DBT BIOCARE PROGRAMME - SCIENCE & TECHNOLOGY

Funding delays for the DBT Biocare programme, which supports unemployed women scientists, underscore India's chronic underinvestment in R&D. This issue stems from low private sector participation, prompting new government schemes to stimulate innovation and research funding.

Current Context - Funding Delays Hit Women Scientists

A critical issue has emerged where 75 women scientists, selected for the prestigious DBT Biocare programme, have not received their promised funds or salaries nearly five months after their selection. This delay has stalled their research projects before they could even begin, highlighting a significant bottleneck in the administration of science funding in India.

About the DBT Biocare Programme

The Biotechnology Career Advancement and Re-orientation Programme (Biocare) is a vital initiative with a specific and important mandate.

Programme Overview - Run by the Department of Biotechnology (DBT), under the Ministry of Science and Technology (MoST), the Biocare programme has been operational since 2011.

Target Beneficiaries - Its primary objective is the career development of unemployed female scientists. For many of these women, this programme represents the first major extramural research funding they receive from the government, serving as a crucial stepping stone in their careers.

Financial Support - A woman researcher selected for the programme is eligible for a substantial ₹60 lakh grant spread over three years. This grant includes a significant personal support component in the form of a salary of ₹75,000 per month.

Track Record and Current Crisis - Between 2020 and 2024, the programme benefited an average of nearly 50 women scientists annually.This year, the number of selected candidates was increased to 75. However, the absence of the required sanction letters and the disbursement of funds has left these scientists in limbo, unable to commence their research or draw their salaries.

The Larger Issue - India's Lagging R&D Expenditure

The delay in the Biocare programme is a symptom of a broader, systemic challenge facing India - chronically low investment in research and development.

Low Gross Expenditure on R&D (GERD) - India's GERD as a percentage of its GDP has remained stagnant at 0.6% to 0.7%. This figure is well below the global average and pales in comparison to the investments made by other major economies like China, South Korea, and the US.

Underwhelming Private Sector Contribution - A key factor behind this low GERD is the minimal investment from India's private sector. It accounts for only around 36% of the total R&D expenditure. In contrast, in innovation-driven countries, the private sector's contribution is typically more than 70%.

The Critical Need for R&D Funding

Robust funding for research and development is not a luxury but a fundamental necessity for national progress.

Economic Growth - R&D is the engine of economic dynamism. It drives the creation of new industries, improves productivity in existing ones, and enhances the nation's global competitiveness.

Technological Advancement - Consistent funding facilitates critical breakthroughs in frontier fields like Artificial Intelligence (AI), biotechnology, and renewable energy.

Solving Social Challenges - Innovation is essential to find sustainable solutions for deep-rooted problems related to poverty, healthcare, education, and environmental sustainability.

Job Creation - A vibrant R&D ecosystem stimulates entrepreneurship and generates high-quality employment opportunities.

Global Positioning - Strong R&D capabilities position India as a global leader in science, technology, and knowledge creation.

Attracting Investment - A well-funded and active research environment attracts significant foreign and domestic investments in technology-driven sectors.

Implications of Inadequate Funding

The consequences of low R&D funding are far-reaching and detrimental to India's long-term goals.

Investment Concerns - It leads to limited overall investment in research, particularly affecting public institutions that are the bedrock of fundamental science.

Infrastructure Gaps - Many research institutions suffer from inadequate facilities, outdated equipment, and a lack of essential resources.

Brain Drain - Talented Indian researchers and scientists are often forced to move to other countries in search of better opportunities, funding, and research environments.

Lack of Industry-Academia Collaboration - There is a significant gap between academic research and its practical application, with limited partnerships between universities and industry to drive market-ready innovation.

Skill Gaps - The ecosystem fails to provide sufficient training and development opportunities to create a large pool of highly skilled researchers and innovators.

Key Government Initiatives to Boost R&D

The Indian government has launched several missions and schemes to address these challenges and invigorate the R&D landscape.

Research, Development and Innovation (RDI) Scheme - Approved with a massive ₹1 lakh crore corpus, this scheme aims to energize private-sector R&D and deep-tech startups. It will provide long-term, low- or zero-interest loans and support a new Deep-Tech Fund of Funds via the Anusandhan National Research Foundation (ANRF).

National Quantum Mission - With an allocation of ₹6,003.65 crore for 2023–31, this mission is dedicated to advancing quantum technologies through intensive scientific and industrial R&D.

Atal Innovation Mission (AIM) - This mission works at the grassroots level to foster a culture of innovation among students, startups, and entrepreneurs.

National Mission on High-Yielding Seeds - Aligned with DBT's work, this mission focuses on R&D to develop high-yielding, pest-resistant, and climate-resilient seeds.

National Manufacturing Mission (NMM) - In line with the government's 'BioE3 Policy', this mission aims to accelerate technology development in high-performance biomanufacturing.

The Seaweed Mission and Learn & Earn Program - These initiatives are specifically designed to empower women entrepreneurs, promoting economic inclusion in the bio-economy.

The Way Forward

To truly transform India into an R&D powerhouse, a collaborative and strategic approach is essential.

Strengthen Public-Private Partnerships - It is imperative to significantly increase partnerships with the private sector to boost overall R&D spending and bridge the investment gap.

Create a Synergistic Ecosystem - Efforts must be intensified to create better synergies between industry, research labs, and educational institutions. This will broaden the scope of research activity and create a more robust and diversified funding pipeline to support it.

Source - **https - //www.thehindu.com/sci-tech/science/women-biotech-scientists-await-funds-for-research/article69989176.ece# - ~ - text=It%20is%20mainly%20meant%20for,lakh%20grant%20for%20three%20years.**