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Blocking the Exit Is Not Retention: India's Science Talent Problem

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SCIENCE & TECH**POLITY****GS3****GS2**

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Blocking the Exit Is Not Retention: India's Science Talent Problem

 The Hindu

3 August 2026

GS3

GS2



INTERVIEW ANGLE

"A state agency losing scientists to a domestic private space sector that the state itself created through IN-SPACe is arguably policy working as intended, not a failure. At what point does that stop being true, and what indicator would tell you the line had been crossed?"

✓ Every fact web-verified against primary sources

THE LIFT LINE

An institution that has to instruct its managers not to accept resignations has already been told what it needs to know. The resignations were the survey result, not the problem.

WHY THIS EDITORIAL MATTERS FOR YOUR EXAM

Science and technology answers often become lists of missions and budgets. This editorial supplies the institutional-economics layer, why funding alone does not retain researchers, which lets a candidate write about R&D policy in terms of incentives and organisation rather than achievements, and it carries a genuinely arguable counter-position.

GS Paper 3: Science and technology, developments and applications; [indigenisation](#); achievements of Indians in science and technology; awareness in the field of space.

GS Paper 2: Governance of institutions; civil services and public employment.

For **Prelims**, the funding instruments and the space-sector institutional architecture are both directly testable.

INSTITUTION OR INSTRUMENT	FUNCTION
IN-SPACE	Indian National Space Promotion and Authorisation Centre; single-window authorisation and promotion body for private space activity
NSIL	NewSpace India Limited; the commercial arm of the Department of Space
Indian Space Policy, 2023	Formalised private-sector participation and defined the roles of ISRO, IN-SPACE and NSIL
ANRF	Anusandhan National Research Foundation, constituted under the ANRF Act, 2023 and notified in February 2024, with the Prime Minister as ex-officio President; funds and coordinates research across disciplines with a Rs 50,000 crore target for 2023-28
RDI scheme	Research, Development and Innovation scheme; Rs 1 lakh crore corpus approved by the Union Cabinet on 1 July 2025, routed through a Special Purpose Fund housed in ANRF, aimed at private-sector-led research
GERD	Gross Expenditure on Research and Development, the standard measure of national research intensity

BACKGROUND AND CONTEXT

Reporting through July and early August 2026 indicated that a substantial number of Group A scientific and technical personnel had resigned or sought voluntary retirement from ISRO, with roughly 80 departures at the U R Rao Satellite Centre in Bengaluru and about 20 at the Vikram Sarabhai Space Centre in Thiruvananthapuram. The Department of Space issued a memorandum dated **14 July 2026** directing centres not to accept, as a matter of routine, resignation or voluntary retirement requests from Group A scientific and technical personnel associated with Gaganyaan and other important missions until those projects are complete, and to refer such cases, including up to Scientist/Engineer-SG level, to the Department with recommendations. It reverses a **November 2020** reform that had empowered centre directors and unit heads to process such exits locally.

Reported headcounts have varied across the reporting period, from “more than 100” in mid-July to “nearly 120” by early August, and are best cited with their source and date rather than as a settled figure.

STRUCTURAL CONDITION	EFFECT ON RETENTION
GERD at 0.84 per cent of GDP (FY24)	Against China's 2.69 per cent and Brazil's 1.19 per cent; constrains equipment, support staff and the number of well-resourced positions. The editorial's 0.6-0.7 per cent reflects the older Economic Survey figure
Private share of R&D at 51.8 per cent (FY24)	Up from 33.8 per cent in FY20; the first year private funding exceeded government funding, which revises the older 36 per cent figure and weakens the "industry underinvests" limb of the argument
Tenure-based progression	Scientific output does not accelerate advancement, weakening the link between performance and reward
Administrative load and procurement rules	Research equipment procurement moves at general-administration speed, which is a daily friction rather than an occasional one

THE CORE ARGUMENT / ISSUE

Why blocking resignations is a category error

The measure treats [attrition](#) as the problem. Attrition is the measurement. An organisation whose people are leaving has received information about conditions inside it, and preventing the departure suppresses the signal while leaving the conditions unchanged. It may protect a specific launch schedule, which is a legitimate short-term objective, but it does so by converting a retention problem into a morale problem, since a scientist who wished to leave and cannot is not thereby a motivated one.

There is also a question of principle. Public employment in India is not indentured, and a general administrative direction not to accept resignations arguably sits awkwardly with the freedom to practise any profession under Article 19(1)(g), even allowing that mission-critical roles may reasonably attract notice periods and orderly handover requirements.

The funding constraint is real but not sufficient

India's research intensity is low, and here the editorial's own figures need updating. It cites GERD at 0.6 to 0.7 per cent of GDP and a private share of about 36 per cent. R&D Statistics tabled in the Rajya Sabha on **31 July 2026**, three days before the piece appeared, put GERD at Rs 2.45 lakh crore, or **0.84 per cent of GDP in FY24**, and the private share at **51.8 per cent**, up from 33.8 per cent in FY20. That is the first year in which private capital funded the majority of India's research.

The revision cuts in two directions. The resource-envelope point survives: 0.84 per cent is still far below China's 2.69 per cent and below Brazil's 1.19 per cent, against an Indian aspiration of 2 per cent by 2035. But the composition point does not. Indian industry is no longer the laggard the older figure described, which relocates the problem: the shortfall is now more clearly about total national spending and about how public institutions use their share, rather than about private-sector reluctance. Recent instruments, ANRF with a Rs

50,000 crore target for 2023-28, the RDI scheme with a Rs 1 lakh crore corpus approved on 1 July 2025, and mission-mode programmes such as the [National Quantum Mission](#) at Rs 6,003.65 crore over 2023-31, are directed at exactly this, and they matter.

But funding is necessary and not sufficient. Scientists in interviews consistently cite autonomy over research direction, the ability to procure equipment in useful time, freedom from administrative duties unrelated to research, and progression linked to output. None of these is primarily a money problem, and all of them are governed by service rules and institutional culture rather than by budget lines.

The counter-argument deserves genuine weight

A large share of these departures is to India's own private space sector. That sector exists because the government opened it, through IN-SPACe and the Indian Space Policy 2023, with the explicit objective of building domestic private capability. Expertise moving from ISRO into Indian private launch and satellite firms is expertise staying in India, in an industry the policy set out to create.

Framed that way, this looks less like brain drain and more like ecosystem formation, and something similar happened in every country with a mature private space industry. The genuine failure would be departures abroad, not departures across the road. What distinguishes the two is measurable, and it should be measured before the phenomenon is characterised.

Where the real risk lies

The risk is not movement but irreversibility. If a scientist who leaves ISRO for a private firm can never return, the public agency permanently loses accumulated mission experience that the private sector does not replicate. Systems that manage this well, and defence and aerospace establishments elsewhere do, build revolving-door pathways in which movement runs both ways and public institutions periodically reacquire people with commercial experience. India's service rules make that difficult.

HOW TO THINK ABOUT THIS (ANALYTICAL FRAME)

When an organisation responds to an exit by restricting exit, ask what the exit was measuring. Departures, complaints, declining applications and falling retention are all information about internal conditions. Suppressing the indicator is attractive because it is fast and within the organisation's control, whereas addressing the conditions is slow and often requires authority the organisation does not hold. The diagnostic question is always whether a proposed response changes the thing being measured or only the measurement. This applies to teacher attrition, health-worker vacancies and judicial [pendency](#) as much as to scientists.

THE DIAGRAM IN WORDS

Picture ISRO as a reservoir that has taken decades to fill with trained people. Water is now flowing out through an outlet on one side, into a newly dug channel that leads to India's private space firms, a channel the government itself excavated as a matter of policy. The administrative response has been to place a gate on the outlet. What the gate does not do is raise the inflow, which is constrained by how much the country spends on research, or reduce the pressure differential, which is created by conditions inside the reservoir. And crucially, the channel leads to a field inside the same farm. The question worth asking is not how to close the outlet but why there is no pipe running back the other way.

WAY FORWARD

- ❶ **Build lateral entry and re-entry pathways** so that movement between public agencies and the domestic private sector is reversible, and public institutions can reacquire people with commercial experience.
- ❷ **Link progression to scientific output rather than tenure**, which requires amending service rules rather than increasing budgets.
- ❸ **Reduce the administrative load on working scientists**, including research-specific procurement pathways that operate on research timescales.
- ❹ **Raise GERD toward comparable-economy levels and increase the private share** through incentives, so that the total envelope grows rather than being redistributed.
- ❺ **Measure destinations, not just departures**, distinguishing exits to Indian firms from emigration, since the two describe entirely different phenomena and only one is a loss to the country.

PYQ LINKAGE AND PRACTICE

UPSC has tested R&D spending, ANRF, the Indian Space Policy and private participation in space across recent GS3 cycles, and this editorial adds the institutional-retention dimension that connects them into a single argument.

Practice question: “Restricting resignations suppresses the indicator without changing what it indicates.” Examine this claim with reference to scientist attrition from India's public research institutions, and identify the structural reforms that would address the cause. (250 words, 15 marks)

Interview angle: A state agency losing scientists to a domestic private space sector that the state itself created through IN-SPACe is arguably policy working as intended, not a failure. At what point does that stop being true, and what indicator would tell you the line had been crossed?

Sources: The Hindu, Department of Space, Department of Science and Technology

Source: Blocking the Exit Is Not Retention: India's Science Talent Problem — Ujiyari.com | Free UPSC & State PCS
Editorial Analysis

● KEY ARGUMENTS AT A GLANCE

The reported departure of nearly 120 scientists from ISRO is a symptom of institutional conditions, bureaucratic hierarchy, limited research autonomy, rigid career progression and chronically low national research spending, rather than of pay differentials alone, and the administrative response of directing centres not to accept resignations from staff on critical missions addresses the visible edge of the problem without touching its cause.



SUPPORTING

- The editorial puts India's gross expenditure on research and development at 0.6 to 0.7 per cent of GDP with a private share of about 36 per cent, but official R and D Statistics tabled in the Rajya Sabha on 31 July 2026 revise this to 0.84 per cent of GDP in FY24, with the private share at 51.8 per cent, the first year in which private capital funded the majority of India's research; the resource-envelope argument survives the revision, since 0.84 per cent remains far below China's 2.69 per cent, but the claim that Indian industry underinvests does not.
- The problem is not confined to ISRO: comparable attrition and vacancy pressures affect CSIR laboratories and other government research organisations, which indicates a systemic condition in how India organises public scientific employment rather than an agency-specific failure.
- Recent instruments including the Anusandhan National Research Foundation, the Research Development and Innovation scheme and the National Quantum Mission address the funding constraint, but funding alone does not resolve the autonomy, hierarchy and progression issues that determine whether a scientist stays.



COUNTER

A significant share of these departures is to India's own private space sector, which the government deliberately created by opening the sector through IN-SPACe and the Indian Space Policy 2023; scientists moving from a public agency into a domestic private industry that did not exist a decade ago is arguably the policy succeeding, since the expertise stays in the country and the ecosystem deepens, and treating it as pure loss misreads what a maturing sector looks like.



WAY FORWARD

Address the conditions rather than the exit: lateral entry and re-entry pathways so that movement between public and private research is reversible rather than terminal, research autonomy and reduced administrative load for working scientists, progression tied to scientific output rather than tenure, and sustained increases in public research funding with the private share raised through incentives.


MAINS ANSWER FRAMEWORK
QUESTION

Examine the causes of scientist attrition from India's public research institutions, and assess whether administrative restrictions on resignation address the underlying problem. (250 words)

INTRODUCTION

The reported resignation of nearly 120 scientists from ISRO, and the Department of Space's subsequent direction to centres not to accept resignations from personnel on critical missions, has been read as a space-agency crisis; it is more accurately a visible instance of a systemic problem in how India funds, organises and retains public scientific employment.

BODY

Three structural conditions underlie it. The first is the resource envelope: the editorial cites gross expenditure on research and development at roughly 0.6 to 0.7 per cent of GDP with a private share near 36 per cent, though official R and D Statistics tabled in the Rajya Sabha on 31 July 2026 put GERD at 0.84 per cent of GDP in FY24 and the private share at 51.8 per cent, the first year private funding exceeded government funding; on either figure the envelope is small against China's 2.69 per cent, which caps what any public institution can offer in equipment, support staff and career prospects, though the revision does undercut the familiar claim that Indian industry underinvests in research.

The second is institutional: public research organisations in India operate under service rules designed for general administration, in which progression tracks tenure rather than scientific output, procurement for research equipment moves at administrative speed, and a working scientist carries a substantial non-research administrative load. The third is the emergence of an alternative: India's private space sector, deliberately created through the opening of the sector, IN-SPACe and the Indian Space Policy 2023, now offers scientists roles with fewer of those constraints.

Recent funding instruments, the Anusandhan National Research Foundation, the Research Development and Innovation scheme and the National Quantum Mission, address the first condition, but a scientist leaves over autonomy and progression as often as over salary, and money alone does not fix those. Against this, the direction not to accept resignations is a containment measure: it may protect specific mission timelines in the short term, but it neither improves conditions nor addresses why the alternative is attractive, and it raises a question about the right to leave public employment.

CONCLUSION

The durable response is to make movement reversible rather than to prevent it, through lateral entry and re-entry pathways, output-linked progression, reduced administrative burden on working scientists and sustained increases in research funding, on the reasoning that an ecosystem in which expertise circulates between public and private institutions is stronger than one in which a public agency must administratively retain everyone it trains.

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