



Establishment of Grand Challenges Rwanda, an Initiative to Foster Research and Innovation Excellence

NCST Quarterly Newsletter - Issue No: 008 June 2023

PREAMBLE: Grand Challenges (GC) Rwanda was successfully launched on May 18th and 19th, 2023, marking a significant achievement by the National Council for Science and Technology (NCST) in partnership with various national and international stakeholders. Grand Challenges Rwanda is designed to inspire and mobilize the research community, policymakers, industry leaders, environmentalists and society at large to work together towards transformative solutions through quadruple and quintuple innovation helix framework. This Newsletter focuses on the key initiatives driving the establishment of GC Rwanda. These initiatives encompass fostering partnerships, facilitating research and development funding, and supporting groundbreaking innovative research projects leading to products and services as unique solutions in areas of Food Security and Modern Agriculture, Life and Health Sciences and Resilient Environment and Natural resources.

INSIDE THIS ISSUE



The official Launch of Grand Challenges Rwanda by the Guest of Honor, Dr. Valentine Uwamariya, Minister of Education, Rwanda



High level dignitaries who attended GC Rwanda Launch Event on 18th May 2023



Hon. Minister of Education, Rwanda touring the exhibition booths: Inter-University Council for East Africa Booth



Offering Grant Writing workshop certificates to participants on 24th May 2023

Highlights of the Launch of Grand Challenges Rwanda on 18-19 May 2023

Louis Sibomana¹, Marie Chantal Cyulinyana¹, Anselme Sano¹ and Jean-Louis Niragire¹

¹National Council for Science and Technology, Rwanda

Background

Grand Challenges (GC) Rwanda was successfully launched on May 18th and 19th, 2023, marking a significant achievement by the National Council for Science and Technology (NCST) in partnership with various national and international stakeholders. This momentous event marked a significant milestone for innovation and progress in Rwanda.

The objective of GC Rwanda is to provide support to the most innovative scientists and innovators in Rwanda, enabling them to collaborate with partners in Africa and across the globe. This collaboration aims to facilitate research initiatives that drive innovation in addressing the most pressing developmental challenges in Rwanda and Africa as a whole¹. It further aims to foster partnerships, facilitate research and development (R&D) funding, and support groundbreaking projects in innovative research.

Rwanda has joined a growing global network of innovators, making a valuable contribution to the collective efforts of the Grand Challenges community worldwide. As a result, this collaboration will yield unique products and services, while fostering innovation through research exchanges, the sharing of best practices, and tapping into the knowledge and expertise of global and African researchers. Grand Challenges place a priority on funding opportunities for exceptional ideas from researchers and innovators engaged in groundbreaking and innovative research projects that lead to unique solutions in the form of products and services. The emphasis lies in conducting research in partnership with industries, companies, and academic institutions, utilizing highly regarded laboratories, industries, innovation hubs, and similar environments. Such approach facilitates the transfer of knowledge,

technology, and strengthens the bonds between collaborators from around the world and Africa.

The GC Rwanda program will leverage and expand upon the existing initiatives supported by the National Research and Innovation Funds (NRIF) in order to enhance excellence of national research, development (R&D), and innovation. This will be achieved through scaling efforts and establishing connections with African researchers and the Rwandan Diaspora. The program will also strive to engage renowned experts from diverse scientific disciplines to conduct research in Rwanda. Moreover, GC Rwanda will attract various partners in the research and academia sectors, as well as philanthropists funding R&D and innovation. It will actively seek collaboration with Rwandan Diaspora scientists, globally recognized scientists, and prominent chairs to foster improved R&D excellence within Rwanda².

Launch of Grand Challenges Rwanda

NCST in partnership with national stakeholders, has coordinated the establishment of Grand Challenges Rwanda. This initiative has been launched in collaboration with Grand Challenges Africa through the Science for Africa Foundation (SFA) and the African Union Development Agency - New Partnership for Africa's Development (AUDA-NEPAD).

The overall theme of the GC Rwanda official launch was **“Supporting research and development (R&D) through cooperation to promote excellence and scale of evidence-based innovations”**. This theme emphasized on four key areas (**Figure 1**).

¹<https://www.ncst.gov.rw/index.php?eID=dumpFile&t=f&f=66020&token=c7a0d1c380ad6789b0fb85b2b9bda2f50174d152>

²<https://www.ncst.gov.rw/index.php?eID=dumpFile&t=f&f=68634&token=1474591691791fad7926ae791e9b9fd07280bedd>



Figure 1: Four Key areas GC Rwanda Launch Focused on

The launch of Grand Challenges Rwanda brought together a distinguished group of national, regional, and global participants. Among the attendees were renowned keynote speakers, policymakers, development partners, academia, researchers, and representatives from the industry. This event provided an excellent platform and opportunity for networking, idea sharing, and establishing further partnerships and collaborations among the participants.

The launch of Grand Challenges Rwanda featured a series of planned activities³, including:

- The official launch of Grand Challenges Rwanda
- Keynote speeches delivered by notable speakers
- Panel discussions on relevant topics
- Signing of a Memorandum of Understanding (MoU) between NCST and SFA
- Publication of a Request for Proposal (RFP)
- Exhibition showcasing STI (Science, Technology, and Innovation) projects

³<https://www.ncst.gov.rw/index.php?eID=dumpFile&t=f&f=68860&token=c2777469966233c023259c4293e5e335936b3584>

Opening remarks



Figure 2: NCST ES delivering his welcome remarks

The launch of GC Rwanda began with a warm welcome from Dr. Eugene Mutimura, the Executive Secretary of the NCST (**Figure 2**), who delivered his opening remarks. Dr. Mutimura expressed his gratitude to all participants for their invaluable contributions to make this event happen.

He also extended his appreciation to the committed partners and stakeholders who had invested considerable efforts in the preparations leading up to the launch, including the Rwanda Biomedical Center for their involvement in the RTV show on the establishment of GC Rwanda. He also acknowledged the valuable contributions of AUDA-NEPAD and SFA in the preparations as well as the local organizing committee for the exceptional work in ensuring the success of the event.



Figure 3: Prof Aggrey, AUDA –NEPAD delegate delivering his congratulatory message during the opening ceremony

Moreover, the opening ceremony featured various speeches, including those of the CEO of SFA and a delegate from AUDA-NEPAD, Professor Aggrey, who conveyed their congratulations to the Rwandan government for achieving this significant milestone (**Figures 3 and 4**).

Their messages highlighted the importance of the event and the commendable progress made in Rwanda's science and technology sector. In particular, Prof. Aggrey (**Figure 3**) highlighted that "Effective policy formulation by government is critical in supporting revolutionary science innovations. Creating enabling environments for African led science will encourage investment, collaboration & knowledge sharing towards sustainable development". The CEO of SFA, Dr. Thomas Kariuki (**Figure 4**) stated that as African stakeholders we need to speak in one voice, it ensures that our priorities are defined at home & not driven from outside. This helps us secure funding support for the near future until local economies can put more investment in R&D"



Figure 4: SFA CEO Dr. Thomas delivering his remarks during the opening ceremony

Moreover, Honorable Madalitso Kambauwa Wirima, the Minister of Education of the Republic of Malawi, shared insights into the scientific advancements and initiatives taking place in Malawi (**Figure 5**). She expressed her admiration for Rwanda's accomplishments and emphasized the purpose of her presence at the launch, which was to learn from Rwanda's experiences as they were preparing to launch GC Malawi in October 2023. In her remarks she noted that Grand Challenges are designed to inspire and mobilize the research community, policymakers, industry leaders, environmentalists and society at large to work together towards transformative solutions through quadruple and quintuple innovation

helix framework. And just like Rwanda, Malawi has the ambition to leverage the transformative potential of Science, Technology, and Innovation (STI) to position herself as a globally competitive knowledge-based, innovation-led economy.

Hon. Minister Wirima concluded her speech by congratulating Rwanda for the successful event and its remarkable achievements.



Figure 5: Hon Minister of Education of Republic of Malawi Delivering her remarks during the opening ceremony

Official launch of GC Rwanda

On 18th May 2023, Kigali, Honorable Dr. Valentine Uwamariya, Minister of Education Rwanda honored the official launch of Grand Challenges Rwanda (**Figure 6**). In her remarks, Dr. Uwamariya, emphasized the commitment of the government of Rwanda to supporting research and innovation that address key development challenges affecting our nation. She stressed that there are definitely several emerging challenges affecting the Rwandan and African people that research should address.



Figure 6: Hon Minister Dr. Uwamariya Velentine delivering her opening remarks as the Guest of honor

“ In Rwanda, we have witnessed the catastrophic effects of land and mud slides that resulted in deaths of our people, and loss of property. These are effects of climate change, and lack of resilient environment. Other key priorities in Rwanda and Africa include food security and modern agriculture as well as health and life sciences. We have all witnessed the catastrophic effects of COVID-19 pandemic. These development challenges are cross-cutting in Africa, and globally.

However, these challenges affect regions differently, and we believe Africa needs better contextualized innovative solutions to meet the needs of our people ”



Figure 7: Official Launch of Grand Challenges 18 May 2023

Along with the official launch of GC Rwanda, on 18th May 2023, Kigali, Honorable Dr. Valentine Uwamariya, Minister of Education Rwanda together with SFA CEO, Dr. Thomas Kariuki (**Figure 7**) officially opened the GC Rwanda. On the same day, the Signing of a Memorandum of Understanding (MoU) between NCST and SFA took place (**Figure 15**). The aim of this MOU is to set up and operate a partnership between NCST and SFA modeled after the Grand Challenges Explorations (“GCE”), involving launching calls dedicated to Rwandan and African Investigators and to implement research that leads to innovation in Rwanda.

It has been noted that the necessity for mutual cooperation for the development of the African

research ecosystem through funding excellent research and innovation ideas; enabling interdisciplinary collaboration among researchers and building and reinforcing environments that are conducive for scientists to thrive and produce quality research that generates new, locally relevant knowledge is very crucial.

Keynote speeches and panel discussion sessions

Kedest Tesfagiorgis,
Deputy Director, Global Partnerships
and Grand Challenges,
Bill & Melinda Gates Foundation



Prof. Alfred Bizoza,
Professor of Agricultural Economics from
the University of Rwanda (UR)



Dr. Louis Kayitalire, M.D.
Chief Medical Officer, F-star Therapeutics,
Cambridge-UK and Cambridge-US



Dr. Vincent Okungu,
Career Health Economist and a
researcher at University of
Nairobi



Figure 8: Panel discussion on Prospects for Research and Innovation Development in Africa

During the launch of GC Rwanda, four keynote speeches were delivered, each focusing on a key area of interest.

Ms. Kedest Tesfagiorgis (Deputy Director, Global Partnerships and Grand Challenges, Bill & Melinda Gates Foundation) delivered the first keynote speech on Global Grand Challenges Achievements and Prospects. This was followed by a panel discussion on Prospects for Research and Innovation Development in Africa, with a particular emphasis on lessons learned from Grand Challenges National Programs in Ethiopia, South Africa, and Rwanda (**Figure 8**).

The second keynote speech, presented by Prof. Alfred Bizoza, explored the Role of Research and Development (R&D) and Innovation in Economic Growth and Prosperity of Nations. Following this, a panel discussion was held to discuss the prospects



Figure 9: Panel discussion on R&D and Innovation In Economic Growth

for research and innovation development in Africa, drawing insights from experiences in other countries (**Figure 9**). Dr. Louis Kayitalire delivered the third keynote speech, focusing on Prioritizing Research in Vaccine and Pharmaceutical Products and Services in Africa.

This was followed by a panel discussion dedicated to exploring the same topic, allowing for further insights (**Figure 10**). The fourth and final keynote speech was addressed by Dr. Vincent from the University of Nairobi on the Achievements, Challenges, and Prospects of Research and Innovation Development in Africa. This keynote speech was followed by a panel discussion on Prospects for Research and Innovation Development in Africa, with valuable lessons shared by African innovators from Kenya and Rwanda (**Figure 11**).



Figure 10: Panel discussion on Prioritizing research in Vaccine and Pharmaceutical Products in Africa

These keynote speeches and panel discussions provided a platform for thought-provoking discussions, knowledge sharing, and the exploration of potential future directions in research and innovation for Africa, specifically focusing on Rwanda's role and contributions. One of the questions to the panelist was; what can African leaders and funding organizations do differently to leapfrog the gap of low R&D and Innovation landscape (i.e. invest more in R&D, human resources development, greater tech infrastructure, to lead to increased innovation, productivity, boost your business, to have a competitive advantage?



Figure 11: Panel discussion on Lessons learnt from African innovators from Kenya and Rwanda

Exhibition during the launch of GC Rwanda

During the launch of GC Rwanda, various institutions participated by showcasing their projects. These institutions included UR-ACIoT, UR-ACEDS, RBC, icipe, IUCEA, and three projects funded by NCST Rwanda. Among them, IUCEA collaborated with GIZ to present and showcase their research projects.

One project focused on the Smart Tanks Juice Level Monitoring System, using Raha Beverages Company in Tanzania as a case study. Another project centered around the Mobile-based Tickets Tracking Helpdesk System for Technical Support and e-payments, with Habari Node in Tanzania as the case study. These initiatives were supported through the efforts of the EAC's Centre of Excellence.



Figure 12: Hon. Minister of education Visiting the exhibition booths

During the exhibition, Prof. Gaspard Banyankimbona, the Executive Secretary of IUCEA, engaged in discussions with Dr. Valentine Uwamariya, the Rwandan Minister of Education, who visited their exhibition booth. Prof. Banyankimbona expressed his appreciation for the opportunity given to IUCEA and GIZ to stay updated on initiatives and best practices for unlocking innovation potential on the African continent.

The discussions also focused on exploring mechanisms to leverage opportunities for research and innovation collaboration, with the aim of supporting economic growth in the East African Community (EAC) region. The participation of these institutions and the fruitful discussions held during the exhibition provided a valuable platform for knowledge exchange,

showcasing innovative projects, and fostering collaboration to advance research and innovation in the region. icipe, the Regional Coordination Unit for the Regional Scholarship and Innovation Fund (RSIF), expressed their delight in participating in the Launch of Grand Challenges Rwanda.

They were actively involved in a panel discussion and had an exhibition booth to showcase their research and innovations.



Figure 13: Hon Minister of Education, Rwanda visiting icipe exhibition booth during the GC Rwanda Launch

During the GC Rwanda launch, participants were encouraged to engage with icipe's displayed research and innovations at their exhibition booth. This provided an opportunity to highlight the ongoing scientific collaborations between

icipe and Rwanda, as well as demonstrate several scalable technologies developed by icipe that hold relevance for Rwanda. Additionally, it served as a platform to present new prospects for collaboration between icipe and Rwandan scientists in pioneering research areas. The event and exhibition served as a valuable platform for icipe to strengthen its ties with Rwanda, showcase its contributions to scientific advancements, and foster collaborative partnerships for further innovation.

Conclusion

The establishment of Grand Challenges Rwanda is envisioned as a sustainable program to enhance the national excellence of research and development (R&D) and innovation. The program aims to attract a diverse range of partners from the research and academia sectors, as well as philanthropists supporting R&D and innovation. Collaboration with Rwandan Diaspora scientists, renowned global scientists, and influential figures will further contribute to improving R&D excellence within Rwanda. This enhanced excellence, resulting from expanded collaborations with various partners, will position Rwanda as a hub for innovation and economic growth, not just within Africa but also on a global scale.



Grand Challenges Rwanda: Towards sustainable partnerships to promote research and innovation excellence for economic growth and prosperity

Diana Umulisa¹, Eugene Mutimura¹, Benjamin Nabaana¹

¹National Council for Science and Technology, Rwanda

Background

Partnerships to promote research and development (R&D) are interactions of R&D-related programs between all key stakeholders in the government, private sector (industry), non-governmental organizations (NGOs), higher learning (universities) and other research institutions. The focus is specifically on partnerships between research output producers (for example research institutions and universities) and users (for example private sector or industry). A framework for such partnerships aims at achieving impact within the dynamics of real-world policy implementation engagement and guidelines.

Rwanda has a strong commitment to research and innovation. The government has made significant investments in the science, technology, and innovation (STI) sector, and has established a number of institutions to support research and innovation. In recent years, Rwanda has also made great strides in building international partnerships in STI. One of the most important initiatives in Rwanda's STI landscape is Grand Challenges Rwanda (GC Rwanda). The launch of GC Rwanda on 18-19 May 2023 was attended by high level dignitaries including Minister of Education, Republic of Rwanda

Dr. Valentine Uwamariya and Minister of Education, Republic of Malawi Hon. Madalitso Wirima Kambauwa. There were also other dignitaries at the launch of GC Rwanda (**Figure 14**).



Figure 14: Minister of Education, Republic of Rwanda Dr. Valentine Uwamariya and Minister of Education, Republic of Malawi Hon. Madalitso Wirima Kambauwa together with other dignitaries at the launch of GC Rwanda.

Grand Challenge Rwanda Vision

Grand Challenge Rwanda is committed to sustainable partnership with a wide range of partners to develop, accelerate and sustain innovations in order improve the quality and standard of living for national and African citizens. The goal is to ensure that R&D and innovative solutions address national and continental challenges leading to economic growth and prosperity. As such a memorandum of understanding (MOU) was signed between National Council for Science and Technology (NCST) and Science for Africa Foundation (SFA) during the launch of GC Rwanda on 18th May 2023 (**Figure 15**).



Figure 15: Executive Secretary, NCST and CEO SFA signing an MoU for partnership

The purpose of this MOU is to set up an operating partnership between Rwanda NCST and SFA that coordinates GC Africa programs to enhance research programs between Rwandan and African investigators focusing on innovation growth in Rwanda, and Africa. Therefore, GC Rwanda will continue to explore far-reaching partnerships and cooperation with all relevant stakeholders. Strong and well thoughtful partnerships will be solidified with national and global research institutions, universities, business sectors, funders, philanthropists and other stakeholders to address national challenges under research priorities areas, to create demand for relevancy for innovations pipeline. GC Rwanda will ensure mutual win-win partnerships with the following approach to success:

- 1. Cooperate with existing partners and beneficiaries:** GC Rwanda shall maximize cooperation with existing partners in Rwandan and African institutions through win-win approach so that all partners benefit from cooperation. These include but not limited to those working at various Universities, business sectors, policy institutions and researchers, scientists, innovators and others. GC Rwanda will join a Global Grand Challenges through a co-funding RFP on climate and health during the GC global annual meeting in Dakar-Senegal. This will give an opportunity to Rwandan researchers to collaborate with global scientists while tapping into broader research funding.
- 2. Leverage cooperation and collaborations with existing partners from public, private and non-for-profit organizations:** GC Rwanda will always endeavor to engage and cooperate with partners across all sectors and countries in Africa and globally. The goal shall be to leverage on existing efforts, success, research output and innovations attained to scale up results through wide dissemination of findings as well as engaging in novel ideas that potentially have public impact for national development.
- 3. Share resources and expertise for better and broader impact:** GC Rwanda will utilize and leverage on existing resources through Government of Rwanda funding to national innovation system i.e. institutions, human resource expertise, policy and frameworks that

support R&D and innovation growth. For instance, through NRIF over Frw 4.5. billions have been committed to funding various types of research, and through Rwanda Innovation Fund (RIF) managed by Rwanda Development Board (RDB) innovations are funded to be business ventures by providing them with resources as guarantee fund.

- 4. Growing reputation through results-based performance:** GC Rwanda aims at excellence and rapid growth, as well as good governance and accountability practices, GC Rwanda shall grow reputation. This shall support our collaborative advantage to build and maintain partnerships and broaden networks for impact. Rwanda has previously benefited from mutual partnerships between Rwanda NCST and AUDA-NEPAD. For instance, Rwandan STI Stakeholders have been trained on R&D tools and measurement through a partnership between NCST and AUDA-NEPAD to ensure results-based performance (**Figure 16**).



Figure 16: Rwanda STI Stakeholders being trained on R&D tools and measurement through a partnership between NCST and AUDA-NEPAD.

- 5. Leverage on Rwanda's Home-grown solutions:** Rwanda has attained some development and continues to work hard due to prioritization of home-grown solutions such as
 - ▶ **Girinka** – “One Cow per Poor Family” since 2006 with more than 183,614 cows distributed;
 - ▶ **Gacaca** – “traditional Gacaca courts that were revived as a way to prosecute millions of criminal cases that arose following the 1994 Genocide against the Tutsi”. Gacaca refers to the small community traditional gathering to discuss pertinent issues, over 1,958,634 cases handled in 6 years;

- **Mutuelle de Sante** – “community-based health insurance scheme” > 90% covered;
- **Imihigo** – “an ancestral cultural practice relating to performance contracts;
- **Agaciro Development Fund** – “Rwanda's sovereign wealth fund” set up to build up public savings to achieve: self-reliance; maintain stability in national economic shocks; accelerate socio-economic development

Unique investment to support R&D and innovation: GC Rwanda shall build on strong partnerships developed through unique investment in R&D and innovation ecosystem.



Figure 17: AUDA-NEPAD has partnered with NCST to provide technical support to the Rwanda STI ecosystem.

Several Centers of Excellence at University of Rwanda as well as support to renown Universities and R&D institutions have been established. These institutions in addition to strong STI Policy and other policy framework provide unique environment for innovations to flourish nationally, and also partner with colleagues globally to attain replicate findings to Africa’s challenges.

Again, NCST and AUDA-NEPAD have been collabo-

rating to provide technical support to the Rwanda STI ecosystem (**Figure 17**). The following are some of the key opportunities that ensures the sustainability of GC Rwanda:

- The growing global demand for STI: There is a growing global demand for STI, which provides Rwanda with an opportunity to export its knowledge and expertise.
- The increasing availability of funding: There is an increasing availability of funding for STI, which can help Rwanda to attract and retain top talent and build strong partnerships.
- The growing interest in Africa: There is a growing interest in Africa, which provides Rwanda with an opportunity to collaborate with international partners on research and innovation projects.

Conclusion

The Grand Challenges Rwanda initiative is a new and innovative program that has the potential to make a significant contribution to the development of Rwanda's research and innovation ecosystem. The program is built on the principle of sustainable partnerships, and it is committed to supporting research and innovation excellence with a potential to contribute to economic growth of Rwanda.

In addition to the benefits mentioned above, GC Rwanda also has the potential to:

- Increase the visibility of Rwanda's research and innovation ecosystem on the global stage.
- Attract new investment in Rwanda's research and innovation sector.
- Create new jobs and opportunities for Rwandans.

NCST and SFA Foundation Joint Request for Proposals: Innovative Frontier Technologies for Climate Resilient Agriculture, Food Security and Safety in Africa

Esperance Munganyinka¹, Simon Ndoria², Theogene Kayumba¹, Japhet Niyobuhungiro¹

¹National Council for Science and Technology, Rwanda

²Science for Africa Foundation

Overview

Grand Challenges Rwanda (GC Rwanda) is a Programme of the National Council for Science and Technology (NCST) initiated to prioritize funding opportunities to high-level quality ideas by researchers and innovators with exciting ground breaking innovative research projects leading to products and services as unique solutions in areas of:

- i. Food Security and Modern Agriculture
- ii. Life and Health Sciences
- iii. Resilient Environment and Natural resources

This first Request for Proposals (RFP), published on 18th May 2023 under GC Rwanda, is a joint initiative of NCST through GC Rwanda and Science for Africa (SFA) Foundation through Grand Challenges Africa.

Purpose of the RFP

The purpose of this grant is to provide funding to researchers and innovators to carry out research in Rwanda and Africa; broadening opportunities for collaboration between academia and private sector focusing on the use of frontier/emerging technologies for agriculture discovery and innovation towards food safety and security in Africa. The main Goal is to support the most creative scientists in Rwanda to implement

research that fosters innovation and promotes collaboration in solving the most critical development challenges in Rwanda and Africa.

The Challenge

This RFP considers innovative research and technological solutions to enhance food security and resilience in Africa. The proposed projects should be in alignment with focus on research and innovation growth that increases the continent and country's food security, while utilizing emerging technologies to increase for example agriculture productivity and efficiency and increasing exports and growing agro-processing industries.

NCST seeks to support integrated innovative solutions that combine scientific, technological and social aspects through multidisciplinary research collaborations. We strongly encourage collaborations as we believe that the boldest ideas can originate from a broad spectrum of players including research and academic institutions, private sector and non-profit organizations.

NCST is looking for seed grants that can be delivered within 18-24 months and address the objectives below.

- ▶ Promoting sustainable and resilient production systems for crops and animal

resources through modern agricultural technologies such as smart and precision technologies, next generation technologies, for increased food productivity, diversity, sustainability and climate resilience of agricultural production

- ▶ Promoting land husbandry technologies for soil health fertility and biomass management
- ▶ Promoting climate-smart solutions anchored in science, technology and innovation (STI) – including the use of precision agriculture and early warning systems to mitigate food instability
- ▶ Promoting climate Smart technologies and techniques for Post-harvest losses handling and management
- ▶ Improving agro-processing technologies for more nutritious food (fortification) and better food accessibility
- ▶ Strengthening Research and Innovation systems that promote high-potential livestock and aquaculture
- ▶ Promoting the use of new and emerging technologies such as artificial intelligence (AI) that have potential implications for the future of crop and livestock agriculture.
- ▶ Promoting data-driven agriculture as next frontier of crop and livestock agriculture

Eligibility Criteria

The call is open to Rwandan Researchers and innovators collaborating with African and international scientists, domestic organizations, including non-profit and not for profit-making organizations, international organizations, government agencies, research, and academic institutions. Applications from women-led projects and organizations are encouraged. Moreover, as a general rule the composition of the project team shall be at least 30% of women. Proposed projects should have the potential to lead to product or service development, and the potential for commercialization of products or services. Projects should also describe clear community outreach activities or strategy for dissemination so that the wider Rwandan/African community understands the project and its findings e.g. through Radio, TV and newsletters, etc.

Funding level and description

This call will fund seed grants at up to 100 Million Frw with a grant term of up to 18-24 months. We expect that seed funded projects with promising results will have the opportunity to apply for additional funding to build on initial success and transition to scale in future. In all cases, individual project budgets should be representative of the scope and magnitude of the proposed areas and carefully designed to get the best possible value out of the award.

Evaluation Process and criteria

Each application will be evaluated and rated based on:

- Relevance and significance
- The Research should demonstrate scientific and technological excellence and Innovation
- Demonstrate the potential for product/service development, job creation
- Investigator's capacity, qualification and record on previous grants, Partnerships and collaborations
- Budget and timeline
- Monitoring and evaluation plan
- Sustainability

Application Guidelines

The application is done through Research and Innovation Grant Management System (RIGMS). The call is accessible on the link: <https://www.ncst.gov.rw/news-detail/1st-rfp-under-gc-rwanda-innovative-frontier-technologies-for-climate-resilient-agriculture-food-security-and-safety-in-africa>. Potential applicants can learn how to login and use the Research and Innovation Grant Management System (RIGMS) on the following youtube link: <https://www.youtube.com/watch?v=yMG34wm-F6o&t=140s>



Grand Challenges Rwanda
Towards Research and Innovation Excellence

RFP: Innovative Frontier Technologies for Climate Resilient Agriculture, Food Security & Safety in Africa

- **Do you have an idea about a problem/ challenge that you are trying to solve?** 01
on development challenges affecting our society
- **What is your innovative solution to the identified challenge and expected impact?** 02
With potential collaboration in the region, Africa and beyond?
- **What is your plan for moving to scale and potential commercialization?** 03
- **Who do you need to partner with?** 04
Private sector/ Academia/ Industries?

 **+250781030798** | Apply at: rigms.ncst.gov.rw

Capacity Building in line with Launch of Grand Challenges Rwanda

¹Didacienne Mukanyiligira, ¹Felly Migambi Kalisa and ¹Amani Bugabo Faustin

¹National Council for Science and Technology

Background

The National Council for Science and Technology (NCST) in partnership with national, regional and international partners launched the Grand Challenges Rwanda (GCR) on 18th May 2023. The main goal of GCR is to support most creative scientists in Rwanda to collaborate with their colleagues in Africa and globally, to implement research that fosters innovation in solving the most critical development challenges in Rwanda and Africa.

On the other hand, successful implementation of the aforementioned programme will highly rely on competent researchers in order to conduct innovation led research for finding solutions to address social, economic and environmental challenges, as well as increasing research productivity, and stimulate competitiveness.

It is in this regard that, the National Council for Science and Technology (NCST) organized a three (3) days training workshop for grant proposal writing and management from 22 – 24 May 2023 in Kigali, Lemigo Hotel (**Figure 18**). The goal of this training was to equip the researchers who are potential applicants for the call mentioned above with the skills to develop and write effective and winning proposals.



Figure 18: NCST ES opening the Grant writing workshop

Training

The training was facilitated by Dr. Aliza Inbal from Israel and NCST Staff (**Figure 20 and 23**). Dr. Aliza Inbal is one of Israel's top experts in innovation

ecosystems for inclusive innovation. The participants benefited from her expertise and experience by increasing their skills and competencies to develop/write competitive winning research grant proposals and management of grants.

The training was attended by 31 participants from different institutions including University of Rwanda (UR), Rwanda Polytechnic (RP), NIRDA, RAB, UTAB, INES Ruhengeri and NCST. The trained participants are researchers and scientists from Academia (Public and private universities), research institutions, Private sector, NGOs with background in the areas of a) Food Security and Modern Agriculture b) Resilient environment and natural resources c) Local production and Value addition d) Digital services, Products and lifestyles which are two of the six national priority areas as defined in STI Policy.



Figure 19: Interactive session between participants and the Facilitator



Figure 20: Dr Aliza sharing some of key points of grant writing on day 2

Outcomes of the training

The goal of the training was to provide participants with the necessary knowledge, skills and tools to implement grant writing development and management in a systematic manner.

At the end of the training, participants were able to:

- i. Acquire hands-on skills on how to prepare and develop comprehensive and successful grant proposals;
- ii. Initiate the development of grant proposals to respond to the RFP Grand Challenge Rwanda but also to other funding opportunities.
- iii. Improve understanding of competencies of working in a successful scientific team collaborating with people of the same scientific interest and broadening the collaborations to regional and international partners.
- iv. Acquire skills on research management in research performing organizations and the ability to sustain research efforts to innovate and achieve project goals



Figure 21: Participants well given certificate for participation



Figure 22: Group photo of all participants and facilitator



Figure 23: Dr. Japhet and Dr. Didacienne facilitating the Grant Writing Workshop on 24th May 2023