

Mak-CAES Researchers win APPEAR grant to improve waste management in Uganda

Fecal sludge Management (FSM) and Solid Waste Management (SWM) are consistently recognized as being insufficient in many areas within Uganda and posing a health and environmental risk. Oftentimes, the management of these two categories of waste is organized separately and executed with insufficient resources, political will, and funding, yet they (fecal sludge and solid waste) present many opportunities for value chain creation and valorization of materials, micronutrients, and energy content, especially when considered together.

With funding from the Austrian Partnership Programme in Higher Education and Research for Development (APPEAR), researchers from Makerere University led by Dr Jeninah Karungi, an Associate Professor in the Department of Agricultural Production, College of Agricultural and Environmental Sciences (CAES), together with partners from the Institute of Water Quality and Resource Management at Vienna University of Technology, the Department of Environmental and Livelihood Support Systems at Mbarara University of Science and Technology, and Uganda Red Cross Society will undertake a project aimed at improving fecal sludge and solid waste management in Uganda.

The four-year project titled “*Clean and Prosperous Uganda – Fecal Sludge and Solid Waste Management for Improved Livelihoods*” will explore circularity concepts, test a variety of techniques for utilizing dried fecal sludge, analyze plastic recovery from existing composting plants, and evaluate the social, economic viability of improved FSM and SWM and their influencing factors on regional communities. **The project worth €518,823 aims to examine** how best to optimize and integrate FSM and SWM in rural settings in Wakiso District, refugee settlements in Arua District, and Uganda in general. The specific objectives are to: 1) improve fecal sludge management to achieve a higher degree of circularity (i.e resource recovery), advance sustainable agricultural practices, and reduce human exposure to fecal coliform bacteria and other pollutants; 2) improve processes in existing waste treatment plants to achieve higher rates of plastic recycling and energy recovery as well as valorization regionally, improve municipal compost quality and reduce harmful practices like open burning and open dumping; and 3) strengthen institutional capacities of Makerere University, Mbarara University of Science and Technology and municipal authorities managing fecal sludge and solid waste. The results of such work are expected to improve waste-related knowledge gaps, build capacities of stakeholders at the university and municipal level (local authorities and service providers), and change perception of fecal sludge-derived products by end users (primarily subsistence and

commercial farmers). These actions, in turn, are expected to improve the livelihoods of many Ugandans by reducing their exposure to harmful pollutants and pathogens, while sustainably creating new economic opportunities for the private sector in recycling, composting and energy recovery.

At the grant announcement event held in the Office of the Vice Chancellor on 24th January 2022, Dr Roswitha Kremser, Head of the Coordination Office for Development Cooperation at the Austrian Embassy commended Makerere for its outstanding performance regionally and internationally. She informed the Vice Chancellor that Makerere had obtained the biggest number of grants because of its good reputation, strong collaborations and high quality expertise. Makerere obtained 6 out of the 8 grants announced by APPEAR in this particular round. Dr Kremser further informed the Vice Chancellor that APPEAR had resolved to attach students on all projects.

In his remarks, the Vice Chancellor, Prof. Barnabas Nawangwe appreciated the support and commended APPEAR for attaching students on all projects, noting that this would ensure knowledge flow and sustainability. Briefing the guests about the different research projects at Makerere, the Vice Chancellor said the University has got a big responsibility to the country to solve issues of population explosion, youth unemployment, climate change, water scarcity, food security and health. “If we do not solve these problems, our country will become very unstable. Research indicates that the Great Lakes Region is going to become a source of water wars because we are most affected by climate change. The support from our development partners is so vital in addressing these challenges,” he noted, calling for diversified collaboration. Austria is supporting research at Makerere to address challenges of climate change, public health and food security.