



DATE: 02/03/2021

The University of Nairobi through the Earth observation and environmental sensing for climate-smart sustainable agropastoral ecosystem transformation in East Africa (ESSA) project is offering 2 PhDs and 3 MSc in various areas of research outlined below:

1 PhD in Plant Science and Crop Protection: This position involves development of management intervention for the invasive species Ipomea. The invasive species are a major conservation and management concern in the ASALs as they threaten ecosystem integrity and productivity while also posing a significant threat to agropastoralists' livelihoods in terms of both feed and food production. The emergence of these species has clearly added a new dynamic to land management in these areas, and have been a source of conflict over resource). For instance the reduced capacity of rangelands to support livestock, together with increase in human populations and competing demands for the use of land, have led to the treatment of pastoralists as insignificant. The work will involve; determining the spatial distribution and abundance of the species, assess the growth habit (arial and roots) plus any root exudates and phytochemicals in the plants, determine the plant/grass species associated with the invasive plant species, its effects on both above ground and below ground biodiversity and develop appropriate management interventions.

Applicants must hold a BSc. Agricultural sciences and MSc. in agronomy, crop protection, range ecology, or agroecosystem management with a strong background in plant physiology planning to start their PhD studies once the scholarship is awarded.

1 PhD in Environmental Governance and Management: This position will involve Socioeconomic-studies of interventions, impact assessment and transformation potential. There is need to equip pastoralist and agro-pastoralists with the necessary tools and skills to assess potential environmental issues when developing solutions leading to a diversification of income generation. First, assessment will be done of the existing livelihood activities and conditions for transformation. Focus will be on livelihoods, which would maintain or enhance tree cover in arid and semi-arid landscapes, such as beekeeping in which pollen and nectar from flowers are needed for honey production, and use of products from trees and other vegetation types, considering both native and exotic invasive species. A household survey will be conducted in this regard. Second, through survey data analysis, assessment will be performed of the transformation potential and socio-economic impacts of interventions to more climate smart agro-pastoralism with diversified livelihoods. Finally, the work will provide a comprehensive assessment of household resources and barriers to adoption related to the identified promising interventions. The work will be fundamental for transformative governance, with the goal of actively shifting degraded social-ecological systems to alternative, more desirable, or more functional regimes by altering the structures and processes that define the system.

Applicant must be a holder of a Master's degree in environmental sciences, biological sciences, physical and natural sciences, social sciences, peace related disciplines or an equivalent qualification from an institution recognized by University of Nairobi (UoN) Senate. The applicants can be either

those who have enrolled for PhD preferably in environmental governance and management and are in year one of study or fresh applicants.

1 MSc. Food Science: The MSc. student will be involved in developing nutrition products from Baobab fruit that will be disseminated for adoption and upscaling by chain actors. We are looking for a dynamic, highly motivated, and innovative scientist for a MSc. position in the frame of the collaborative research project ESSA: Earth observation and environmental sensing for climate-smart sustainable agropastoral ecosystem transformation in East Africa. The successful candidate is expected to conduct a research study on the potential utilization of baobab and aloe vera to develop innovative new products for commercialization. The study will involve analysis of the baobab and aloe vera to establish their nutritional and health benefits which ultimately will be explored in developing therapeutic product and for specialized vulnerable populations.

Applicants for this position must be a holder of First or Upper Second Class Honours degree in Food Science and Technology or Food Nutrition and Dietetics or an equivalent qualification from an institution recognized by University of Nairobi (UoN) Senate.

2 MSc. Animal production: The first MSc position involves developing and testing feed formulations based on *Prosopis juliflora* seeds for different classes of livestock.

The second position involves evaluation of different water harvesting (open and tied ridges and zai pits) technologies to enhance yield across seasons both for crops and forage production for livestock (Partial scholarship).

Applicants for first position must be holders of First or Upper Second Class Honours degree in Agricultural sciences with emphasis in animal science, Range management or Veterinary Medicine.

Applicants for the second position must be holders of First or Upper Second Class Honours degree in undergraduate degree in Agricultural sciences with emphasis in animal science, crop science or Range management or an equivalent qualification from an institution recognized by University of Nairobi (UoN) Senate.

NOTE: For all the MSc scholarships, applicants can either be those who have enrolled for MSc in relevant discipline and are in year one of study or fresh applicants.

Application documents:

- A letter of motivation
- Curriculum Vitae
- Publication list
- Copies of relevant certificates

The applicants must be Kenyan citizens

The **deadline** for application is 31/03/2021

Application should be sent to:

Email: cecilia.onyango@uonbi.ac.ke / mwangombe@uonbi.ac.ke