UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

UNIVERSITY OF DAR ES SALAAM

COLLEGE OF AGRICULTURE FOOD SCIENCE AND TECHNOLOGY

SCHOLARSHIP OPPORTUNITY FOR PHD STUDIES IN FOOD SECURITY

(*Readvertised*)

The Sida-funded Sustainable Agricultural Production and Value Addition for Enhancing Food Security in Tanzania (Food Security) Sub-Programmme has one scholarship position for PhD studies commencing on 1st November 2025. The selected applicant shall be required to spend up to six months (three months twice) in Sweden.

Eligibility:

a. The scholarships are strictly intended for UDSM staff only;

b. Applicants must have a GPA of at least 3.8 for a Bachelor degree and a good Master degree with a GPA of 4.0 or above for Masters by coursework and dissertation or a pass for Masters by thesis;

c. Master degree must be less than 5 years old;

d. Qualified females are encouraged to apply.

Area of study:

Processing of different legumes for human and animal feed and promotion of the technology.

In Tanzania, postharvest losses of legumes are estimated to range between 30% and 50%, primarily due to insufficient human capacity and inadequate processing and storage technologies. Legumes, such as black-turtle beans, peas, and lentils, are nutrient-rich and vital for balanced diets. However, many legumes contain anti-nutritional factors, such as phytates, tannins and protease inhibitors, which can reduce protein digestibility and mineral bioavailability. These compounds, along with the underutilisation of legumes as a plant-based protein source, hinder their potential contribution to addressing the country's nutritional needs. Additionally, protein production in Tanzania remains insufficient to meet the demands for both food and animal feed, necessitating imports of animal feed.

To address these challenges, the adoption of novel processing methods is crucial. Advanced techniques can mitigate the impact of anti-nutritional factors, enabling the optimal utilisation of legumes for human consumption and animal feed. Furthermore, the broad diversity of legume crops offers opportunities for selecting climate-resilient varieties, which are essential for sustaining agricultural productivity in the face of climate change. Legumes also contribute to environmental sustainability through their nitrogen-fixing ability, which enhances soil fertility while maintaining a low carbon footprint.

Objective: This study aims to develop innovative processing technologies for legumes to enhance their nutritional value, reduce postharvest losses, and improve their utilisation for human consumption and animal feed in Tanzania.

Supervision: Supervisors will be from the University of Dar es Salaam, with co-supervision from Chalmers University of Technology, Sweden.

Additional eligibility: Applicant should have: a Master's degree in Food Science, Food Technology, Food Engineering, Chemical and Process Engineering, Biochemistry, or a related field; and strong academic performance and research background in food processing, fermentation or nutrition. Experience in laboratory analysis and/or food processing technologies is an added advantage. Excellent communication and writing skills in English is required.

Application must be accompanied with transcripts, certificates, CV and a concept note of not more than two pages for the above PhD position. The application must reach the Project Principal Investigator by 15th October 2025. Submit your application in electronic form to: victor.vicent@udsm.ac.tz and copied to kibazohi@udsm.ac.tz, kibazohi@yahoo.com and emvungi@udsm.ac.tz.

Short listed applicants will be interviewed before the end of October 2025. Selected applicants will commence studies on 1st November 2025.