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**TOPIC**

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**Corporatisation of Science  
Research in India**

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## CORPORATISATION OF SCIENCE RESEARCH IN INDIA

### Context

- As hinted by recent policy shifts, India is embracing Corporatization in Science Research, aiming to blend public and private funding, fostering innovation and commercialisation, alongwith accelerating technology transfer, it needs to safeguard curiosity-driven research—the spark that ignites breakthroughs.

### About the Science Research in India: A Brief Overview

- **India's Thriving Scientific Ecosystem:** India boasts a vibrant scientific ecosystem that spans various domains, from fundamental research to applied technology.
- **India Science, Technology & Innovation (ISTI) Portal:** It serves as a central repository for all things related to science, technology, and innovation within India. It's like a treasure trove for students, scientists, researchers, and the curious public.
  - ♦ It provides information on research, fellowships, scholarships, funding opportunities, and startup initiatives.
- **Research and Development (R&D):** India invests significantly in R&D across sectors. The Department of Science and Technology (DST) plays a pivotal role in shaping the country's research landscape.
  - ♦ Through various programs, it supports cutting-edge research, technological advancements, and collaborative efforts with international partners.

### Recent Highlights in Indian Science and Research

- **Women in Science and Engineering (WISE) Fellowship:** India recognizes the importance of gender diversity in science. The WISE program encourages women scientists and engineers to tackle societal challenges through research and innovation.
- **INDIA-JAPAN Cooperative Science Programme (IJCSP):** Collaborations between India and Japan lead to exciting research outcomes. The IJCSP fosters joint projects, knowledge exchange, and scientific cooperation.
- **ICSSR-JSPS Joint Call for Research Proposals:** The Indian Council of Social Science Research (ICSSR) partners with the Japan Society for the Promotion of Science (JSPS) to fund research projects. This collaboration enhances social science research.
- **India-UK Telecommunication Research Call:** Bridging continents, this joint initiative promotes research in telecommunication technologies.
- **India-EU Joint Call for Proposal:** India collaborates with the European Union on research projects spanning diverse fields.
- **Innovation & STEM Demonstration:** The DST invites proposals for innovative projects that can transform STEM education and create impact.
- **WIDUSHI (Women's Instinct for Developing and Ushering in Scientific Heights & Innovation):** Empowering women in science is crucial. WIDUSHI aims to do just that.
- **BIRAC Early Translational Accelerator:** Biotechnology Industry Research Assistance Council (BIRAC) supports early-stage startups in biotech and healthcare.

### India's Technological Prowess

- **Biotechnology:** India contributes significantly to biotech research, including genetic engineering, drug discovery, and healthcare innovations.
- **Artificial Intelligence (AI):** Indian researchers are making strides in AI applications, from natural language processing to computer vision.
- **Space Exploration:** The Indian Space Research Organisation (ISRO) continues to impress with missions like Chandrayaan and Mangalyaan.

- **Renewable Energy:** India is investing in solar, wind, and other clean energy sources to meet its growing energy demands sustainably.

### Hints of the Corporatisation of Science Research in India

- During the inaugural address of the **107th Science Congress in Bengaluru (2020)**, Prime Minister of India succinctly laid out the **government's vision for science in India: "innovate, patent, produce, prosper."**
- It hinted at a new policy direction—one that emphasises **knowledge production, commercialization, and self-sufficiency in research.**

### Dehradun Declaration and Revenue Generation

- Over the past several years, the Indian government has been steering research institutions—both laboratories and other centres—toward earning revenue from external sources. The idea is simple: **leverage expertise, market patents, and invest the surplus in developing technologies** aligned with national missions.
- This policy stance traces back to the **'Dehradun Declaration' of 2015**, where directors of the Council of Scientific and Industrial Research (CSIR) labs resolved to explore self-financing through patent monetisation. In essence, this **marked the beginning of the corporatization of science research in India.**

### Anusandhan National Research Foundation (ANRF)

- It was established under the **ANRF Act of 2023** that aims to fund research across the country and strengthen linkages between academia, industry, and development.
- **Recent Union Budget** emphasised the operationalisation of the ANRF for basic research and prototype development. The inclusion of **'prototype development'** underscores the government's keen interest in funding research that aligns with market needs.

### Funding Proportions

- Over the next five years, the ANRF is slated **to receive ₹50,000 crore**, with a whopping **72% expected to come from the private sector.**
- This deliberate design signals the government's intent to reduce its direct role in funding research and instead encourage private entrepreneurship to step up.
- Even in the **United States**, where research and development have increasingly relied on non-government sources, this model is predominantly seen in IT and pharmaceuticals.

### Report on Developing Science & Technology Clusters in India

- In April 2020, a high-level committee was tasked by the Prime Minister's Office to create a plan and roadmap for developing science and technology clusters in India. These clusters could play a transformative role in India's economic and social progress.
- India's unique strengths and challenges position it well for a science-centric effort to transform society. Decades of consistent investments have built a substantial base of skilled human capital and physical resources across universities, government organisations, and the private sector.

### Emerging Challenges and Related Suggestions

- **Under-investment:** Historically, India has faced under-investment in science and technology. To thrive, we need sustained financial support for research and innovation.
  - ◆ Despite progress, investment in research and development remains below optimal levels. Increasing funding is essential.
- **Education System:** While India has a vast education system, promoting research and inquiry within it remains a challenge. We must foster a **culture of curiosity and critical thinking.**
- **Collaboration:** Encouraging collaboration between academia, industry, and government is crucial. Silos hinder progress; interdisciplinary partnerships can drive innovation.

- **Mindset Shift:** A change in mindset is needed. We should view science and technology not just as tools for development but as integral to our national progress.
  - ♦ The report suggests a **cluster-driven framework** to leverage science and technology effectively. **Clusters** can foster **collaboration, resource sharing, and innovation**.
- **Infrastructure Gaps:** Strengthening research infrastructure—labs, equipment, and facilities—is critical.
- **Human Capital:** Developing and retaining skilled scientists, engineers, and researchers is a priority.
- **Policy Alignment:** Ensuring that policies align with scientific goals and encourage innovation.
- **Public Awareness:** Communicating science effectively to the public and policymakers is vital.

### Conclusion and Way Forward

- **Balancing Commercialisation and Curiosity-Driven Science:** While the push toward self-sufficiency and market relevance is essential, we must strike a balance. Curiosity-driven science—the pursuit of knowledge for its own sake—has historically led to groundbreaking discoveries.
  - ♦ It fuels innovation and often yields unexpected applications. As we navigate this transition, maintaining space for fundamental research and blue-sky thinking remains critical.
  - ♦ After all, not all breakthroughs can be neatly packaged for commercialisation.
- India’s scientific landscape is evolving, and the corporatisation of research is an undeniable reality. However, as we move forward, it is important to ensure that curiosity, creativity, and the pursuit of knowledge continue to thrive alongside market-driven imperatives.
  - ♦ Perhaps our motto should be an extension of the Prime Minister’s aphorism: **“innovate, patent, produce, prosper—and explore.”**

Source: TH



### Mains Practice Question

**[Q]** To what extent does the increasing corporatisation of science research in India compromise the pursuit of fundamental knowledge and public good, while simultaneously fostering innovation and economic growth?