Haramaya University

Office of the Research Affairs

2022/23 Call for Proposals:

HU Grand Challenge Research Grant Competition

Guide for Applicants

June 2022

Haramaya University

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1. Background

The Federal Government of Ethiopia has made research funds available to public Higher Education Institutions to enable University Staff members to do problem-solving research and produce scientific knowledge in various disciplines and enhance their careers and contribute to the socio-economic development of the country. The government has made the funds available with the intention of increasing the involvement of staff and postgraduate students in research and technology exchange with communities, which is aimed at supporting the Growth and Transformation Plan of the country.

In line with this, Haramaya University (HU) has been offering research funds for its staff members to engage in problem-solving and innovative research in a thematic research approach. The Office of Research Affairs has been funding research projects under five research categories: HU Regular Research Grant (HURG), HU Innovation Fund (HUIF), HU Knowledge Transfer (HUKT), HU Women Grant (HUWG), and HU Special Support (HUSS).

In the 2021/22 fiscal year, the office initiated a new scheme known HU Grand Challenge Research Grant (HUGG) aimed to fund research undertaking that tackles some of the biggest/grand challenges facing society today (i.e. most pressing local and/or national societal problem) with more impactful results. The grant scheme promotes multi/transdisciplinary research with relatively large budgets and professional networking involving senior researchers alongside early career researchers or recruiting graduate students.

2. Rationale

The grant was designed to address problems with the other grant-awarding system, which was often complained about by many as not producing impactful results up to expectations, as most of the projects awarded are small-scale with limited funding within in the short-term, leading to a high-risk of incompleteness. It is also believed that this reduced the participation of experienced researchers in the HU research grant competition. In addition, the research projects are not crossing traditional boundaries between fields and disciplines that do not guarantee interconnectedness. Although the University set forth its research priorities under six thematic areas to integrate

research endeavours for synergized impacts on societal development and to enhance the quality of education, the approach of conducting research and extension has still remained partly piecemeal.

3. Objective of the call

The aim of Haramaya University Grand Challenge Research Grant (HUGG) is to foster multi/transdisciplinary research collaboration across all colleges and institutes at the University; to support a multi-/trans-disciplinary, rigorous, and technically sound research projects that are relevant to the most pressing societal problem (grand challenges facing society) or generate new and ground-breaking research results. Besides, it is intended to offer researchers the advantage of studying the problems in-depth for knowledge and technology generation and transfer, as well as effective communication and application of reliable and relevant research outputs to produce an impact on society.

4. Call for Proposals Criteria

4.1 Eligible project proposal

This call for project proposals will fund projects that:

- ✓ have the potential to address the most pressing local and/or national grand challenge leading to solutions with substantial .
- ✓ are innovative in nature, and generate new scientific knowledge, technologies and other discoveries, and generate high-quality publications that contribute to the University's visibility worldwide.
- ✓ are multi-year and multi/trans-disciplinary combining competencies from different disciplines.
- ✓ have Research Group composed of senior staff and early career researchers with clearly identified roles and responsibilities. Alternatively, multi/trans-disciplinary large projects that can recruit PhD and/or MSc/MA students.

4.2 Eligibility Criteria

In order to be eligible for a grant:

- ✓ The principal investigator should be a senior researcher with a minimum academic rank of assistant professor (PhD holder).
- ✓ The applicants should be academic, research and technical staff members of Haramaya University to be members of the Research Groups.
- ✓ A staff member can only apply as a Principal Investigator for one research topic and two research topics as a Co-investigator per year. OR a staff member can only apply for three research topics as a Co-investigator per year. **So, a single staff member's participation in more than a total of three projects (multiple applications) shall lead to the rejection of all applications.**
- ✓ *The research project should directly address the priority research area identified for the 2022/23 call for proposals (Annex 01). The priority research area the project targeting should be mentioned in the concept note.*
- ✓ The geographical area of implementation of the proposed project should be in the eastern part of Ethiopia, except for compelling reasons.

4.3 Exclusion criteria

An applicant/s shall be excluded from the grant award procedure in the following conditions

- ✓ A staff member who is currently on study leave cannot be a member of the Research Group. However, s/he can be later recruited as a PhD and/or MSc/MA student by the research group.
- ✓ A staff member who has not yet submitted overdue previous research reports shall not be eligible. *A single staff member with an overdue project in the Research Group shall result in rejection of the applications, not an exclusion of an individual from the research group*. *Therefore, the principal investigator should make sure that all members of the Research Group have no overdue projects.* All *HU grant holders with a research grant awarded **BEFORE 2020/2021** are considered overdue projects and hence, not eligible to apply unless they submit their overdue project before the concept note submission deadline. Besides, grant holders of projects awarded in*

2020/2021, which are expected to be completed in July 2022, are eligible only if they are able to submit a final report prior to the grant agreement if awarded.

✓ Inclusion of individuals of the same background without specific roles and responsibilities in the project implementation is not encouraged.

4.4 Grant Amount

The funding under this scheme is up to four years (2 to 4 years) with costs, as required by the research project, up to a maximum of 4,000,000 ETB per project (2,000,000 to 4,000,000 ETB per project) with a maximum of 1,000, 000 ETB per year (500,000 - 1,000,000 ETB per year).

5. How to Apply?

Initially, interested applicants need to submit a complete concept note for prescreening. A concept note must be submitted in accordance with the instructions in the concept note preparation template (Annex 01) via online using Research Grant Management System (http://grant.haramaya.edu/). Researchers need to create an account or log in to their existing account and apply under the HU Grand Challenge Research Grant (HUGG) category.

The deadline for submission of the Concept Note is **July 20, 2022**. The online Research Grant Management System closes **July 20, 2022, at 10:00 pm**. Applicants are strongly advised not to wait until the last day to submit their concept notes to avoid difficulties that might occur on the last day for various reasons.

Concept note submission link: http://grant.haramaya.edu.et/

Thereafter, the principal investigator whose concept note has been pre-selected shall be invited to submit a full proposal using the full proposal preparation template. The application shall be made online via the research grant management system.

Full proposal submission: http://grant.haramaya.edu.et/

The full proposal submission (upon invitation only)

Note that applications missing relevant components mentioned in the template and against eligible criteria will automatically be rejected.

6. Review process

Initially, a primary screening shall be an administrative process to verify whether the eligibility criteria and required formatting are met, and eligible concept notes shall be evaluated independently by experts and scored against the evaluation criteria. Then, a panel of experts will evaluate the concept notes based on the score and comments provided by the reviewers before recommending which applicants should be invited to submit a full proposal. Thereafter, applicants whose concept notes have been pre-selected will be invited to submit a full proposal.

The full proposal evaluation consists of a three-stage formal assessment: primary screening, secondary evaluation (expert review) and final Research Steering Committee decision. The primary screening is an administrative process to verify whether the eligibility criteria and required formatting is met. Secondary evaluation is conducted by experts from the subject area of the submitted proposal and scored against the evaluation criteria. Finally, after peer-review evaluation, proposals are ranked and shortlisted for decision-making by the Research Steering Committee.

The RSC strictly adheres to rules of impartiality during its evaluation process, and conflict of interests provisions are in place to ensure that decision-making happens fairly and transparently. All proposals that are selected for funding will be officially announced by the Office of Research Groups and Partnerships Directorate.

Annex 01: Priority Research Focus Areas

Applications are expected ONLY from the following identified priority research focus areas.

1. **Chicken productivity improvements in eastern Ethiopia**
   - Specific type of new chicken breed/line development.
   - Complete package on available feed resources or high nutrient density poultry diet; and their feeding strategies for the new breed.
   - Productivity enhancement of indigenous chicken breeds with complete packages.
   - Development of Urban suited packages/technologies.

2. **Evaluation and improvement of khat (*Catha edulis*) production, productivity, and marketing along the value chain**
   - Characterization and selection of Khat varieties growing in eastern Ethiopia.
   - Identification and management of major khat pests (diseases, insect pests, nematodes, weeds).
   - Improvement of Khat management practices (irrigation, nutrition, etc.).
   - Evaluate types of agricultural chemical pesticides used, their impact, and their residue level.
   - Chemistry and pharmacology of khat.
   - Postharvest handling practices along the products value chain.
   - People's (users & non-users) attitudes, farmers' perceptions, social & cultural values of khat.
   - Main actors involved in the khat supply chain; marketing and its export performance.
   - Social and political economy of khat.
   - Socioeconomic and health aspects of khat chewing.

3. **Integrated soil fertility management (ISFM) for enhancing soil health and productivity of smallholder farmers in eastern Ethiopia**
   - Characterize soil fertility status of potential highland and lowland crop-producing areas.
   - Develop site- and crop-specific fertilizers (blended) test and devise recommendations based on the ATA-EthioSIS.
   - Identify and devise crop-based fertilizer types and recommendation rates.

- Integrate blended and organic fertilizers in combination with the right cultivars and other agronomic practices.
- Improve soil moisture and plant nutrient retention capacity of agricultural soil through selected climate-smart soil and water conservation practices (mainly conservation and organic farming).
- Evaluate soil salinity and agricultural water quality suitable for major crops.
- Improve the physical, chemical, and biological attributes of soils.

4. **One health approach: Interventions for the management of emerging/re-emerging infectious diseases (Dengue and Chikungunya) in eastern Ethiopia**
- Minimize the burden of emerging/re-emerging infectious diseases.
- Molecular/genomic epidemiology of Dengue and Chikungunya.
- Spatial epidemiology (mapping and modeling) Dengue and Chikungunya.
- Integrated vector control/management: molecular and behavioral characterization, drug resistance, and control strategies.
- Explore environmental factors favoring the endemicity of emerging/re-emerging infectious diseases (Dengue and Chikungunya).
- Improvement of early diagnosis of Dengue/Chikungunya infection in newborn and pregnant mothers.

5. **Cattle production and herd health improvements in Eastern Ethiopia**
- Production and reproduction enhancement through reproductive technology.
- Developing products for the production of disease prevention and control.
- Devising treatment protocols for the production of disease.
- Enhancing herd health management practices.
- Utilizing alternative cattle feed sources and developing feeding strategies.

6. **Enhancing the development of veterinary biologicals and non-biologicals against selected livestock diseases**
- Developing veterinary drugs, vaccines, enzymes, probiotics, diagnostic kits, etc.
- Microbial field strain identification circulating among livestock for possible use in vaccine development.
- Evaluation of immunogenicity.

- Efficacy evaluations for veterinary drugs and non-drug products at the laboratory and field level.

7. An integrated approach to agri-food systems (end-to-end food systems research from production to fork and beyond) to address food and nutrition security in eastern Ethiopia

- Innovations/new perspectives in agri-food systems:
    - ✓ Improvement of the food postharvest handling and marketing system of high value and/or nutrient-dense crops, such as onions, mangoes, potatoes, etc., in eastern Ethiopia along the value chain.
    - ✓ Agro-food processing technologies development and adoption for sustainable food and nutrition security (postharvest technologies, processing technologies, quality and safety management and monitoring, food processing firm's technology gap assessment and solutions, etc.).
    - ✓ Development, fortification and promotion of nutritionally rich food products.

8. Development of sustainable agricultural mechanization for the low-land farming and/or smallholder agriculture in Eastern Hararghe

- Design, development and performance evaluations of agricultural machinery (agricultural mechanization packages *viz.* harvesters, threshers, sowing, tillage, planting, and processing machinery, sensors, automation, etc.).
- Agricultural water resources utilization and water-saving irrigation systems and/or equipment in agricultural mechanization (low-cost, alternative and efficient farm water sprinkler).

9. Indigenous knowledge and their roles in reestablishing societal value and creating intra-/inter-regional networking in peacebuilding processes.

- Indigenous conflict resolution mechanism in Eastern Ethiopia.
- Security-development nexus and the challenges in eastern Ethiopia.
- Youth, adults, women as well as elders in regional security/ integration.
- Population mobility, inter/intra integration and the role of governments in Eastern Ethiopia.
- Endogenous knowledge in creating a non-violent community and establishing a peaceful society.
- Social mobilization, crime, women protection, and adult education.

10. Socio-political, economic and administrative related affairs with regard to Dire Dawa City Administration Charter and & Harari National Regional State constitution.

- Studying the constitutional law of the regional state and administration council in its political context (fiscal power, administrative jurisdiction, people's rights for administration and the power of the City Council), as well as a comparative perspective in the light of the national constitution and others.

11. Cross-border trade and transboundary cooperation in eastern Ethiopia

- A multi-agency approach to combating and/in tackling the unlawful cross-border trade in high-value animals, food, and pharmaceutical supplies: market protection, consumer fraud, and public health implications
- Assess cross-border trade's political, economic, and public-health implications.
- Cross-cutting issue of cross-border trade and Ethiopian government policy (policy Implications) - linking cross-border trade and ministerial offices (Ministry of Health and Ministry of Trade and Regional Integration).
- Looking for options for formalizing and expanding cross-border trade and thus promote sustainable economic development in eastern Ethiopia's border region: cooperation, increased trade and employment opportunities, and easier exchange.

12. Nanotechnology in applications in healthcare

- Nanomedicine in screening, early diagnosis and treatment of prevalent infectious diseases and chronic diseases such as cancers in eastern Ethiopia.
- Novel nanosystems for the diagnosis, imaging, and treatment of various diseases.

13. Biotechnology applications in agriculture

- Biotechnology in agriculture: for biopesticide production, biofertilizer development; synthesis of plant growth hormone; tissue culture for economically important and high value crops (fruits and vegetables).
- Development of technologies for climate change adaptive genetic resources from biological aspects.

Annex 02: Concept Note Contents and Instructions

1. Researchers profile – completed via research grant management system (Don't write here)
2. Mention under which priority research area the project falls.

1. Title

- The title of the Research Proposal must reflect clearly and succinctly the area of the research that is to be embarked on.
- The title should be self-explanatory when standing alone.

2. Introduction

- Indicate and justify the Grand Challenge(s) that the research project aims to address (The grand challenge(s) to be address should be explicitly written)
- Describe the local and national relevance of the challenge that the proposed project aims to address in terms of solving the societal problem and/or advancing knowledge
- Describe the feasibility of the project taking in to account available human resource, finance, research facilities, etc

3. Goal and Objectives

- List out the goal and objectives
- General and specific objectives of the research-The specific objectives should have both research and impact related objectives

4. Materials and Methods/Methodology

- Provide clear outline of the research approach, method and implementation plan
- Describe extent and appropriateness of the proposed research approach and method to address the identified research gaps

5. Expected Outputs and Impact

The following issues should be clearly addressed:

- The research project **milestones and deliverables semi-annually** or at least yearly during the project timeframe that will help to follow project progress and determines the continuity of the project.
- Potential **societal impact** of utilization of the proposed research outputs or how it will add new knowledge to your field and inform policy and practice.

- Research outputs in terms of **publications** on high quality journals
- Provide **key indicators** of how the expected outcomes will be measured.
- The research **result dissemination and communication strategy** for the intended users.

6. Work Plan and Budget breakdown

- Provide realistic timeframe
- Provide reasonable budget (500,000 - 1,000,000 per year) and (2,000,000 to 4,000, 000 ETB per project)

7. References

Your concept note must be formatted as follows:

The concept note should not exceed 5 pages, excluding the references (12 pts, Times New Roman, 1.5 spacing, 1 inch margin in all sides) and Microsoft Word file type. Strictly stick to the proposal writing format. *A concept note which doesn't follow the format will be rejected and will not be considered for evaluation.*

Annex 03: Budget Table and Justification

The template for preparing the budget breakdown, ONLY for the concept note.

Items/Categories	Estimated Budget (Birr)
Personnel (researcher perdiem, extra manpower, etc)	
Supplies (Consumables, chemicals, materials, etc)	
Travel	
Rental	
Services (e.g, laboratory)	
Others, Please add	
Total	

Add relevant justification