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Can RDI Fund lead BioEconomy growth?

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India's Rs 1 lakh crore Research, Development and Innovation (RDI) Fund initiative, operationalised through the Rs 2,000 crore BIRAC-RDI Fund, marks an important move toward financing high-impact, industry-led biotechnology innovations. By providing structured, milestone-linked risk capital over sustained timeframes, this fund can enable a steady pipeline of market-ready biotech products and services to emerge from Indian laboratories and startups. But certain structural gaps and challenges might stand as a hurdle to further strengthening the bioeconomy growth. Let's find out.



As highlighted in the India BioEconomy Report (IBER) 2026, India's BioEconomy has grown to over \$195 billion, reflecting the increasing integration of biotechnology across healthcare, agriculture, manufacturing and sustainable industrial systems. As the BioEconomy grows, its contribution to the national GDP has touched a high of 4.8 per cent, from 4.2 to 4.3 per cent share in the last few years.

Also, the emergence of more than 11,855 biotechnology startups and a rapidly expanding network of incubators and research facilities demonstrates how India is steadily moving towards a bio-driven economy.

Key Policy Initiatives

Initiatives such as the BioE3 Policy - Biotechnology for Economy, Environment and Employment, new investments in research infrastructure and programmes supporting deep-tech innovation are further strengthening the foundations of India's biotechnology ecosystem.

Central to this transformation is the government's strategic push toward strengthening research, development, and innovation through structured funding mechanisms. The launch of the Research, Development and Innovation (RDI) Fund represents a watershed moment in India's innovation policy.

Approved by the Cabinet in July 2025 with an outlay of Rs 1 lakh crore, the RDI initiative is designed to catalyse private sector investment in high-impact research and innovation across strategic sectors, including biotechnology, artificial intelligence, quantum technologies, and clean energy. This initiative marks India's largest-ever investment in research-led innovation and reflects a shift toward long-term, patient capital that is essential for deep-tech sectors.

BIRAC-RDI Fund Details

Within this broader framework, the Biotechnology Industry Research Assistance Council (BIRAC)–RDI Fund has emerged as a focused instrument to accelerate biotech innovation. With an initial allocation of Rs 2,000 crore, the fund aims to support high-impact biotechnology projects and bridge the critical gap between laboratory research and industrial-scale manufacturing.

According to BIRAC, this fund is a key enabler of India's bioeconomy. Projects with strong import substitution and global market leadership relevance will receive support for pushing Indian biotech on the world stage.

Further, through its blended finance model and co-funding requirements, the fund is structured to crowd in private capital and de-risk high-innovation projects, thereby strengthening the financing ecosystem for Series A and Series B investments in the scale-up and early manufacturing phases.

According to **Dr Manish Diwan, Head, BIRAC-RDIF**, "Traditional financing mechanisms, whether venture capital or commercial lending, are poorly calibrated for biotechnology's timelines, technical risks, and regulatory requirements. Startups with proven concepts at the lab PoC stage have often struggled to raise the next round of missing capital needed for technology validation, scale-up, infrastructure build-out, and early-stage manufacturing. This opportunity cost reduces the probability of success for innovation and potential impact. The BIRAC-RDI Fund directly addresses this gap. Its collateral-free, flexible funding instruments, structured as loans, equity, or hybrids depending on the nature and stage of the project, are purpose-built for this phase. The fund's emphasis on co-investment and blended finance further de-risks participation for private investors, catalysing the ecosystem maturation."

He further added that individual projects may receive between Rs 5 crore and Rs 200 crore through collateral-free loans, equity, or blended instruments, to fund up to 50 per cent of the project cost, enabling Indian startups and large industry alike to catalyse co-investments from private capital sources.

"The first national call was launched on February 13, 2026, and the response from India's biotechnology community has been encouraging. By the close of the call on March 31, 2026, 198 applications had been received from startups, SMEs, and industry players, reflecting strong interest from across the innovation spectrum. Screening and evaluation are already underway on a rolling, first-come-first-served basis. Early review of the first 50 applications reveals a rich and diverse pipeline of proposals spanning from genomics, first-in-class drug discovery, clinical trials, agri-tech, synthetic biology, industrial biomanufacturing platforms, medical devices, and environmentally sustainable solutions. The first cohort of selected beneficiaries will be announced shortly", said Dr Diwan.

Investor Perspectives

Banking on the thought that the RDI scheme can emerge as a cornerstone of India's transition from a manufacturing hub to an innovation leader, **Dr Vedha Sampathkumar, Partner, Endiya Partners**, said, "It provides the heavy-duty scale-up capital needed to move a lab-validated prototype (TRL 4) through clinical trials and pilot manufacturing to full commercial launch (TRL 9). It specifically addresses the valley of death (TRL 4 to TRL 9) where many startups wither due to a lack of late-stage capital."

Highlighting some of the challenges associated with the RDI Fund, **Padmaja Ruparel, Co-Founder & President of Indian Angel Network (IAN)**, said, "The scheme requires companies to bring private money to match the RDI funding. Hence, they will need to dip into their reserves, which startups usually don't have, or raise equity money. In India, raising funding for these research-based propositions is not easy. However, what does help is that an approval from RDI will help the startup to evince interest from private investors and close the funding requirement quickly. Also, most startups need access to infrastructure along with expensive equipment. With RDI nominating BIRAC as a Second Level Fund Manager to deploy RDI funds, these companies can access BIRAC's 10 lakh + sq foot infrastructure through its 94 incubators spread across the country. This is a huge value add that startups can leverage."

While the initiative targets the most critical gap in India's innovation ecosystem, i.e. translation of deep-tech research into commercially viable products, a key challenge that could affect the success of this initiative is the strategic management of intellectual property (IP). Despite the growth of the deep-tech innovation ecosystem in the biotech sector over the last decade, a substantial volume of high-quality innovation continues to reside within academic laboratories. While RDIF is not designed to fund academic entities directly, it is creating a pathway for innovations to reach the market through technology licensing or spin-out formation. In this context, IP becomes the central bridge between academia and industry.

Sharing his views on this aspect, **Dr Chetan Chandola, Industry Liaison & Technology Transfer Specialist, Office of Technology Transfer, Centre for Cellular and Molecular Platforms (C-CAMP)** said, "BIRAC-RDI Fund has identified 'high-value IP generation and standard setting' as one of the strategic pillars, underscoring the importance of global IP. However, a persistent challenge lies in the limited understanding of IP strategy among academic innovators and first-time founders. Regarding IP, instead of 'file-and-maintain', a common pattern of 'file-and-forget' emerges where patents are filed without a long-term plan for international protection. This is important since IP rights are territorial, and global commercialisation often requires protection across multiple jurisdictions, particularly for (bio)pharma products. IP strategy must be embedded early in the innovation lifecycle, strengthening technology transfer offices as deal-making entities, and providing structured guidance on when, where, and how to file IP in alignment with commercialisation pathways. If implemented effectively, the RDI Fund can catalyse a shift from a research-centric to an IP-driven innovation ecosystem, thereby enabling scalable commercialisation and attracting global partnerships."

Nonetheless, RDI funding is critical, and the speed of deploying capital and attracting co-investment will be the decisive variable, whether India hits the 2030 milestone of the \$300 billion bioeconomy target or slips by a few years.

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