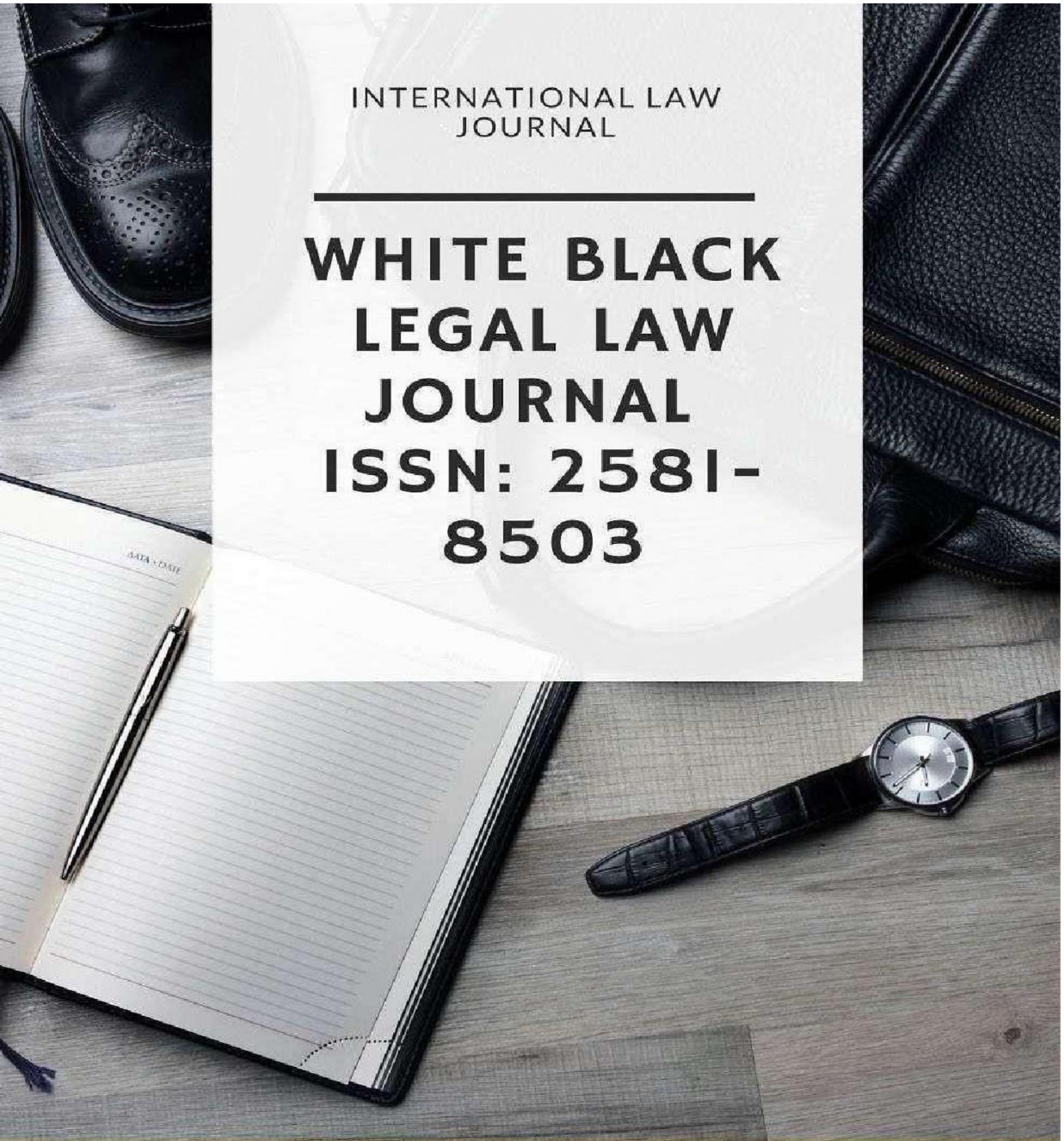




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GOVERNMENT INITIATIVES PROMOTING RESEARCH IN HIGHER EDUCATION IN INDIA: A CRITICAL ANALYSIS

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Abstract

Higher Education plays a pivotal role in the growth and development of the country. Research in higher education leads to the creation of new knowledge, innovation, advancement and also contributes toward the socio-economic development of the nation. This paper critically analysis the crucial role of government in promoting research in higher education in India and significant initiatives taken by the government in promoting research in higher education in India. These initiatives aim to improve research infrastructure, promote international collaboration, provide financial assistance and encourage innovation among students. This study analysis the objective, impact, significance, implementation, effectiveness of initiatives of the initiatives taken by the government. It enhances research output, academic excellence in Indian universities, contributes in the growth and development of India of initiatives taken by government in the promotion of Research in higher education.

Keywords: Higher Education, Research and Innovation, Government Initiatives, Socio-Economic Development.

Introduction

India a country of 1.25 billion population, is one of the largest higher education systems in the world. It recognized the importance of promoting research and innovation within its universities and colleges. Human development and economic growth of a nation depends greatly on the improvement in education. Among various levels of education, higher education has a pervasive and influential impact on development. The right of access to higher education is enshrined in a number of international human rights instruments. The higher education sector in India has developed a base¹.

¹ Higher Education in India: Vision 2025 By: Sampurna Nand Mehta Registrar Sasmira's Institute of Commerce & Science Sasmira Marg, Worli, Mumbai Published by: Empyreal Publishing House

There are a total of about 903 universities, 39,050 colleges, and 10,011 standalone institutions. The gross enrolment ratio (GER) in higher education in India is 25.8%, which is calculated for the 18–23 years of age group, but it is quite low as compared to other many developing/developed countries. Currently, 86% of the students at the undergraduate level, 12% at the postgraduate level, 1% in research, and 1% in diploma/certificate courses are enrolled in higher educational institutions (HEIs) (University Grants Commission, 2018)².

The government has taken significant initiatives to promote higher education in India including IMPRINT (Impacting Research in Technology), UAY (Ucchatar Avishkar Yojana), Research Parks, FAST (Training and Research in Frontier Areas), GIAN (Global Initiative of Academic Network), SPARC (Scheme for Promotion of Academic and Research Collaboration), IMPRESS (Impactful Policy Research in Social Sciences), STARS (Scheme for Transformational and Advanced Research in Sciences) and STRIDE (Scheme for Trans-disciplinary Research for India's Developing Economy)³.

Despite the initiatives taken by the government of India in the expansion of research in higher education system the research outputs and quality standards are also considered low as compared to global standards. The government has to face many challenges while implementing these initiatives such as limited funding, lack of infrastructure, opportunities for researchers and Scholars, administrative delays, awareness among institutions, unequal distribution of resource and limited coordination between government bodies and universities. These challenges are required to be addressed through strong and strategic changes in the initiatives taken by the government of India.

This paper discusses the objectives, effectiveness, implementation, and impact of these initiatives taken by the government of India. The only framing and implementation of policies does not improve the effectiveness and productivity of research in the higher education system of India, it should be measured through the enhancement in research output, Gross Enrolment Ratio (GER) in Indian higher education, research quality, patent generation, international collaborations, etc.

This analysis helps to explore that whether the benefits of these schemes are reaching a wide range of universities or are limited to a few well-established institutions in order to ensure a balanced and sustainable development.

² Digital Initiatives for Access and Quality in Higher Education : An Overview, Shakeel Ahmad (Joint Secretary, University Grants Commission, New Delhi 110 002).-

³ Department of higher Education, Ministry Of Education, Government Of India.

OBJECTIVES

1. To identify the major government initiatives and policies to promote Research in higher education in India.
2. To examine the objective, structure and implementation mechanism of government policies for research in higher education.
3. To evaluate the impact of these initiatives research output in higher education.
4. To analyze the challenges faced in the implementation of research promotion policies in higher education.
5. To suggest policy making for improving the effectiveness of government initiative in promotion of research in higher education.

Review Of Literature

Philip G. Altbach (2015), in *Global Perspectives on Higher Education*, examined the changing role of higher education in the global knowledge economy. The study emphasized that research universities are the foundation of innovation, scientific advancement and national development. It further highlighted that strong government support, research funding, international collaboration and institutional autonomy are essential for developing world-class research institutions. However, the study provides a global perspective and does not specifically examine the impact of recent government initiatives promoting research in higher education in India⁴.

Pawan Agarwal (2009), in *Indian Higher Education: Envisioning the Future*, analysed the structure and challenges of India's higher education system. The study identified inadequate funding, weak research infrastructure, shortage of qualified faculty, bureaucratic hurdles and limited research opportunities as major barriers to research development. It recommended comprehensive policy reforms, greater government investment to strengthen research and innovation in higher education institutions⁵.

National Education Policy (NEP) 2020 introduced a comprehensive framework for transforming India's education system with emphasis on multidisciplinary education, institutional autonomy, research excellence, innovation and internationalization. The policy proposed the establishment of the National Research Foundation (now ANRF) to promote quality research across universities and colleges. It recognizes research as a key driver of

⁴ Philip G. Altbach, *Global Perspectives on Higher Education* (Johns Hopkins University Press, 2015).

⁵ Pawan Agarwal, *Indian Higher Education: Envisioning the Future* (SAGE Publications, 2009).

economic growth, national development but requires effective implementation and adequate financial support to achieve its objectives⁶.

Rashtriya Uchchatar Shiksha Abhiyan (RUSA) (2013) was introduced to improve access, equity and quality in state higher education institutions through strategic funding. The scheme focuses on strengthening research infrastructure, institutional governance, accreditation, and outcome-based funding. The literature suggests that RUSA has enhanced institutional capacity, however, implementation varies across states due to differences in administrative capacity and resource availability⁷.

Prime Minister's Research Fellowship (PMRF) (2018) was launched to attract talented students towards doctoral research in science and technology by providing attractive fellowships and research grants. The scheme seeks to improve research quality, reduce brain drain and promote innovation in premier institutions. Existing literature highlights its contribution in attracting high-quality researchers but indicates that its benefits are largely concentrated in leading institutions⁸.

Scheme for Promotion of Academic and Research Collaboration (SPARC) (2018) promotes collaboration between Indian higher education institutions and foreign universities through joint research projects, academic exchange, knowledge sharing, etc. The programme has strengthened international research collaboration and enhanced research quality, although participation remains limited among many state universities⁹.

One Nation One Subscription (ONOS) (2025) aims to provide centralized access to international scientific journals and research databases for students, researchers, and faculty members across government higher education institutions. The initiative is expected to improve research accessibility, reduce institutional expenditure on subscriptions and promote equitable access to global knowledge resources. Since the initiative is recent, its long-term impact requires further evaluation¹⁰.

Anusandhan National Research Foundation (ANRF) Act, 2023 seeks to establish a strong research ecosystem by supporting research projects, promoting interdisciplinary collaboration, strengthening state universities and encouraging industry-academia partnerships. With

⁶ National Education Policy-2020: Research and Innovations for Transforming Higher Education (Prasenjit Das and Gouri Das).

⁷ Ministry of Education, Government of India, Rashtriya Uchchatar Shiksha Abhiyan (RUSA) – Scheme Document (2013).

⁸ Ministry of Education, Government of India, Prime Minister's Research Fellowship (PMRF) Guidelines (2018).

⁹ Ministry of Education, Government of India, Scheme for Promotion of Academic and Research Collaboration (SPARC) (2018).

¹⁰ Information and Library Network (INFLIBNET) Centre, One Nation One Subscription (ONOS) Initiative (2025).

substantial financial support, the initiative aims to improve India's global research competitiveness and enhance innovation across disciplines¹¹.

“Analysis of Higher Education in Indian National Education Policy Proposal 2019 and Its Implementation Challenges”, critically examined the Salient features and their focuses on the present draft of National Education policy 2019 through content analysis as well as highlights on various policies proposed in the draft with the special emphasis on higher education section and compare them with the previous policies.¹²

Implementation of government initiatives to promote research in Higher Education in India

1. **Rashtriya Uchchatar Shiksha Abhiyan (RUSA)**, launched in 2013, is a Centrally Sponsored Scheme (CSS) now transitioned to Pradhan Mantri Uchchatar Shiksha Abhiyan (PM-USA) which aims to usher transformative reforms in the State Higher Education System by creating a facilitating institutional structure for planning and monitoring at the state level, promoting autonomy in State Universities and improving governance in institutions. State videos highlighting their reforms in higher education due to RUSA can be found in this section¹³.
2. **National Education Policy (NEP) – 2020**, This National Education Policy 2020 is the first education policy of the 21st century and aims to address the many growing developmental imperatives of our country. This Policy proposes the revision and revamping of all aspects of the education structure. It including its regulation and governance to create a new system that is aligned with the aspirational goals of 21st century in education. The global education development agenda reflected in the Goal 4 (SDG4) of the 2030 Agenda for Sustainable Development, adopted by India in 2015 - seeks to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” by 2030¹⁴.
3. **Impacting Research Innovation and Technology (IMPRINT) – 2015**, A clarion call was made by the Honourable President and Prime Minister to address all engineering and technological challenges faced by the nation through a nation-wide unique initiative

¹¹ Government of India, Anusandhan National Research Foundation Act, 2023.

¹² Promoting Research Through India's National Education Policy 2020 Strategies And Management (by Vijaya Lakshmi and Ugandhar, Principal Govt. Degree College Mahabubabad ,Assistant Professor of Botany, Govt. Degree College Mahabub).

¹³ Government Of India, Ministry Of Human Resource Development (Department Of Higher Education).

¹⁴ National Education Policy 2020, Ministry of Human Resource Development, Government of India.

called Impacting Research Innovation & Technology (IMPRINT) launched on November 5, 2015 from the Rashtrapati Bhavan. IMPRINT India was a multi-stakeholder mission programme aimed at bridging the gap between scientific knowledgebase created through fundamental research, applied research, fruitful translation of the same through engineering invention and technological innovation for the betterment of society. In order to simplify and streamline the process, attract wider participation of stakeholders. It includes the industry, sharpen the focus, a new and revised version of IMPRINT, IMPRINT Round 2 has now been envisaged which will be steered jointly by MHRD and Department of Science & Technology (DST) (through Science and Engineering Research Board, (SERB))¹⁵.

4. **Uchatar Avishkar Yojana (UAY)**, The Uchatar Avishkar Yojana (UAY) has been launched by the Ministry of Human Resource Development (MHRD) in 2015 with a view to promote innovation of a higher order that directly impacts the need of the industries, thereby improving the competitive edge of Indian Manufacturing capabilities. The industry-sponsored and outcome-oriented research projects are funded. While MHRD funds 50% of the project cost, industry and other participating Ministries share the balance project cost (25% each). SERB is partnering with MHRD in funding UAY projects. The call for proposals is made by the National Coordinator of UAY¹⁶.

5. **Prime Minister's Research Fellowship (PMRF)** – 2018, The PMRF Scheme is designed for supporting the very best talents in doctoral research in India with attractive fellowships. It aspires to build outstanding research ecosystems in the country, focus on extremely challenging and innovative research problems. The scheme was announced in the Budget 2018-19. At present PMRF scheme is being offered in all the IITs and IISERs, IISc Bangalore and some of the top Central Universities/NITs that offer science and/or technology degrees. PMRF program offers two modes of entry which are Direct and Lateral. Students join through lateral entry mode within the first two years, and the direct entry mode within the first semester of their joining a regular PhD program. Presently all seats sanctioned by the ministry have been filled up. Further approval for admissions awaited¹⁷.

¹⁵ Impacting Research Innovation and Technology (IMPRINT) – 2015, Ministry of Human Resource Development (MHRD), Government of India.

¹⁶ Uchatar Avishkar Yojana (UAY), Ministry of Education (formerly Ministry Of Human Resource and Development).

¹⁷ Prime Minister's Research Fellowship (PMRF), Ministry Of Education, Government of India

6. Scheme for Promotion of Academic and Research Collaboration (SPARC) – 2018,

The initiative aims at improving the research ecosystem of India's higher educational institutions by facilitating academic, research collaborations between top ranked Indian Institutions and globally ranked Foreign Institutions, through Joint Research Projects involving mobility of students and faculty. The SPARC Scheme is expected to have a major impact in providing the best international expertise to address major national problems, expose Indian academicians to the best collaborators abroad, enable international faculty to stay in India for a longer duration, provide Indian students an opportunity to work in the world class laboratories, to develop strong bilateral relationships in research and improve the international ranking of Indian Institutions¹⁸.

7. Anusandhan National Research Foundation (ANRF) – 2023

It is established through an Act of Parliament: ANRF Act, 2023, to provide high-level strategic directions for research, innovation, and entrepreneurship in the fields of natural sciences. It includes mathematical sciences, engineering, technology, environmental sciences, earth sciences, health, agriculture, scientific interfaces, technological interfaces of humanities and social sciences. Anusandhan National Research Foundation (ANRF) has been established to promote research, development, foster a culture of research and innovation throughout India's Universities, Colleges, Research Institutions and R&D laboratories. ANRF acts as an apex body to provide high-level strategic direction of scientific research in the country as per recommendations of the National Education Policy. ANRF forges collaborations among the industry, academia, research institutions and government departments.

"ANRF strategies should align with the goals of Viksit Bharat 2047 and implementation should follow global best practices adopted by research and development agencies across the world" – ANRF Governing Body¹⁹.

8. One Nation One Subscription (ONOS) – 2024

It aims to build an innovative, knowledge-driven society and access to quality information. For India's aspirations in deep technology & advanced research, every student, researcher, and institution must be able to access the best global knowledge. The One Nation One Subscription has been designed to bridge this need. It is envisaged to ensure that knowledge, creation and dissemination are not limited by access barriers. Nearly 6,400 institutions across the

¹⁸ Scheme for Promotion of Academic and Research Collaboration (SPARC), Ministry of Education (formerly Ministry of Human Resource Development), Government Of India.

¹⁹ Anusandhan National Research Foundation, Ministry of Science and Technology, Government Of India.

country including Higher Educational Institutions i.e. central and state universities, colleges (including all medical colleges) and central government R&D institutions will benefit from ONOS. This translates to nearly 1.8 Crore students, faculty and researchers across the country getting access to more than 13,000 journals from 30 publishers including the top 4 global publishers i.e. Elsevier, Springer-Nature, Taylor & Francis and Wiley. As part of the recent Anusandhan National Research Foundation (ANRF) Act, the Government plans to seed and promote a vibrant research culture in the tier-2 and tier-3 higher educational institutions²⁰.

9. **FAST (Training and Research in Frontier Areas)-2013**, Ministry of Human Resource Development invites proposal for establishing Centres of Excellence for Training and Research in Frontier Areas of Science and Technology (FAST). The scientific research in the centre is expected to contribute significantly to national development goals and to building a robust research culture in the institution. Priority will be accorded to multidisciplinary research & training in new and emerging technologies in thematic areas such as energy, water, clean environment, smart materials that promote sustainable development. These centres will be located on the campuses of the existing institutions. The centres will be provided Grant-in-Aid up to Rs. Four (4) crore per centre depending on the feasibility of the proposal²¹.
10. **GIAN (Global Initiative of Academic Network)- 2015**, An initiative serves as a platform for the exchange of knowledge and ideas on a global scale. It enables institutes of higher education in India to invite, host internationally renowned academicians and researchers. It facilitates the co-teaching of advanced courses to Indian students and fostering collaborative relationships with experts from around the world. It offers international experts a unique opportunity to familiarise themselves with India's academic environment²².
11. **IMPRESS (Impactful Policy Research in Social Sciences)2018**, IMPRESS aims to fill the gap between policy-making and social science research and addressing problems of immediate social importance. The ₹414 crore scheme supported 1,500 research projects over the course of two years, by March 2023, through the implementing agency Indian Council of Social Science Research (ICSSR). As India grapples with

²⁰ One Nation One Subscription (ONOS), The Department of Higher Education, Government of India.

²¹ Frontier Areas of Science and Technology (FAST), Ministry of Human Resource Development Government of India, Department of Higher Education Management.

²² Global Initiative of Academic Networks (GIAN), Ministry of Education, Government of India.

issues of governance, health, and equity, this policy briefly examines the contribution made by IMPRESS in shaping a research-driven future, providing valuable lessons for stakeholders as well as policymakers. The initiative has taken India's social science publication contribution to 3% of the world by 2023 (NITI Aayog 2024), lending credibility to researchers. Economically, it adds 0.5% to GDP by way of policy efficiency, according to NITI Aayog's economic survey 2023, by saving the cost of governance (e.g., ₹50 crore saved by way of pilot projects)²³.

12. STARS (Scheme for Transformational and Advanced Research in Sciences)-2019,

The objective of STARS is to provide extra mural funding to faculty of higher education institutions for research projects in basic sciences which are inter-disciplinary and translational in outcomes. The projects also need to be India-centric and focused on socially relevant research. The basic thrust domains of the Scheme include Physics, Chemistry, Biological Sciences, Nanosciences, Data Sciences, Mathematics and Earth Sciences. The scheme also has a provision to encourage projects from talented researchers to eligible institutions in Tier-II cities and below²⁴.

13. STRIDE (Scheme for Trans-disciplinary Research for India's Developing Economy)-2019,

It aims to identify young talents and providing research capacity building. It diverse disciplines by mentoring, nurturing, supporting young talents to innovate solutions for local, regional, national and global problems. This component is open to all disciplines under Institutional mode. Under this component, the funds are provided to the Institution for the capacity building of faculty and students. During the last quarter of 2019, a total 35 institutions were selected for Component-1 under STRIDE. STRIDE Scheme will strengthen research culture and innovation in colleges and universities. It facilitate students to contribute towards India's developing economy with the help of collaborative research²⁵.

• Impacts Of These Major Initiatives On Research Output In Higher Education Institutions

“Initiatives For Quality Improvement In Higher Education In 21st Century: A Brief Review” analysed that India There have been notable outcomes from the initiatives aimed

²³ IMPRESS (Impactful Policy Research in Social Sciences)2018, Ministry of Education, Government of India.

²⁴ STARS (Scheme for Transformational and Advanced Research in Sciences), Ministry of Education, Government of India.

²⁵ Scheme for Trans-disciplinary Research for India's Developing Economy(STRIDE), University Grants Commission (UGC) under the Ministry of Education, Government of India.

at improving higher education quality in India, as following:

- I. Enhanced Research Output:** Increased funding and emphasis on research have led to a surge in research publications, patents, and collaborations with international institutions.
- II. Increased Global Recognition:** Indian universities are gradually gaining recognition on the global stage, with several institutions making their way into international rankings.
- III. Curricular Reforms:** The flexibility in curriculum design has allowed institutions to offer more relevant, contemporary courses and better-aligning education with industry needs.
- IV. Improved Teaching Standards:** Teacher training programs and incentives for faculty development have contributed to improved teaching standards, leading to a better learning experience for study²⁶.

The Gross Expenditure on Research and Development (GERD) in India has exhibited a consistent upward trajectory, witnessing a notable surge from Rs. 60,196.75 crore in 2010-11 to Rs. 127,380.96 crores in 2020-21. This substantial increase reflects a more than twofold growth over the specified timeframe, underscoring the nation's intensified commitment to fostering research and innovation. According to the UNESCO Science Report 2021, India's global standing in GERD is noteworthy, constituting 3.1% of the World's Gross Expenditure on Research and Development in 2018. This recognition on the global stage signifies India's growing significance in contributing to the collective pool of scientific and innovative endeavours. The escalating GERD figures and international acknowledgment underscore India's dedication to advancing research across diverse domains, positioning itself as a key player in the global scientific landscape²⁷.

NEP 2020 does not confine research to laboratories; it envisions a dynamic landscape where ideas traverse from incubation to real-world impact. The establishment of incubation centers is not a procedural checkbox, it's a strategic move to weave a seamless fabric between academia and industry. The call for interdisciplinary research is not a token gesture, it's just a recognition that real-world challenges demand holistic solutions born from the convergence of diverse fields.

²⁶ "INITIATIVES FOR QUALITY IMPROVEMENT IN HIGHER EDUCATION IN 21ST CENTURY: A BRIEF REVIEW" Deepika Bhandari, Seth R. L. Saharia Government PG College, Kaladera, Jaipur Punit Bansal, Government College, Malpura, India.

²⁷ Improving the Culture of Research and Development (R&D) in State Universities and Institutes, Science & Technology Vertical Team.

The AISHE survey, initiated in 2011 and conducted annually, captures crucial data on institutions, enrolment, and various parameters shaping educational development, as following:

Survey Methodology: It was conducted through an online WebData Capture Format, reflecting a modern approach to data collection.

Institutional Growth: It reveals significant institutional growth, with the number of universities increasing from 864 in 2016-17 to 1113 in 2020-21.

Enrolment Trends: Noteworthy enrolment trends indicate a substantial increase, crossing the 4 crore mark in 2020- 21, demonstrating a 21% growth between 2016-17 and 2020-21.

Diversity and Gender Inclusivity: Its results highlight the diversity of institutions, encompassing 1113 universities, 43796 colleges, and 11296 stand-alone institutions. Notably, 446 universities are privately managed, 43% of universities are situated in rural areas and 17 universities exclusively cater to women, contributing to gender inclusivity²⁸.

- **Challenges Faced In The Implementation Of Research Promotion Policies In The Higher Education**

Key challenges include:

- 1) **Budget:** Allocating seed money for initiating studies and fulfilling financial implications of research by way of the well-conceived budget are important challenges.
- 2) **Competitive Environment:** There should be sufficient scope for co-operation and collaboration but at the same time, a spirit of competition should prevail in the entire organization.
- 3) **Industrial Support:** Collaboration with industry is necessary for institutions to evolve new and better understanding of human problems relating to productivity and expanding knowledge and sharing will sustain the industrial support.
- 4) **Research Funding Environment:** Promotion of research through consultancy and sponsorship from various establishments could serve to gear up research and publications.
- 5) **Course Admission Strategy:** Admission to courses should follow preferences for research and learning. Curriculum, as well as pedagogy, should incorporate such elements which would boost critical thinking and spirit of inquiry. Scientific temper

²⁸ Central Government Schemes in Indian Higher Education: A Comprehensive Analysis of Impact, Quality, and Assessment Methodologies, Vaishnavi S(Postgraduate in English Literature and was a Research Associate with DRaS-Praghn Research Writing Program).

has to be cultivated among students. Bridge courses and short courses in modular form should bridge the gap of learning of enrolled students to enhance admission strategy.

- 6) **Patenting:** Exclusive contributions in the form of ideas, products should be patented to acknowledge the efforts of the institution and institutional grading should take it into account the number of patents.
- 7) **Mobilizing Resources:** Time, money, effort and infrastructure are some of the essential resources which need to be mobilized. This is a conscious and deliberate action which is dependent on the head of the institution.
- 8) **Curriculum Orientation:** The relevance of research in the curriculum is not just incidental or coincidental, but it is created to orient the learners.
- 9) **Funded Projects:** Fund is a major constraint especially for those whose work is based on laboratory experimentation or primary data collection from a large number of units in an extended universe. It is worth to mention that the famous physicist Einstein who propounded many great theories on the origin of the universe had nothing more than a few pieces of paper in his lab²⁹.

- **Measures To Overcome Challenges Faced In The Implementation Of Research Promotion Policies In The Higher Education**

- 1) **Funding for Research:** It is One of the most important requirements for research is the availability of adequate funds. We need to explore possibilities of funding for our research at regional, national, international levels through public institutions, private industries, Non Governmental Organisations (NGOs) as well as through opportunities for public private partnership.
- 2) **Infrastructure for Research:** We need to develop research infrastructure for enhancing research quality drastically. This can be made possible by identifying, establishing research institutes and research centers within those institutes that are capable of undertaking high quality research.
- 3) **Manpower for Research:** Apart from funds and infrastructures, it is the trained manpower that really makes the things to happen. Adequate, qualified, trained, well-oriented, specialised manpower is needed in the right numbers to run the research centers and carry out research in identified thrust areas. For developing such manpower

²⁹ Challenges And Opportunities For Enhancing Research & Publications In Higher Education” by Dr. P. S. Aithal & Dr. P. M. Suresh Kumar(International Journal of Scientific Research and Modern Education (IJSRME) Impact Factor: 6.225, ISSN (Online): 2455 – 5630 (www.rdmodernresearch.com) Volume 2, Issue 1, 2017).

courses related to research, methodology needs to be incorporated into the UG, PG curriculum at college as well as university levels so as to develop a research culture and harness a research temperament among our students and scholars.

- 4) **Incentives for Research:** There is a lot of debate going on whether research output should be used for providing financial incentives to teachers, awarding fellowships and giving recognition to them in their academics . It must be reserved only for the quality of new knowledge added to the existing body of literature.
- 5) **Collaborative Research:** In epistemological terms, the concept of inter-disciplinarily research may be regarded as a form of cooperation between various disciplines, contribute to the achievements of a common end, through their association further the emergence and advancement of new knowledge.
- 6) **Strengthening Industry Partnerships:** In pursuit of a dynamic research landscape, an emphasis is placed on fostering robust collaborations between academic institutions and industries. Establishing a streamlined mechanism for technology transfer becomes paramount. This involves creating frameworks and platforms that expedite the transition of research outcomes into practical applications within industries.
- 7) **Create a Culture of Innovation and Entrepreneurship:** In the dynamic landscape of research and development, the integration of innovation and entrepreneurship emerges as a potent catalyst for transformative change. Initiatives must be devised to cultivate an entrepreneurial mindset among students and faculty members. Workshops, seminars, awareness campaigns to be conducted to instill an understanding of the entrepreneurial journey, emphasizing risk-taking, creativity and resourcefulness.
- 8) **Regular Assessment and Feedback:** In fostering a dynamic research ecosystem, the establishment of a robust system for regular assessment and feedback stands as a cornerstone. This involves a two-fold approach, creating a structured feedback mechanism for faculty, students, conducting periodic reviews of research centers and departments³⁰.

³⁰ Measures To Promote Research And Innovation In Indian Universities, Talat Ahmad Vice Chancellor University Of Kashmir, Srinagar, J&K.
Improving the Culture of Research and Development (R&D) in State Universities and Institutes, Science & Technology Vertical Team.

- **Conclusion**

The Government of India plays a crucial role in promoting research in higher education through various initiatives, policies, and funding mechanisms. The initiatives such as the Rashtriya Uchchatar Shiksha Abhiyan, National Education Policy 2020, IMPRINT (Impacting Research Innovation and Technology), Uchchatar Avishkar Yojana, Prime Minister's Research Fellowship, Scheme for Promotion of Academic and Research Collaboration and Anusandhan National Research Foundation actively encourage innovation, strengthen research infrastructure, and enhance collaboration between academia, industry and international institutions. Through these programs, the government aims to build a strong research ecosystem that contributes to scientific advancement and national development.

These initiatives have already improved research output, increased international collaborations and enhanced the global visibility of Indian universities. They also promote interdisciplinary research, encourage faculty development, create opportunities for scholars and students to engage in meaningful academic work. As a result, Indian higher education institutions gradually strengthen their role in knowledge creation and innovation.

However, several challenges still hinder the full effectiveness of these initiatives. Limited funding, uneven distribution of resources, administrative delays and lack of awareness among institutions restrict the broader impact of research promotion policies. Many institutions, particularly in rural and less-developed regions, struggle to access these opportunities and develop strong research infrastructure.

To address these challenges, policymakers must increase financial investment, strengthen institutional support systems, improve coordination between government bodies universities and promote stronger industry-academia collaboration. Institutions should also actively cultivate a research culture by encouraging innovation, providing incentives for research work and integrating research-oriented learning into academic curricula.

By implementing these measures effectively, the Government of India can further strengthen the research ecosystem in higher education. A well-supported and inclusive research environment will not only improve academic excellence but will also contribute significantly to technological advancement, innovation and the overall socio-economic development of the nation.

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