UPSC SYLLABUS MAPPING

GS2 • Progress and dscomentation • Comparisons terminum	GS3 • Cancienarus are nansisenn • Competir to trans/ student culture	GS4 • Representatives of shocieweas • Collaverutations
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PHILOSOPHICAL ANCHORS



WAY FORWARD

- Mandatory Fallbacks
- Nutrition
- Training
- Social Audits

Assam passes UCC Bill; Opposition demands detailed examination

The Hindu Bureau
GUWAHATI

The 126-member Assam Assembly on Wednesday passed The Uniform Civil Code (UCC) Bill, 2026, which proposes a common civil framework governing marriage, divorce, inheritance, and live-in relationships in the State.

The legislation, the third such law in the country after similar enactments in Uttarakhand and Gujarat, excludes the Scheduled Tribes (STs), who constitute 12.45% of Assam's population.

The Bill was passed by voice vote with the support of MLAs from the ruling Bharatiya Janata Party (BJP) and its allies, while three Opposition parties—Congress, Rajgor Dal, and Trinamool Congress—opposed it.

Arguing in favour of the Bill, members of the ruling



Himanta Biswa Sarma

parties said it would empower and honour women.

Opposition members argued that the legislation was unnecessary and had been introduced without consulting the minority organisations. Suggesting amendments, they pointed out that excluding STs from its purview did not make the UCC 'uniform'.

The Opposition parties also demanded that the proposed legislation be re-

ferred to a Select Committee for detailed examination.

Defending the legislation, Chief Minister Himanta Biswa Sarma accused the Congress of being indifferent to Hindu sentiments. "The Congress is worried about how the Bill will affect practices followed under the Koran and Shariat, but it did not mention the Bhagavad Gita or Ramayana once, indicating that the party represents just one community," he said.

Personal liberties

Opposing the legislation, Congress Legislature Party leader Wazed Ali Choudhury said enforcing the UCC would infringe upon personal liberties and create social and religious tensions in a diverse country like India. He argued that existing laws related to polygamy, child marriage,

and other issues touched by the UCC ensure women's empowerment.

All India United Democratic Front MLA Mazibur Rahman said the UCC would violate the fundamental rights and existing legal provisions guaranteed to all citizens, including Assam's 34.22% Muslims.

Trinamool Congress MLA Sherman Ali Ahmed, who later staged a walkout, said that some provisions of the law, including banning triple talaq and registration of live-in relationships, were acceptable. "However, there is a clear violation of the Koran's guidelines related to certain marriage practices as it tries to control whom one should marry, and it violates fundamental rights. I have reasons to believe that the UCC was brought in with malicious intent," he said.

- **Key Terms and Explanations: Building the Foundation**

- **Uniform Civil Code (UCC):** A generic set of governing laws replacing personal laws based on the scriptures and customs of various religious communities. Enshrined in Article 44 of the Directive Principles of State Policy (DPSP), it envisions a common law for all citizens in matters of marriage, divorce, inheritance, and adoption.
- **Personal Laws:** Laws that apply to a certain class or group of people based on their religion, faith, and culture. Examples include the Hindu Succession Act or uncodified Muslim personal laws based on the Shariat.
- **Scheduled Tribes (STs) Exemption:** Many states with significant tribal populations hold special constitutional protections (like the Sixth Schedule or Article 371 series) that protect their customary laws. Excluding them from a general civil framework is often a constitutional necessity to prevent conflict with these existing protections.
- **Voice Vote:** A parliamentary procedure where a presiding officer determines the outcome of a motion by listening to the volume of verbal "ayes" and "noes." It highlights a scenario where the ruling majority is confident in its numbers, often bypassing a recorded division of votes.
- **Select Committee:** A specialized legislative committee tasked with scrutinizing a specific bill in detail, consulting experts, and suggesting amendments before it is passed. The demand for this usually signals a desire for broader consensus-building.

- **Main Arguments and Substantive Parts: The Core Debate**

- The discourse surrounding a common civil code is deeply polarized, resting on competing visions of rights, justice, and state intervention. Let us analyze both sides of the spectrum.
- **The Argument for Gender Justice and Uniformity:** Proponents argue that personal laws, regardless of the religion they belong to, are inherently patriarchal. A unified code is seen as a tool to emancipate women, ensuring equal rights in inheritance, marriage age, and divorce procedures. Furthermore, it is argued that a secular republic should not have religion-based legal frameworks governing secular civil matters.
- **The Defense of Minority Rights and Personal Liberty:** Opponents counter that imposing a single legal framework infringes upon the fundamental right to freedom of religion (Article 25). There is a deep-seated apprehension that a "uniform" code might actually be a majoritarian code, eroding the cultural identity and distinct practices of minority communities.
- **The Paradox of Exclusion:** A major conceptual critique arises when certain indigenous or tribal groups are excluded from the code. Critics argue that if a significant percentage of the population is kept out of the law's purview to respect their customs, the code ceases to be "uniform," revealing the practical limits of absolute legal homogenization in a diverse country.

- **Historical Evolution of the Issue: Tracing the Timeline**

- **Colonial Era Dichotomy:** The British introduced uniform criminal and commercial laws (like the IPC and Indian Contract Act) but consciously chose to leave personal laws untouched following the 1859 Queen's Proclamation, which promised non-interference in religious matters.
- **Constituent Assembly Debates:** The drafting of the Constitution saw fierce debates. Leaders like K.M. Munshi argued fiercely for the UCC to promote national unity, while others feared it would violate religious freedom. Dr. B.R. Ambedkar maintained that a UCC was desirable but should remain voluntary in the initial stages. Consequently, it was placed in the non-justiciable DPSPs (Article 44).
- **The Hindu Code Bill (1950s):** The first major step post-independence was the codification and reform of Hindu personal laws, which faced severe conservative backlash but ultimately modernized laws related to marriage and succession for Hindus, Buddhists, Jains, and Sikhs.
- **The Shah Bano Case (1985) to Present:** The Supreme Court's judgment in the Shah Bano case reignited the UCC debate by highlighting gender injustices in personal laws. Today, we are witnessing a shift where, in the absence of a central law, individual states are utilizing the Concurrent List to draft their own state-level civil codes.

- **Way Forward: The Path to Consensus**

- **Piecemeal Reform Over Sweeping Changes:** Instead of a single, jarring piece of legislation, the government could codify and reform personal laws individually. By removing discriminatory practices within each religious law first, the gap between different laws will naturally narrow.
- **Focus on 'Just' Code over 'Uniform' Code:** The Law Commission of India has previously noted that a UCC is neither necessary nor desirable at this stage. Instead, the focus should be on ensuring that no personal law operates unjustly. A "Just Civil Code" is more palatable than a forcibly "Uniform" one.
- **Bottom-Up Consensus Building:** Meaningful reform requires taking minority leaders, tribal councils, and women's rights organizations into confidence. Establishing a Select Committee or a dedicated commission to travel, listen, and draft inclusive guidelines is essential to bridge the trust deficit.
- **Creating an Optional UCC:** As originally suggested by some framers of the Constitution, creating a progressive, gender-just, secular civil code that citizens can explicitly *choose* to be governed by (an expansion of the Special Marriage Act) could serve as a stepping stone.

UNIFORM CIVIL CODE (UCC):



AXIA COMPETITIVE EXAM CENTRE

COMPREHENSIVE IAS & APSC ANALYSIS

UCC CORE & LEGAL BASE

DEFINING THE CORE



- **ARTICLE 44, DPSP:** DIRECTIVE TO SECURE UCC
- **COMMON CODE:** Marriage, Divorce, Inheritance, Adoption
- **REPLACING:** Individual Personal Laws



THE DEBATE: COMPETING ARGUMENTS



UNIQUE STATE-LEVEL INNOVATIONS

e.g., ASSAM ASSEMBLY (2026)



- **EXCLUSION OF STs** (Sixth Schedule Constituent requirement, e.g., for 12.45% pop)
- **REGULATION OF LIVE-IN RELATIONSHIPS** (Mandatory registration, desertion protection)
- **Ban on TRIPLE TALAQ**



CHALLENGES & THE ROAD AHEAD

WAY FORWARD & CONCERNS



- **CHALLENGES:**
 - Trust Deficit with Communities
 - Legal Complexity, fragmented laws

PATH AHEAD:

- **PIECEMEAL REFORM** (Codification of individual laws)
- **Bottom-up CONSENSUS-BUILDING**
- Focus on **JUST CODE** over **UNIFORM CODE**



UPSC & APSC SYLLABUS LINKAGES

UPSC RELEVANCE MAPPING

GS PAPER 2
Constitution, Governance, Policies)

GS PAPER 1
(Indian Society, Secularism, Social Empowerment)

GS PAPER 4
(Ethics, Ethical Governance)

NCERTs
(Class 11 Pol Science, Class 12 Sociology)

Health expenses dip as govt. spend rises

The out-of-pocket expenditure as a share of the total health expenditure has been calculated as 43.4% in 2022-23, as against 64.2% in 2013-14; the Ministry credits the results to operationalisation of Ayushman wellness centres; the share of private health insurance has also increased, report says

Bindu Shajan Perappadan
NEW DELHI

Concurrent with the increase in government health expenditure, the out-of-pocket expenditure (OOPE) share in total health expenditure has declined by 21%, from 2013-14 till date, noted the National Health Accounts (NHA) estimates for India 2022-23, released by the Union Health Ministry on Wednesday.

The OOPE as a share of the total health expenditure has been calculated as 43.4% in 2022-23, as against 64.2% in 2013-14.

"This declining trend of OOPE indicates the improved access to health services, leading to reduced financial burden on the households," said a senior Health Ministry official.

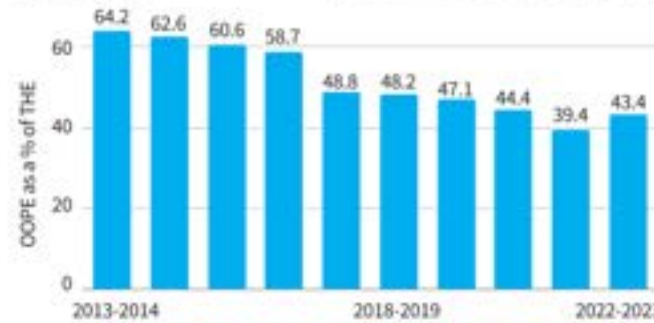
He added that this is also the impact of operationalisation of more than 1.8 lakh Ayushman Arogya Mandir wellness centres across the country, providing preventive and curative healthcare services closer to the community.

These centres provide free services across 12 expanded packages, including reproductive and child health, communicable/non-communicable diseases, free drugs/diagnostics services, teleconsultations, and preventive care through wellness sessions.

"These measures have reduced the episodes of sickness. On in-depth analysis, it has been observed that the purchase of pharmaceuticals, including health supplements, vitamins, protein and other supplements [from well-

A medical shift

The chart shows India's year-wise share of out-of-pocket expenditure (OOPE) in total health expenditure (THE) over the years



Source: Ministry of Health and Family Welfare

ness centres], is the main driver of OOPE in the current estimates," the Ministry said.

The NHA 2022-23 is the 10th report on health expenditure estimates prepared by the National

Health Accounts Technical Secretariat (NHATS), National Health Systems Resource Centre, Ministry of Health and Family Welfare, using the System of Health Accounts (2011) framework.

The part reasons of OOPE in current estimates is purchase of pharmaceuticals and supplements from govt. centres

The report indicates an increase in the share of government health expenditure in the country's Gross Domestic Product (GDP). It has risen from 1.15% in 2013-14 to 1.43% in 2022-23.

Similarly, health expenditure's share in general government expenditure has increased from 3.78% to 4.89% over the same period.

In per capita terms, government health expenditure has increased nearly 2.7 times, from ₹1,042 to ₹2,786 between 2013-14 and 2022-23.

To address the emergency COVID pandemic situation, the government increased the health expenditure significantly to 1.84% of GDP in 2021-22 towards managing the pandemic situation given these additional spending by the government as a one-time measure, OOPE as a percentage of total health expenditure during this period also declined to 39.4%.

Inter-temporal comparisons also reveal a positive trend in the growth of social security expenditure. Spending here increased substantially from 6% in 2013-14 to 9.9% in 2022-23.


The share of private health insurance has also increased, from 3.4% to 9.2%, clearly indicating improved health-seeking behaviour due to awareness.



- **Key Terms and Explanations**

- **Out-of-Pocket Expenditure (OOPE):** This refers to the direct payments made by individuals to healthcare providers at the time of service use, which are not covered by any insurance or state provision. Think of it as the money you pay from your wallet for medicines or doctor consultations. High OOPE pushes vulnerable families into poverty.
- **National Health Accounts (NHA):** A framework used to systematically track the flow of funds in a country's health system. It answers questions like: Who finances healthcare? Where does the money go? What services are purchased?
- **System of Health Accounts (SHA) 2011:** An internationally recognized methodology developed by the OECD, Eurostat, and WHO. It ensures that India's health expenditure data is comparable globally.
- **Ayushman Arogya Mandir:** Formerly known as Health and Wellness Centres (HWCs), these are upgraded primary healthcare facilities under Ayushman Bharat. They are designed to deliver comprehensive primary health care, moving beyond maternal and child health to include non-communicable diseases.
- **Social Security Expenditure:** In healthcare, this includes funds spent by the government on schemes designed to protect citizens from catastrophic health costs (e.g., Ayushman Bharat Pradhan Mantri Jan Arogya Yojana - AB-PMJAY, ESIC, etc.).

- **Main Arguments and Substantive Parts**

- The discourse around recent health estimates presents several core arguments regarding state intervention and health equity:
 - **State Funding Correlates with Financial Protection:** The primary thesis is that an increase in government health expenditure—both as a percentage of GDP and general government expenditure—directly drives down OOPE. The data reflects a drop in OOPE to 43.4%, validating the impact of public spending.
 - **Preventive Care is Cost-Effective:** The operationalization of grassroots wellness centers proves that providing preventive and curative services closer to home reduces the overall episodes of severe sickness. This, in turn, structurally lowers the financial burden on households.
 - **The Pharmaceutical Achilles' Heel:** While hospitalizations and consultations are becoming more accessible, the purchase of pharmaceuticals (including vitamins and supplements) remains the stubborn main driver of the remaining OOPE.
 - **Rising Awareness Drives Insurance Penetration:** A parallel thesis is that health-seeking behavior in India is maturing. The near-tripling of the private health insurance share indicates a growing middle class that is proactively hedging against health risks.
- 

- **Historical Evolution of the Issue**

- **Pre-Independence (1946):** The Bhole Committee laid the foundational vision, recommending that no individual should be denied medical care due to an inability to pay, advocating for a robust primary healthcare network.
- **Post-Independence (1950s–1980s):** India largely focused on family planning and communicable disease control. However, chronic underfunding led to the rampant privatization of healthcare, slowly pushing OOPE upwards.
- **2005 - National Rural Health Mission (NRHM):** A watershed moment that injected massive funds into rural healthcare infrastructure, focusing on maternal and infant mortality.
- **2017 - National Health Policy (NHP):** Shifted the focus from "sick-care" to "wellness." It set ambitious targets, including increasing public health expenditure to 2.5% of GDP by 2025 and decreasing OOPE.
- **Present Day:** The transition from targeted missions to universal health coverage through Ayushman Bharat marks the current era, where structural investments are finally showing statistical reductions in household financial distress.

- **Way Forward**

- **Ramp up Jan Aushadhi Kendras:** Since pharmaceuticals drive out-of-pocket costs, expanding the network of stores providing quality generic medicines is non-negotiable. Strict enforcement against the nexus of doctors prescribing expensive branded drugs is required.
- **Progressive Increase to 2.5% of GDP:** Both Center and States must legally commit to increasing their health budgets annually to reach the National Health Policy target.
- **Strengthen Primary Infrastructure:** Continue upgrading sub-centers to wellness centers, ensuring they are fully staffed with mid-level health care providers and essential diagnostic machines.
- **Focus on Urban Health:** While rural health has seen interventions, the urban poor face severe health-infrastructure deficits. The National Urban Health Mission needs funding parity with its rural counterpart.
- **Health Literacy:** Empower citizens with preventative health knowledge (diet, sanitation, lifestyle) to reduce the disease burden at its origin.

INDIA'S HEALTHCARE FINANCING: DECODING THE SHIFTING TRENDS (NHA 2022-23 ANALYSIS)



KEY TERMS & EXPLANATIONS



MAIN ARGUMENTS & SUBSTANTIVE PARTS

State Funding correlates with Financial Protection
 Increase in GHE → Decline in OOPE

Preventive Care Impact
 • Wellness centers lead to reduced severe sickness

The Pharmaceutical Challenge
 • Main driver of current OOPE is pharmaceuticals (pills, penicillins, pills and supplement bottles with high price tags)

GHE % GDP
 1.15% → 1.43%

OOPE % THE
 64.2% → 43.4%

Rising Insurance Penetration

HISTORICAL EVOLUTION

- Pre-Independence/ Bhore Committee**
1946 document
- Post-Independence**
Focus on private sector
- NRHM 2005**
Funds to ministerial rural infrastructure
- NHP 2017**
Target of public spend of comprehensive care
- Ayushman Bharat**
Present comprehensive care

LOGICAL & PHILOSOPHICAL BASE



NEW FEATURES & UNIQUE IDEAS



SUSTAINABILITY OF THE IDEA

	Pros	Cons
Economic Viability	↑ 2.5% Target spend	↓ -4% Varied state capacity
Demographic Shifts	Aging population	Human Resource Resilience

CHALLENGES RELATED TO THE ISSUE



MULTIDIMENSIONAL ANALYSIS



LINKAGES WITH NCERTS



LINKAGES WITH UPSC CSE SYLLABUS



BEST LINKAGES with Syllabus, Philosophy, and Epistemology

- Deep connection to GS 2 (Social Justice)
- Shift from provider to guarantor state
- Shift to evidence-based policymaking (epistemology)

WAY FORWARD



PREVIOUS YEARS' UPSC & APSC QUESTIONS

- UPSC & APSC PYQs**
- GS 2 2019
 - GS 2 2015
 - Essay 2019
 - GS 2 2019
 - GS 11 2015
 - Essay 2019

MODEL ANSWERS FOR SELECTED QUESTIONS

MODEL ANSWER SNAPSHOTS

Summary structure structure:
 Question:
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 • Medusal's pralibate local community healthcare.
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