Call for research notes/applications to a training course on:

Value Chain Research
on Neglected and Underutilized Species of Plants

Dates and venue: **2-6 December 2013, Entebbe, Uganda**
Deadline for application: **28 October 2013**

We hereby invite young scientists from **Ethiopia, Malawi, Mozambique, Kenya, Uganda** to submit a Research Note and apply for participation in a training course on: Value Chain Research on Neglected and Underutilized Species of Plants.

Background

Neglected and underutilized plant species (NUS) include hundreds of locally domesticated and wild species, which are rich in nutrients and adapted to low-input agriculture. NUS and their traditional production systems can play a key role in supporting rural livelihoods. They are important in strategies to alleviate the effects of biotic and abiotic stresses – particularly those related to climate change. Their commercialization can provide income opportunities and many NUS species are important in traditional pharmacology. Due to the intensification of agriculture and the commoditization of food markets towards a narrow range of the most important food crops, diversity of NUS and associated local knowledge is rapidly being lost. Research on NUS, therefore, needs strengthening.

A Partnership of five African and two European organizations[1] are implementing the project **"Building human and institutional capacity for enhancing the conservation and use of Neglected and Underutilized Species of crops in West Africa, and Eastern and Southern Africa"**. The project is funded by the European Union in cooperation with the ACP Science and Technology Programme during 2009-2012.

The objective is to contribute towards poverty reduction and greater food and nutrition security in West Africa, and Eastern and Southern Africa through enhanced conservation and use of neglected and underutilized species (NUS). The specific aim is to strengthen the ability of young scientists to develop and manage inter-disciplinary, multi-stakeholder research projects on NUS and to publish research results.

[1] Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), Uganda; International Foundation for Science (IFS), Sweden; Bioversity International, Italy; African Network for Agriculture, Agroforestry and Natural Resources Education (ANAFE), Kenya; Institut de Recherche et de Développement sur la Biodiversité des Plantes Cultivées, Aromatiques et Médicinales (IRDCAM), Benin; Plant Genetic Resources Research Institute (PGRRI), Ghana; University of Nairobi, Kenya; and University of Malawi, Malawi. The project is associated with Crops for the Future and the CGIAR Research Programmes on Climate Change, Agriculture and Food Security, and on Institutions, Policies and Markets.

This call

To this end, the project provides training on Value Chain Research on Neglected and Underutilized Species of Plants. The course will be held on 2 – 6 December, 2013, in Entebbe, Uganda.

The training course is jointly organized by:

- Bioversity International - www.bioversityinternational.org/
- International Foundation for Science (IFS) www.ifs.se
- Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) - www.ruforum.org/

Aim

The overall aim of the training course is to improve the quality and effectiveness of applied research on value chains of **priority NUS crops in Eastern and Southern Africa** (see Annex 1 for a list of priority NUS).

Specifically, the course aims to increase young scientists' understanding and awareness of methods for conducting research on the value chain on NUS crops from seeds and genetic resources to the consumer, "farm-to-fork".

Methods

The 5-day course puts particular emphasis on:

- multi-disciplinary and multi-stakeholder approaches to value chain analysis and upgrading
- problem-based learning that puts emphasis on using participants own research experiences
- lessons learned from field visits in local markets
- lectures on key topics

To achieve this, it is essential that participants are preparing case studies of their own value chain work prior to the training course. A 'Research Note' is therefore a part of the application procedure and a key criterion for selection.

The course will be flexible and adaptive, adjusting content and methods to best meet participants' emerging needs.

Who should apply?

Applicants eligible for this call should:

- **Be nationals of and living in Ethiopia, Malawi, Mozambique, Kenya, Uganda**
- Be national scientists attached to a university, national research institution or a research oriented and not-for-profit NGO in the region
- Be under 40 years of age and at the beginning of their research career
- Have at least a Master's or equivalent degree
- Be involved in research on regional priority NUS species. **Please refer to the list of priority species and research themes (Annex 1)**
- We particularly welcome applications from female scientists.

Applications should include:

- Application form, including an Abstract/Research Note of not more than 400 words
- Curriculum Vitae

The application form, and course information is available at
http://www.bioversityinternational.org/capacity-strengthening/training-courses/

Applications should be sent via email to: valuechain@cgiar.org

Deadline for applications is 28 October, 2013

Late applications will not be considered.
Only selected participants will be notified.

Annex 1. Priority species and research topics for NUS research in Eastern and Southern Africa

A regional stakeholder workshop for Eastern and Southern Africa was held in Nairobi, Kenya on 26-28 July 2010 and was attended by 31 participants from Ethiopia, Kenya, Malawi, Mozambique and Uganda. The participants agreed on the following NUS priority species for the region.

Cereals	**Research questions**
Grain Amaranth Amaranthus spp	• Can amaranth be integrated in existing cropping systems? • Do the current processing methods affect the nutrient content and bioavailability of nutrients from amaranth? • Can amaranth seed production be enhanced to improve food security in the region? • Can rural small-holder farmers be organized to produce amaranth on large scale to sustain cereal and weaning foods industry? • What is the range of culturally acceptable products that can be produced from grain amaranth to improve food security and nutrition in the region?
Finger millet Eleucine coracana	• Can finger millet be bred for early maturity? • How can threshing of finger millet be improve to reduce the labor and reduce post-harvest losses? • How can production and consumption of millet be enhanced to improve food security and dietary diversity in areas where it is not consumed? • Can de-branning improve acceptability (reduce musty taste) of millet while preserving nutrients and antioxidants? • What technological developments can improve the palatability of straw for livestock? • What are the different products that can be produced from millet straw?
Pearl Millet	• How can production and consumption of pearl millet be enhanced to improve food security and dietary diversity in areas where it is not consumed? • What are the strategies to reduce losses effected by birds? • Can pearl millet provide a good supplement for finger millet as staple and major grain used for making weaning foods? • What is the regional capacity to produce pearl millet for food?
Sim Sim (Sesame) Seed	• How can sim sim production in region be improved? • Do the current processing methods affect the content and bioavailability of nutrients from sim sim? • Can rural small-holder farmers be organized to produce sim sim on large scale to sustain demand? • What is the range of culturally acceptable products that can be produced from sim sim?
Legumes and pulses	**Research questions**
Cowpea *Vigna unguiculata* Bambara groundnut *Vigna subterranea*	• Are there genotypes of high-yielding varieties? • Is it possible to intercrop prioritized legumes with crops commonly grown in the region? • Are there varieties associated with efficient nitrogen fixing bacteria?

Lablab bean	• What are the mechanisms for promoting consumption of the prioritized legumes in the region?
Fruits	**Research questions**
Guava (*Psidium guavaja*)	• Ethno-botanical surveys • Collection & inventories • Sharing germplasm within region • Morphological & genetic characterization • Adaptive research: Post harvest handling to address shelf life • Processing & value addition • Crop protection research • Market research
Prickly Pear (*Opuntia spp*)	• Domestication, propagation & production packages? • Consumer acceptability • Phenological studies (maybe develop flowering calendar?) • Nutritional studies
Mexican Wild Apple (Uapaca spp)	• Propagation and production studies • Breeding for fewer seeds & more pulp • Sexual identification studies • Value addition studies, marketing issues • Protection from pests • Nutritional studies
Roots and tubers	**Research questions**
Arrow Roots *(Colocasia spp)*	• Collection of germplasm • Propagation and production studies • Acceptability studies • Nutritional studies • Agronomic studies • Varietal selection • Preservation & processing • Marketing and promotion
Wild/Livingstone potato (*Plectranthus spp*)	• Propagation & production • Acceptability • Nutritional studies • Medicinal studies • Processing • Storage & keeping ability • Marketing
Yams (*Dioscorea Spp*)	• Propagation & production • Acceptability • Nutritional studies • Medicinal studies • Processing • Storage & keeping ability • Marketing

Leafy vegetables	Research questions
Vegetable amaranth Amaranthus spp	• Morphological and Genetic characterization of the different species • Assessment of commercial feasibility of the different amaranth types • Evaluation of the nutritional and health value (phytochemicals) of the different species • Physiological studies e.g water and nitrogen use efficiency • Intercropping systems with other NUS to assess the pest and disease control, yields and nutritional quality • Development of technologies to extend the shelf life for fresh vegetables, processing and product development • Value chain analysis and market research
African nightshades (*Solanum spp*)	• Assess the nutritional aspects as well as other phytochemicals • Physiological studies e.g water and nitrogen use efficiency • Shelf life studies and product development • Value chain analysis and market research • Traditional knowledge on uses
Spider plant (*Cleome gynandra*)	• Topping studies to lengthen leaf production • Adaptation studies in different ecological zones/seasons • Seed viability studies • Nutritional and phytochemical studies • Shelf life studies • Value chain analysis and market research • Traditional knowledge on uses
Undomesticated plants	
Horseradish tree/Drumstick tree (*Moringa spp)*	• Ethnobotanical and utilization surveys • Morphological and genetic characterization • Agronomic and adaptation studie • Nutrition and phytochemical studies
Vine spinach (*Basella alba*)	• Genetic characterization • Nutritional and phytochemical studies • Agronomic studies • Documentation of the traditional knowledge on production and utilization • Shelf life studies • Physiological studies on drought tolerance • Recipe development and evaluation
Baobab fruits and shoots (*Adansonia digitata*)	• Document traditional knowledge on conservation and utilization • Nutritional and phytochemical studies • Product development (fruit) • Morphological and genetic characterization

Additionally, some general research questions were identified:

- Neglected in research (characterization of different provenances in different ecologies)
- Develop agronomic information on the species
- Research possibilities for value addition in terms of various products for different market
- Nutrition information
- Collection of indigenous knowledge
- Studies on gender and cultural dimensions (in some communities there are male and female crops)
- Collection and conservation