



Request for Applications (RFA)

Implementation Research on Fertilizers in Rwanda

Summary

Grant Title:	Implementation Research on fertilizers in Rwanda
Grant Number:	NRIF10/Cat 2--2022/23
Number of grants:	A total of 2 projects will be funded
Funding Purpose:	The purpose of this grant is to provide funding to multi-sectorial and multi-disciplinary research project teams to implement comprehensive and competitive long-term research projects to develop innovative solutions to address challenges of fertilizers in Rwanda, leading to tangible and measurable outcomes after some interventions.
Anticipated Budget:	Frw 157 million per grant
Source of fund	The Government of Rwanda through NCST and International Development Research Centre (IDRC) Canada
Duration:	20 months from commencement date
Key Dates:	
<i>Date of Issue:</i>	14 th March 2023
<i>Closing Date:</i>	17 th April 2023
<i>Feedback to applicants:</i>	30 th June 2023
<i>Earliest Start Date:</i>	July 2023
Funds Disbursement:	Funds will be disbursed to the host institutions in Rwanda and to the PI's research account

1. Introduction

The Government of Rwanda is committed to funding research and technology development through National Research and Innovation Fund (NRIF) that was launched in June 2018 to enhance opportunities for data-driven innovations and integration of research findings into practice or policy to improve the wellbeing of Rwandan citizens. Improving high quality and standards of life for Rwandans is an important pillar of Rwanda's Vision 2050, and this is well enshrined in the National Strategy for Transformation (NST-1) as the medium-term plan to achieve this vision. In order to achieve the national development targets, it is imperative to address the current and emerging national social, economic, and environmental challenges through promotion and funding high-quality research addressing specific challenges affecting citizens.

As such, translation of knowledge and application of research findings as a deliberative process between producers and users of research is critical to determine and promote reasonable interventions and paths and improve services in an effort to promote better health and social well-being of a population.

Therefore, the National Council for Science and Technology (NCST) intends to support Implementation Research addressing **challenges of fertilizers** in Rwanda, which if addressed it would help improving soil health and fertility which is part of important solutions of addressing food insecurity and rural poverty in the context of high population pressure and limited possibility of putting new land under cultivation. Multi-disciplinary and multi-sectorial collaborative approach of Rwandan researchers and global scientists, from various institutions will be utilized to carry out implementation research studies for this challenge. The goal shall be to develop long-term innovative solutions.

2. Funding description:

2.1. Purpose and Scope

Rwanda is one of the most densely populated countries in Africa. The economy is largely based on rain-fed agricultural production from small, semi-subsistence, and increasingly fragmented farms, where more farming households cultivate less than a hectare of land. Intensive farming practices across the country lead to soil loss and declining soil fertility on the top of the acidic nature of Rwanda soils.

Improving the management of soil fertility is part of important solutions of addressing food insecurity and rural poverty in the context of high population pressure and limited possibility of putting new land under cultivation. In addition, the fertilizer value chain in Rwanda faces challenges that need to be tackled in order to bolster fertilizer adequacy, access, consumption and raise agricultural productivity.

2.2 Content description and goal of funding opportunity

The need for implementation research that comprehensively contributes in addressing the issue of fertilizers is required at national level. Interventions shall focus on implementation of innovative research addressing various factors of fertilizer. Examples include but not limited to a) **Improving utilization of locally available raw materials for fertilizer production and scale up**; b) **broadening range of fertilizer formulations/blends to improve adequate**

economic returns to fertilizer use; c) improving environmentally sustainable availability, access and proper and diversification use of fertilizers for improved crop productivity.

Competitive and merit-based research proposals to **respond** and improve sustainable availability and access to fertilizers **as a major national challenge** shall be selected for funding. The goal shall be to develop integrated innovative coordinated research applications of scientific and/or technological, social, and business innovation to develop long-term solutions to ensure sustainable availability and access to fertilizers in our country.

Potential applicants are encouraged to form professional network groups of multi-sectorial and multi-disciplinary professional scientists, researchers, extensionists, and innovators working in the field of soil sciences and fertility management from various national institutions and propose intervention studies to address challenges of fertilizers in Rwanda. Please note that the goal is **not** to determine risk factors of soil fertility and the levels and quantity of fertilizers needed, **but rather** innovative bold ideas using existing scientific/technological and innovative interventions to address challenges of fertilizer value chain and improve sustainable availability, access and use of fertilizers in Rwanda.

2.3 Areas of research interest and scope

The research questions, challenges, and possible interventions proposed below indicate potential areas of interest.

- Rwanda has experienced accelerated soil erosion/degradation as a result of unsustainable human activities and changes in land use. Design and carry out novel and innovation implementation studies addressing issues of soils with low productivity linked to soil erosion and depletion of Organic Matter
- Given the acidic nature of Rwanda soils, low access and use of soil amendments; design and carry out novel and innovation implementation studies exploring and improving quality organic fertilizer sources (e.g. vermicomposting, domestic solid waste, etc.) and quality production of soil amendments (e.g. lime, dolomite)
- Based on that most existing blends are imported and expensive, design implementation research to improve (among others) range of formulations/ Blends that are environmental friendly (e.g. blended and coated fertilizers)
- Design and carry out novel and innovation implementation studies addressing Challenges related to climate variability and change, soil health, fertility and management
- Design implementation research to improve (among others) fertilizer value chain for proper, sustainable and impactful use of fertilizers and the integrated Agricultural Value Chain in general
- Design and carry out novel and innovation implementation studies addressing the emerging problems of salinity that is constraining crop productivity in marshlands

2.4 Funding approach

National Council for Science and Technology (NCST) in collaboration with International Development Research Centre (IDRC) Canada intend to commit approximately Frw 157 million per project in FY 2023/24 to fund 2 grants for 20 months in response to this request for applications (RFA) on Innovative Interventions to existing challenges of fertilizers in Rwanda. Applicants are strongly encouraged to propose bold ideas that engage in use of technological interventions and innovative solutions leading to development of products and services. In addition, the grant is envisaged to promote technology development and adoption, knowledge transfers partnerships among industry/private sector and academia/Research. The grant shall

support/pay researchers from both academia/research institution and industry to dedicate their time-effort while conducting collaborative research activities at industry or at a private sector premises.

2.5 Important Implementation approach

Definition: In this RFA, implementation research is defined as a scientific study that shall use innovative strategies to adopt and integrate evidence-based interventions (e.g.: Socio-economic, agricultural and food security, environmental, health and safety interventions) into community to improve crop productivity and food security and reduce poverty

Purpose: In this RFA, the purpose of funded projects under this scheme shall be to provide innovative evidence to promote the systematic uptake of proven interventions that a) **Improve soil health and fertility** b) **Improve crop productivity and adequate economic returns to fertilizer use;** c) **reduce environmental and health impact of fertilizers**

Process: The proposed process of conducting implementation research to address challenges of fertilizers shall include the following steps:

- **Step 1:** identifying, designing and developing evidence-based interventions appropriate for a specific ecological zone highly acidic or with high soil erosion effects
- **Step 2:** Adapting and piloting interventions through situational analysis, qualitative study assessments, identifying barriers and enablers that need be integrated as recommended strategies to improve soil fertility and crop productivity
- **Step 3:** Evaluate implementation of interventions to integrate recommended strategies
- **Step 4:** Scaling up interventions for future implementation and larger-scale adoption and later evaluation for long-term impact.

2.6 Projects should lead to novel Innovations

This RFA has 3 major requirements

- a) Funded projects are required to demonstrate the capacity to lead to novel innovations. Projects shall demonstrate novel approaches to addressing challenges of soil fertility in a specific zone, and interventions shall show proof of concept and with capacity to be scaled up
- b) The projects shall demonstrate strong, tangible and well measurable collaborations between academia and public research institutions/private sector/non-government organizations (40-50% of staff time on this project dedicated to the project) such as national universities, public research institutions, private sector or industry and non-government organizations (NGOs). A strong collaboration with wide range institutions demonstrated by letters of support and curriculum vitae of experts involved as well as each co-investigator's roles is required.
- c) Funded projects shall demonstrate that they are large scale and with collaborations between national scientists and globally renowned experts in the field. Large scale projects that include multi-sectorial and multi-disciplinary are encouraged.

Collaborations may focus in any of the following:

- Implement studies to address identified needs and gaps through use of emerging technologies and innovative approaches to enhance innovation creation, development and transfer;
- Identify R&D ideas that have commercialization & technology absorption potential to address the identified gaps under soil fertility and management;
- Implement R&D projects whereby researchers (both from academia/ Public research institutions-industry/ NGOs partners) will be hosted for at least 40-50% of time effort at industry to access and utilize the existing industry infrastructures, expertise, facilities, resources and trainings envisioned;
- Promote R&D knowledge transfer and best practice with additional 40-50%-time effort dedicated to R&D (*joint mentorship, collaborative and guided data measurement experiences, simulation, work pairing, dissemination of data findings through periodic seminars*) and sharing between researchers from both universities and industry;
- Produce preliminary data that supports demonstration of proof of concept/principle of the research innovative idea, to determine viability of the idea to be tested and supported for scaling up of the projects;
- Utilize preliminary data to assure scientific team, leaders at universities and research institutions, industry managers and stakeholders that the research idea is worth pursuing further to inform and enhance its practical impact;
- Ensure that researchers (both from academia-industry partners) hold joint regular and meetings to share the update and progress of the studies as part of 40-50%-time effort justification. These studies require that mandatory weekly and monthly meetings take place, and will be evaluated by the grantor as part of monitoring and evaluation (M&E).

2.7 Expected outcome

This RFA on research implementation and Innovative Interventions to existing challenges of fertilizers in Rwanda is expected to contribute to the following:

- Increased quantity and quality of locally produced fertilizers (organic fertilizer, bio-fertilizers)
- Improved availability and access to smarter and environmental friendly fertilizers
- Improved adequate supply of all essential nutrients for a given specific crop that results in increased productivity and improved economic returns to fertilizer use
- Improved research and innovations for fertilizer industrial growth
- Improved safe and efficient use of fertilizer nutrients
- Increased joint research projects and collaboration at local, national, regional and international levels. Improved quality of the research for impact. Improved skills for research management, M&E and implementation

2.8 Eligibility Criteria

The applicants shall abide with the following eligibility criteria:

- i. The Principal Investigator (PI)/Program Director (PD) must be any scientist in Rwanda with a MSc or PhD Degree in relevant field. The PD/PI and research team shall be from multi-sectorial and multi-disciplinary areas, and from strong academia, research, private sector/industry, and non-for-profit institutions who shall form partnerships with global renown experts in the field;
- ii. The PI/PD must be affiliated with: Higher learning institutions (HLIs), Universities, research institutions, or private sector/industry in Rwanda; Non-for-profit organizations in Rwanda in partnership with any HLIs/ universities, research

- institutions or private sector or industry in Rwanda. Proposals will be implemented at any of HLIs/ universities, research institutions or private sector or industry in Rwanda;
- iii. The private sector/industry/non-for-profit organizations must be registered in Rwanda with proof of registration
 - iv. The applicants shall demonstrate a partnership from at least 2 institutions one in Africa or global and at least one in Rwanda
 - v. The composition of the project team shall be at least 30% of women;
 - vi. Applicant(s) (PI and Co-PIs) must provide **support letter from their primary university, research institute or R&D company** where the research project will be carried out. The letter shall state a) support by head of institution, b) justification of employment to applicant PI/PD; c) **support applicants** and offer them time to work on this project for the duration of the project;
 - vii. Research team members must provide commitment letters.
 - viii. Applicants from Academia, research should indicate the collaborator and the company or private company to collaborate with and vice versa applicants from industry should indicate the collaborator from academic institution, and this shall be justified through letter of support;

Applicants are encouraged to consider the following other eligibility areas:

- Applicants are encouraged to seek and present evidence of partnership and contribution from private sector in terms of resources (not necessarily financial or monetary value) such as office space, didactic support, office phone, private sector staff support, vehicle and other logistics needed for the research.
- Although not a requirement for RFA, applicants are encouraged to broaden opportunities through partnerships, which may co-fund proposed research activities. This would serve as a gateway for Rwanda to participate in many innovation research activities and partnerships.
- Potential applicants are strongly encouraged to form tripartite global north-south partnerships (Europe/US/Asian-Pacific- Africa partnership) in collaboration with Rwandan institutions.

2.9 Grantor's roles and responsibilities

The Government of Rwanda through the National Council for Science and Technology (NCST) as the grantor shall ensure the following roles and responsibilities:

- Secure funding for awardees and abide with a signed agreement and ensure disbursement of funds installment as per terms of disbursement established in grant agreement.
- Monitor and evaluate the projects implementation progress through regular field visits and assessment of quarterly technical and financial reports submitted by the principal investigator (PI) using an M&E tool developed and agreed upon by researchers.
- Interim reviews shall be used to provide guidelines to support progress of the projects, and shall be applied as a useful instrument to ensure that progress is on track and to take corrective actions when necessary, including a possible termination of the agreement.
- Regularly communicate the host institution leaders, PI and the research team through joint meetings, e-mails, letters and other forms of communication to guide and agree on best ways to implement the projects.
- The grantor shall set up merit-based mechanisms such as independent peer review for assessment of the research output (objective metrics of evaluation) to determine research projects.

- Monitor researchers time effort dedicated to promotion of R&D knowledge transfer and implementation of best practices, with mandatory 40-50%-time effort dedicated to R&D time effort (through *joint mentorship, collaborative and guided data measurement experiences, simulation, work pairing, dissemination of data findings through periodic seminars and community outreach activities*) and sharing between researchers from both universities and industry.

3. Peer Evaluation Process and criteria

3.1 Evaluation process and team composition

The process of evaluation shall start with administrative checks for eligibility criteria. Ineligible applications shall automatically be disqualified.

Applications that are deemed relevant and innovative will be forwarded to the external peer review stage. An independent review committee with expertise in areas highlighted in this call shall be appointed by NCST to evaluate all eligible applications.

A committee will be composed by 3 reviewers per application, and the scores will be calculated to obtain an average score for each application.

The composition of the three (3) reviewers shall be least one (1) reviewer from industry and one (1) from outside Rwanda.

Through RIGMS (Research and Innovation Grant Management System) the appointed and independent reviewers and researchers shall be anonymous to provide opportunities for better objectivity in the review process.

The reviewers will provide quantitative scores and qualitative information describing rationale for the scores provided to each grant, which will be shared through RIGMS to each of the applicants.

3.2 Review Process

The review committee shall consider the following criteria for applications submitted, and applications shall be evaluated based on scientific and technical merit through a rigorous review process.

In this case, the following are important review criteria:

- Applications shall endeavor to promote research collaboration between academia, research and industry/private sector.
- Through novel findings, knowledge creation and deepening, findings shall demonstrate value addition of new products or services to improve the wellbeing and quality of life for African community.
- Applications should demonstrate a high potential for impact on advancement of local production and value addition in Rwanda. Proposals shall have the potential to demonstrate innovation that will result into novel products, services that will eventually result into start-ups.

- Proposals should demonstrate a potential for scale and sustainability after the proof-of-concept is established.
- Proposal should show how monitoring and evaluation plan is designed to demonstrate proof-of-concept of the idea by the end of the project.
- Proposals should sound technically feasible within the grant funding and timeline.
- Proposals should demonstrate a clear plan for the project and results dissemination to the target populations and communities;
- The PI and the scientific team shall be experienced to carry out the proposed project.

In general, the research projects under this RFA funding shall demonstrate findings that will result into community transformation by bringing positive qualitative change in people's lives. The successful research proposals that fulfill the administrative requirements will be submitted to reviewers for technical evaluation. Each research project will, independently, be reviewed by 3 reviewers.

The aspects to be considered in the selection step include:

- **Alignment to areas of soil fertility and management** shall be required to maximize potential for impact
- **Feasibility** (work plan, project organization, project scheduling and timelines)
- **Scientific merit** of the proposal (including the literature review, objectives, methodology, novelty, scientific contribution, multidisciplinary aspects, industry collaboration)
- **Experience and competence** of the PI and project team shall demonstrate experience in carrying experimental development studies **Review standards:** The projects will be screened for administrative compliance with criteria indicated in this RFA. An independent review committee composed of 3 members with a broad expertise will be assigned to evaluate the submitted proposals that meet administrative screening.

The final selection will be based on the recommendations of the review committee criteria underneath. Reviewers will consider each of the review criteria below and award scores equally to determine scientific merit of the following areas: a) Significance b) Approach c) Innovation, d) investigators competence e) and f) Research environment.

a. Significance

Provide a description of how the study addresses important problem or critical barrier of fertilizers in soil fertility and management. Are there any prior research findings that serve as the key basis and support for the proposed study to make it rigorous?

If the aims of the proposed project are achieved, how will scientific knowledge, technical capability, and or findings inform policy and practice to improve Rwandan society? How will successful completion of the aims change the concepts, methods, technologies, services, or interventions that drive related STI field?

b. Approach

Describe how the proposed study strategy, methodology and analyses are appropriate for the specific aims of the project. Describe a strategy to support your study methodology and how to address any weaknesses in the rigor of prior research that serves as the key support for the proposed research project. Please present potential problems, alternative strategies, and benchmarks for success of the proposed study.

For any project development, justify how the strategy to establish feasibility will particularly manage risky aspects. Describe details of research variables justified in terms of the scientific goals and research strategy proposed. Please provide insights into data management and analysis. Describe a strategy to manage any research risks anticipated.

c. Innovation

Describe how the proposed research study findings may present novel or state-of-the-art findings as a contribution to the scientific field, and whether your findings may lead to development of new products or services to advance national agenda for transformation.

Describe how the current study is broad enough and seek to shift current practice paradigms by utilizing novel/ground breaking theoretical concepts, approaches or methodologies, instrumentation, or interventions to contribute to value addition, improved quality of products or services, improve national industrial development and wellbeing of Rwandan society.

d. Investigators' competence

Describe how the main project director/ principal investigator (PD/PI) is well suited scientifically to successfully implement the project. Do the PDs/PIs and co-investigators have scientific track-record of doing similar studies, and do they have appropriate managerial and scientific experience and training required? Have the PDs/PIs and co-investigators demonstrated ongoing scientific record of accomplishments that have advanced their field(s)? Describe how the composition of investigators is multi-disciplinary enough from variety of teams: a) academic-industry/private sector; b) multi-disciplinary complementary scientific and leadership teams and c) national, regional and internationally recognized/renowned experts.

Describe how the project collaborative team and co-investigators have complementary roles and responsibilities with integrated expertise for added value. Please describe how the team will be coordinated to ensure smooth implementation of the project. Is the leadership approach, governance and organizational structure appropriate for the project? Please describe how the leadership governance will ensure good management for optimal internal controls and accountability of resources for the study project, as well as track record of high quality of institutional audit.

Describe institutional procedure and processes for project inputs, verifications, approvals and M&E of scientific and/or resources that will lead to suitable outputs and long-term outcome and impact of the project.

e. Research Environment

Describe how the scientific research environment in which the study will be done contributes to high probability of success. Describe how adequate are the available or current institutional equipment and physical resources for the investigators to carry out this study, and indicate whether additional equipment will be required. Describe how the project benefits from unique features of the current scientific environment, or collaborative arrangements. Is there evidence of institutional support for this project to build sustainable research capacity through utilization of the proposed study findings.

3.3 Evaluation criteria

Each application will be evaluated and rated on the basis of the evaluation criteria outlined below. The criteria listed are closely related and are considered as a whole in judging the overall quality of an application.

Criteria	Description	Marking
Relevance and significance	The proposal should demonstrate how the study will contribute to sustainable innovation and product and or service development. Statement of the problem and justification of the study should be well elaborated to justify potential for innovation to address challenges in areas of soil fertility and management. Goals and objectives stated shall be clear and measurable, and the pathway to outcome and impact for innovation shall be well defined.	10
The proposed research project should be experimental development design, with the potential to lead to product or service development, and the potential for commercialization of products of services and job creation through scientific and technological excellence and Innovation	The proposal should clearly define the uniqueness of the research idea, product or service to be developed addressing specific community scientific challenge or need in areas of soil fertility and management. The proposal should clearly define the quality and originality/novelty of the innovative idea, that will lead to product or service to be developed , and its future potential for commercialization. The applicant shall demonstrate how the research will contribute to job creation.	25
The research project should describe clear community outreach activities or strategy for disseminating project findings and Demonstrate the potential to promote the systematic uptake and adoption of research findings	The proposed research shall demonstrate strategies for transferring research outputs and demonstrate evidence of research findings uptake and adoption to reduce the persistent gap between research and practice	20
Investigator's capacity, qualification and record on previous grants, Partnerships and collaborations	Investigators must have and demonstrate expertise in the stated fields through prior research experience and collaboration , and they must show the ability to undertake the research. The proposal must demonstrate the contribution of the participating institutions and clearly define the roles of each partner towards ensuring research excellence and innovation capacity development.	10
Quality and Feasibility of the project Idea	The project idea and feasibility is well developed , with details about how the project activities will be carried out and outcomes achieved. Indicate how ethical considerations and	12

	issues expected and arising from research (if any) will be addressed	
Budget and timeline	The budget justification is detailed. Costs are reasonable in relation to the proposed activities and anticipated results. The budget is realistic, accounting for all necessary expenses to achieve proposed activities within the set timeline. Using the provided template and guidelines should be respected.	7
Monitoring and evaluation plan	Applicant must demonstrate ability to measure the project success against key indicators and provided milestones to indicate progress toward goals outlined in the proposal. The project includes output and outcome indicators and shows how and when those will be measured.	8
Sustainability	Project activities are likely to have a positive impact after the end of the project and funding for continuation of the project if needed must be sought from other funding bodies.	8

4. Application guidelines

4.1 Required documents

- Completed online application form obtained from RIGMS
- Completed proposal template
- Activity plan
- Proposed Budget
- Justification budget for personnel work at industry
- CVs of the PIs, Co-PIs and team, and their relevance to the project
- Commitment letters of team members merged into a single pdf file
- Support letters for PIs and Co-PIs provided by head of institutions
- Proof of registration for private companies/NGOs
- List of Partners and their contact phone and e-mails
- Letter from industry/private sector showing commitment of funding support in terms of resources or funds
- Team composition

4.2 How to apply

- Proposals shall only be in English language.
- Applications can ONLY be submitted online through the Research and Innovation Grants Management System (RIGMS). The applicant must create an account on RIGMS where application templates are available. However, if you have questions or require further information, you can submit your queries via email to: research@ncst.gov.rw
- Applications not meeting the minimum requirements and eligibility criteria will be automatically disqualified.

4.3 Plagiarism Check

NCST only accepts submissions of original proposals and plagiarism in any form will not be accepted. All submitted proposals will be subjected to plagiarism checks and hence liable to rejection once identified.

Any text taken verbatim from other sources needs to be identified using quotation marks and proper references. Applicants are requested to pre-check their proposals for plagiarism before uploading to avoid any repercussions at a later stage.

5. Grant Agreement

If selected, a trilateral written agreement is drawn up between NCST, the research scientist grantee and the host institution. The agreement consists of the provisions that are to be fulfilled by the parties in regards with implementation of the project.

6. Important Dates

S/N	Steps	Timeline
1	Call Open	14 th March 2023
2	Deadline for Submission (call closes on)	17 th April 2023
3	Pre-selection (administrative check) ends on	25 th April 2023
4	Review process & compilation of selection report	31 st May 2023
5	Approval of the selection report	23 rd June 2023
6	Notification of outcome date	30 th June 2023
7	Award Ceremony and signing agreements	07 th July 2023
8	Disbursement of funds & Start of project implementation	14 th July 2023

7. Important Administrative Information

We strongly recommend that you do not wait until the deadline but submit the application as early as you can to enable us to process your application as quickly as possible.

8. Guidelines for acceptable Budget Expenditures

This document provides a summary of allowable expenditures under this RFA as funded through the National Research and Innovation Fund (NRIF). Only costs (eligible expenses) related to the project activities are to be included in the project budget. Institutions/organizations, industries receiving funds for execution of the research project shall assume financial and legal administrative responsibility for the execution of the project, and shall demonstrate good governance and accountability practices.

Eligible funding:

1. The following are important funding and budgetary information:

- a) The following items will be **supported under this grant**: *eligible research running costs, justifiable conferences, research field visits, scientific publications, approved lab equipment, and approved consumables.*
- b) The following items are **explicitly excluded** from funding of this project: *funding of student tuition fees as scholarships, postdoctoral tuition fees/fellowships, vehicles, infrastructure/building renovation, heavy equipment or land purchase/acquisition.*

2. Equipment, Supplies and Materials - Includes all equipment, items, consumables to be purchased, fabricated, or hired that will be used during the course of the project.

3. Research expenses - Includes costs related to carrying out the research activities and specific costs towards disseminating research findings through workshops.

4. International Travel - Includes mode and cost of transportation, costs for accommodation, meals, airfare, per diem, and related expenses for regional and international travels.

5. Training – The PI/PD may include short term training related costs not exceeding 2% of annual grant budget. Post graduate (Masters and PhD level) students may work on this project, but no expenses shall be expected for student related tuition training costs as part of undertaking this project.

6. Personnel allowances: The PI/PD may include stipend allowances as facilitation funds to facilitate the PI and Co-investigators for research project coordination and management of the grant while working at universities and research institutions. This budget should not exceed 5% annually of the total grant budget.

7. Additional Personnel Funding while working at Industry: The PI/PD may include additional stipend allowances for time effort (40-50% of his research time) dedicated by the PI/PD and the research team while working at industry or at a private sector premises. The grantor i.e. NCST will periodically monitor this indicator on percentage time effort at industry and monitor and measure R&D knowledge transfer and implementation of best practices. If 40-50%-time effort was budgeted and dedicated to R&D time effort, NCST will monitor and measure frequency and proportion of % effort at industry (on *joint mentorship, collaborative and guided data measurement experiences, simulation, work pairing, dissemination of data findings through periodic seminars and community outreach activities*) as % of overall time effort for the project.

8. Consultant - Includes expenses related to acquiring consultancy services for a specific activity(ies) within the Project whereby the project team members are lacking the expertise to carry out that activity.

9. Overhead - Includes the overhead budget cost not exceeding 3% of the overall total grant budget, which is provided to the main applicant's host institution.

10. Indirect Costs - Includes administrative costs not directly related to the research (e.g., communication, acquisition of stationeries, etc.).

Disclaimer: The items listed above are not exhaustive. Therefore, any budget items submitted are subject to NCST's final decision, and may be approved or rejected at NCST's discretion.