

UNIVERSITY OF DAR ES SALAAM
OFFICE OF THE DEPUTY VICE-CHANCELLOR
(RESEARCH)



**4TH CALL FOR PROPOSALS FOR COMPETITIVE RESEARCH AND
INNOVATION GRANTS FOR YEAR 2021/2022**

1.0 INTRODUCTION

The University of Dar es Salaam (UDSM) has a noble obligation to contribute to national development through teaching, research, innovation and public service. Guided by its grand Vision 2061, the University seeks to become a leading centre of intellectual wealth, spearheading the quest for sustainable and inclusive development. This Vision is coupled with an aspiration for becoming a world-class university that is competitive, relevant, and responsive to national, regional and international imperatives of the 21st century. To achieve all these, the University sets out to conduct inter-disciplinary and multi-/trans-disciplinary research, and generate innovations by allocating research funds to her staff.

Today's social problems and challenges are numerous, complex, and urgent hence appealing for well-informed research, needing a multifaceted approach in addressing them ranging from pandemics, poverty, climate change, inequalities, to insecurity, among others. There is also a general consensus that the disconnection and the gap between economic growth and social well-being of communities is increasingly widening. At the same time, research and innovation have become one of the main engines of social-economic development. It is, however, important to note that these two overarching trends have not yet been reconciled; there is a clear lack of exploitation of innovative solutions and research to explicitly address and solve these societal problems and challenges.

In the milieu of the above, the University promotes research and innovation projects that are designed to find practical solutions to societal needs and emerging challenges. As such, the expected proposals should reflect the Sustainable Development Goals (SDGs), which are part of the UN 2030 Agenda for Sustainable Development (see <https://sdgs.un.org/goals>). This emphasis is driven by the fact that the 17 SDGs address the global challenges which the national is facing, including those related to poverty, inequality, climate change, environmental degradation, as well as peace and justice. The 17 Goals are all interconnected, and in order to leave no one behind, it is important that we achieve them all by the year 2030.

2.0 CATEGORIES OF THE CALL

The 2021/22 Call for Competitive Research and Innovation Grant Proposals is divided into three main categories, namely:

2.1 Multidisciplinary Research Grant

Under this category, UDSM invites researchers from various disciplines to submit their research proposals intended to solve societal problems using a multidisciplinary research approach while tracking or reflecting any of the SDGs. Individual research project proposals are discouraged in this Call.

2.2 Innovation Grant

Under this category, UDSM invites transdisciplinary teams of innovators from various disciplines to submit their innovation proposals intended to develop transformative, sustainable solutions to societal problems that will contribute to addressing development challenges under the SDGs. This category provides an avenue for the University to make targeted interventions in solving particular societal problems.

2.3 Commissioned (Contracted) Research and Innovation

Under this category, UDSM shall identify specific themes depending on the emerging needs, and select individual groups of researchers and innovators to carry out research and innovation on its behalf. This category provides an avenue for the University of Dar es Salaam to make targeted interventions in solving particular societal problems. This category calls for invitation to certain staff members, based on their expertise to submit their research or innovation proposals that address specific issues at hand.

3.0 COMPOSITION OF MULTI-DISCIPLINARY RESEARCH AND INNOVATION TEAMS

It is recommended that for mentorship purposes, multi-disciplinary research and innovation teams should preferably comprise at least one senior researcher or innovator at the rank of Senior Lecturer and above, and at least one junior staff. Gender balance shall also be considered in the composition of the research and innovation teams.

4.0 ELIGIBILITY

Eligible applicants of the 4th Call for Research and Innovation Grants are all bonafide academic staff members of the University of Dar es Salaam. Applicants (PIs and team members) who have previous research and innovation grants, whose duration has elapsed, and have not submitted final reports, including proper accounting of the grants' funds will not be considered for this call.

5.0 RESEARCH AND INNOVATION CLUSTERS AND AREAS

The research and innovation areas covered include all the seven (7) research clusters as described in the University of Dar es Salaam Research Agenda 2018/19 - 2027/28 of 2018 (copies could be downloaded from the UDSM Website). The clusters are defined as follows:

Cluster 1: Science, Technology and Innovation (STI), ICT and Industrial Development

Research and Innovation Areas: *Commercialization, enterprise development and marketing of agricultural, livestock and fisheries products; Technologies for improved food quality, quantity and storage and reducing postharvest losses; Natural products (pesticides, fertilizers etc.) that are environment-friendly; Creation of off-farm*

employment opportunities in rural areas; Road infrastructure and other forms of communication; New and emerging technologies (ICT, nanotechnologies, material sciences, bioinformatics) and production processes in fields such as, industry, agriculture and agribusiness; Innovations, applications and commercial value-addition advantages; and Earth sciences (physical, chemical and biological processes) that shape the earth's surface and enable future predictions through modelling.

Cluster 2: Education, Agriculture, Food Security and Health

Research and Innovation Areas: *Educational access and equity; Health intervention / Health care promotion in schools; Modelling for development; Teacher professionalization, professional development and professional efficacy; Tanzania Development Vision 2025 and school curricula; Education and training for (in anticipation of) a middle-level national economy; The United Nations SDG No. 4 and implications for higher education curricula for industrialization; Communicable and non-communicable diseases; Biomedical and product safety; Increased productivity through technological optimisation in agriculture, livestock, fisheries and marine resources for food security; Food quality, safety and nutrition; Educational management, policy and planning; The financing of education; Educational information management systems; and User information seeking behaviour patterns.*

Cluster 3: Governance, Industrial Policy and Cleaner Production

Research and Innovation Areas: *Effects of reforms on the built-environment; Mining and conservation; Land use, conservation of natural resources and governance; Value addition to natural resources through manufacturing capabilities; Alternative energy sources; Geology and mineral resources; Geo-technical sciences; and Effects of policies, legislation and regulations on conservation of natural resources and industrial development.*

Cluster 4: Gender, Professional Development, Policy Development and Policy Implementation

Research and Innovation Areas: *Gender inequality and promotion of gender equality; Empowerment of women and minority; Gender equity in access to educational opportunity; Gender mainstreaming policies and practice in education; Educational transformation and school renewal; Professional education and service; Basic and continuing education and industrialisation; Education and self-employment; Effective use of un-utilized ICT capacity and infrastructure (Distance learning, Tele-medicine, e-health, e-learning), learning management systems; Application of ICT in education, governance, agriculture, manufacturing, tourism and banking; and University-community engagement (UCE).*

Cluster 5: History, Culture, Language, Heritage and Sustainable Tourism

Research and Innovation Areas: *History and cultural heritage, heritage promotion and tourism development; Sustainable tourism development and management; Accounting and taxation in tourism and creative arts; Preservation, coordination of heritage sites, restoration of historic buildings as well as archival materials; Intangible cultural heritage and devise mechanisms for preservation; Indigenous knowledge and national*

advance (Socio-cultural and economic applications); Creative arts, performing arts and cultural tourism; The interaction of Kiswahili with other languages; Language and cultural identity and unity; Language and literature development and ICT; and The role of the arts in industrial economy.

Cluster 6: Natural Resources, Environment and Technology

Research and Innovation Areas: *Natural products, science and technology; Climate change and eco-systems; Challenges in the forest sub-sector (Deforestation, degradation and unsustainable practices); Biodiversity conservation, plantation forestry, agro-forestry and woodlots technology, forest utilisation and socio-economic and forestry management; Solar energy and technology; Sustainable livelihoods; Climate change and environmental impacts; Climate change and environmental adaptation and resilience; Environmental engineering and production patterns; Pollution (Traffic, ocean, lakes, rivers air) and development; and Biotechnology in waste management and ecological maintenance.*

Cluster 7: Law and Integrated National Development

Research and Innovation Areas: *Human rights and good governance (Labour law, gender, child protection, accountability, corruption and integrity, local government, international criminal law and transitional justice); Law in development (e.g. Mining and oil and gas laws, maritime law) Constitutional and public law; Intellectual property rights (IPR); Regional integration; Land, environmental and natural resources laws.*

6.0 BUDGET

The proposal should include projected expenses per budget category such as capacity building, equipment, laboratory facilities/consumables and engagements/links with potential innovation users (e.g. government, industry, community etc.), per-diems, transport, publication etc. The maximum budget for each proposal from multidisciplinary research and innovation category should not exceed the amounts stated below for a research or innovation proposal submitted by a group:

- | | |
|--|-------------------|
| (a) Innovation and Commercialization of Technology | TZS 300,000,000/= |
| (b) Natural and Applied Sciences | TZS 30,000,000/= |
| (c) Information and Communication Technologies | TZS 20,000,000/= |
| (d) Business, Law, Education, Social Sciences and Humanities | TZS 15,000,000/= |

All funds awarded and disbursed to researchers and innovators shall have to be spent within the project duration in line with the approved budget, and in accordance with the pertinent financial and procurement laws, rules and regulations. The proposed budget for funding shall not include salaries, honoraria and institutional overheads.

7.0 PROJECT DURATION

The maximum project duration will be twelve (12) months from the date of signing the contract. Longer duration may be allowed under special circumstances upon request.

8.0 APPLICATION DETAILS

The Format for Application of Research Grants as stipulated in the UDSM Research Policy and Operational Procedures, Third Edition of 2015 (Annex III) shall be followed. Applicants shall be required to submit their proposals in MS Word or PDF format (A4

paper size, 1 inch margin all round, 12 points Times New Roman fonts, single line spacing):

- (a) Cover page (not exceeding 1 page) with the following information:
 - (i) Title of the Research/Innovation Project
 - (ii) Cluster/Research/Innovation Area
 - (iii) Name of the Principal Investigator(s)/Innovators(s) with emails and mobile telephone numbers
 - (iv) Department
 - (v) College/School/Institute
 - (vi) Summary (abstract of the proposal clearly stating how the project will address societal problem and its reflection on the SDG)

- (b) **The research proposal** (not exceeding 6 pages except for innovation proposals), which includes the following information:
 - (i) Introduction, Problem statement and Objectives
 - (ii) Summary of Literature Review
 - (iii) Methodology
 - (iv) Expected outputs
 - (v) Sustainability measures
 - (vi) Project management structure
 - (vii) Project implementation plan
 - (viii) Budget summary (not exceeding 1 page), detailing major anticipated expenses and sources of funds (other than this grant if any).
 - (ix) List of references cited
 - (x) Appendices

- (c) **The innovation proposal** (not exceeding 10 pages), which includes the following information:
 - (i) As in (a) above
 - (ii) Background information (introduction, rationale of the proposed work and problem statement)
 - (iii) Main goal and specific Objectives
 - (iv) Summary of Literature Review
 - (v) Methodology
 - (vi) Expected products and potential users
 - (vii) Dissemination/commercialization/up scaling plan
 - (viii) Sustainability measures
 - (ix) Project management structure
 - (x) Project implementation plan
 - (xi) Budget summary (not exceeding 2 pages), detailing major anticipated expenses (Training, Equipment, Maintenance, Consumables, Travel, field work, Stipend, Student fee, Conference and workshop, Publication, Travel insurance, Supervision cost, Overhead and other costs) and sources of funds (other than this grant if any).
 - (xii) List of references cited
 - (xiii) Appendices

In addition, a two-page CV, including recent publications related to the proposed work for each team member should be annexed.

9.0 DELIVERABLES

Successful applicants for the multidisciplinary research grants will be required to submit to the Director of Research and Publication progress reports on a quarterly basis, and the Final Research Report, and successful applicants for innovation grants will be required to do the same to the Director of Innovation and Entrepreneurship in accordance with the UDSM Research Policy and Operational Procedures, Third Edition of 2015 (Annex VII and VIII respectively). The reports shall include Financial Statements of Income and Expenditure for the periods covered by the reports. Expected deliverables of the research and innovation projects shall include one or more of the following:

- (a) Commercialised product or process;
- (b) Discovery; new and improved materials, species, technologies or practices;
- (c) Working prototype or process;
- (d) Computer software and applications;
- (e) Publications in form of published book, papers in referred journal of acceptable quality as prescribed by UDSM;
- (f) Registered intellectual property (patent, copyright, etc.); and
- (g) Policy briefs, manuals and dissemination materials.

10.0 EVALUATION CRITERIA

For multidisciplinary research grants, the Format for Evaluation of Research Proposals as stipulated in the UDSM Research Policy and Operational Procedures, Third Edition of 2015 (Annex IV) shall be followed in addition to the criterion that the proposal should be problem-solving. For innovation grants, the main criteria for evaluation of proposals are the potential for solving societal problems, and contributing to national development with a wider scope and magnitude of its reach and influence (e.g. reaching significant number of people/villagers/communities, or influencing policies, programmes and interventions, replicability and upscaling to change people's lives, systems and processes). The identification of potential users of innovation from the industrial/business sectors will be considered as an added advantage. The other evaluation criteria for both research and innovation proposals include the following:

- (a) Scientific and technical merit
- (b) Focus on the selected cluster, research or innovation area and the SDGs
- (c) Novelty and originality
- (d) Quality and clarity of project presentation
- (e) Clear methodology including dissemination plan
- (f) Relevance and feasibility
- (g) Multidisciplinary, academic ranks and gender aspect inclusion
- (h) Potential for commercialization including intellectual property protection, up-scaling and application to advance knowledge
- (i) Potential for publication
- (j) Potential for evidence-based policy advice
- (k) Capability of the team to execute the project/proposal

All submitted proposals shall be evaluated by teams of independent internal and external reviewers.

11.0 DEADLINE FOR APPLICATION

Monday 4th October 2021 at 23:59 hours (E.A.T)

All proposals must be submitted electronically through Research Information Management Systems at <https://rm.udsm.ac.tz>

ISSUED ON 3RD SEPTEMBER 2021