

Center Title and Acronym: Makerere University Regional Centre for Crop Improvement / MaRCCI

Host University and Country: Makerere University - Kampala, Uganda

Center Website Address: www.marcciplantbreeding.org

Center Director and email address: Dr. Richard Edema; redema@caes.mak.ac; redema12@yahoo.com

Primary Thematic Discipline of Center: Agriculture

Brief Description of Center:

Makerere University Regional Center for Crop Improvement (MaRCCI) is hosted at the College of Agricultural and Environmental Sciences (CAES). MaRCCI builds on two existing regional graduate programs, a PhD in Plant Breeding and Biotechnology (PBB) and an MSc in Plant Breeding and Seed Systems (PBSS), initiated by Makerere University and diverse partners in 2008. Key elements of the curriculum of these programs include core competencies in basic and applied skills, supplemented by social research methods, management and marketing, as well as a focus on ethics and values. The content of these two programs was developed through a rigorous process that involved input from key stakeholders from the private seed industry, the NARIs, and regional and international Universities. This input has: (i) made these programs responsive to problems and future needs in agriculture and society with research and educational programs that improve life and preserve environmental quality; (ii) resulted in dynamic and relevant research and academic programs founded in scientific advances and responsive to the needs of students and farming communities in Sub-Saharan Africa; and (iii) contributed to successful resource mobilization allowing effective implementation. In the last 9 years, these two programs have trained 121 MSc students and 57 PhD students from 25 African countries with thesis research on 18 food-security crops. The MSc program has become established as a premier program, but a lack of funding and other resources has prevented the PhD program from reaching its full potential

Key Objectives and Expected Outcomes:

- (1) Strengthen the training and research capacity in plant breeding and biotechnology within the region, and enhance regional and international collaboration.
- (2) Improve the content and delivery of the curriculum, in order to provide a strong theoretical and scientific foundation with an applied focus on delivery of better crop varieties. The curriculum will serve both the private and public sectors of Eastern and Southern Africa. International accreditation will be sought to ensure quality and further establish global credibility of the program.
- (3) Increase the capacity and sustainability of Makerere University's regional program in plant breeding in order to bring expertise together in one place. This will transform the program into the premier post graduate training center for crop improvement in Africa.
- (4) Train 30 new PhD and 40 MSc level plant breeders from the region of Eastern and Southern Africa. A few students will be selected for full funding, with others enrolling with part or all of their own funding.
- (5) Attract additional grant resources to Makerere University, based on the visibility and status of the Centre of Excellence.

- (6) Strengthen linkages with the private and public seed sectors, locally and globally, along with increased ties to other related industries (e.g. food processing).

Major Accomplishments to Date:

1. Appointed an Advisory Board of 9 eminent professors and businessmen from the private sector
2. Admitted students; in September 2016: - 26 MSc Students; 2017:- 5 MScs and 3 PhDs making a total of 34 recently enrolled students already undergoing training in MaRCCI graduate programs in addition to other continuing students in the program.
3. Commenced research on TWO Stable crops in Uganda; Cowpea and Sorghum
4. Develop an official LOGO and a functional MaRCCI website under construction.
5. Commenced procurement of construction of class rooms, offices, research facilities and other items.
6. In the next six months, we plan to recruit another 15 PhD and 20 MSc students under the two academic program that will be coordinated by MaRCCI, i.e. MSc (Plant Breeding and Seed Systems) and the PhD (Plant Breeding and Biotechnology) (August, 2018)

Primary Regional and Global Partners:

- a. National Agricultural Research Organization in Uganda (Namulonge (NaCRRI) & Serere (NaSARRI, and others)
- b. Regional Universities (Universities of Zambia and Juba);
- c. Rwanda Agricultural Board (RAB)
- d. National Agricultural Research Institute in DR-Congo (INERA Iowa State University (USA),
- e. North Caroline State University (USA),
- f. The World Vegetable Center –Arusha Tanzania (AVRDC)
- g. NASECO Seed Company (Uganda) and
- h. SeedCo Seed Company (Continental; based in Zimbabwe)
- i. Various CG- Centers, CIAT, IITA, CIMMYT, ICRISAT and IRRI

S/N	Senior Faculty	Email Address	Research Area
1.	Dr. Richard Edema	redema12@yahoo.com or redema@caes.mak.ac.ug	Plant Pathology & Biotechnology
2.	Prof. Paul Gibson	pgibson@siu.edu	Plant Breeding & Statistics
3.	Dr. Patrick Ongom Obia	oppatrickoo2@gmail.com	Plant Breeding
4.	Prof. Patrick Rubaihayo	prubaihayo@gmail.com	Plant Breeding

