



INTERNATIONAL
FOUNDATION FOR
SCIENCE



Call for research notes/applications to

EU-ACP Proposal Writing Training Course with focus on neglected and underutilized species of plants

Dates and venue: August 29th – September 2nd, 2011
Lilongwe, Malawi
Deadline for application: June 3rd, 2011

We hereby invite **Prospective Applicants for IFS Research Grants from Ethiopia, Malawi, Mozambique, Kenya, Uganda** to submit a Research Note and apply for participation in a Proposal Writing Training Course focusing on Neglected and Underutilized Species of Plants, to be held in Lilongwe, Malawi.

Background

Neglected and Underutilised Species of plants (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 can be 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 more narrow range of the most important food crops, diversity of NUS and associated local knowledge is rapidly being lost. Research, therefore, on NUS needs strengthening.

A Partnership of five African and two European organizations¹ 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).

¹Regional 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.

This call

Overall the project aims to strengthen the ability of young scientists to develop and manage interdisciplinary, multi-stakeholder research projects on NUS and to publish research results. To achieve this, the course provides **training on research proposal writing skills for NUS research**.

This training course in Proposal Writing for Neglected and Underutilized Species of Plants, is jointly organized by University of Malawi-Bunda College, the International Foundation for Science (IFS), Bioversity International, and the Regional Universities Forum for Building in Agriculture (RUFORUM). The course will be held on 29 August - 2 September 2011, in Lilongwe, Malawi. It specifically targets young scientists from Ethiopia, Malawi, Mozambique, Kenya and Uganda.

Research focus

This call is focused on research on priority species of Neglected and Underutilized Species of Plant for the Eastern and Southern Africa region. Please refer to Annex 1.

Participants in the training course can subsequently submit their proposal for a research grant to any research financing agency, including the competitive granting process of IFS.

Who should apply?

Applicants eligible for this call should:

- Be a citizen of **Ethiopia, Malawi, Mozambique, Kenya or Uganda**
- Be a national scientist attached to a university, research institution or a research oriented and not-for-profit NGO,
- Be under 40 years of age (or up to 45 providing the last higher degree was obtained in the previous 5 years) and at the beginning of their research career
- Have at least a Master's or equivalent degree.
- We particularly welcome applications from female scientists.

Procedure for applying for participation in this training course

1. A Scientific Proposal Writing Training Course will be held from 29 August - 2 September 2011, in Lilongwe, Malawi, to train and mentor young scientists in writing and preparing research proposals on NUS.
2. Applicants should fill in the Application Form and write a Research Note of one or two pages, outlining a project with potential for submission to IFS (or any other granting agency).
Download the form for the Application and Research Note here:
http://www.ifs.se/Programme/ApplicationForm_NUS_ProposalWriting_Malawi2011.doc
3. The proposed research should address research topics related to the conservation and use of NUS and focus on regional priority species listed in Annex 1.
4. The Research Note should be submitted to Bioversity International by **3rd June 2011**.
5. The Research Notes will be assessed by a joint panel from Bioversity, IFS, University of Malawi – Bunda College, University of Nairobi and RUFORUM.
6. Up to 25 successful applicants will be invited to the proposal writing training course.
7. The selected participants will be required to prepare a draft research proposal prior to the course; further instructions will accompany notification of selection.
8. The course aims to mentor the applicants regarding their research proposal, research methods, etc, and to develop skills in writing quality proposals.

9. Upon completion of the course, the participants will have acquired the necessary knowledge and skill to prepare a complete research proposal for submission to IFS or any other granting agency.

Applications should include:

- Research Note/completed Application Form
Download form here:
http://www.ifs.se/Programme/ApplicationForm_NUS_ProposalWriting_Malawi2011.doc
- Curriculum Vitae

Deadline for application is 3rd June 2011. Late applications will not be considered.
Only the selected participants will be notified by 1st July 2011.

Applications should be sent via email to Bioversity International:

Email: malawi-course@cgiar.org

Deadline for applications is 3rd June, 2011

Priority species and research topics in Eastern and Southern Africa

Priority species 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 (Table 1).

Table 1. Priority species for NUS research, Eastern and Southern Africa

| Cereals | Research questions |
|------------------------------------|--|
| Grain Amaranth Amaranthus spp | <ul style="list-style-type: none"> • 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 Eleusine coracana | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 <i>Vigna unguiculata</i> Bambara groundnut <i>Vigna subterranea</i> Lablab bean | <ul style="list-style-type: none"> • 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? • What are the mechanisms for promoting consumption of the prioritized legumes in the region? |
| Fruits | Research questions |
| Guava (<i>Psidium guajava</i>) | <ul style="list-style-type: none"> • 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 (<i>Opuntia spp</i>) | <ul style="list-style-type: none"> • Domestication, propagation & production packages? • Consumer acceptability • Phenological studies (maybe develop flowering calendar?) • Nutritional studies |
| Mexican Wild Apple (Uapaca spp) | <ul style="list-style-type: none"> • 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 (<i>Colocasia spp</i>) | <ul style="list-style-type: none"> • Collection of germplasm • Propagation and production studies • Acceptability studies • Nutritional studies • Agronomic studies • Varietal selection • Preservation & processing • Marketing and promotion |
| Wild/Livingstone potato (<i>Plectranthus spp</i>) | <ul style="list-style-type: none"> • Propagation & production • Acceptability • Nutritional studies • Medicinal studies • Processing • Storage & keeping ability • Marketing |
| Yams (<i>Dioscorea Spp</i>) | <ul style="list-style-type: none"> • Propagation & production • Acceptability • Nutritional studies • Medicinal studies • Processing • Storage & keeping ability • Marketing |

| Leafy vegetables | Research questions |
|---|--|
| Vegetable amaranth <i>Amaranthus</i> spp | <ul style="list-style-type: none"> • 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 <i>(Solanum spp)</i> | <ul style="list-style-type: none"> • 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 (<i>Cleome gynandra</i>) | <ul style="list-style-type: none"> • 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 | Research questions |
| Horseradish tree/Drumstick tree <i>(Moringa spp)</i> | <ul style="list-style-type: none"> • Ethnobotanical and utilization surveys • Morphological and genetic characterization • Agronomic and adaptation studies • Nutrition and phytochemical studies |
| Vine spinach <i>(Basella alba)</i> | <ul style="list-style-type: none"> • 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 <i>(Adansonia digitata)</i> | <ul style="list-style-type: none"> • 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