

MAKERERE

P.O. Box 7062, Kampala, Uganda
Cables: "MAKUNIKA"
Email: principal@caes.mak.ac.ug



UNIVERSITY

Phone: 256 414 542277
Fax: 256 414 531641
TELEGRAM: "MAKUNIKA"

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

Office of the Principal

DATE: May 07, 2012

PRESS RELEASE

Taking Makerere University to the communities

Makerere University College of Agricultural and Environmental sciences (CAES) has transformed its Research and Development agenda for client-responsiveness and development impact and implemented programmes that promote farmer participatory research and development integrating the University into Uganda's rural transformation processes. As a result a number of new technologies, products and services have been made available to the public. Our students and staff have linked with farmers, processors and other stakeholders who are the ultimate beneficiaries.

In a public private partnership with Kakira Sugar Works Ltd, Kakira Outgrowers Rural Development Fund (KORD) and Dairy Development Authority (DDA), the college embarked on participatory research for technology development aimed at utilizing sugarcane industrial waste like molasses for improved dairy cattle productivity in Uganda. This was under the World Bank funded Millennium Science Initiative (MSI) coordinated by the Uganda National Council for Science and Technology (UNCST). The funding facilitated provision of a platform for learning alliances geared towards translating science into tangible sellable products aimed at improving livelihoods of the rural folks.

Building on the complementary synergies between the private sector who have the necessary raw material and the scientists from the public sector who are equipped with knowledge, a molasses urea dairy supplementary feed was developed which increases milk production by over 30%. At laboratory level, the college in a public private partnership has successfully spearheaded the manufacturing of a milk booster that will not only help dairy farmers to boost their milk production but also reduce malnutrition, extreme hunger and poverty especially in the Busoga region.

The milk booster was tested on 100 dairy farms in the districts of Jinja, Iganga, Kamuli, Mayuge and Mukono. Farmers are excited to have this product on the market. However, the future of this potentially transformative product is in limbo. First, the commercialization of the milk booster requires about 500, 000 USD Kakira sugar works says. In addition, the intellectual property right (IPR) dispute between the scientists and the private sector prevents the product reaching the farmers as early as needed.

However, scientists are pursuing an amicable solution at a round table with the private sector with the help from the Uganda National Council for Science and Technology. To respond to farmers calling for the milk booster, scientists at the college have resolved to continue producing the booster though at a laboratory level to meet the needs of the farmers who have tested the feeds while waiting for the full blown industrial commercialization.

While working with Kakira sugar works, the scientists from MAK observed that when sugarcane is cut, about 70% of the cane is taken to the mill to produce sugar and bagasse, The bagasse is used by the industry to generate its

own electricity some of which is available for the national grid. 17% of the cane is left in the garden as the green sugar cane top while 13% is the dry trash that is also left with the farmer.

The sugar cane top is a candidate for producing basal beef feed which can substitute for elephant grass using molasses and other ingredients to make a complete total mixed ration while the trash has been identified as an alternative fuel sources in form of briquettes to reduce on environmental stress in the area where all trees have been cut to promote sugar cane production.

In addition to the sugar cane trash, other crop residues like coffee husks, rice and soybean husks have been dry distilled in a study at Kabanyolo and in combination with sugar cane molasses, fuel briquettes have been produced. The technology of the milk booster was spearheaded by Dr. Fred Kabi, of the Department of Agricultural Production while the technology of fuel briquettes was also spear headed by Dr. Fred Kabi assisted by Azis Dara Charles a Mechanical and Production engineering Technician who will give you the details later.

In 2009, the college set out to pilot the use of ICTs in Agriculture to enhance extension services to farmers in the rural areas. Farmers' access to agricultural information in Uganda has been deplorable with a ratio of 1:25,000 extension workers to farmers. On average an extension worker meets each farmer for four minutes in a year given the total population of the country.

To address this problem, Makerere University Agricultural Research Institute (MUARIK) with support from the Commonwealth of Learning (COL) has explored the use of voice messaging to integrate Mobile Technology in the provision of extension services, research and development. This project has been piloted in South Western Uganda in the districts of Kabale, Ntungamo and Kisoro as will be explained by the project leader Assoc. Prof. Moses Tenywa and his Technical Assistant Daniel Ninsiima.

These innovations are part of the effort to take Makerere University to the communities by translating science into tangible sellable products which can address the needs of the people like extreme hunger and poverty. Africa has remained poor despite the abundant resources. Uganda for instance produces about 115 metric tonnes of molasses per year and other residues in different sectors. If properly harnessed this energy could boost milk and beef production for local, regional and export markets.

The college believes that Uganda's problem is the single commodity approach where crops, livestock and industries are considered as different entities lacking horizontal and vertical linkages to diversify products right from the farm. The way to go is exemplified by these new technologies where the country should have the forward and backward linkages within the crop, livestock and industry using the public private partnership.

As college, we are committed to providing the knowledge and technical expertise but we lack the financial capacity to fully commercialize the technologies given the overwhelming demand. The college appeals to Government and the Private sector to invest in the harnessing of agro-industrial by products such as molasses and other residues produced in the country as a public good to improve on farmer's productivity.

Finally, we know that farmers' problems go beyond extension services to include price fluctuations, changing weather patterns, pests, diseases and others. However, the success of the ICT project in very difficult terrain of South western Uganda would be good news for policy makers to embrace to solve the extension worker challenges in the country.

**Prof. Samuel Kyamanywa,
Ag. Principal CAES**