Strengthening Capacity for Food Science and Technology Teaching, Learning and Research to Add Value to Indigenous Foods for Food Security in Africa and the Caribbean (FSTinAC).

FSTinAC focus is aimed at strengthening research and teaching on the sustainable use, post harvest technology and value addition of indigenous and under-utilised crops and seeds important for the livelihoods and nutrition of local populations in the Southern African, West African and Caribbean regions. Previous research has shown that these species have great potential for wider use and could significantly contribute to food security, agriculture diversification and income generation. It will improve south-south collaboration between higher education institutions in Botswana, Ghana and Trinidad and Tobago and north-south cooperation with University of Maribor which has recognized expertise in the added value and health benefits of foods. The project aims at sustainably improving food security and diversifying rural livelihoods of resource poor communities by empowering small and medium enterprises, particularly women-owned and managed, with needed skills to utilise, add value and market local indigenous food resources. Consumers in the partner countries are expected to benefit from improved food security and livelihoods as a result of FSTinAC.

**Challenge**

The project identified a few needs and constraints, among which are:

- Limited graduate training, technological options, academic expertise and innovative research in food science and technology that will significantly advance the food industry and add value to agricultural products, particularly of under-utilised indigenous crops.
- Lack of know-how by the private sector, particularly women owned and managed business about reducing post harvest losses and innovative agro-processing skills that would add value to their products and create viable businesses.
- Lack of strategic institutional research plans that focus on underutilised indigenous foods.
- Limited information about partnerships and networks that will facilitate greater know-how and more effective utilization of research findings for the benefit of wider society.

**Focus**

The project’s focus is on;

- Strengthening capacity of the next generation of food science and technology researchers including academics that are within the first 5 years of their PhDs as well as currently enrolled graduate students with skills and programmes such as mentoring to successfully conduct and lead research as well as improve their research-led initiatives in underutilized indigenous crops. In addition empower entrepreneurs with needed skills to utilize, add value and market local indigenous food resources.

- Develop new and/ or revise existing graduate curriculum in food science and technology with a focus on under-utilized indigenous crops/ species using online formats such as blackboard, podcast and/ or moodle. This will ensure that there is academic content on these species as well as a deliver method that could significantly increase the enrolment of graduate students, even beyond the partner institutions.

- Develop strategic research infrastructure plan focused on under-utilized indigenous crops / species that is based on the consensus of stakeholders in a food innovation platform in the partner countries that provides a comprehensive plan of action for curriculum development, research priorities, R&D facility needs, HR needs and a funding strategy for proposal development to major funding bodies.

- Enhanced inter institutional south-south and south – north HE collaborative partnerships as well as with other organisations that have expertise in under-utilized indigenous crops to strengthen research skills and programme offer-
Programme theme(s)
Agriculture and food security

Sector
Post-harvest and Agriculture

Keywords
Higher Education Institutions, agriculture, food security, post harvest technology.

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EDULINK II
ACP – EU CO-OPERATION PROGRAMME
IN HIGHER EDUCATION

Programme theme(s)
Agriculture and food security

Sector
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Rationale
Food security and economic crises have highlighted both the urgent need and the potential for developing sustainable agricultural systems. In African and Caribbean countries pre and post harvest losses are higher than the global average and it has been estimated that at least 20-30% of crop productivity is lost on and off farm (Yahia, 2008; FAO, 2011). This is mainly because most small scale processors do not have access to appropriate technologies. A wide range of existing food processing technologies is not accessible to and adapted in these regions. By 2050 the global population will surpass 9 billion people and demand for agricultural products is expected to double. At the same time the world’s agricultural systems will be increasingly challenged by water scarcity, climate change and volatility, raising the risk of production shortfalls. Substantial gains in agricultural productivity can be realised through investment, innovation, policy and other improvements. Realising these gains will require an exceptional level of collaboration among stakeholders in the agricultural value chain, including governments, higher education institutions, companies, multilateral and civil society organizations, farmers, consumers and entrepreneurs (World Economic Forum, 2012).

Method
• Developing and implementing new curricula;
• Food innovation network of higher education institutions, private sector, policy makers;
• Academic staff exchanges to strengthen research skills;
• Short courses/ seminars for training agribusinesses;
• Promotion, dissemination and demonstration of project results and/or best practices;
• FST needs analysis and other studies;
• Dissemination events.

Results
The anticipated results include;
• Human capital development in food science and technology at the academic level and in the agro-processing industry;
• Enhancing African, Caribbean and European cooperation and networks in food science and technology;
• New and upgraded curriculum in food science and technology;
• Institutional capacity building by enhancing the strategic planning processes;
• Enhancement of visibility of the role of food science and technology to food security.

Morama (Tylosema esculentum). Development of morama food products - morama oil, morama butter, roasted morama, morama flour, shelled and unshelled morama. (Botswana)

Mungongo: schiniiphyton raunenii! Value addition to the fruits, barks, stem and seeds which are traditionally used as food, fuel and for medicinal purposes. (Botswana)

CETL Training. Lecturers getting hands on experience with MOODLE/ Mylelearning. (15th March 2014, Trinidad and Tobago)

African mango (Irvingia gabonensis) processing into a fruit drink. (Ghana)

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