



**INTER-UNIVERSITY COUNCIL
FOR EAST AFRICA
(IUCEA)**

**MSC. CURRICULUM IN CLIMATE CHANGE
AND FOOD SECURITY IN UNIVERSITIES
IN THE EAC PARTNER STATES**

GUIDELINES

January 2015



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PREFACE

Climate Change has a major impact on food security manifested by scarcity of availability of water resources, especially rainfall, soil erosion and land degradation in the medium and high-altitude areas, as well as leading to increased community conflict on key agricultural resources and rising unemployment. Research has also shown that climate change has significant impacts on many aspects of the economy and lives including water, energy security and biodiversity.

In November 2010 the Summit of Heads of State of the East African Community (EAC) held in Arusha, Tanzania, noted with grave concern the recurrent food insecurity caused by failed rains, environmental degradation and flooding, leading to high food prices, diseases outbreak and increased poverty. The Summit therefore urged EAC organs and institutions to consider addressing the problems of climate change and food insecurity in the EAC Partner States. In response, Inter-University Council for East Africa (IUCEA) initiated the process of developing a Master of Science curriculum in Climate Change and Food Security that will equip universities, professionals and future graduates with such skills specifically in agriculture, forestry and environment in the East African region.

A series of workshops have been organized by IUCEA and other universities in the region, where experts from the fields of forestry, agriculture, geography, and others from universities in the EAC, as well as other stakeholders were brought together and developed the guidelines for Msc. in Climate Change & Food Security.

The guidelines will facilitate and enhance the curricula development process for the disciplines related to this subject.

Prof. Mayunga H.H Nkunya
Kampala, January 2015
Executive Secretary, IUCEA

1. Introduction

The Inter-University Council for East Africa (IUCEA) is an institution of the East African Community (EAC) whose mission is to promote strategic and sustainable development of higher education systems and research for supporting East Africa's socio-economic development and regional integration. Its vision is to become an EAC strategic institution responsible for promoting, developing and coordinating human resources development and research in the region.

As an institution responsible for promotion of Higher Education in the EAC, one area through which this is achieved is in networking between scholars of related disciplines so as to strengthen capacity of universities in teaching, research and services. It is in this regard that IUCEA introduced 13 Thematic Clusters, focused on providing sector wide developmental themes for our economies and livelihoods. The Thematic Clusters therefore constitute one of effective systems for bridging academia and community gaps.

2. Background

IUCEA in collaboration with the then Faculty of Forestry and Nature Conservation of Makerere University organized a workshop on Climate Change & Food Security under the Forestry and Agriculture Thematic Cluster from 22nd to 25th February 2009 at Munyonyo Speke Resort Hotel, Kampala, Uganda. During the workshop, a steering committee comprising members from the East African Community Partners States was constituted to develop a Curriculum in Climate Change and Food Security. The need was premised on the fact that in the EAC region, food production, processing and preparation remains a key sector in the economies of the Community. It is estimated that between 70% and 80% of the labor force is involved in agriculture while 24% to 48% of the Gross Domestic Product (GDP) of the Partner States is attributed to the agriculture sector. However, the productivity of the sector

is partly being hindered by climate change, among others. In November 2010 a Summit of Heads of State of the EAC was held in Arusha, Tanzania, where the impact of Climate Change on Food Security in the Community was highlighted. The Summit noted with grave concern the recurrent food insecurity caused by failed rains, environmental degradation, flooding, leading to high food prices, diseases outbreak and increased poverty. With these challenges, the Summit urged the EAC organs and institutions to consider addressing the problems of climate change and food security. In response, IUCEA initiated the process of developing a Master of Science curriculum in Climate Change and Food Security.

Subsequently, the Steering committee held three meetings, one in Kakamega, Kenya from June 6-9, 2011, the second in Entebbe, Uganda from February 8-11, 2012 and the third in Kigali, Rwanda on 3rd August 2012 to develop the curriculum which takes into consideration the inter disciplinary aspects and needs of the stakeholders. The curriculum guidelines among others are geared towards eradication of poverty and hunger while ensuring environmental sustainability in the region. The guidelines are based on the vision whereby graduates will be able to articulate climate change issues and food security, assist communities to be innovative in solving problems related to climate change and food insecurity, develop and conduct research, meet current demands of labor markets and inform policies.

The curriculum guidelines have been developed by scholars from different universities in the EAC with cognizance of the gaps in existing programs with regards to responsiveness to climate change and food security and the possibility of variability in curriculum among universities due to inherent differences on circumstances and needs.

3. Rationale

Climate change and food security is a major global problem of the 21st century, and has high potential to hinder East

African countries from achieving Millennium Development Goals (MDGs) and specific countries' development visions should special interventions not be made. The curriculum guidelines on Climate Change and Food Security are focused at curricula that promotes sustainable utilization of the natural resources base in the region. The guidelines are focused at an innovative, unique and visionary curricula developed with a regional outlook for the benefit of people of East Africa. The curricula guidelines focus on capacity development required to fill the gaps in research, extension, teaching and learning as offered in traditional programmes in the EAC Partner States and beyond.

4. The Guidelines on Msc. Curriculum in Climate Change and Food Security

In view of the above, IUCEA has developed guidelines for Msc curriculum in Climate Change & food Security for universities in the region. The universities will be expected to use the guidelines to develop Climate Change and Food Security courses, so that universities can contribute in the eradication of hunger and poverty in the region through human capital development for sustainable management of natural resources and improved food security. Universities will be responsible for course content development and course structures according to the systems in place at each university and in line with the present guidelines.

5. Learning Outcomes

The Course thus developed should enable students to be able to:

- i. Demonstrate ability to plan and conduct qualitative and quantitative research, monitoring and evaluation of agricultural and environmental projects/programmes.
- ii. Explain the causes, effects and impacts of global warming and climate change on agriculture production, food security, natural resources and plan and implement

- mitigation and adaptation strategies.
- iii. Acquire knowledge and skills in agricultural financing, marketing and trade and in trans boundary governance in line with Multilateral Environmental Agreements (MEAs).
 - iv. Explain beneficiation of food types, traditional and modern processing, storage, preservation methods, inspection, standards and recycling of the remnants.
 - v. Acquire knowledge and skills in laws governing environmental resources conservation and management, policy formulation and evaluation.
 - vi. Develop technologies and innovations for food value addition and support to food security.
 - vii. Acquire knowledge and skills on green agriculture and understand management of different ecosystems including payment for Environmental Services (PES).

6. Study levels:

The Course will be delivered at Master's level (Master of Science in Climate Change and Food Security (M.Sc. CC &FS)).

7. Implementation guidelines

Commissions/Councils for Higher Education/Universities in the East African Community (EAC) Partner States will be expected to oversee the implementation of these guidelines through their regulatory, accreditation and other appropriate framework and mechanisms.



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