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Premium

# A new national foundation and the ease of doing research

National Research Foundation will help uplift research in the university system and provide linkages between academia, industry and government

Written by Spenta Wadia  
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"The NRF is founded on the belief that the advancement of human well-being and progress relies on the creation of new scientific and social knowledge," writes Spenta Wadia. (Representational Photo)

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The Union Cabinet recently cleared a bill enabling the **setting up of the National Research Foundation (NRF)**, with a corpus of Rs 50,000 crore, to be placed before Parliament in the Monsoon Session. The announcement has been welcomed by researchers and academics who have been waiting to see the promised increase in R&D spends by the government. At this juncture, it is useful to remind ourselves of the promise of the NRF, described in detail in the Draft NEP (DNEP) 2019 as well as in the detailed project report (DPR) 2019.

The **NRF is founded on the belief** that the advancement of human well-being and progress relies on the creation of new scientific and social knowledge. It emphasises a verifiable and methodological assessment of the idea of truth. It aims to foster a culture of free inquiry, mentorship and support within India's universities and institutions of higher education and research. It recognises the urgent need to enhance the research and educational ecosystem to match the country's population.

As enunciated by the National Science Foundation (NSF) of the US, "There is no single factor more important to the intellectual, social, and economic progress of a nation, and to the enhanced well-being of its citizens, than the continuous creation and acquisition of new knowledge". The NRF would aim to become a major driver of that progress for India, helping to grow the nation's economy sustainably, enhance its security, promote well-being and societal progress, and help cement India's position as a global leader.

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Broadly, the NRF has three key missions: One, capacity building at universities and colleges; two, growing and nurturing excellence in cutting-edge research across disciplines; three, supporting research for societal impact. Four, these missions will require not just substantial monetary investment but also the trained human resources to enable the optimal use of monetary resources, and an efficient and flexible governance model.

The NRF will fund competitive peer-reviewed grant proposals, to individuals or groups of individuals, across all disciplines (including for interdisciplinary

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research) and across all types of institutions. It will help seed, grow, and facilitate research at academic institutions, particularly at universities and colleges, where research capacity and infrastructure is currently in a nascent stage. Doctoral and postdoctoral programmes will be instituted, “Centres of Excellence” will be set up at universities, and there will be funding for creating shared infrastructure.

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Mentorship towards capacity building of faculty members and students at higher education institutions (HEIs) will be provided through NRF professorships. These will be offered to active and capable, superannuated, research faculty from premier institutions, so that they can build active research groups in their areas of expertise at willing HEIs. The NRF professorships are a vital element for seeding high-quality research in remote universities and colleges. Roping in experienced researchers from the best institutions will create a win-win situation for both the researchers, who will not be forced to superannuate and give up their research, and the university or college which will receive financial assistance from the NRF to grow research groups of interest around available experts.

The second key mission is for India to recognise, foresee, and promote cutting edge research across disciplines through building capacity and leadership at scale. Curiosity driven research will be supported by the NRF as it creates an independent knowledge repository for possible future applications and a foundation for independent work and knowhow within the country. Engaging in international collaborations and participating in mega-science projects across disciplines also contributes to research capacity building in experimental sciences and engineering. The NRF will increase India's role and participation in key areas of national and global importance, and in major national and international collaborations, through large-scale mission projects and mega-projects. It will contribute to the active management of such large projects and ensure that the funding and the opportunities thrown up are leveraged to the maximum extent possible for the benefit of the country and its researchers.

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The NRF will recommend and support activities and initiatives for increasing the participation of women and other underrepresented groups in research, and recognise outstanding research with awards and national seminars. It will liaise and coordinate with researchers, relevant central and state government bodies, and industry partners, so that researchers remain connected with each other and

with potential collaborators. This will help policymakers keep abreast of the latest research breakthroughs in the country and enable these breakthroughs to be brought into the policy or implementation domains.

The Foundation will serve as a high-level think tank for the coordination and long-term planning of research and for the recommendation of key initiatives to the government regarding research, innovation, and education.

During the countless discussions that took place among researchers across all disciplines, both while preparing the NRF chapter in the DNEP and the DPR, one concern came up again and again — “there should be ease of doing research” in India, free of bureaucratic restrictions and ill-conceived financial policies. The NRF will bring out enlightened policies and procedures for funding, while maintaining accountability for the funding.

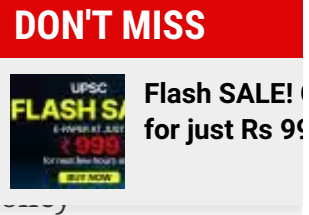
In terms of functioning, the DPR outlines an administrative structure for the NRF that is modern, professional and flexible, one that will enable it to deliver on its stated, monumental mission of uplifting research in the university system, supporting cutting edge research, and providing linkages between academia, industry and government. The governance structure proposed in the DPR envisages a board of governors consisting of 20-25 eminent researchers, educators and professionals, led by a president, a vice-president and a COO.

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Given that the NSF of the US has in its 70-plus years of existence become the gold standard for open research funding and management in the world, the NRF was modelled after it and was intended to have 10 research directorates covering broad disciplinary areas such as the natural sciences, mathematics, engineering, environmental and earth sciences, social sciences, arts and humanities, health, and agriculture. There are provisions to fuse or add new directorates and each directorate can have several divisions catering to different sub-disciplines within the larger umbrella. The directorates are envisioned to have their own chairpersons, programme officers, and staff who will enable smooth functioning of the end-to-end process: Calls for funding proposals, peer reviews, oversight and management of ongoing research including mentorship and assistance to researchers from universities and colleges as needed, and reporting and



accountability related processes. The programme officers are key persons within the NRF who make the final recommendations regarding funding specific proposals following a rigorous peer-review process that they oversee. They also monitor awarded projects closely to ensure delivery of stated outcomes.

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The NRF was conceived to be an autonomous institution that would be managed by the collective leadership and experience of its board of governors, expert researchers drawn from the various disciplines that the Foundation would fund, headed by the president of the board, selected from among the board members. The board would steer the direction of the NRF, on the basis of inputs from all stakeholders, and report to the prime minister. The president of the board, along with the vice-president and COO, through their offices, would be accountable to the funding agencies and to government. The NRF president, reporting to the board, will have full flexibility in staffing. This will be done in consonance with recruitment and remuneration rules that will be drafted and approved by the board within three months of the formation of the NRF.

The recently announced bill for the NRF does mention a board of governors chaired by the prime minister, along with a 15-member executive council chaired by the PSA. On the surface it appears that the executive council is similar to the high-level coordination board recommended in the DPR, consisting of secretaries or representatives of ministries that fund research, as well as directors or representatives of other major funding bodies, in order to ensure that there is synergy of purpose, a sharing of results and methodologies, beneficial collaboration and integration, and a lack of duplication of efforts. This is crucial, given that institutions that currently fund research, such as DST, DAE, DBT, ICAR, ICMR, ICSSR, ICPR, CIIL, UGC as well as various private and philanthropic organisations, will continue to independently fund research according to their priorities and needs.

Many of the leading research-producing nations have multiple public and private funding agencies, and India would benefit from the same. The mandate of the NRF is distinctly different from all these agencies and will be critical in building quality research capacity.

With regard to funding, government support to the NRF will come as a block grant without delineating the sub-heads of research support into human resources, consumables, and capital. In the DPR it was proposed that the NRF will be given an annual grant that will eventually aim to reach at least 0.1 per cent of GDP

(approximately Rs 20,000 crore in current terms). The heads will be delineated by the divisions within the NRF as appropriate to each field and specific projects. The board will have full flexibility in determining if and how funds can move between heads. The Foundation will be fully empowered administratively and financially so that it does not face hurdles in funding good projects.

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The support for good research and innovation will require, at its core, a high-quality internal management process that links to a high-quality peer-review system. The Board will also have flexibility in determining the remuneration structure for fellowships and projects, for instance, some areas, such as in clinical research and computer science, may require structures of fellowship and salary support that are different and significantly higher than the norm. The NRF will be conferred with the autonomy to determine its own finances, governance, and statutes.

Detailed financial rules for the operation of the NRF and NRF grants will be periodically updated and, when approved by the NRF Board and reported to Cabinet, will be deemed government approval. Wherever explicit flexibility has not been specified, GFR will be followed. Any unspent funds in the initial years will be held towards a corpus for the NRF which will be managed professionally for steady risk-free return.

Given the immense breadth of research expertise that will be needed across the various disciplines for carrying out the extensive mandate of the NRF, and the sheer number of experts that will need to be involved to execute these responsibilities at scale, it remains to be seen how the combination of the board and the executive council, as mentioned in the recent bill, will be supplemented with an appropriate structure that can undertake such a gargantuan challenge.

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