

## ENHANCING CROP PRODUCTIVITY ON SMALLHOLDER FARMS USING BIOCHAR



### Project Research Funding

**Deadline: 26<sup>th</sup> October 2018**

National Environment Management Authority (NEMA) in collaboration with the College of Agricultural and Environmental Sciences (CAES), Makerere University, and Nature Palace Foundation (NPF) invite applicants to participate in the project based collaborative research grant.

#### **1.0 Summary**

The 2018 World Atlas of Desertification cites nutrient mining by smallholder farmers as the leading cause of land degradation in sub-Saharan Africa, with Uganda listed among the 6 countries with the highest nutrient mining rates. Declining soil fertility in Uganda is not only a result of nutrient mining but also the failure of smallholder farmers to replenish soil nutrients.

In order to improve soil nutrients and enhance crop production in smallholder farms, the NPF Climate Smart Agro-ecology Project aims to advance the use organic biochar<sup>1</sup> as a means of improving the quality of exhausted/degraded soils while sequestering carbon.

**To achieve project objectives, one graduate research student is needed to:**

- (a) Determine the effectiveness of biochar in enhancing soil fertility/crop production at farm level.
- (b) Define the most appropriate application procedures for biochar under different crop types and farming systems.

Fieldwork will be carried out in selected villages in Wakiso district, with farmers from each village selected for on-farm trials.

## **2.0 Eligible Applicants**

**Qualifications:** The research project is open to Ugandans pursuing any of the following degrees: Master of Science in Biochemistry, Soil Science, and other science related degrees.

***Essential:** Undergraduate degree - 3.5 CGPA & above, fulltime university registration, evidence of previous research (undergraduate research project) and ability to meet university dues.*

**Experience:**

***Essential:** Field and laboratory experience.*

**Desirable:** Relevance of academic achievement to project, previous relevant experience in the proposed research area.

**Skills:** (a) Problem solving skills, (b) presentation skills, (c) previous success in and/or interest in research, (d) ability to work independently and at the same time function as part of a team, and (e) ability to act as an advocate for research project.

## **3.0 Funding**

Up to USD 1000 (at a rate of Ugx 3630) is available to facilitate field visits and any other research needs identified by the students.

## **4.0 Application Process**

Interested candidates should submit hardcopies of the following documents to the CAES Research Grants Office **not later than 31<sup>st</sup> October, 2018**. The selected candidate will be informed **by 12<sup>th</sup> November, 2018**. Requirements include;

- (1) Evidence of registration and citizenship.
- (2) Motivation statement expressing your suitability for the proposed research project – maximum 3 pages.
- (3) Detailed curriculum vitae and degree transcripts (Masters – provisional results if available).
- (4) Recommendation letter from proposed research supervisor.

## **5.0 Relevant Materials**

NGI. 2013. Biochar in Conservation Farming in Zambia. Improving Crop Yield and Storing Carbon. NGI Report No. 20100920-08-R. Available at <https://www.ngi.no> [accessed 01/06/2018].