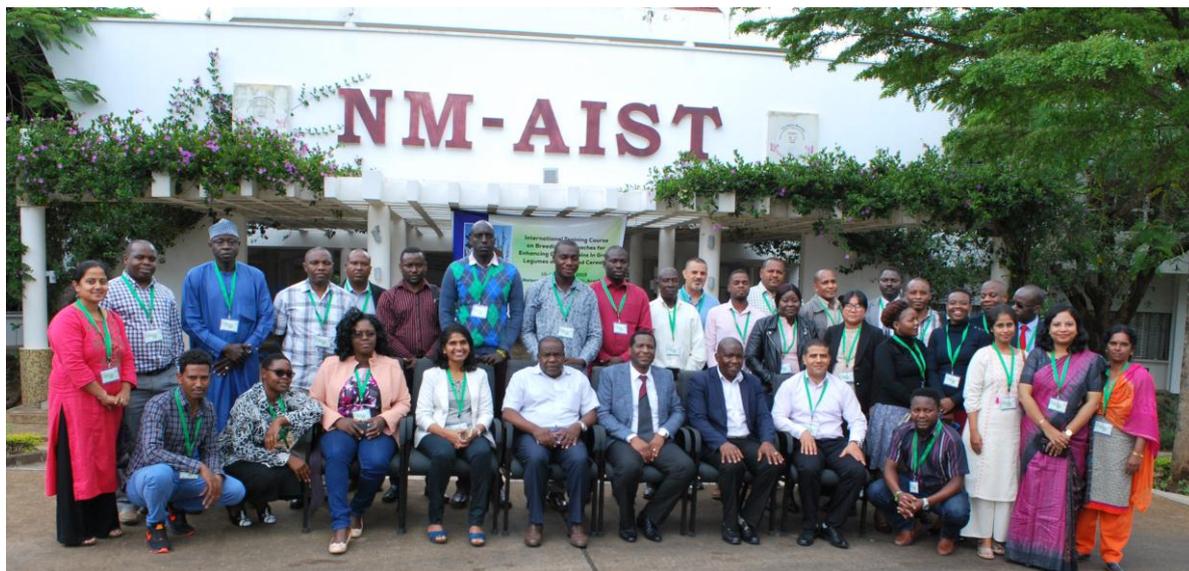


Crop Breeders from 14 African and Asian Countries at the NM-AIST to share Knowledge on Breeding Approaches to Enhance Genetic Gain.



Breeders working on grain legumes and dryland cereals in Africa have been called on to scale up seed breeding for industrial purposes. Up to date, varieties have been produced but have not met the current demand causing importation of seeds to remain at high rate. This two week training took place from 10th to 19 October, 2019 at the NM-AIST, Arusha.

The opening ceremony of the training was graced by the Director of Tanzania Agricultural Research Institute (TARI) Selian Dr. Joseph Ndunguru. During his speech Dr. Ndunguru said that the course on breeding approaches for enhancing genetic gain for GLDC has come at the right time where Africa is emphasizing application of science and technology to bring about agricultural transformation for significant contribution of the sector to national GDPs, which currently is very low.

“There is need to train our scientists and breeders especially those in Africa on how to access and make use of genomic tools for crop improvement. Despite of a lot of genomic resources published in high impact journals/publication, the use of this information is low in crop breeding causing a huge gap between the information and its conversion into crop breeding field....” added Dr. Ndunguru.

Talking about seeds systems of GLDC crops, Dr. Chris Ojiewo from Science of Discovery to Science of Delivery (ICRISAT) organization pointed out that there is limited data to influence informed decision making about market segmentation for various purposes and that adequate data is also needed for putting a strong case of profitability of new varieties. Chris urged the participants to ensure quality that will build trust of farmers on authenticity of seeds.

He explained that, properly functioning seed systems are essential to agricultural development and food security. In Sub-Saharan Africa, it can take several years to register new seed varieties in a particular country. This is often true even when the varieties are already available in neighboring countries or fellow member states of common trading areas

such as ECOWAS or EAC. Slow registration contributes to restricting smallholder farmers' access to improved seeds and therefore, further limits to their ability to increase yields.

The Deputy Vice Chancellor for Academics, Research and Innovation, of the Nelson Mandela African Institution of Science and Technology (NM-AIST), Prof. Anthony Mshandete challenged participants to use this training as a platform for collaboration and networking to share best practices of crop breeding. This will help a great deal in addressing the current gaps between breeders and industrial needs.

"One of the ways towards development of seed industry is enhancement of regional trade to unlock opportunities for African food producers and processors in the future, Our Scientists are challenged to team up and find solution to this", said Mshandete.

He urged participants to share knowledge acquired from training and other workshops of same kind, as it would help increase breeding approaches for lasting impact to the industry and small holder farmers.

Godfree Chigeza, IITA Soybean Breeder noted that in Africa, few breeders have ventured into the seed business. He argues participants to wake up and build up networks and partnerships in order to expand their horizon.

"We have become like people who cook and give the food to other people. It's actually high time for us to move out of the kitchen to also be seen, to speak for ourselves, engage policy makers and establish businesses which will work for our farmers," he explained.

According to Janila Pasupuleti, Leader of Science for Humanity's Greatest Challenges, a Flagship Program on Variety and Hybrid Development program highlighted that the training course on Breeding Approaches for Enhancing Genetic Gains in GLDC aimed at imparting knowledge on modern tools and techniques of crop breeding to accelerate genetic gain in GLDC crops specifically it was crafted to meet needs of "Practicing Plant Breeders" to enhance their operational efficiencies and rate of genetic gain for a unit cost.

"We expect that all partners will adopt modern tools and techniques in breeding programs and become self-reliant in generating and testing improved germplasm," she added.

GLDC generally aims to increase the productivity, profitability, resilience and marketability of critical and nutritious grain legumes and cereals within the semi-arid and sub-humid dryland agroecologies of sub-Saharan Africa and South Asia. These agroecologies are where challenges of poverty, malnutrition, climate change and soil degradation are emanates.

A deliberate effort was made by the Course Coordinators to encourage participation of women crop breeders to participate. Their effort was successful with 12 women out of a total of 26 trainees. Trainees were from 14 countries in Africa and Asia namely: *Ethiopia, Myanmar, Tanzania, India, Tunisia, Burkina Faso, Malawi, Uganda, Ghana, Mali, Nigeria, Sudan, Zimbabwe, and Egypt.*

The resource persons were from seven CGIAR centers: [CIMMYT](#), [ICARDA](#), ICRISAT, [IITA](#), [CIAT](#), [ICRAF](#), Excellence in Breeding ([EiB](#)); and Integrated Breeding Platform ([IBP](#)); Nelson Mandela-African Institute of Science and Technology ([NM-AIST](#)); as well as private seed sector, [ADVANTA Seed Company](#) and [Neilsen Seeds](#).

The training program was planned by the team of GLDC and the course was designed to meet the knowledge needs/gaps of the "Practicing Plant Breeders". It is planned to host the training at each the regions (SA, ESA and WCA) annually and work with the national partner to host this. This year, The Nelson Mandela African Institution of Science and Technology (NM-AIST) in Arusha, Tanzania hosted this training.