

Consortium for Research in East African Tropical Ecosystems

Climate Change, Ecological Interactions, Land Use Management, and Social Impacts

Botanical Garden, Maseno University, February 19, 2014
Le Savanna Country Hotel, Kisumu, February 20, 2014

The objectives of the **CREATE** Consortium initiated by Maseno University and the University of Bayreuth Center of Ecology and Environmental Research are:

- to **C**reate a platform for international scientific information exchange with respect to global change impacts on East African ecosystems
- to **R**ealize new projects and foster collaborative research on global change impacts in East Africa
- to **E**ducate doctoral students in up-to-date methods, approaches and innovations in global change science
- to **A**nalyze land use change and land management issues transdisciplinarily along transport continua
- to **T**ie together our social, cultural and natural science understanding in order to visualize critical drivers of change in East African landscapes
- to **E**ncourage current but even more importantly the next generation natural scientists of East Africa to pursue proactive management of their natural resources

This first CREATE workshop is designed to promote information exchange and organization among consortium members interested in analyses of ecosystem processes and their potential shifts under global change. The research initiatives of three working groups are featured, which examine 1) process controls in natural and anthropogenically impacted savanna, 2) promotion of native as well as adapted horticultural and agricultural crop species, and 3) the natural science and economic trade-offs and impacts that accompany land use shifts between forest and agriculture. Goals are first to consider how to consolidate the efforts on existing projects, and secondly to identify future additional partners that can contribute to “bottom-up” organizational efforts that will ultimately provide synthetic analysis of Kenyan land use systems.

February 19, 2014 Information Exchange on CREATE Potentials (Open to outside participants)

- 8:30 **Welcome to the Participants**
Prof. Dominic Makawiti, Vice-Chancellor
- 8:45 **The intention of the Maseno/UBT CREATE activity**
Dr. Dennis Otieno, Dept. of Plant Ecology, University of Bayreuth
- 9:00 **Session 1: Ecosystem Change and Society: New Approaches** Chair: Prof. J. Tenhunen
- ICSU/IGBP Program on Ecosystem Change and Society – PECS: An important potential for information exchange with respect to the efforts of CREATE**
Prof. John Tenhunen, Dept. of Plant Ecology, University of Bayreuth
- Achieving positive orientation to environmental problem solving in Kenya**
Prof. Omondi Ahawo, Dept. of Sociology and Anthropology, Maseno University
- Critical social interactions that promote preservation of landscape function**
Mr. Maurice Wanjela, Kipsaina Crane and Wetlands Conservation Group, Kesogon
- 10:00 Tea Break
- 10:30 **Agricultural technologies and their role in providing agro-ecosystem services in selected sites of Kenya**
Dr. Immaculate Maina, KARI-NPBRC, Njoro
- Tropical deforestation and reforestation dynamics: Quantifying gains and losses in ecosystem services**
Dr. Thanh Nguyen and Mr. Cosmas Lambini, BayCEER, University of Bayreuth



BayCEER

- Patterns of landuse and landcover change in Western Kenya**
Mr. Joseph Okotto, Dr. Mike Norton-Griffiths, and Mr. Harey Herr
Lake Basin Development Authority, Kisumu
- 11:30 **Session 2: Agronomy and Horticulture** Chair: Prof. John C. Onyango
- Rice promotion in Kenya: Management of water and nitrogen nutrition for productivity**
Prof. John Onyango, Dept. of Botany, Maseno University
- Cultivation of Bambara groundnuts in Western Kenya as a food and cash crop**
Dr. Darius Andika, Dept. of Agriculture and Food Security, Jaramogi Oginga University
- Potential of bamboo for farming, environmental conservation and poverty alleviation in South Nyanza, Kenya**
Prof. Godfrey Netondo, Dept. of Botany, Maseno University
- 12:30 Lunch
- 14:00 **Black tea yield and quality responses of clone Bbk 35 tea to nitrogen fertilizer application rates and harvesting intervals in the Lake Victoria Basin of Kenya**
Prof. Philip Okinda Owuor, Dept. of Chemistry, Maseno University
- Strategic repositioning of under-utilized and neglected species (NUS) for food security, nutrition, health and economic development in Kenya**
Prof. Mary Abukutsa, Dept. of Horticulture, Jomo Kenyatta University
- Standard assessment of GHG mitigation potentials and livelihoods in smallholder systems: the SAMPLES project**
Dr. Klaus Butterbach-Bahl, ILRI Nairobi and KIT Garmisch-Partenkirchen and Dr. Mariana Rufino, CIFOR, Nairobi
- Phytomedicines: A regional approach to development of chemotherapeutic drugs and empowerment of local communities in the Lake Victoria Basin of East Africa**
Prof. Philip Aduma, Dept. of Public Health, Maseno University
- Development and promotion of monosex (male) *Tilapia* technologies for enhanced farmed *Tilapia* production: Contributing to food security and the conservation of Lake Victoria**
Prof. Eliud N. Waindi and Dr. Paul O. Angienda, Department of Zoology, Maseno University.
- Climate data, crop models and farmers: Understanding climatic risks before discussing climate change**
Prof. David Stern, School of Mathematics and Actuarial Sciences, Maseno University
- 16:00 Tea Break
- 16:30 **Session 3: Ecosystem Physiology and Production** Chair: Dr. Dennis Otieno
- Impacts of agricultural expansion on natural ecosystems of Lambwe Valley**
Dr. George K' Otuto, School of Agriculture and Food Security, Maseno University
- Impacts of land use on soil properties of Lambwe Valley**
Dr. Sebastian Arnhold, Dept. of Soil Physics, University of Bayreuth
- GIS application to relate movement of savanna animals to forage production**
Mr. Luke Lukaria, Ruma National Park, Kenya Wildlife Service
- Selection of provenances of high value agro-forestry trees for Western Kenyan Farmlands**
Prof. Barack Owuor, Dept. of Plant Sciences, Maseno University
- A Synthetic Overview of Land Degradation, Sustainable Land Management, and Dryland Development in Kenya via a Social-Economic-Environmental Framework**
Prof. James Reynolds, Dept. Biology, Duke University
- 18:30 Close of Workshop
- February 20, 2014 CREATE Next Steps Planning** (Closed session at Savanna Country Hotel, Kisumu)