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EDITORIAL ANALYSIS

Money and Minds Are Not Enough: What Will Decide India's Research Leap

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✓ **Every fact web-verified against primary sources**

THE LIFT LINE

A country does not become a research power by writing a bigger cheque; it does so by changing who gets to spend it, and how freely. India in 2026 has the funds, the talent and a rare political opening for a research leap. Whether that opening becomes an inflection point or another well-funded plateau will be decided not by the size of the **Anusandhan National Research Foundation (ANRF)** corpus, but by the plumbing beneath it.

WHY THIS EDITORIAL MATTERS FOR YOUR EXAM

Science and technology policy is one of the most predictable high-value zones in the GS3 paper, and the examiner has moved decisively from listing missions to asking whether the ecosystem works. A question on India's innovation deficit now expects you to talk about spending ratios, industry-academia links and institutional design, not just about ISRO milestones. This editorial hands you that vocabulary.

GS Paper 3: Science and technology developments, indigenisation of technology, and the economy of innovation all converge here, since research capacity is now treated as an economic-security question. For **Prelims**, hold the specifics: the **ANRF** was established under the **ANRF Act, 2023**, and it **subsumed the Science and Engineering Research Board (SERB)**; its corpus is **Rs 50,000 crore for 2023 to 2028**, with a large share meant to come from **non-government sources**, meaning private and philanthropic funding; India's **gross expenditure on R&D is roughly 0.64 per cent of GDP**, well below leading economies that spend two to four per cent; and the idea of a **National Research Foundation** was first articulated in the **National Education Policy (NEP) 2020**. For **Mains**, the thesis is clean: money and talent are necessary but not sufficient, and governance, industry linkage and research freedom decide the outcome.

BACKGROUND AND CONTEXT

For two decades India's **gross expenditure on research and development (GERD)** has been stuck near **0.64 to 0.7 per cent of GDP**, even as the economy grew and the science budget rose in absolute terms. The deeper problem was structure. Public institutions did most of the spending, private industry did little, and the two rarely met. The **ANRF**, created under the **ANRF Act, 2023**, was meant to break this pattern. It replaced SERB, placed research funding under a high-level governing board, and, crucially, was designed to **crowd in private money** so that the state stops being the near-sole financier of Indian science.

The ambition matters because the global race has changed. **China** built its deep-tech surge by pairing heavy state funding with aggressive commercialisation, and **South Korea** turned a handful of industrial champions into R&D engines that now anchor global supply chains. Both raised their research intensity far past India's, and both did it by fusing laboratories with firms.

THE CORE ARGUMENT / ISSUE

The spending gap is a composition problem, not only a size problem

India does not merely spend less; it spends differently. In advanced economies **business enterprises fund the majority of R&D**, while in India the government still carries most of the load. Raising the headline ratio therefore requires pulling private industry into the laboratory, which is precisely what the ANRF's non-government funding target is meant to trigger.

Talent exists, but the pipeline leaks

India produces a large volume of doctorates and a formidable diaspora of researchers, yet its **researchers-per-million** figure trails leading economies, and too many capable minds move abroad or into non-research roles. Talent that is trained but not retained or empowered is a subsidy to other economies.

Industry-academia links are the missing gear

LEVER	INDIA TODAY	WHAT LEADING MODELS SHOW
R&D as share of GDP	~0.64 per cent	2 to 4 per cent
Who funds R&D	Mostly government	Mostly private industry
Industry-academia flow	Weak, episodic	Institutionalised, continuous
Commercialisation	Slow lab-to-market	Fast, firm-anchored (China, South Korea)

The table isolates the real bottleneck. India's laboratories and its firms operate on separate tracks, so discoveries rarely become products and firms rarely set research agendas.

HOW TO THINK ABOUT THIS (ANALYTICAL FRAME)

Use an **inputs-versus-institutions** frame. Inputs are money and people, and India now has more of both than at any point in its history. Institutions are the rules that decide whether those inputs convert into inventions: how grants are chosen, how quickly they are released, how much freedom a scientist has to fail, and how easily a firm can partner with a campus. A second frame is **absorptive capacity**, the system's ability to actually use funds well. Pouring money into a system with weak governance and thin industry links produces spending, not science. The ANRF's design bet is that better institutions, not just bigger inputs, will finally raise India's research intensity.

THE DIAGRAM IN WORDS

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Large corpus and deep talent -> ANRF governance and private co-funding -> strong industry-academia linkage -> research freedom and fast commercialisation -> rising R&D intensity -> deep-tech and economic strength
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WAY FORWARD

1. **Deliver on private co-funding, not just announce it.** Use tax design, matching grants and mission-mode partnerships to make the ANRF's non-government share real, so business R&D rises toward global norms.
2. **Institutionalise industry-academia bridges.** Fund joint centres, shared facilities and problem-led grants that force firms and universities onto the same track rather than parallel ones.
3. **Protect research freedom and reduce friction.** Ensure autonomy in project selection, tolerate high-risk failure, and cut delays in grant release so scientists spend time on science, not paperwork.
4. **Retain and grow the talent base.** Raise researchers-per-million through fellowships, competitive salaries and return pathways for the diaspora, converting a talent pool into a research workforce.

PYQ LINKAGE AND PRACTICE

UPSC has repeatedly asked why India lags in research and innovation despite its scientific manpower, including questions on indigenisation of technology and the role of institutions in fostering research. This editorial refreshes that debate with the ANRF as the current institutional anchor.

Practice question: "For India, adequate funding and abundant talent are necessary but not sufficient conditions for a research leap." In light of the ANRF, examine the structural reforms needed to raise India's research and innovation output. (15 marks, 250 words)

Sources: The Indian Express, Anusandhan National Research Foundation, Department of Science and Technology

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