



# NATIONAL SCIENCE, TECHNOLOGY AND INNOVATION PROGRAMME

## CALL FOR RESEARCH AND DEVELOPMENT PROPOSALS FOR FISCAL YEAR 2017/18

### 1.0 BACKGROUND AND CONTEXT

Uganda seeks accelerated economic growth and improved social well-being, and its national development strategy centers on transforming the economy, and becoming a lower middle-income country by the year 2020. The development of a knowledge-based economy puts high emphasis on the production, transfer and application of knowledge with growing interest in embracing Science, Technology and Innovation (STI) to optimize technology development and adaptation.

The Uganda National Council for Science and Technology (UNCST) is a Government of Uganda Agency, established by CAP 209, Laws of Uganda. The Council is mandated to facilitate and coordinate the development and implementation of policies and strategies for integrating Science and Technology (S&T) into the national development process.

The National Science, Technology and Innovation Programme (NSTIP) is a competitive research and development funding initiative by the Government of Uganda through the Uganda National Council for Science and Technology (UNCST). The NSTIP supports scientific research and innovations across all domains of Science, Technology and Innovation (STI) in line with the priorities indicated in the STI Policy 2009, NDP II (2015/16-2019/20) and Vision 2040. The program supports research and development projects that have gone beyond proof of concept nearing industrial production and commercialization.

The competitive nature of the NSTIP grants ensure that grants are awarded to the most productive research teams working on the most relevant STI development challenges. The grant award criterion also emphasizes the importance of linking research to industry, so that the output is increased prototypes as well as new knowledge.

## **2.0 OBJECTIVES AND SCOPE**

### **2.1 Objectives of the Programme**

The objectives of the programme include the following:

- a. To strengthen Uganda's STI capabilities and performance in the medium term.
- b. To support the uptake of research results to enhance national productivity and growth.
- c. To strengthen Uganda's human resource and research productivity for social economic transformation.
- d. To support the growth of Micro Small Medium Enterprises (MSMEs) by supporting Research, Development and Innovation (RDI) initiatives using multidisciplinary and multi-sectoral research teams.

### **2.2 Scope of the Programme**

The programme will support several priority projects in the following UNCST research and development priorities:

- i. Biotechnology/Agriculture
- ii. Health/Nutrition
- iii. Information, Communication and Telecommunication (ICT)
- iv. Value Addition/Product Development
- v. Material Sciences/Renewable Energy

Applicants may submit only one application per research priority area indicated above. Applications will be assessed on a competitive basis, to optimize the contribution made through Government investments in Uganda's national development goals. The projects should have a clear indication of their contribution to (1) gross domestic product (GDP), (2) employment creation, (3) government revenue, (4) trade competitiveness, and (5) efficient service delivery. The program will support activities on research efforts devoted to generating new knowledge and its translation into solutions in the STI field as determined by a panel of technical experts in the specific field of interest.

The NSTIP will consider a wide range of proposals that address the objectives outlined above, based on selection criteria explained in the subsequent section. The NSTIP will support R&D projects each amounting up to Uganda Shillings five hundred million (UGX 500M) to be awarded per year through a competitive selection process depending on the availability of funds. Each grant is assessed vigorously for value for money. The

recommended duration is one year but extendable up to 18 months subject to implementation progress achieved.

### 3.0 APPLICATION AND ELIGIBILITY CRITERIA

#### 3.1 Application Process

The application process will comprise the following stages:

1. Open call for concept proposals
2. Invitations to selected applicants to submit full proposals

Applicants will be required to complete and submit a short expression of interest (Concept Proposal) to UNCST. A concept proposal should comprise the following:

- A cover sheet setting out basic details of the proposed project (i.e Title, NSTIP research area);
- The name of the host organization of the project;
- The composition of the research team clearly indicating the lead person who will be involved in the project and act as the principle researcher/investigator. The principle researcher shall have proven academic standing, scientific expertise, leadership experience and outstanding record of achievements in the field of research;
- A preliminary outline of the project (research concept note) describing the proposed research and how it will address the aims of the project;
- A statement on how the project will address the fund (NSTIP) objectives and merit criteria, including how it will provide strategic benefit to the nation;
- Statement of originality of the proposal and its relation to current research efforts in the particular field of scientific endeavor;
- Clear justification of the projects' research and development (R&D) that has gone beyond proof of concept with a working prototype;
- Prescribed information on funding requirements (project budget).

Concept proposals must be submitted electronically (online) to UNCST at [www.uncst.go.ug/nstip](http://www.uncst.go.ug/nstip) by **28th February 2017, 23:59 GMT**. Concept proposals should be submitted as PDF documents (**maximum four A4 pages**) in Times New Roman, Font Size no 12. Standard character-spacing must be used, and not less than single line-spacing. All margins should be of at least 2 cm. Concept proposals that are not submitted in the correct format will not be accepted.

Applicants should follow the standard format for competitive research and development (R&D) grant proposals, while submitting the full proposals to UNCST. The full proposal should comprise of the following elements among others:

a) The title of the research and development project

b) The UNCST/NSTIP research priority/thematic area

c) Detailed description of the proposed research and how it will address the aims of the programme, and comprising the following elements:

i) An introduction to the scientific significance of the research and rationale;

ii) Composition of the research team clearly indicating the lead person who will be involved in the project and act as the principle researcher/investigator;

iii) The name of the host organization of the project;

iv) The main research questions to be addressed;

v) The relationship to similar on-going research elsewhere (summary of literature review);

vi) Detailed description of the proposed methodologies for investigating these questions;

vii) Description of the technical infrastructure necessary for the research project;

viii) Statement of originality of the proposal and its relation to current research efforts in the particular field of scientific endeavor;

ix) Clear justification of the projects' research and development (R&D) that has gone beyond proof of concept with a working prototype;

x) The development relevance and an assessment of the potential impact of the research in the near to medium term and, the nature and extent of its contribution to solving the identified problem;

xi) Description of the collaborative approaches and partnership mechanisms to support development or use of the technology.

d) Provide a list of expertise on the project research team. [Note: Attach brief CVs for the PI and the Researchers. These should indicate the three most relevant recent publications]

- i. Describe the qualifications of the PI as it relates to the project
- ii. Describe the qualifications of each of the research team members
- iii. Describe the expertise/contribution of the members of the research team

e) Provide a detailed project work-plan, clearly indicating the proposed research resources, including:

- i. Manpower
- ii. Equipment
- iii. Consumables
- iv. Total Budget
- v. Business plan
- vi. List all major grants currently active or received over the past five years
- vii. Others

### **3.2 Eligibility Criteria**

The research grants are awarded to project ideas that are competitive, innovative, having the development of Science, Technology and Innovation (STI) in Uganda as one of their main outcomes. The research grants should also have a clear impact on scientific and technological research on the economy; through creation of employment, establishment of STI-based enterprises and boosting household incomes. The funds are available on a contestable basis to firms, research institutes, universities, multi-disciplinary researcher teams, technology platforms and innovation clusters as groups.

The applicants should demonstrate that their research could contribute to the national development goals and incrementally add to an evidence base upon which to formulate future public policies in Uganda. It is increasingly important that scientific research is not just excellent but is also relevant to human affairs. It should add value to the human and social development process in the country. Applicants must have demonstrated the ability to conduct research in the topic proposed. Individual researchers and institutions are both eligible.

However, the selection panel particularly welcomes proposals that demonstrate strong partnerships, the added value that would be created by the proposed partnership, and the contribution it would make to enhance the national scientific capacity. The roles and responsibilities of all named applicants should be defined accordingly, together with a description of the added value arising from the bringing together of complementary expertise.

## **4.0 SELECTION AND ASSESSMENT PROCESS**

The selection of successful concept and full proposals will be undertaken by the interdisciplinary and inter-sectoral Technical Committee through an independent online evaluation system. This will follow a two stage approach: a) Technical review scoring (75% of total score); b) Viva voca for the research teams (25% of total score).

Evaluation at both concept and full proposals also considers the overall scope and balance of the programme in the final selection of the projects. Selection of the research proposals follows the following assessment criteria:

### **4.1 Innovation**

Does the research involve the development of new methods, the integration of existing methods into new tools, or the application of existing methods in a novel way that improves and extends their utility? Proposals which simply apply existing methods in conventional contexts will not be considered innovative.

### **4.2 Scientific Excellence and Originality**

Is the proposed research potentially of very high quality in relation to the highest international standards of scientific excellence in all of the sectors and disciplines that it includes? Would the project add value to existing research on the topic of the proposal? Are the methods proposed sound and is the proposed research feasible?

### **4.3 Development Relevance**

Does the proposed research address issues that present significant challenges to the specified S&T field? Are the anticipated development outcomes and possible pathways to impact clearly and convincingly argued? Have gender issues been mainstreamed in project design and objectives?

### **4.4 Collaborative Approaches**

Does the research make a convincing argument for its selection of methods and approaches and how they will be integrated? Are there satisfactory partnership mechanisms to support inter-sectoral or interdisciplinary understanding and collaboration?

## 5.0 REVIEW PROCESS OF FULL APPLICATION

### 5.1 Merit Criteria

Full proposal applications will be referred to an evaluation panel. Panel members shall be required to sign appropriate non-disclosure agreements. If a member of the evaluation panel shall have a direct conflict of interest in relation to a proposal, he/she would be required to declare it and to abstain from participation in ranking the relevant proposal(s).

The evaluation panel will then make a detailed assessment of each proposal – which, as need arises, shall involve *a viva voca* with the research teams.

The panel shall report to the UNCST on its findings and provide recommendations regarding those proposals deemed most worthy of funding. On the basis of this report, and with regard for the total funds available, a recommendation will be made to the Government of Uganda through the Ministry of Science, Technology and Innovation regarding investment(s) from the National Science, Technology and Innovation Programme (NSTIP).

The Government shall reserve the right to make no investments from the programme if no applications from the round shall be deemed to have satisfactorily met the stated objectives and merit criteria. All applications in the round, regardless of category, will be assessed in terms of their capacity to meet the specific merit criteria below. The selection panel will also assess the overall case for the project and applicants' capacity to deliver the proposed outcomes and benefits.

#### 5.1.1 Summary of Merit Criteria

Merit Criterion 1	Category 1
Contribution to Uganda's Development Priorities	<ul style="list-style-type: none"><li>⊗ Detailed plan for contributing to one or more of the objectives and targets of Uganda's STI Policy 2009, NDP II (2015/16-2019/20) and Vision 2040—scientific output, employment creation, tax revenue, trade promotion and increased household incomes;</li><li>⊗ Anticipated economic, social and/or environmental benefits arising from the project;</li><li>⊗ Sustainability of these projects beyond the requested funding period.</li></ul>
Collaboration and Coordination	<ul style="list-style-type: none"><li>⊗ Evidence of detailed discussion with other research providers to ensure that the capability is strategically positioned within the country;</li><li>⊗ Arrangements for access to research findings by Ugandan</li></ul>

	<p>researchers;</p> <p>⊗ A 'business plan' that outlines the collaborative arrangements and the path from research to commercialization and societal utilization of resultant products or services.</p>
<b>Merit Criterion 2</b>	<b>Category 2</b>
Capacity to achieve the stated outcomes	<p>⊗ Research quality of key researchers (evidence of national and international standing);</p> <p>⊗ Appropriateness of human and physical resources for the purpose (including estimates of expenditure for the various activities);</p> <p>⊗ Detailed plan for translating research results into the stated outcomes;</p> <p>⊗ Management arrangements and management skills of the lead researcher;</p> <p>⊗ Evidence of prior collaboration among the participants (or track record in similar projects).</p>
Relevance	<p>⊗ Detailed justification for the project or capability in terms of its contribution to national development;</p> <p>⊗ Contribution to the development of STI in Uganda.</p>
<b>Merit Criterion 3</b>	<b>Category 3</b>
Need for Government funding	<p>⊗ Detailed justification of the budget;</p> <p>⊗ Co-contribution of resources (cash and in-kind) from partner and host organizations.</p>

## 5.2 Evaluation Criteria

Selection of the winning research proposals will follow the following evaluation criteria:

- a) S&T Quality (scientific and/or technological excellence): 50 Percent Score
- b) Applicability (quality and efficiency of implementation and management): 40 Percent Score.
- c) Impact (potential impact through the development, dissemination and use of project results): 10 Percent Score.

The Independent Panel of Experts will assess the full proposals and recommend successful applications to UNCST for funding.

## **6.0 CONTRACTING AND AUDIT**

Successful grant applicants will be required to enter into a research and development (R&D) grant agreement with UNCST and be subject to technical and financial audit on a quarterly basis.

## **7.0 REPORTING, PERFORMANCE MONITORING AND EVALUATION**

Applicants shall be expected to indicate key performance indicators (KPIs) and milestones to be achieved over the lifespan of the project (12 months) through a comprehensive project Work-plan. For successful projects these KPIs will provide the basis for agreed performance measures to be incorporated in the grant agreement. Performance reports submitted to UNCST in accordance with the grant agreement will highlight achievement of agreed milestones and KPIs and facilitate disbursements on a quarterly basis. The individual projects and the entire funding facility will be subjected to annual performance reviews to guide national research priorities and implementation procedures for the NSTIP programme.

## **8.0 DISSEMINATION, DATA SHARING AND INTELLECTUAL PROPERTY**

Information about research funded through NSTIP Grants will be made available on the UNCST website ([www.uncst.go.ug](http://www.uncst.go.ug)). Recipients of grants will also be required to provide information about their projects for the UNCST Research for Development portal ([www.uncst.go.ug](http://www.uncst.go.ug)). Grant holders will be asked to collaborate with the UNCST management on research uptake and dissemination activities, which may include, among others, presentations at seminars and conferences, blogs, interviews and opinion pieces. Grant holders will be expected to promote the dissemination of the results of their research as widely as possible, based on the premise that publicly-funded research data are a public good, produced in the public interest, and should be made openly available to other researchers in a timely manner to the maximum extent possible. As well as scientific communication, emphasis is placed by the funder on engagement with potential users and beneficiaries of research, and the route to application of its outcomes. Consideration of possible pathways to impact will form an important element of the assessment of proposals.

All intellectual property rights for all material (including but not limited to reports, data, designs, whether or not electronically stored, and technologies) produced by the investigator(s) or the investigators' personnel, and arising from research funded through the Grant, will be jointly owned by UNCST and the investigators' institution(s) at a ration agreed upon by the parties. The investigators' institution(s) will grant to the

fundings of the program, if requested, a world-wide, non-exclusive, irrevocable, royalty-free license to use all such material. However, if investigator(s) wish to apply for a patent for a particular application arising out of the information, they may request that publication of data is withheld until the patent has been applied for. After that time, the data must be made freely available. The UNCST should be consulted about any request of this kind at an early stage.