Call for MSc and PhD Partial Scholarship

Background

Global sustainable development report (2019) pointed out the urgent need to manage natural resources from global commons and how the resulting waste is managed. Access to safe and sustainable water resources use is a critical global challenge, with over 2 billion people living in water stressed countries. There is a tremendous increase in pressure on water service providers arising from land use change, rapid urbanization, climate change and the growing demands on water resources.

However, the long-term sustainability of urban water supplies is a concern in many developing countries. Given the growth in future demand for safe drinking water and sanitation services, as well as potential changes in future climate coupled with rapid human population growth, a detailed understanding of both water quantity and quality is required to use this resource sustainably.

Lake Victoria, for instance, is of great significance to the East African Region and the globe at large. This water body is the largest inland water fishing sanctuary, a major inland water transport linkage for the East African countries, a source of water for domestic, industrial and commercial purposes and a major reservoir for hydroelectric power generation. The lake and rivers draining along its catchment (e.g. Nile, Mara, Kagera, Simiyu, Mori, etc.) are rich in biodiversity and major sources of income, livelihoods and innumerable ecosystem services. Mara river wetland, for instance (which is located within Mara River Catchment) is a sink for sediments, pollutants, a breeding site for some fish species and habitat for around 226 bird species. It is designated as part of the worldwide network of "Important Bird and Biodiversity Areas" (IBAs) and recognized for its global biodiversity significance. The current declines in fish catches, indigenous fish species, degradation of riparian vegetation (e.g. papyrus, typha and phragmites) calls for urgent need for intervention.

This Lake Victoria Basin, a huge resource which, if conserved and well utilized, could bring about major progress to the region. However, the basin faces serious environmental challenges in relation to water pollution and reduction of water related ecosystem services coupled with rapid urbanization and pollution of urban streams. The high population density, rapid industrial growth, and waste water treatment plants in towns (i.e. Mwanza, Mara, Geita, Simyu and Kagera), have been reported as sources of environmental contaminants including from emerging pollutants (plastic debris and endocrine disrupting chemicals).

About the project

This project titled *"Safeguard Water Security Towards Sustainable Development Goals in Aquatic Ecosystems"* (SWATs) is a collaboration between Sokoine University of Agriculture (Tanzania), Lund University (Sweden), University of Eldoret (Kenya) and Northeast Institute of Geography and Agroecology of the Chinese Academy of Sciences, Changchun, (China). The proposal for this project was submitted under the Sustainable Development Goals (SDGs) Collaborative Funding Call 2024. This 3 years project is addressing SDG goal number 6 on clean water and sanitation. For the Tanzania component, the project is implemented by the Department of Geography and Environmental Studies (DGES), College of Natural and Applied Sciences (CONAS) of Sokoine University of Agriculture (SUA). The project is funded by

Tanzania Commission for Science and Technology (COSTECH) under the National Funds for Advancement, Science and Technology (NFAST). Among others, this SWATs project is investigating the status of water quality and quantity as well as the economic and social impact of water-related challenges on the local communities along the Mara River Catchment / Wetland, Mara Region.

Areas of support

Successful applications will work on one of the following:

- Emerging pollutants, water quality and sanitation in urban rivers (1 MSc student)
- Wetland health and aquatic biodiversity assessment (1 MSc student)
- Valuation and quantification of water related ecosystem services (1 MSc student)
- Environmental flows, water quantity assessment and monitoring (1 MSc student)
- Hydrology, land use / forest cover changes and water sustainable index (1 PhD student)
- Testing low-cost new research, innovation and sustainable water supply (1 PhD student)

Eligibility and support modality

- The project will support *research* component only
- MSc students who are through with coursework and are developing concept notes for research
- MSc students in hydrology, environmental engineering, environmental science, water resources management, aquaculture, laboratory sciences, ecology, ecosystem conservation, wildlife, environmental and natural resource economics and related biological sciences
- Be willing to carry out research along Mara River Catchment / Wetland

How to apply

Individuals who meet the above minimum requirements have to submit the following:

- BSc certificates / transcripts
- A motivation letter (one page)
- A brief concept note (5 pages) with introduction, problem statement, objectives, methodology and a tentative research budget
- MSc results for the first semester
- Curriculum vitae (3 pages)
- Recommendation letters from 2 academic referees

Kindly, send your application to: lalika_2mc@sua.ac.tz and copy to drpgs@sua.ac.tz; makarius.lalika@yahoo.com and anordiusgeorge3@gmail.com.

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The deadline for application submission is July 7th, 2024 and only shortlisted applicants will be contacted