

# Call for Applications for PhD positions in Dairy Nutrition and Agroforestry under the VLIR-UOS TEAM 2026 Project - Agroforestry-dairy integration for sustainable agri-food systems in peri-urban and rural systems in Uganda

## Introduction

Makerere University, through the Departments of Animal and Range Sciences and Extension and Innovation Studies (CAES), in collaboration with the National Agricultural Research Organization (NARO), specifically the Mbarara Zonal Agricultural Research and Development Institute (MbaZARDI) and Mukono Zonal Agricultural Research and Development Institute (MuZARDI), Bukalasa Agricultural College, Ghent University, KU Leuven, and HOGENT, has secured VLIR-UOS TEAM 2026 funding for the project "*Agroforestry-dairy integration for sustainable agri-food systems in peri-urban and rural Uganda.*"

The project aims to strengthen the Ugandan–Flemish partnership in validating and promoting agroforestry-based feeding strategies for crossbred dairy systems in peri-urban Kampala (zero-grazing) and the Southwestern cattle corridor (paddock systems). To support this work, applications are invited from eligible Makerere University and NARO staff for two PhD positions.

## PhD Position 1: Physiological validation of tree-based, nutrient-specific feeding strategies in crossbred or exotic dairy systems

**Research focus:** This PhD will evaluate the physiological and production responses of crossbred/exotic dairy cows to tree-based, nutrient-specific feeding strategies under peri-urban zero-grazing systems around Kampala and paddock systems in the Southwestern cattle corridor.

Building on previous studies that identified nutrient deficiencies and promising tree-based feed resources, the research will assess the effectiveness of locally formulated supplements in improving the productivity of early-lactating crossbred dairy cows across contrasting production systems and seasons. Blood profiling and production monitoring will be integrated to evaluate animal responses. The PhD will be jointly supervised by Makerere University, NARO and Ghent University.

**Research objectives:** The successful candidate will:

- Design and conduct both laboratory experiments (feed evaluation through chemical analysis and in vitro simulations of digestion) and field experiments on dairy farms.
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- Formulate and evaluate tree-based, nutrient-specific feed supplements.
- Collect feed, blood, dried blood spot, milk, environmental and socio-economic data.

- Assess physiological and production performance of early-lactating crossbred dairy cows under zero-grazing and paddock production systems during both rainy and dry seasons.
- Validate locally formulated supplements under contrasting farming systems.
- Integrate physiological, nutritional, and environmental and production data to improve ration formulation.
- Develop evidence-based feeding recommendations for crossbred dairy cows.
- Work closely with farmers, extension personnel and project researchers.
- Take the lead in the scientific publications, workshops and project dissemination activities.

**Training and mobility:** The successful candidate will register as a PhD student at Ghent University under joint supervision from Ghent University, Makerere University and NARO. On-farm research activities will be undertaken in Uganda. Chemical analysis of feeds will be done at Makerere University, while in vitro digestion simulations will take place at Ghent University. The candidate will spend approximately **3–6 months annually** at Ghent University for coursework, laboratory analyses, advanced training, data analysis and supervision (22 months in total over the project period of 5 years).

The project will strengthen local expertise in dairy nutritional physiology and quantitative dairy nutrition at Makerere University and NARO.

**Employment and funding:** Applicants must be employed by either Makerere University (Assistant Lecturer), or NARO (Research Officer/Technician).

The successful candidate will undertake the PhD as a Graduate Research Fellow.

Employment terms, salary and local travel will follow Makerere University/NARO regulations and VLIR-UOS funding guidelines. International travel for research visits to Belgium will be supported by the project in accordance with VLIR-UOS regulations.

The expected duration of the PhD is **48 to 58 months**.

### Candidate Profile

Applicants should:

- Hold an MSc in Animal Science, Veterinary Medicine, Biomedical Sciences or a related discipline.
- Demonstrate strong interest in tropical dairy nutrition, nutritional physiology, quantitative nutrition, integration of agroforestry-based feeding systems in climate-smart dairy production.
- Have experience with animal nutrition research, preferably with a focus on nutritional physiology. Experience with feed chemical analysis and in vitro digestion techniques and/or research in dairy cattle farming systems—including the collection and evaluation of animal performance and health records and the monitoring of physiological parameters—is an added advantage.
- Have starter skills in statistical or other quantitative data analysis and experience with statistical software packages; experience with ration formulation and management of experimental datasets is an added advantage. You should be keen to develop these skills further.
- Possess excellent scientific writing skills and strong communication skills.

- Be proficient in written and spoken English and be able to communicate in relevant local languages.
- Be willing to undertake extensive fieldwork in peri-urban Kampala and the Southwestern cattle corridor across different seasons.
- Be willing and motivated to run the PhD trajectory partly abroad (Belgium).
- Be available to commence the programme at short notice (targeted start: **6 November 2026**).

### Scholarship and conditions

The successful candidate will receive:

A PhD within an internationally recognised Ugandan–Belgian research partnership.

- Advanced training in dairy nutritional physiology, rumen metabolism, quantitative nutrition, biomarkers, digital livestock production and health registration.
- Access to laboratory facilities and expertise at Makerere University, NARO, and Ghent University.
- Participation in Ghent University's Graduate School training programme.
- Opportunities to publish in international peer-reviewed journals and present research at scientific conferences.

Key terms:

- **Duration:** Between 48 and 58 months of ~~with~~ research conducted in Uganda and Belgium. The candidate will spend up to 22 months (4 visits spread over 5 years) at Ghent University.
- **Funding:** During research stays in Belgium, candidates will receive a living stipend and support for **four international return flights**. While in Uganda, candidates are expected to remain employed by Makerere University or NARO, and a salary is guaranteed for the whole duration of the PhD.
- **Research support:** The project will cover approved research costs in Uganda, including fieldwork and essential research materials.
- **Degree award:** The PhD will be conferred by Ghent University. The candidate will be jointly supervised by Ugandan and Belgian researchers at Ghent University and must satisfy the admission and graduation requirements of Ghent University.

### PhD position 2: Socio-economic feasibility and adoption of agroforestry-based dairy feeding strategies

**Research focus:** This PhD will investigate the socio-economic feasibility and adoption of agroforestry-based feeding strategies in mixed crop–livestock systems. Using a mixed-methods approach, the study will combine household surveys, stakeholder interviews and gender-segregated focus group discussions to evaluate the adoption of fodder and multipurpose trees.

The research will compare existing tree use with new planting options, assess economic viability, labour requirements, land constraints, gender roles, market access and knowledge systems, and identify factors influencing adoption under contrasting dairy production systems. Comparisons between peri-urban Kampala and the Southwestern cattle corridor will provide evidence on scalability and inform policy and extension strategies.

Makerere University, NARO (MbaZARDI and MuZARDI) and KU Leuven will jointly supervise the study.

**Research objectives:** The successful candidate will:

- Conduct household surveys, stakeholder interviews and gender-segregated focus group discussions with dairy farmers.
- Quantify the short- and long-term economic costs and benefits of agroforestry-based feeding practices, including labour requirements, opportunity costs and resource use.
- Assess how adoption incentives and barriers vary among fodder and multipurpose tree species and their functional combinations.
- Compare adoption potential and scalability across peri-urban Kampala and the Southwestern cattle corridor.
- Develop evidence-based recommendations to inform policy, extension and investment in agroforestry-based dairy systems.
- Take the lead in scientific publications, project reports, and stakeholder engagement and dissemination activities.

**Training and mobility:** The successful candidate will register as a sandwich PhD student at KU Leuven under joint supervision from KU Leuven, Makerere University and NARO.

Most fieldwork and data collection will be conducted in Uganda. The candidate will spend approximately **3–6 months annually** at KU Leuven for coursework, advanced training, data analysis and supervision.

The project will strengthen institutional capacity at Makerere University in the socio-economic analysis of agroforestry adoption, including farm-level resource allocation, labour dynamics and scalability assessment.

**Employment and funding:** Applicants must be permanently employed by: either Makerere University (Assistant Lecturer), or NARO (Research Officer or Technician).

The successful candidate will undertake the PhD as a Graduate Research Fellow.

Employment conditions, salary and local travel arrangements will follow Makerere University/NARO regulations and VLIR-UOS funding guidelines. International research visits to Belgium will be supported in accordance with VLIR-UOS regulations.

The expected duration of the PhD is **48 to 58 months**.

### **Candidate profile**

Applicants should:

- Hold an MSc (or equivalent) in Agricultural Economics, Natural Resource Economics, Environmental Economics, Rural Development, Agroforestry, Forestry, Tropical Forestry, Environmental Management, ~~Social Sciences~~ or a related field.
- Demonstrate strong interest in socio-economic analysis of technology adoption, farm surveys, adoption modelling and scalability assessment. Experience with GIS or remote sensing for agroforestry is an added advantage.
- Experience with field research in a low- or middle-income country, or experience conducting socio-economic surveys and semi-structured interviews.

- Have starter skills in statistical, econometric, or other quantitative data analysis, and some experience with statistical software packages; you are keen to develop these skills further.
- Possess excellent scientific writing skills and strong communication skills.
- Be proficient in written and spoken English and be able to communicate in relevant local languages.
- Be willing to work in an interdisciplinary, international research environment and undertake extensive fieldwork in Uganda.
- Be available to commence the programme at short notice (November 2026).

### Scholarship and conditions

Successful applicants will receive a **sandwich PhD scholarship** under the VLIR-UOS TEAM 2026 programme only for the period in Belgium.

### Key terms

- **Duration:** Between 48 and 58 months, with research conducted in Uganda and Belgium. Candidates will spend up to **22 months** (4 visits spread over 5 years).
- **Funding:** During research stays in Belgium, candidates will receive a living stipend and support for **four international return flights**. While in Uganda, candidates are expected to remain employed by Makerere University or NARO, where the salary is guaranteed for the whole duration of the PhD.
- **Research support:** The project will cover approved research costs in Uganda, including fieldwork and essential research materials.
- **Degree award:** KULeuven will confer the PhD degree. Candidates will be jointly supervised by Ugandan and Belgian partners and must satisfy the admission and graduation requirements of KULeuven.

### Application procedure for both vacancies.

Interested applicants should submit **one merged PDF document** containing:

- A cover letter (maximum two pages) indicating the PhD position applied for (Dairy Nutrition or Agroforestry) and summarising the applicant's motivation and suitability.
- A **3–5-page concept note** relevant to the selected PhD topic.
- Scientific curriculum vitae, including a brief description of the applicant's contribution to multi-authored papers (where applicable).
- Names and contact details of **two academic referees**.
- Separate PDF documents:
  - Certified academic transcripts and degree certificates (BSc and MSc). The transcripts should list all courses taken and the grades obtained, together with an explanation of the grading system. Where available, the student's ranking within the cohort should also be included.
  - A copy of the Master's thesis.
  - Copies of publications (where applicable).
  - Female candidates are strongly encouraged to apply.



**Submission:** Applications must be submitted by **Friday 14<sup>th</sup> August 2026** at 5:00 pm, through e-mail to Dr. Pius Lutakome and Mrs Sylvia Decocker. Contact details:

**Dr. Pius Lutakome**

Project Contact Person, Makerere University  
pius.lutakome@mak.ug.ac/plutakome@gmail.com.

**Mrs. Sylvia Decocker**

Administrative Contact Person, Ghent University  
Sylvia.Decocker@UGent.be

**Late or incomplete applications will not be considered.**

**Selection process and timeline**

The project evaluation committee will evaluate applications and shortlist candidates.

**Shortlisted** candidates will be informed on **1 September 2026**.

Shortlisted candidates are expected to:

- Be available to complete an online assessment between 1 and 7 September 2026.
- Be available for an online **interview on 14 September 2026**. The exact interview time will be communicated in the invitation sent on 1 September 2026.

The successful candidates are expected to:

- **Commence the PhD on 6 November 2026.**
- Undertake their first research visit to the Belgian host university in **February 2027**.