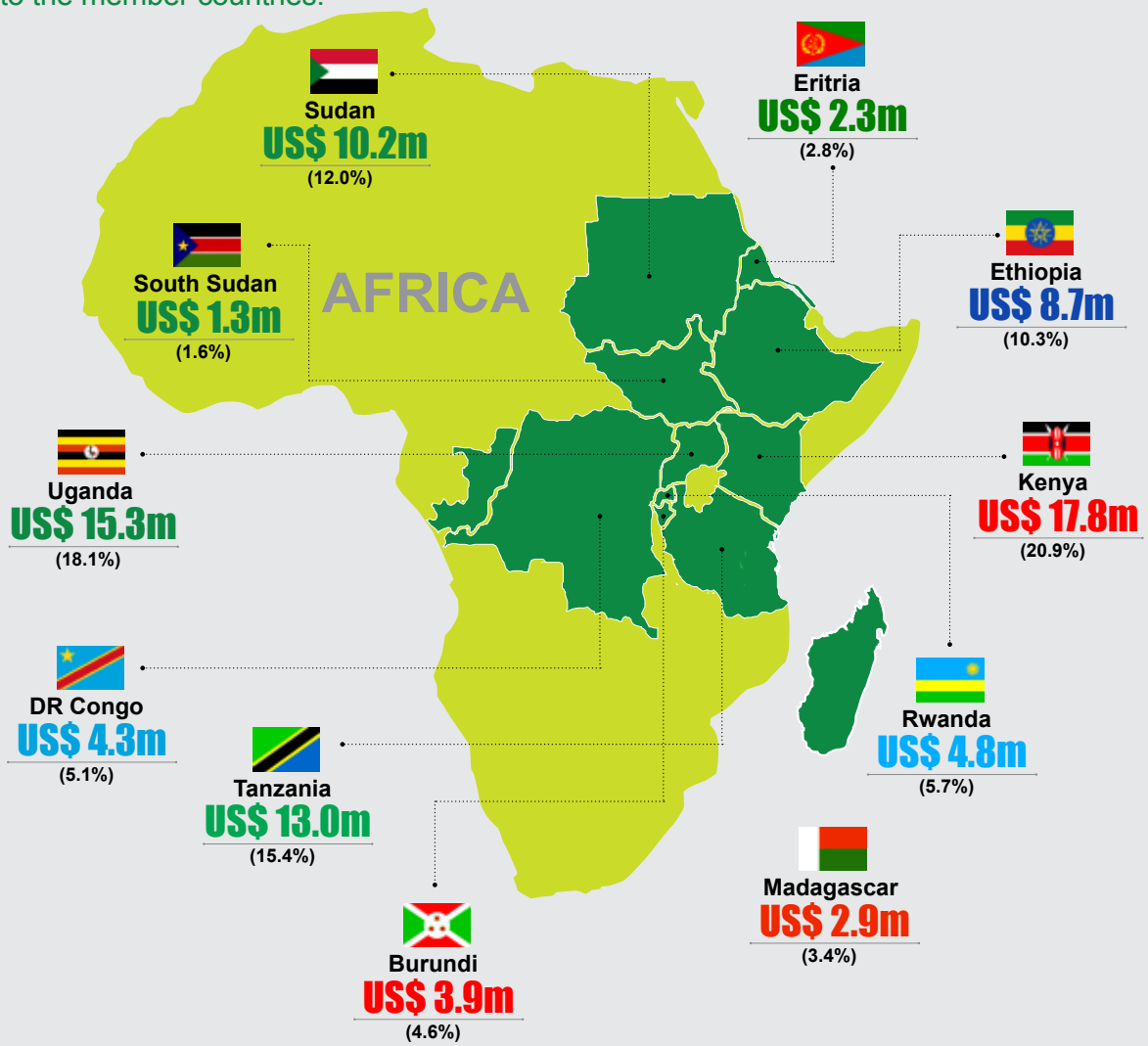
Contribution to Member Countries

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.



Eritria

Eritrea is a founding member and one of the 12 constituents of ASARECA. Since inception, ASARECA has worked mainly with National Agricultural Research Institute (NARI) and the Ministry of Agriculture to jointly address AR4D challenges in the country. Between 1994 and 2018, ASARECA invested US$ 2.3 million to catalyze agricultural transformation in Eritrea through key beneficiary projects highlighted below:

Sorghum-legume intercrop for food security: ASARECA supported researchers from Eritrea, Uganda and Sudan to increase the productivity of sorghum, legumes and livestock. The project focused on boosting efficient farm production, post harvest handling, value addition and diversification and marketing.

In Eritrea, this project was implemented through NARI, which was supplied with high yielding and striga resistant sorghum varieties and legumes (green gram (Filsan)) from ICRISAT for on-farm evaluation. Farmers, extension staff and scientists were sensitized and their capacity built on best agronomic practices, soil and water conservation practices, techniques for sorghum legume intercrop, seed production, and value addition.

The farmers now enjoy continuous supply of clean water. Using the skills learnt, farmers on their own constructed over 60 check dams and dug about 6,000 *tumbukiza* pits to harvest water and establish woodlots.

As a result, all the 160 farmers who participated in the project activities adopted the variety, which they intercropped with green gram, alongside other practices such as tie-ridges; application of fertilizer; and use of quality seed. Consequently, yields of both green gram and sorghum increased by over 100 percent. Households in the intervention areas reported improved nutritional benefits associated with feeding on green gram, which is rich in protein, magnesium and iron

Promoting pearl millet: ASARECA supported scientists from Eritrea, Sudan, Kenya and Tanzania to develop a profitable cropping system and value-chain for Pearl Millet to enhance its production in the arid and semi arid lands of the sub-region. ASARECA investments boosted the capacity of Eritrea to enhance its genetic resources and address post harvest, utilization, input delivery and marketing constraints.

Following successful implementation of the project, researchers in ASARECA countries in June 2010 endorsed pearl millet as the crop that is most suitable for the semi arid areas.

Response farming to address effects climate change: Due to increasingly unpredictable and erratic onset, quantity, distribution and cessation of rainfall in the sub-region, it has been challenging for farmers to make decisions on when to start land preparation, planting and estimating quantities of seed for planting.

This has affected agricultural productivity, leading to food insecurity. Informed by these trends, ASARECA coordinated Scientists from Eritrea and other member countries to enhance the capacity of smallholders to adapt to variability through response farming innovations. Relevant historical climatic and crop production data was collected and analyzed to map out trends that researchers could use to prepare the farmers to respond to variability.

The project developed and promoted options for tactical decision-making and trained farmers on farm-level water management. The project also built the capacity of researchers to generate and disseminate timely weather advisories and promoted communication systems to disseminate the advisories.

Mitigating effects of climate change

Working with researchers from Kenya, Ethiopia, Eritrea, Burundi, Uganda, South Sudan, Madagascar and Rwanda, ASARECA implemented projects to increase the availability and productivity of water in rain-fed and irrigated farms.

The projects built capacity to harness water resources from the rain, runoff, surface, and ground water at farm, and at the watershed level. In Eritrea, the project was implemented in Amadir and Molqi watersheds in the Sahelian rainfall zone.

Through ASARECA facilitation, researchers from NARI provided technical support to farmers to establish two check dams of (190 m3 and 334 m3) and two terraces (5.4 kms and 9.5m3) to control soil erosion and prevent siltation of Amadir and Molqi dams.

As a result, the farmers now enjoy continuous supply of clean water. Using the skills learnt, farmers on their own constructed over 60 check dams and dug about 6,000 *tumbukiza* pits to harvest water and establish woodlots.

With a reliable source of water established, over 300 farmers planted 1,200 trees to conserve the environment, and adopted *Rhamunus prinoides* and high yielding varieties of sorghum and malt barley. Because of these improvements, farmers in the intervention areas reported improved food security status.

The farmers also reported better income from sales of sorghum, malt barley and Rhamunus prinoides. Realizing the potential of improving livelihoods countrywide through this initiative, the Eritrean government allocated about US$ 68,000 to NARI to scale up project activities.

Other ASARECA supported projects implemented in Eritrea

- Characterization of Production Traits and Establishment of Genetic Potential for Improved Indigenous Sheep and Goats in Eastern and Central Africa.
- Strengthening Regional Germplasm Collection and Forage Seed Production in Eastern and Central Africa.
- Evaluation of Striga Resistant and Drought-tolerant Farmer Preferred Sorghum Varieties.
- Developing Gender Responsive Community Based Low-Cost Tissue Culture for Improved Food Security.
- Fighting Striga: Resistance Genes Deployed to Boost Sorghum Productivity.