

Achievements:

- Five (5) Lowland rice varieties were also released. These are Agoro, Okile, Komboka, Wita-9, and NERICA-6. They have a 25% yield advantage over landraces. Komboka (bred and released in Tanzania), is aromatic and matures earlier than Supa.
- Brochures on attributes and comparative advantages of these varieties have been developed and are being prepared for dissemination.
- A reliable set of ten SSR markers that can be used to genotype rice lines has been identified and validated (this was a result of the MSc. student work). These will be used for rapid genotyping of all available rice lines.

B) Cross-Cutting outputs and outcome

- *Three 3 students from Liberia sponsored by the West African Agricultural Productivity Project (WAAPP) joined Makekere University in 2013. The University attached all of them to the rice program, recognizing its capacity (boosted through EAAPP) to effectively train postgraduate students on rice research.*
- *One MSC student from RRCOE-Tanzania was hosted and supervised by a scientist from NaCCRI. The student successfully conducted his research, defended and graduated.*
- *Two PhD students are conducting research*
- *Two Uganda students were admitted for*

MSC training. One has completed while another is writing up her thesis.

C) Rice Seed Availability/Production

Both Upland and lowland rice were produced during this period.

- The first activity was production of breeder seed for use in the seed production block on station.
- Overall 12.9 tons of foundation seed has been produced by December 2014 and 9.218 tons already distributed.
- A total of 1.21 tons of breeder seed were produced in the same period.

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Title: EAAPP-Rice Component in Uganda at a Glance

Introduction: The Eastern Africa Agricultural Productivity Programme (EAAPP), funded by the World bank addresses agricultural productivity challenges in the sub-region by building on existing capacity to develop four Regional Centres of Excellence (RCoEs), one each in Uganda, Tanzania, Kenya and Ethiopia, based on shared themes of sub regional importance. The focus commodities for the RCoEs are cassava, wheat, rice and dairy coordinated in Uganda, Ethiopia, Tanzania and Kenya, respectively. In Uganda, the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) implements EAAPP through the National Agricultural

Research Organization (NARO) as the lead agency. The National Crops Resources Research Institute (NACRRI) hosts the Cassava Regional Center of Excellence (CRCoE) as well as the EAAPP-Rice Uganda component.

A) The shared themes of sub regional importance, their outputs and outcomes are highlighted:

1 Enhancing rice productivity through development of integrated management of major abiotic stresses with exploitation of diversified rice products in Eastern Africa

Achievements:

- Six (6) new upland varieties have been released. Of these, 4 are recommended for out scaling: Namche-1, Namche-2, Namche-3 and Namche-4. Namche-5 and Namche-6 seed are being multiplied for out scaling later. These improved varieties are high yielding (averaging 3.6 tons /ha on-farm & 6 tons/ha on-station) and more tolerant to drought and resistant to biotic stresses.
- Brochures on attributes and comparative advantages of these varieties have been developed and are being prepared for dissemination.
- An equipment for efficient crossing of rice was developed in Uganda and is currently being used in Tanzania, Kenya and South Sudan. Awareness about this machine was created through EAAPP.

2. Improving productivity in rice ecosystems

through integrated soil fertility and water management

Achievements:

- Cost benefit analysis showed that yields of rice at application level (30kg N + 7.5kg P + 2.5 t manure)/ha and (60 kg N + 15 kg P)/ha are equally high. Manure could be used to substitute the inorganic fertilizer.

3. Enhancing adoption of rice technologies in different ecosystems in Eastern Africa

Achievements:

- Under EAAPP, NARO identified sites for testing its technologies as a new modality of up scaling uptake of improved varieties. This Technology Impact Center (TIC) was in Apac and other sites have been selected in Kaberamido, Kiryandongo, Tororo, Gulu, Amuru and Nwoya. Currently, demonstrations on improved rice and cassava varieties are being conducted in these sites.

4. Development of African Rice Gall Midge (AfRGM) management options in Eastern Africa

Achievements:

- Two species of parasitoids were identified: *Platygaster diplosisae* and *Aprostocetus proceras*.
- *Aprostocetus proceras* caused 60% of the total mortality whereas *Platygaster diplosisae* caused 40%. The Larvae that were not parasitized were able to develop into adult insects.
- The sex ratio of emerged AfRGM was 3:2

(male: female). This could be due to the fact that males tend to emerge fast and have a very short lifespan (2-3 days).

5. Development and Promotion of Small to Medium Scale Mechanization and Post-harvest Technologies for Improving Rice Productivity and Grain Quality

Achievements:

- Small-scale mechanization equipment have been fabricated and these include: rice row planter, rice harvester and rice thresher. All the three have been tested and prototypes are recommended for up-scaling.
- A walking harvester was modified at National Agricultural Research Laboratories (NARL) and tested in 8 fields– it harvests 1 acre per hour with a fuel consumption of 1 L per acre. The overall cost of hire of the harvesting is about 30,000/=per acre. Manual harvesting cost varies with field terrain, yield, soil moisture and weed status. Generally an average of 80,000/= is charged for harvesting one hectare.
- A diesel engine thresher modified at NARL was tested in 4 rice fields. The threshing capacity is 500 kg per hour with fuel consumption of 1.2 L per acre. The overall cost of hire of the thresher is about 20,000/=. Threshing is charged 68,000/= per acre. This rate is adjusted upwards if the yield is considered to be very high.

6. Development and promotion of management options for major diseases of rice in Eastern Africa