



# Call for Applications

## POSTDOCTORAL RESEARCH FELLOWSHIP

The Lilongwe University of Agriculture and Natural Resources (LUANAR) is calling for applications from suitably qualified and highly motivated individuals to be considered for the **Postdoctoral Research Fellowship** under the **Sustainable and Healthy Food Systems in Malawi (SHEFS-Malawi) Project** tenable at the University.

The successful candidate will contribute to cutting-edge research in the areas of Anti-Microbial Resistance (AMR), pesticides, and heavy metals in Malawi's aquaculture systems and natural water bodies, framed within the Water-Energy-Food-Ecosystem-Health (WEFEH) Nexus.

### About SHEFS-Malawi

The Sustainable and Healthy Food Systems-Southern Africa (SHEFS-SA) consortium is a partnership among institutions in Malawi (MUBAS and LUANAR), South Africa (University of KwaZulu-Natal and the Institute of Natural Resources), Zimbabwe (University of Zimbabwe) and the United Kingdom (London School of Hygiene and Tropical Medicine, University of Aberdeen, Royal Veterinary College and University of London).

The consortium is working to catalyse the transformation of Southern African food systems (focusing on Malawi, South Africa and Zimbabwe) and communities towards systems and communities that are healthy and resilient to climate risks. This will be achieved by:

- Undertaking SHEFS transdisciplinary research to shift the understanding of complex climate change challenges for health, as mediated by food systems, within particular contexts, translated into scalable solutions and policy recommendations with high impact;
- Developing a transdisciplinary Community of Practice (CoP) led by the Global South, that contextualizes and applies systems thinking within an expanded climate-sensitive SHEFS Framework to improve food security, food safety, nutrition, and health, including mental health; and
- Developing a Global South-led cohort programme to train emerging scholars and practitioners in transdisciplinary research approaches at the intersection of Climate and Health.

In achieving this, the SHEFS-SA consortium will focus on providing actionable evidence for informed decision-making and identifying and developing practical solutions for climate change mitigation and/or adaptation, while evaluating in detail how their effects connect to health, including mental health, through food security, food safety, and nutrition. The programme deepens our work in South Africa and will expand to include Zimbabwe and Malawi to ensure regional policy impact.

## **Project Overview**

The SHEFS-Malawi component will focus on Antimicrobial Resistance, Pesticides, and Heavy Metals in Aquaculture and Natural Water Bodies: A One-Health Approach to the Water-Energy-Food-Ecosystem-Health (WEFEH) Nexus.

This project adopts a One-Health approach to investigate the interconnected risks of Anti-Microbial Resistance (AMR), pesticides, and heavy metals in Malawi's aquaculture systems and natural water bodies. The study is framed within the Water-Energy-Food-Ecosystem-Health (WEFEH) Nexus, recognizing that environmental contamination affects human, animal, and ecosystem health. The goal is to assess the presence and spread of AMR genes in aquaculture and surrounding water bodies and evaluate contamination levels from agricultural pesticides and industrial heavy metals. The project also wants to examine how these pollutants impact fish health, human consumers, and aquatic ecosystems and finally, will develop sustainable mitigation strategies aligned with Malawi's food security and environmental policies.

This research bridges environmental science, public health, and policy, supporting Malawi's sustainable development goals while safeguarding water resources and food security.

## **Key Research Themes:**

1. Assess AMR genes, pesticide residues, and heavy metals in water, sediment, and aquatic species.
2. Investigate sources, transmission pathways, and ecological impacts of these contaminants.
3. Apply WEFEH Nexus frameworks to evaluate risks to human, animal, and environmental health.
4. Develop mitigation strategies for policymakers, aquaculture farmers, and public health stakeholders.

## **Methodology:**

1. **Tools:** Sampling of fish, manure, feed, sediment and water (sewage, pond, lake/river), microbiological and chemical analysis, Metagenomics, drones, participatory field surveys, and biometric data collection.
2. **Collaboration:** Work with farmers, fisheries, extension agents, and community programmes.
3. **Data Integration:** Combine data with human and environmental risk assessment

## **Impact:**

1. This research will contribute to Malawi's National Action Plan on AMR and Sustainable Development Goals (SDGs).
2. Will address critical gaps in food safety, water security, and ecosystem health.
3. Offers policy-relevant findings for governments, NGOs, and international agencies

## Duties and Responsibilities

- Design and implement fieldwork, including sampling of water, sediment, fish, feed, and manure.
- Conduct microbiological, chemical, and metagenomic analyses.
- Apply the WEFEH Nexus frameworks to assess risks to human, animal, and ecosystem health.
- Develop sustainable mitigation strategies in collaboration with aquaculture farmers, extension workers, policymakers, and public health stakeholders.
- Coordinate stakeholder engagement workshops and participatory field surveys.
- Supervise and mentor graduate students and interns involved in the project.
- Collaborate with regional and international SHEFS partners for integrated analysis and outputs.
- Produce high-quality peer-reviewed publications, technical reports, and policy briefs.
- Disseminate research findings through conferences, seminars, and stakeholder platforms.
- Contribute to strengthening LUANAR's capacity in climate, food systems, and health research.

## Qualifications and Other Attributes

- A PhD in Aquaculture, One Health, Environmental Science, or a closely related field graduated with a doctoral degree within the past five years.
- Candidates who have completed all requirements toward a doctoral degree, but has not received their certificate, must provide proof that all requirements pertaining to the attainment of the required degree were met.
- Applicants must not be full-time employees of the University
- Strong background in One-Health approaches and or food systems research.
- Demonstrated skills in field-based data collection, and laboratory techniques.
- Proven record of scientific publications in peer-reviewed journals.
- Experience in stakeholder engagement and participatory research methods.
- Ability to work independently and collaboratively in multidisciplinary, multicultural teams.
- Strong analytical, writing, and communication skills.

## Terms and Conditions of Engagement

The successful candidates will be engaged on an initial 2-year contract, renewable subject to project requirements, and continued availability of funding of the project. Remuneration will be in accordance with prevailing University policies and procedures governing Postdoctoral Research Fellowship.

## Mode of Application

Hard copy application package should include an up-to-date Curriculum Vitae (CV), names and contact details of three traceable referees one of which should be of a current employer where applicable plus copies of certified academic and professional qualifications. The title of the position must be indicated on the envelope and sent to:

**The University Registrar**  
**Lilongwe University of Agriculture and Natural Resources(LUANAR)**  
**P.O. Box 219**  
**LILONGWE**

Submission of the hard copy application docket MUST be accompanied by full electronic submission of the application package and be emailed as attachment in PDF to [vacancies@luanar.ac.mw](mailto:vacancies@luanar.ac.mw) with a copy to [pco@luanar.ac.mw](mailto:pco@luanar.ac.mw). The subject line for the email should be application for the post being applied for.

**For any inquiries, please contact: +265 880 414 120**

All applications should reach the UNIVERSITY no later than Friday, 19th September, 2025. Only shortlisted candidates will be acknowledged.

LUANAR is an equal opportunity employer hence females are encouraged to apply.