

The inception workshop of CREATES, march 2017.

The Nelson Mandela African Institution of Science and Technology (NM-AIST) hosted the Inception Workshop of the African Centre for Research, agricultural Advancement, Teaching Excellence and Sustainability (CREATES).

It is one of the African Centre of Excellence (ACE II) initiatives funded by the World Bank and was attended by international and interdisciplinary scientists and experts from world-renowned higher learning and research institutions.

The Opening Ceremony for the Inception workshop was graced by the then NM-AIST Ag.Vice Chancellor Prof. Osmund Kaunde on the 6th of March, 2017. The high turnout of distinguished personalities that came together under CREATES deeply impressed the Vice Chancellor. Prof Kaunde informed the workshop delegates that CREATES five years project is aimed at strengthening the capacity of NM-AIST for the institution to serve as an African Centre of Excellence for provision of Postgraduate training on a MSc and PhD level, including applied research, and outreach programmes for Food and Nutritional Security in the Eastern and Southern Africa region.

The VC added that it is within the target of NM-AIST to ensure that the five days' workshop will come up with concrete recommendations and conclusions which will assist the project and the NM-AIST to attain its objectives by sharing their insights through analysing the proposed programs, which are aimed to act as a change agent to the current problems of food and nutrition insecurity in Sub Saharan Africa.

Prof Kaunde urged the participants to assist the current and upcoming MSc and PhD students by allowing them accessibility to their Institutions Laboratory facilities for the students to be competitive and reliable to the continent of Africa and the world.

After the introductory remarks, the CREATES Centre Leader Prof. Hulda Swai explained to the workshop delegates that the intention of CREATES is to serve as a regional excellence hub in food and nutrition security in Sub-Saharan Africa in order to achieve and promote identified sustainable development goals on research based training.

Prof. Swai also said that CREATES will support excellent professionals in academia, provide an E-learning platform to promote post-graduate teaching programmes, research activities and dissemination of information. She also mentioned that the Centre will facilitate acquiring a state of art core laboratory to support Life Sciences and related research fields.

Prof. Swai mentioned that CREATES will facilitate technological research output in Good Agricultural Practice (GAP), food safety, nutrition and health by using bio-nanoscience and biorepositories for future research activities and that data repository will be the key component of the Centre in order to build capacity on

predicting risks generated through climate variability and provide scenarios on climate mitigation and adaptation.

Prof Swai informed the delegates that prior to the inception workshop the CREATES team from NM-AIST worked together with some key experts in the field of Science, Technology, Engineering and Mathematics (STEM) who are serving in Public and Private Higher Learning and Research Institutions from around the world. These experts convened for a four-day preparatory meeting (Needs assessment workshop) from the 1st to 4th of March 2017.

“Among other things the Needs Assessment Team had reviewed the academic and research programmes to be offered by the CREATES FNS and they have successfully provided the direction in the strengthening of the capacity of NM-AIST for the institution to serve as an African Centre of Excellence.” Said Prof. Swai.

Participants at the CREATES Inception Workshop from international and interdisciplinary expertise had the opportunity to provide candid advice and guidance during the plenary and group discussions as well as in the frame of selected individual presentations. Some of the key recommendations were: the creation of market-led MSc and PhD academic and short courses; cross-cutting training approaches; hands-on and experiential research areas and effective ways of technology transfer, dissemination and adoption in communities, politics and the industry

Before and during the Inception workshop CREATES co-hosted two scientific Workshops namely “Plant Metabolism for Improved Nutrition and Health” and “Ecological Modelling” short courses.

Plant Metabolism for Improved Nutrition and Health was organized by the Nelson Mandela African Institution of Science and Technology (NM-AIST), in association with the John Innes Centre (JIC), Biosciences eastern and the Central Africa - International Livestock Research Institute (BeCA-ILRI) and UK’s Biotechnology & Biological Sciences Research Council (BBSRC) & World Bank Eastern and Southern Africa Higher Education Centers of Excellence (ACE II).

The fortnight long *Plant Metabolism for Improved Nutrition and Health workshop* offered an opportunity for PhD and Masters Students from Tanzania, United Kingdom, Uganda, Kenya, United States of America, Ethiopia, Cameroon, Nigeria and Ghana to undergo different trainings and practical laboratory exercises on Extraction of Starch and Microscopy, Quantification of Starch (Megazyme Total Starch Kit), Total Starch Assay Procedure, Iron Microscopy, Phytic Acid (Phytate)/Total Phosphorus, Zinc Microscopy, Mass Spectrometry and Extraction, Quantification & Characterisation of Polyphenols.

The Ecological Modelling short course also took place during the Inception workshop of the CREATES and was attended by 19 participants from NM-AIST (LiSBE, CoCSE, including new CREATES students), ILRI Kenya, University of Hohenheim in Germany, and Eldoret University in Kenya. The facilitators of the training were from the Hamburg University of Applied Science, Germany and Rhodes University from South Africa. Students learned about the first steps to conceptual modelling and designing predictive models based on hands-on own research questions. Topics covered the spread of invasive plant species, nutrient fluxes in savanna ecosystems, animal movement patterns with respect to rainfall regimes, sustainable waste management and small-scale farming activities.

During the aforementioned events, a number of participating Professors and Doctors received an opportunity to present their current research areas to students in order to equip them with current trends and knowledge of their research.

CREATES also gave an opportunity to the workshop delegates to visit the local farmers of Arusha, who are currently experiencing some farming challenges, as part of their field of study.

The ACE II initiative aims at building training and research capacity in the region by training and raising a critical mass of specialized and skilled human capital that can use a multidisciplinary approach to ensure sustainable environment, food and nutritional security in Sab-Saharan Africa.

The CREATES program of NM-AIST is also aiming at strengthening content, delivery, outputs and outreach for the MSc and PhD programs in Life Sciences and other related programs with particular focus on core thematic areas of Sustainable Agriculture, Biodiversity Conservation and Ecosystem Management; Food and Nutrition Sciences; and Health and Biomedical Sciences (these being the four main pillars in the School of life science at NM-AIST), as a way to contribute to food and nutrition security in the region.

The 5 years' program worth 6 million USD will rely on the rich pool of NM-AIST faculty and adjunct professors and researchers from international academic and Research & Development institutions.

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