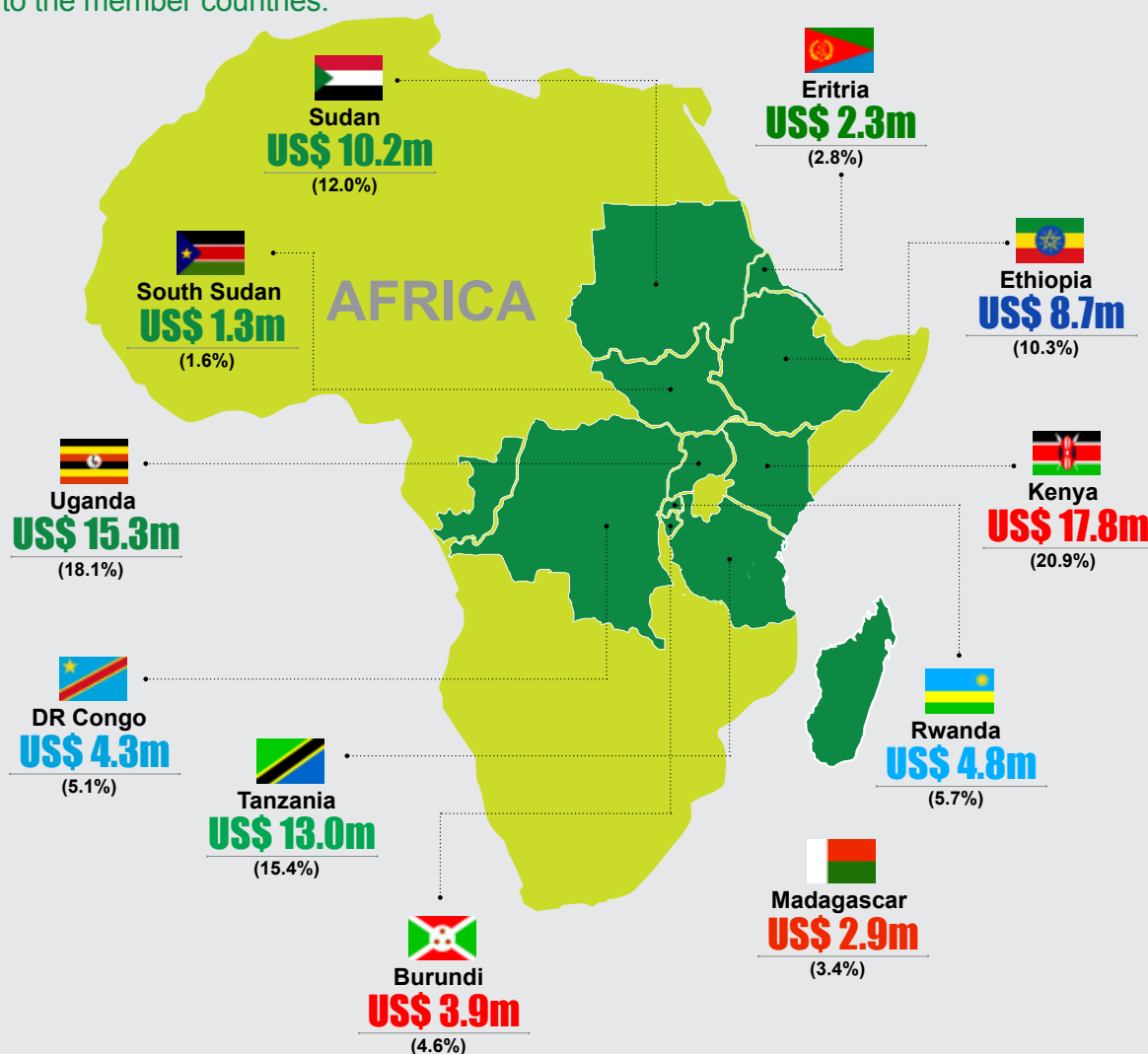


Contribution to Member Countries

Since inception in 1994, ASARECA has worked with National Agricultural Research Systems (NARS) of its twelve member countries: Burundi, Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Madagascar, Republic of the Congo, Rwanda, South Sudan, Sudan, Tanzania and Uganda. Between 1994 and 2018, ASARECA mobilized **US\$ 131 million** to implement Agricultural Research for Development (AR4D) initiatives in the countries. In addition, ASARECA coordinated the EAAPP programme in five member countries. Below are snapshots of ASARECA contribution to the member countries.



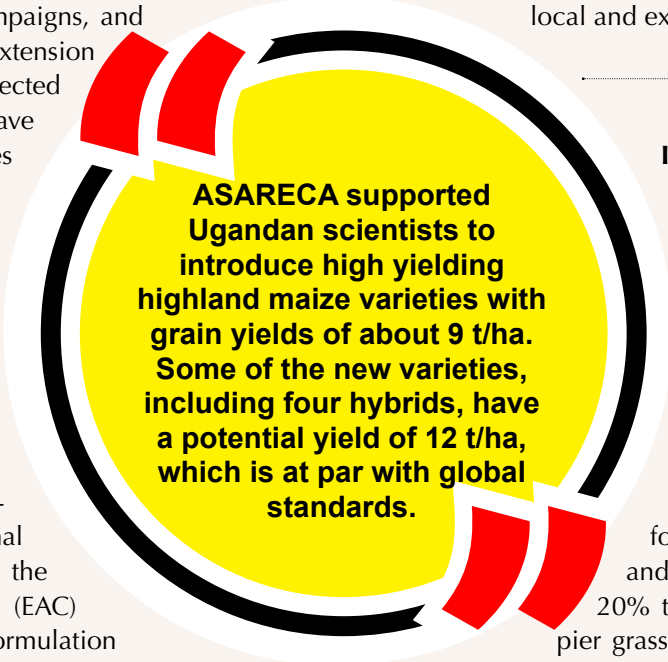
Uganda

Since inception, ASARECA has worked with the National Agricultural Research Organisation (NARO) and a number of Ugandan institutions, including Universities (Makerere, Mbarara, and Gulu); and the Ministry of Agriculture, Animal Industry and Fisheries. Between 1994 and 2018, ASARECA has invested US\$ 15.3 million to catalyze agricultural transformation in Uganda through key flagship projects highlighted below:

Fighting Cassava Brown Streak Disease (CBSD): ASARECA supported scientists from Uganda to fight CBSD that had wrecked havoc in the region between 2000 and 2011. The losses were estimated at above US\$ 100 million. Up to 25 districts in Uganda were affected, with Luweero, Busia, Pallisa, Wakiso, Mukono, and Kaberamaido being the hotspots. ASARECA led the development of Information Resource Kit used in awareness creation campaigns, and in training of farmers and extension workers on detection of affected materials. Researchers have since developed varieties that are tolerant to CBSD as efforts continue to find varieties that are totally resistant to the disease.

Establishing cassava and potato standards for EAC states: ASARECA in partnership with the National Bureaus of Standards of the East African Community (EAC) states coordinated the formulation of the East African standards for cassava, seed potato, potato and related products. As a result, 11 rationalized and harmonized standards for cassava and sweet potato were approved by the EAC in 2010, hence opening up space for structured trade

and industrialization of the commodities. As a result of this breakthrough, Popular Kumi Women Initiative (PKWI) cooperative (with 2,500 farmers) collaborated with Cassava Adding Value for Africa (CAVA-Uganda) and started producing high quality cassava flour that was sold to confectionaries in Kampala, while Makerere University's Department of Food Science and Technology currently makes cassava chips for local and export markets.



ASARECA supported Ugandan scientists to introduce high yielding highland maize varieties with grain yields of about 9 t/ha. Some of the new varieties, including four hybrids, have a potential yield of 12 t/ha, which is at par with global standards.

Introducing mixed crop livestock innovations: ASARECA supported scientists from NARO to work with farmers in improving efficiency and quality of production for crops and livestock. As a result, farmers in Masaka and Kumi districts realized increased fodder availability by 50%, and crude protein content by 20% through inter-cropping Napier grass with forage legume (*Centrosema pubescens*). Feeding livestock with the new fodder mixture increased feeding efficiency by 30%. Following the provision of 35,000-litre water-harvesting tanks to each of selected 24 farmers, water availability increased by 46%; the area under

forage production increased by 134%; and fodder quantity increased by 76%. Consequently, milk yields increased by 80%, leading to a 52.4% increase in household income.

High yielding maize varieties: ASARECA supported Ugandan scientists to introduce high yielding highland maize varieties with grain yields of about 9 t/ha (representing an exponential growth compared to 2.3 t/ha of lowland varieties that are predominant in the country). Some of the new varieties, including four hybrids, have a potential yield of 12 t/ha, which is at par with global standards.

Controlling Banana Xanthomonas Wilt (BXW): ASARECA supported Uganda in the promotion of proven and cost-effective measures against BXW that threatened to wipe out banana crop in the country. Deployment of disease eradication approaches, including propagation of clean planting materials led to increased production from less than 5% at the start of the epidemic to over 60%. Farmers from the affected districts of Bushenyi, Ntungamo and Mbarara recovered production from zero to over 60%, and currently earn at least US\$ 450 per month, up from only US\$ 30 during infestation.

Promoting Quality Protein Maize (QPM): ASARECA supported NARO in rapid scaling-up of QPM. Two varieties (Longe 5 and Salongo) were promoted, alongside crop management and post harvest handling practices in Lira and Gulu districts where acute malnutrition was predominant following the over two decades of the Lord's Resistance Army war. Over 80% of the farmers adopted these varieties, leading to improved nutrition and income.

Fighting Striga (witch weed): ASARECA supported and coordinated a team of scientists from Sudan, Kenya, Eritrea, Rwanda and Uganda to develop striga-resistant

sorghum lines using biotechnology. The joint research efforts led to the release of four out of the 51 lines of striga-resistant sorghum varieties with mechanical barriers to striga in Sudan. Given that the released lines are capable of yielding up to 3.6 tons/ha, ASARECA facilitated the movement of these released varieties to Uganda, Kenya, Tanzania and Rwanda where adaptability trials were carried out. In Uganda, the 36 lines were tested at the National Semi-Arid Research Institute (NaSARRI) for striga resistance, farmer acceptance and colour. The farmers have already adopted the selected varieties.

Mitigating effects of climate change: ASARECA facilitated and coordinated water-efficient projects in rain-fed and irrigated farming systems. The projects built capacity to harness the use of water resources, including rainwater, runoff, surface and ground water at farm, and at watershed levels in Kumi (Ongino), Mbale (Bunghoko), and Tororo (Kwapa) districts. Over 5,000 hectares of severely degraded land was rehabilitated, thus increasing water availability for agriculture. Farmers in Ongino, Bunghoko and Kwapa districts planted 18,600 trees, and established 780 water trenches on farmers' plots.

Eastern Africa Agricultural Productivity Project (EAAPP): ASARECA coordinated this regional initiative of the Governments of Ethiopia, Kenya, Tanzania and Uganda. Uganda provided leadership as the Centre of Excellence for cassava, thus bringing together 128 researchers to work on 33 regional projects. Through ASARECA's collaboration, Uganda sold over 40,000 doses of livestock semen within EAAPP countries. On the other hand, ASARECA facilitated the transfer of the following technologies from other countries to Uganda: 300 straws of high quality Ayrshire breed semen from Kenya; nine Napier grass collections from Kenya; four rice varieties (TXD306, Tai, Komboka and Ziada) from Tanzania; elite cassava materials tolerant to CBSD from Tanzania; 951 lines of bread-wheat from Ethiopia; and nine improved cassava varieties from Tanzania (already released in Uganda).