



MAKERERE UNIVERSITY

COLLEGE OF AGRICULTURAL AND  
ENVIRONMENTAL SCIENCES

MAKERERE UNIVERSITY CENTRE FOR CLIMATE CHANGE  
RESEARCH AND INNOVATIONS (MUCCRI)

**SHORT COURSE ON 'CLIMATE CHANGE AND NATURAL RESOURCE  
MANAGEMENT: 10 – 15<sup>TH</sup> APRIL 2017**

The achievement of sustainable development requires that the earth's natural resources are wisely utilized, conserved and sustained over time. Sustainable natural resource management is already a great challenge because of multiple pressures on resources that result from population growth, urbanization, industrialisation and increasing and changing consumption patterns. Land degradation, deforestation, pollution, fragmentation of habitats are among the threats to achievement of environmental sustainability.

Uganda is gifted with a rich natural resource base. The prevailing climate favours existence of various ecosystems and biodiversity that supports food production, tourism and other goods and services. Trees and other biomass grow in all parts of the country. The country also has good soils and watersheds that support agricultural production.

Climate change will amplify the existing pressures on natural resources and ecosystems. Such pressures will increase demand for food, water, energy, fibre etc. This poses a risk of increased conversion of forests, protected areas, wetlands and fragile hilly and mountainous areas to expand land for agriculture and settlement, and accelerate land and ecosystem degradation. Globally, and in Uganda, climate change is already affecting water availability and the trend towards water scarcity is expected to increase. In Uganda, the most affected sectors are energy and agriculture, which supports most livelihoods of the households in Uganda. Increasing occurrences of droughts are expected to lead to shortage of water for irrigation, livestock and domestic consumption.

Uganda relies largely on traditional biomass energy, which is already short in supply. The current balance between supply and demand for biomass is fragile and by 2020 and beyond, there will be a large deficit. Deforestation arising from increased demand for biomass increases land degradation, which in turn reduces agricultural productivity. The encroachment on forests, protected areas and other ecosystems threatens Uganda's rich biodiversity and the tourism sector, and undermines the delivery of much needed ecosystem services.

Amidst a changing climate, sustainable environment and natural management is critical to support ecosystem and community resilience as well as national economic growth and development. However, the institutional and human capacity in Uganda to deal with natural resource management in a changing climate is not yet strong. Inadequate knowledge about climate change and its impacts on natural resources, ecosystems and biodiversity and the

limited understanding of different management strategies in a changing climate could hamper adaptation. Therefore, there is need for strengthening climate change human responsive capacity within institutions at local, national and regional levels to support climate change responsive natural resource management. Of particular importance is the need to provide knowledge and skills for enhancing sustainable natural resource management that takes into consideration of the vulnerabilities and risks posed by climate change.

This course provides an introduction on how to address climate change in natural resources management. The short learning programme such as this one will not turn participants into climate change experts, however, it will provide an informed platform for promoting climate change adaptation and mitigation in the environment and natural resources sectors through concrete activities by individuals and organisations. The course highlights the background of climate change, vulnerabilities, adaptation and mitigation for natural resources management. The course will introduce common and individual responsibilities and opportunities, and presents tools and mechanisms for enhancing climate smart resilient natural resource management.

### **Course Objectives**

The *overall objective* of the course is that climate change considerations are effectively integrated into natural resources management policy, programmes, projects and other community based climate change response actions.

The *immediate objective* is that all course participants are equipped with knowledge and skills to effectively address climate change in the framework of natural resource management through their jobs.

### **Course outcome**

This course will enable the participants to:

- Understand climate change and its impacts
- identify links between climate change, natural resource management and sustainable development.
- Understand the approaches and options for climate response natural resource management such as ecosystem based adaptation, integrated water resource management, sustainable land management, community based adaptation, climate smart agriculture etc.
- Understand the benefits of promoting approaches that deliver adaptation-mitigation co-benefits
- Effectively and meaningfully contribute to the debate and practical action on natural resource management in a changing climate.
- explore own job functions and role in relation to climate change and find ways of integrating climate change response actions.

### **Course dates and duration:**

*One week: 10 – 15<sup>th</sup> April 2017*

## **Learning approach**

The learning process will require active involvement of all participants before, during and after the course. The process will involve the following learning approaches:

- Flipped classroom and e-learning activities at your organization before meeting at Makerere University. This will involve online presentations, which provide important introductions to climate change and natural resource management. This will allow for more efficient use of time during stay at Makerere University for debates, exercises and excursions, while still building a solid climate change knowledge platform.
- Class activities (presentations, exercises, discussions), excursions, and case-based group work during the study at Makerere University, adding further knowledge and insight to the learning started in participants' organisations, and participant work with organisational Climate Change Action Plan.
- The field excursions will expose the participants to examples of climate resilient natural resource management challenges and solutions. In the group work the participants will work with real-life cases and experiences.

## **Course modules/topics**

- A. Introduction to climate change globally and locally
- B. Impacts and Vulnerabilities of climate change on natural resources, ecosystems and biodiversity.
- C. Climate change adaptation and mitigation options for sustainable environment and natural management
- D. Ecosystem Based Adaptation – concepts, principles, tools and application.
- E. Integrated water resource management – concepts, principles, tools and application
- F. Sustainable Land Management and Climate Smart Agriculture
- G. Sustainable Forest Management in changing climate, and REDD+
- H. Building community based natural resource management systems in a changing climate.
- I. Integrating climate change in natural resource management policies, programmes and projects

## **Course Funding:**

The fee for this short course is USD 500. This course is funded under a scholarship by a USAID supported project entitled the *USAID/Uganda Education and Research to Improve Climate Change Adaptation* (ERICCA) Activity. ERICCA is designed to help establish the Makerere University Centre for Climate Change Research and Innovations (MUCCRI) as a recognized national and regional hub of academic, professional development and research excellence in climate science, research, climate adaptation, and related disciplines. The fee, paid by ERICCA, is a non-refundable amount of USD 500 per participant for the entire duration of the course. The funding includes study fees, course materials, one field excursion, lunch and refreshments. As a way of co-funding, the participants are responsible for providing for their daily transport to commute to and from Makerere University.

## **Place of Training:**

Makerere University, College of Agricultural and Environmental Sciences.

## **Targeted group**

The course targets participants working in the natural resource management related sectors, programmes and projects. The aim is to create awareness and knowledge of current

changes in climate among practitioners working in natural resource related sectors and to present practical tools and ideas for action. To that end, the participants may come from different organisations. These can be policy and decision makers, academicians and researchers or civil servants in the central or local governments or they may work for NGOs or private companies. Good working knowledge of English is required as well as commitment to participate actively in learning activities before, during, and after the course. The participants should have access to internet to participate in the e-learning activities prior to the main course at Makerere University.

### **Application and Registration**

To register for a course please fill an online application/registration form found at [www.muccri.mak.ac.ug](http://www.muccri.mak.ac.ug) and upload scanned copies of the following:

1. A recommendation letter from your supervisor
2. Highest academic qualification/document
3. A job/institutional identity card (not national ID).

For further inquiries please contact the following:

1. MUCCRI Coordinator - Dr. Revocatus Twinomuhangi at [rtwinomuhangi@gmail.com](mailto:rtwinomuhangi@gmail.com).
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