

PROPOSAL FOR STATE SPECIFIC GRANTS

UNDER ARTICLE 275 FOR HIGHER EDUCATION IN KERALA
(16TH FINANCE COMMISSION)

Govt Letter No. K1/249/2024-HEDn. dated 01.11.2024



Submitted by
THE KERALA STATE HIGHER EDUCATION COUNCIL
THIRUVANANTHAPURAM

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Proposal for State Specific Grants
under
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Introduction

Context and Objectives

Higher education forms the foundation of the knowledge economy, driving growth through innovation, human capital, and research. Higher education institutions (HEIs) equip individuals with critical skills, foster research, and collaborate with industries, making them engines of economic progress. By preparing a skilled workforce for technology, healthcare, and renewable energy industries, advancing research and innovation, and forming industry partnerships, HEIs contribute to productivity, innovation, and economic growth. In a knowledge economy, intellectual capital outweighs natural resources, with success relying on robust education systems, R&D, global collaboration, and inclusive access.

Key Goals

1. Enhance access to quality education.
2. Strengthen research capabilities and global competitiveness.
3. Foster digital transformation and inclusivity.

Kerala, with its strong educational foundation, can lead the knowledge economy by investing in advanced research, digital transformation, inclusivity for marginalized communities, global engagement, and skill development in STEM and entrepreneurship. This approach will drive economic growth, reduce inequality, foster sustainability, and position Kerala as a global leader in education and innovation, ensuring sustainable and equitable development.

The following schemes are submitted for Grants – in – Aid under Article 275

1. Centres of Excellence

The Centres of Excellence (CoEs) proposed for Kerala are integral to advancing the state's knowledge economy while aligning with the University Grants Commission's (UGC) vision for innovation, quality, and global competitiveness in higher education. UGC emphasizes the role of such centres in fostering cutting-edge research, interdisciplinary collaboration, and skill development to elevate institutions to international standards.

In Kerala, the CoEs will address critical areas like science and technology, gender equality, linguistic preservation, and indigenous education, tailored to the state's socio-economic and

academic priorities. By driving research, innovation, and knowledge creation, these CoEs will not only strengthen Kerala's educational institutions but also position the state as a leader in the knowledge economy, fostering economic growth and societal progress in alignment with UGC's mandate.

The Higher Education Reforms Commission (2022) advocates for the establishment of new **Centres of Excellence (CoE)** to propel Kerala's higher education system into a leadership role within the global knowledge economy. These institutions are designed to cultivate a robust academic culture that prioritizes **academic freedom, collegiality, creativity, quality, and institutional autonomy** while adhering to principles of democratic governance.

Kerala's transition into a knowledge-driven economy demands high-quality education and research outputs that align with global standards. By leveraging these Centres of Excellence, the state can enhance its competitive edge in the knowledge economy, attract global talent, and strengthen its socio-economic fabric. These institutions will support the development of cutting-edge knowledge, innovative practices, and interdisciplinary collaboration, ensuring inclusivity and access for all segments of society.

The following are the Centres of Excellence initiated by Department of Higher Education, Government of Kerala under KSHEC

i. Centre of Excellence for Teaching and Learning (₹20 Crore)

Strategic Role: Foster innovative pedagogy and teacher development, ensuring that the teaching workforce is well-equipped to produce globally competitive graduates.

Activities:

Conduct regular training programs on curriculum design, syllabus preparation, and evaluation strategies.

Build a community of educators and students committed to engaged and experiential learning.

Impact: Improved teaching standards will lead to higher student success rates and enriched community partnerships, directly benefiting the local and global knowledge economy.

ii. Kerala Institute for Science, Technology, and Innovation (KISTI) (₹20 Crore)

Strategic Role: Position Kerala as a hub for advanced research in science and technology, fostering collaboration between academia, industry, and government.

Activities:

Focus on frontier areas of research such as artificial intelligence, biotechnology, and sustainable technologies.

Encourage innovation and commercialization of research outputs.

Impact: This institution will drive Kerala's technological advancements, contributing significantly to innovation-led economic growth.

iii. Kerala Network for Research-Support in Higher Education (KNRSHE) (₹20 Crore)

Strategic Role: Serve as a backbone for research and innovation by assisting educators and researchers in securing funding, optimizing infrastructure use, and fostering collaborations.

Components:

a) **Central Instrumentation Laboratories (CIL):** Provide cutting-edge analytical instruments for state researchers.

b) **Central Academic Computing Facilities (CACF):** Enable access to advanced computational tools and software for academic institutions.

Impact: The network will enhance Kerala's research output, reduce redundancies, and promote resource sharing, contributing directly to the knowledge economy.

iv. Kerala Institute for Gender Equality (KIGE) (₹20 Crore)

Strategic Role: Address gender disparities in education and workforce participation, ensuring equitable access and opportunities for all genders.

Activities:

Conduct research on gender inclusivity.

Develop policies and programs to close gender gaps in academia and beyond.

Impact: Gender equality enhances productivity and innovation, crucial elements for sustainable economic growth in a knowledge-based economy.

v. Kerala Language Network (KLN) (₹20 Crore)

Strategic Role: Preserve and develop Kerala's linguistic heritage while facilitating multilingual communication essential for global knowledge exchange.

Activities:

Translate critical academic texts into Malayalam and other languages.

Conduct research on regional languages and minority dialects.

Impact: Multilingualism enhances access to global knowledge and fosters inclusive participation in the knowledge economy.

vi. Kerala Institute for Advanced Studies (KIAS) (₹20 Crore)

Strategic Role: Promote advanced research in social sciences, humanities, and arts, driving innovation in thought and policy.

Activities:

Host national and international scholars for collaborative research.

Focus on Kerala's history, society, and cultural practices while addressing broader global challenges.

Impact: The institution will act as an intellectual retreat, enabling groundbreaking research that informs public policy and strengthens Kerala's position in the global knowledge landscape.

vii. Centre for Indigenous People's Education (CIPE) (₹20 Crore)

Strategic Role: Address barriers faced by indigenous communities in accessing higher education, ensuring their inclusion in the knowledge economy.

Activities:

Develop culturally sensitive pedagogies.

Provide targeted academic and infrastructural support to indigenous students.

Impact: Inclusion of indigenous perspectives will enrich Kerala's knowledge ecosystem and contribute to a more equitable society.

The establishment of these Centres of Excellence will transform Kerala into a **knowledge powerhouse** by fostering an ecosystem of creativity, inclusivity, and global competitiveness. By ensuring access to cutting-edge resources, fostering interdisciplinary research, and addressing societal challenges, these institutions will directly contribute to Kerala's economic growth and social development in the knowledge-driven era.

2. Postdoctoral Fellowships in Kerala (₹ 20 Crore)

Postdoctoral fellowships play a crucial role in fostering advanced research and innovation, contributing significantly to knowledge economy and national development. These

fellowships provide essential financial assistance and resources to early-career researchers, enabling them to conduct independent studies and drive progress in higher education and research.

Sustaining and expanding these programs is vital to ensure that the country remains as a leader in knowledge-driven development.

Significance of Postdoctoral Fellowships

Bridging the Gap: Supports the transition from doctoral studies to independent research.

Enhancing Research Output: Promotes innovative and interdisciplinary studies that contribute to global knowledge.

Skill Development: Equips researchers with advanced skills, enhancing employability in academia and industry.

Promoting the Knowledge Economy: Advances in research often lead to technological innovation and economic growth.

Impact of Postdoctoral Fellowships in Kerala

Boost to Research:

Elevates the quality and quantity of research in universities and institutions.

Focuses on region-specific challenges such as climate change, healthcare, and sustainable development.

Talent Retention:

Reduces brain drain by creating opportunities for highly skilled researchers within the state.

Collaboration and Innovation:

Encourages partnerships with industries, NGOs, and international institutions.

Drives innovation in critical areas like biotechnology, artificial intelligence, and traditional knowledge.

Capacity Building in Higher Education:

Strengthens universities and research institutions through the expertise and mentorship of postdoctoral fellows.

Why the Fellowship Should Continue

Global Competitiveness:

Investments in research are essential for the nation to remain competitive in the global arena. Countries like the US, Germany, and Japan prioritize postdoctoral programs to maintain research leadership.

Alignment with National Vision:

Kerala's Knowledge Economy Mission emphasizes research and innovation, aligning perfectly with national level priorities of development.

Economic Multiplier:

Advanced research leads to patents, startups, and innovations that contribute directly to economic growth.

Addressing Local Challenges:

Focus on solving region-specific issues, including coastal erosion, sustainable tourism, and disease management.

Recommendations to Strengthen the Program

Increased Funding: Expand resources to support more fellows and diversify research areas.

Industry Collaboration: Partner with industries to co-fund fellowships and translate research into practical solutions.

Focus on Emerging Fields: Prioritize fellowships in areas like clean energy, climate resilience, and digital innovation.

Global Exposure: Facilitate international collaborations and exchange programs to enhance research impact.

Policy Support: Institutionalize the program to ensure continuity and stability.

Postdoctoral fellowships are not merely financial assistance for researchers; they represent an investment in the country's future development. Sustaining and strengthening these programs will help the state address local and global challenges, retain intellectual capital, and solidify its position as a knowledge-driven economy. Kerala has already identified 10 broad domains of knowledge for the Post-Doctoral Fellowship (*Life Science, Chemical Science, Materials Science, Political Science, Historical Studies, Humanities & Liberal Arts, Economic Studies, Agriculture & Ecological Science, Climate Change & Geological Studies,*

Medical Science, Commerce & Management Studies and Digital Technology & Engineering) and 175 Fellowships were distributed in two batches and the government of Kerala has already spent Rs. 6.34 Crore on this project.

3. Digitisation Projects

i. Digitisation of Library Resources & Development of Kerala Academic Library Network (KALNET) – ₹10 Crore

The Kerala State Higher Education Council (KSHEC) established KALNET in 2021, a unified platform enabling resource sharing across 11 universities and 147 libraries, indexing over 15 lakh titles, including rare manuscripts, journals, PhD theses, and reports. The project focuses on digitizing special and rare collections to enhance accessibility, preservation, and academic collaboration.

Key Objectives:

Provide free, global access to digitized academic resources.

Support Kerala's free internet policy by expanding digital learning opportunities.

Preserve original materials while ensuring open access to their digitized versions.

Enable user-friendly search and retrieval with a unified interface.

Digitize rare books and manuscripts, safeguarding cultural and academic heritage.

Expected Outcomes:

Broaden access to hidden collections and enrich academic research.

Maintain high-quality standards and integrate best practices in digitization.

Enhance collaboration among universities and HEIs through resource sharing.

KALNET ensures long-term preservation and accessibility of Kerala's academic resources, aligning with global best practices in library digitization.

ii. E-Journal Consortium – ₹20 Crore

The Kerala State Higher Education Council (KSHEC) launched the E-Journal Consortium in January 2020 to provide centralized access to e-journals for all 16 state universities. This initiative addresses the rising subscription costs and ensures continued access to critical academic resources, previously available through UGC INFLIBNET.

Key Features:

Centralized Access: The consortium negotiates licensing and subscription agreements with providers like Elsevier (Science Direct and Scopus) and Knimbus, ensuring cost efficiency and broad accessibility.

Committees for Oversight: An Advisory Committee (comprising Vice Chancellors) and a Technical Committee (comprising librarians) manage and oversee the consortium's operations.

Collaborative Approach: Universities provide input on required e-resources, enabling tailored solutions to meet diverse academic needs.

Milestones:

Agreements signed with major publishers to ensure seamless access.

Workshops conducted with universities to enhance awareness and usage.

Reports on research performance shared to improve academic outputs.

Expected Outcomes:

Boost research productivity across state universities.

Enable the creation of sustainable and adaptable digital collections.

Promote resource sharing and reduce financial burdens on universities.

This consortium is a flagship initiative in the country, aligning with national vision to modernize higher education and foster academic excellence through enhanced digital access.

iii. DIGICOL - Digital Enablement of HEIs in Kerala (Let's Go Digital Scheme) – ₹10 Crore

The Kerala State Higher Education Council (KSHEC), in collaboration with the Digital University of Kerala (DUK), launched the DIGICOL initiative to implement Moodle-based Learning Management Systems (LMS) across higher education institutions (HEIs) in the state. The program includes faculty training, server infrastructure setup, and centralized digital support to enhance teaching and learning.

Key Highlights:

Moodle LMS Implementation: KSHEC trains faculty members, enabling them to integrate LMS tools for blended and online learning. Over 110 institutions have availed this training, and 23 colleges have adopted customized LMS solutions.

Centralized Infrastructure: A central architecture managed by KSHEC, with server space provided by DUK, supports LMS for at least 500 HEIs. The infrastructure setup is estimated at ₹20 crore.

Faculty Development: Teachers are equipped with advanced LMS tools for content creation, course management, and assessment, aligning with guidelines for MOOCs and online education.

Support for FYUGP: The initiative supports the new Four-Year Undergraduate Program (FYUGP) by enhancing curricular flexibility, student mobility, and effective utilization of digital platforms.

Benefits:

Facilitates digital transformation in teaching and learning.

Enhances the ability of faculty to offer online courses and assessments.

Improves institutional capacity to adopt blended learning models.

Supports students' access to quality education and flexible curricula.

DIGICOL strengthens nation's educational ecosystem by fostering digital learning, aligning with the vision of modernized and accessible higher education.

IV. Cluster of Colleges Scheme: Sharing Institutional Resources (₹ 20 Crore)

The Cluster of Colleges Scheme fosters collaboration among partnering institutions to optimize academic infrastructure, enhance educational outcomes, and promote resource sharing. It supports the Four-Year Undergraduate Programme (FYUGP) in Kerala, offering flexibility and opportunities for student mobility.

Key Benefits:

Expanded Course Offerings: Colleges can pool resources to provide a wider range of subjects, enabling students to customize their education to match career goals.

Streamlined Credit Transfer: Facilitates smooth transitions for students between institutions within the cluster, ensuring continuity in education.

Diverse Learning Environments: Students gain access to varied teaching methods, research facilities, and academic networks, enriching their educational experience.

Flexible Scheduling: Coordinated calendars and shared resources allow students to balance academics with other commitments.

Enhanced Mobility: Encourages both domestic and international mobility, exposing students to diverse cultures and academic traditions.

Networking Opportunities: Promotes connections among students, faculty, and alumni, fostering mentorship and career prospects.

Cost Efficiency: Reduces costs for participating institutions, potentially lowering tuition and increasing access to scholarships.

Innovation and Research: Encourages collaborative research and larger-scale projects, attracting external funding and contributing to societal progress.

Currently, three clusters (Thiruvananthapuram, Ernakulam, Kozhikode) are operational, with plans for expansion across the state to scale its impact further. Additional funding is essential to broaden the reach and enhance the effectiveness of this initiative.

V. Erudite - Scholar in Residence Programme: Knowledge Exchange with Nobel Laureates (₹ 10 Crore)

Launched in 2009-2010 by the Kerala State Higher Education Council (KSHEC), the Erudite - Scholar in Residence Programme fosters international research collaborations by bringing globally renowned scholars, including Nobel Laureates, Booker Prize winners, and Abel Prize winners, to interact with students and researchers in Kerala.

Achievements:

Hosted over 400 scholars across various domains, with 150 Nobel Laureates and eminent academics contributing through lectures and workshops.

Established academic collaborations with foreign universities.

Future Goals:

Invite 50 scholars annually to state universities and colleges.

Integrate with the Brain Gain scheme to further enhance international research opportunities.

The program continues to inspire researchers and strengthen university/ college level global academic networks through impactful knowledge exchange. This programme may be scaled up to meet the academic demands of all higher education institutions.

List of Nobel Laureates participated in the Erudite Programs

Sl. No	Details of the Scholar	Year of visit
1	Prof. Zhores I. Alferov , Nobel Laureate in Physics(2000)	2010
2	Prof. Roger Y. Tsien Nobel Laureate in Chemistry(2008), Howard Hughes Medical Institute, University of California, San Diego	2010
3	Prof. F. Murad Nobel Laureate in Medicine(1998)	2010
4	Prof. Robert Huber Nobel Laureate in Chemistry(2005)	2010
5	Prof. Johann Deisenhofer, Nobel Laureate in Chemistry (1988)	2010
6	Prof. Anthony James Leggett Nobel Laureate in Physics (2003)	2011
7	Prof. Anders Liljas Nobel Prize Award Committee Member	2011
8	Prof. Martin Chalfie Nobel Laureate in Chemistry (2008)	2011
9	Prof. Ei-ichi Negishi, (Nobel Laureate) Professor, Purdue University, USA	2016
10	Prof. S.R. Srinivasa Varadhan (The Abel Prize Laureate 2007), Frank J Gould Professor of Science and Professor Mathematics at the Courant Institute of Mathematical Sciences at New York University, USA	2019
11	Sir. Richard J. Roberts Nobel Laureate (1993) Psychology/Medicine, Chief Scientific Officer New England Biolabs, USA	2019
12	Prof. Ada E. Yonath (Nobel Laureate in Chemistry in 2009), Israeli Crystallographer and the Director, Helen and Milton A. Kimmelman Centre for Biomolecular Structure and Assembly of the Weizmann Institute of Science	2019
13	Dr. Jokha Al Harthi (Man Booker Prize Winner, 2019), Associate Professor, College of Arts and Social Sciences, Sultan Qaboos University, Muscat, Oman	2020
14	Dr. Michael Levitt, Nobel Laureate in Chemistry in 2013, Former Professor, Stanford University	2020
15	Prof. Morten P. Meldal, Nobel Laureate in Chemistry(2022), Professor, University of Copenhagen, Denmark	

VI. Brain Gain - Database on Keralite-Academic Diaspora around the Globe (₹ 10 Crore)

Developing a database of Scientists, Social Scientists and Humanities Experts, Medical Professionals, Technocrats Management Experts working in the prestigious Universities and Research Institutions the world over and specializing in emerging areas of knowledge. The scheme envisages the utilisation of services of these academicians of Keralite origin.

More than 400 Brain Gain scholars have registered in the Brain Gain portal of KSHEC till date and KSHEC has sanctioned 7 programmes to the various universities in the state. More proposals from universities in the state are being received for Brain Gain programmes. In the above circumstances there is an urgent need for expanding the scheme to all the universities.

Budget Proposed (Total ₹ 240 Crore)

Sl. No.	Item	Amount
1.	Centers of Excellence - to foster innovation in teaching, research, and inclusivity	₹ 140 Crore
2.	Postdoctoral Fellowships - to supporting advanced research and retaining talent within Kerala.	₹ 20 Crore
3.	Digitization Projects - to modernize library resources and develop digital academic platforms	₹ 40 Crore
4.	Cluster of Colleges Scheme - Institutional Strengthening crore for quality assurance and resource optimization	₹ 20 Crore
5.	Erudite - Scholar in Residence Programme-	₹ 10 Crore
6.	Brain Gain Program - to leverage Keralite academic diaspora expertise	₹ 10 Crore
Total		₹ 240 Crore



The Kerala State Higher Education Council

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