



# **Celebrating Decades**

of Coordinating Collaborative Agricultural Research for Development

**Abridged Version**

**1994 - 2019**

# ASARECA Development Partners



**USAID**  
FROM THE AMERICAN PEOPLE



Investing in rural people



European Union



WORLD BANK GROUP



Sida



CRDI  
Centre de recherches pour le développement international



Canadian International  
Development Agency



Australian Government  
Australian Centre for  
International Agricultural Research



United States  
Department of  
Agriculture

As ASARECA celebrates 25 years of coordinating and convening AR4D in Eastern and Central Africa, we recognize our Development Partners for their contribution towards the fulfillment of ASARECA mandate. On behalf of the Governments of our 12 member countries and all our constituents, we say—**Thank You!**

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# About ASARECA

The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) is a not-for-profit inter-governmental sub-regional organization. ASARECA comprises 12 member countries: Burundi, the Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Madagascar, Republic of the Congo, Rwanda, South Sudan, Sudan, Tanzania and Uganda.

ASARECA was established in 1994 by ten member States represented by their National Agricultural Research Institutes (NARIs) following the approval of the Framework For Action (FFA) for agricultural research in Eastern and Central Africa by the Special Programme for Africa Agricultural Research (SPAAR).

The original ten member States included Burundi, Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda. The membership has since grown to 12 following the admission of South Sudan and Republic of the Congo in 2011 and 2019 respectively.

## ASARECA Coverage





# 25 Years of Adding Value to Member Countries

## Executive Statement

In 2019 ASARECA celebrated a Silver Jubilee since the Association was created in 1994. For 25 years now, projects supported and coordinated by ASARECA have made a substantial contribution to the livelihoods of many of the over 350 million people in Eastern and Central Africa.

ASARECA work has led to the development of noble agricultural Technologies, Innovations and Management Practices (TIMPs) such as:

- Improved crop and livestock varieties;
- Integrated soil fertility and water management packages;
- Agronomic packages;
- Storage packages;
- Value addition and Marketing packages;
- Regional agriculture and trade policy harmonization; and
- Institutional capacity development.

ASARECA has evolved through three major phases:

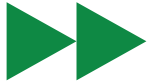
**The period of birth and development of the ASARECA Long Term Strategic Plan (1997).** This period characterized the creation of Research Networks which drove ASARECA AR4D agenda at the time.



**Prof. Jean Jacques Mbonigaba Muhinda**  
ASARECA Executive Director

**The period of change and development of the Second ASARECA Strategic Plan (2007-2016).** This period, saw ASARECA negate the Research Networks approach and adopt the Programmatic approach. This was implemented through ASARECA Operational Plan One (2008-2013) and Operational Plan Two – (2014-2018).

**The Third phase is the current period,** which ASARECA has embarked on after revisiting and refreshing its approach to AR4D through the development of the new ASARECA Strategy and Results Framework 2019-2028; the Medium Term Operational Plan 1 (2019-2023); and revisiting its niche to focus on where stakeholders demand it to concentrate.



# Looking into the Future

## Refreshed mandate

ASARECA has just launched a ten-year ASARECA Strategy and Results Framework (A-SRF) for the period 2019-2028. The 10-year Strategy is operationalized through two Medium Term Operational Plans (MTOPs) each covering a period of five years. The MTOP I covering the period 2019- 2023 is already under implementation.

To date ASARECA has cut out a sharp and prestigious niche, rebranded and strategically repositioned to perform a higher level facilitative, supportive, coordination and advocacy role to enhance sustainable agricultural transformation in the ECA sub-region.

To deliver on this role, ASARECA is now repositioned as the regional **“Go to Service Provider of Choice for AR4D coordination, convening, partnership brokerage, process facilitation, and communication products and services.”** These services are designed to deliver specific priority inclusive development outcomes and impact in the ECA sub region.

ASARECA will achieve this by supporting the attainment of economies of scale in the conduct of priority regional research and by significantly reducing duplication and misalignment of efforts and resources.

In this regard, therefore, the mandate of the repositioned ASARECA shall be to:

01

Identify regional research priorities and opportunities through credible, authentic and participatory ongoing strategic visioning processes.

02

Commission, broker and manage strategic research partnerships to address identified regional priorities in the most effective, efficient and synergetic ways.

03

Nurture pathways for on-time delivery, spill over and scaling up of regional agricultural research results to deliver agricultural outcomes and impact.

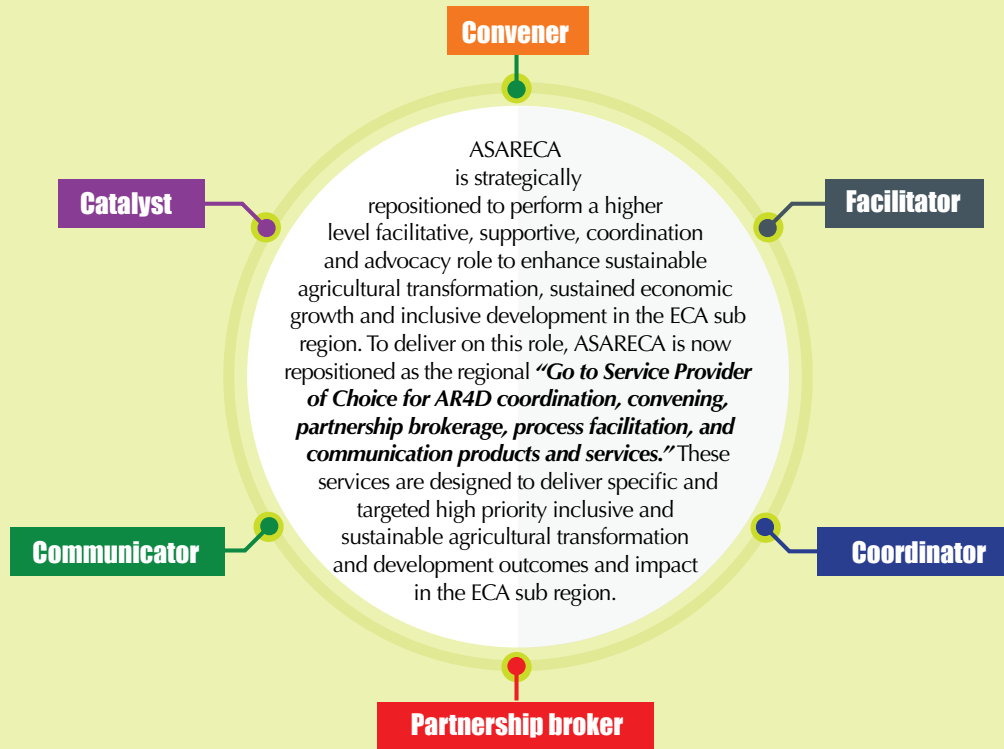
04

Mobilize, allocate and manage regional AR4D investments to support generation of regional agricultural research public goods and services.

05

Monitor and evaluate returns on AR4D investment and repackage lessons and best practices to inform decision-making processes and actions.

## Highlights of ASARECA Mandate



### ASARECA's four thematic areas:

1. Transformative Capacity Strengthening and Integration
2. Agricultural Transformation Technologies and Innovations
3. Enabling Policy Environment
4. Functional Markets and Transformative Institutions
5. Knowledge and Information Management.

This publication is an attempt to put together a statement of the Promise of ASARECA to its constituents. It is a summary of efforts and resources that ASARECA has put forth to its stakeholders in

fulfillment of its value proposition. Details can be found in the full version.

I welcome you appreciate your contribution.

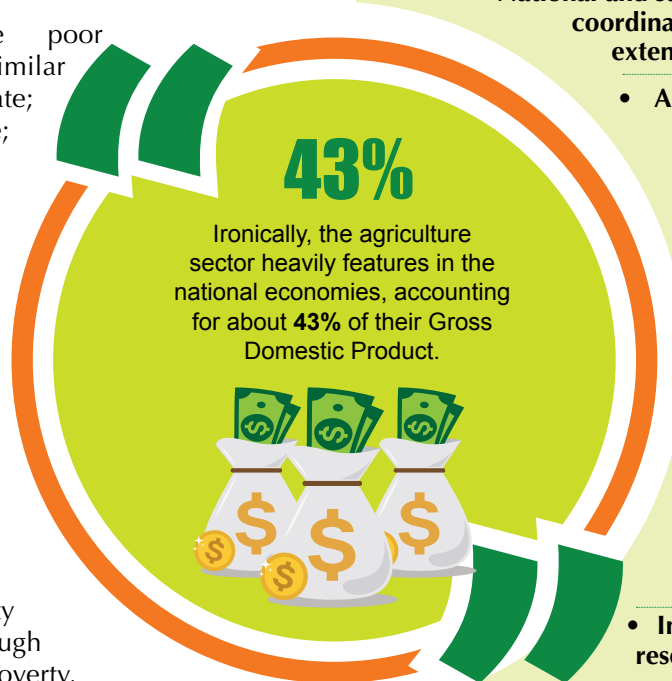
**Prof. Jean Jacques Mbonigaba Muhinda**  
ASARECA Executive Director

# Context and Justification for ASARECA work

The ultimate beneficiaries of ASARECA interventions are smallholder farmers pursuing agriculture-based livelihoods and using one-third of the sub-region's total land area (about 300 million ha).

These communities experience poor returns from agriculture and face similar challenges including variable climate; declining natural resource base; lack of access to input and output markets; limiting agriculture and trade policies; use of poor quality inputs; and attack by menacing pests and diseases. Young men and women born in these communities have abandoned farming in search of money-making ventures in urban areas, leaving agriculture to the elderly.

Moreover, low investment in agriculture and agribusiness has led to sluggish levels of productivity growth in the sector, which through the years deepened the level of poverty, slowed overall economic growth and per capita income levels. Ironically, the agriculture sector heavily features in the national economies, accounting for about 43 percent of their Gross Domestic Product (GDP).



## ASARECA Stakeholders

- National Agricultural Research Institutes
- Farmer's associations
- National and sub-regional associations that coordinate agricultural research, extension, training and education
- Associations of processors of agricultural products and service providers
- Associations of agricultural businesses and related marketing agents
- Consumer associations
- Organized women and youth groups working in agriculture
- Non-governmental associations working in agricultural research and development
- International agricultural research centres;
- Universities and advanced research institutes
- Investors and development partners.



# Why ASARECA was Established by the Member Countries

The founders established ASARECA to complement national efforts through sub-regional level collective action, collaboration and cost effective utilization of available resources to improve the delivery and impact of scientific knowledge, policy options and technologies to drive the sub-region towards meeting the Comprehensive African Agricultural Development Program (CAADP) goals.

**In summary, ASARECA was established to perform the following functions:**

- Promote and facilitate regional collaboration for cost-effective utilization of available resources to produce technologies, knowledge and innovations (regional public goods) to be shared by member countries.
- Mobilize resources globally for implementing collective action on agricultural research, training, extension and education services.
- Develop policies and programs aimed at deepening co-operation in agricultural research among member countries and facilitate the adoption of such policies including agricultural commodity arrangements.
- Complement the activities of the national, pan-African and international research institutions guided by the

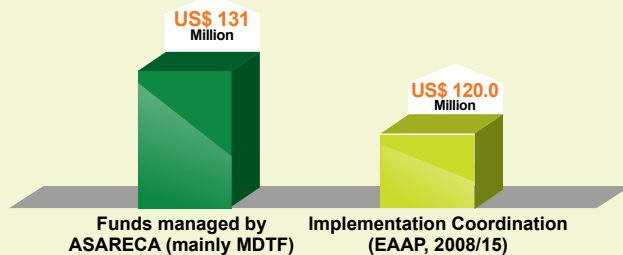


**Dr. Enock Warinda**  
ASARECA Deputy Executive Director

Principle of subsidiary, by focusing on activities for which the sub-region has a comparative advantage over national or international actions in delivering more responsive services to stakeholders.

- Empower end-users to meaningfully participate in developing priorities for AR4D.
- Contribute to the development and transfer of appropriate knowledge, methodologies, information and technologies and benefits among the NARS.
- Strengthen the capacity of national AR4D institutions to fulfill their national mandates.
- Promote the conservation of natural resources and the adoption of improved methods of agricultural production.

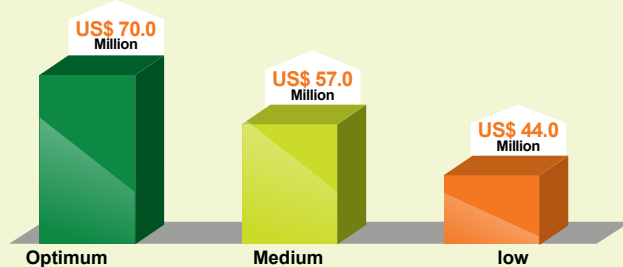
## ASARECA AR4D investments (1994-2018) vs Total R&D spending in member countries



● US\$ 10 million per year to support regional research

Country	Total agricultural Research Spending as a share of Ag-GDP (%)	Total agricultural R&D spending, excluding private for-profit sector (US\$ Million)
Burundi	0.39	10.9
DRC	0.24	27.7
Eritrea	0.30	2.9
Ethiopia	0.29	162.1
Kenya	0.48	222.4
Madagascar	0.14	10.4
RoC	0.26	6.3
Rwanda	0.44	27.3
South Sudan	-	-
Sudan	0.14	57.3
Tanzania	0.17	68.5
Uganda	0.62	99.04

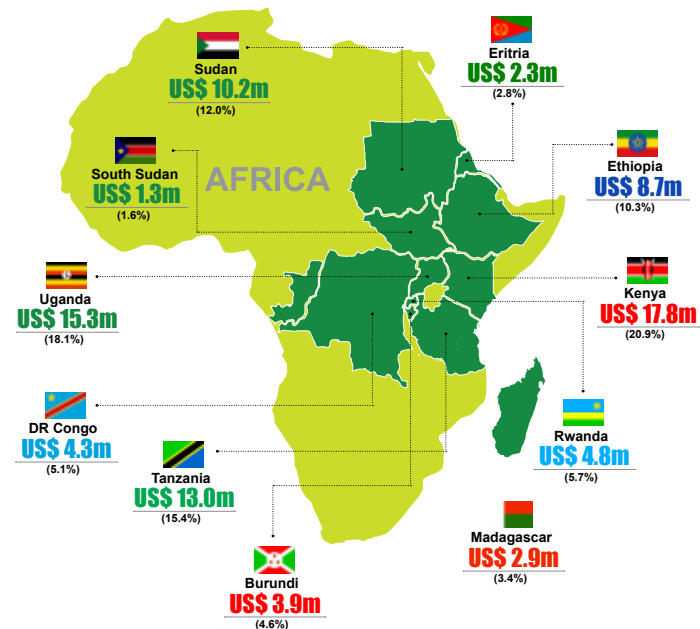
## Financing scenarios for the 5 year MTOP-I (US\$ Million)



- US\$ 8.8 million per year under the low-level funding scenario
- ASARECA anticipates funding from its member states' contributions in cash and kind; Development partners; Private sector actors and other stakeholders

## 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 in the member country.





***In 2019, ASARECA marked a Silver Jubilee. Activities to mark the Anniversary were launched during the ASARECA Council of Patron Ministers Summit in Kampala, Uganda and graced by the Patron Ministers, the General Assembly, the Board of Directors and National Focal Persons. The ceremony was presided over by Uganda's Second Deputy Prime Minister and Minister for East African Community Affairs, Rt. Hon. Alhaj Ali Kirunda Kivejinja.***



Flagship project 2019- 2023

# Comprehensive Africa Agriculture Development Programme (CAADP-XP4)

The CAADP XP4 project funded by the EU, is the lifeline for the CAADP Pillar 4 Institutions to build their capacities to support African Governments to deliver on the Malabo promise. It is a generous contribution that the EU has offered to support the sub-regional organizations to boost their capacity to deliver AR4D priorities.



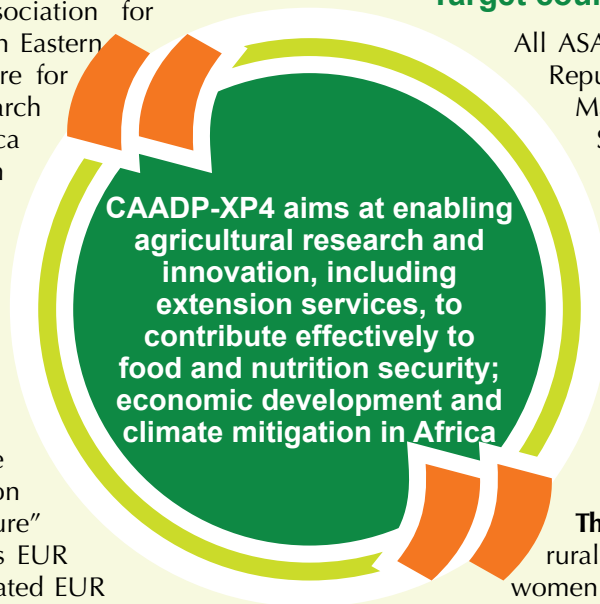
CAADP-XP4 implementing partners during a workshop at FARA headquarters in Accra, Ghana in February 2020



The five institutions are: The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA), West and Central African Council for Agricultural Research and Development (CORAF); and the continental apex institutions: The Forum for Agricultural Research in Africa (FARA), and the African Forum for Agricultural Advisory Services (AFAAS).

The Project is funded under the initiative “Development Smart Innovation through Research in Agriculture” (DeSIRA). The total project funding is EUR 30 million. ASARECA has been allocated EUR 5,370 000. The goal of the project is to contribute to the implementation of Agenda 2030. It will contribute to the progressive achievement of the Sustainable Development Goals; Agenda 2063; and the Malabo Declaration of the African Union (AU).

**The objective of CAADP-XP4 is:** To enable agricultural research and innovation, including extension services, to contribute effectively to food and nutrition security; economic development and climate mitigation in Africa.



## Target countries

All ASARECA countries: Burundi, Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Madagascar, Republic of Congo, Rwanda, South Sudan, Sudan, Tanzania, and Uganda.

**Direct target group:** The direct target group comprises the National Agricultural Knowledge and Innovation Systems (NAKIS), the private sector, farmer organizations, extension and advisory services, universities, as well as the Regional Economic Communities (RECs).

**The indirect target group** comprises the rural poor consisting of smallholder farmers, women and youth agripreneurs and pastoralists, as well as other marginalized communities.

## Key outputs

1. Capacity Strengthening
2. Multi-stakeholder partnerships
3. Policy, cross country market access and improved investment:
4. Knowledge management (KM)
5. Planning, coordination, MEL and reporting





# Taking Stock: Celebrating Impacts of US\$ 131 Million Investments

Since establishment, ASARECA has harnessed critical partnerships and mobilized over **US\$ 131 million** to implement its mandate. The investments were channeled to projects in member countries through two main arrangements: **ASARECA Networks, Programmes and Projects (NPPs)** (1994-2017) and through **ASARECA Research Programmes** (2008-2018). Besides, ASARECA coordinated the implementation of the Eastern Africa Agricultural Productivity Programme (EAAPP) worth **US\$ 120 million** in member countries. Below are highlights of achievements over the last 25 years.

## NATIONAL AGRICULTURAL OUTPUT

**20.6%**



The average growth in value of total agricultural output for all ASARECA countries 2008-2013. Three countries in the region achieved CAADP agricultural growth targets of 6 percent per annum: These include Rwanda (12.4%), Kenya (7.8%) and Tanzania (7.8%). Ethiopia and Eritrea recorded 5.8 percent and 5 percent pa respectively.

## HOUSEHOLDS

**422,176**



Rural households that directly benefited from ASARECA-related support initiatives. Overall, 2.5 million individuals benefited directly from an assortment of ASARECA support initiatives.

## RESEARCH & DEVELOPMENT



**11.6%**

Average regional yields for maize (@ a rate of 3 percent per year), with increases of 8.6 percent for rice, 8.4 percent for sweet potato and 4.5 percent for beans.



## TIMPS

# 364

Agricultural Technologies, Innovations and Management practices (TIMPs) that have been either generated or improved to suit farmers' demands.

# 435



TIMPs that have been availed for uptake. So far, 270,000 farmers and other stakeholders have adopted new TIMPs leading to an increase in net crop production value of US\$73.4 million at the peak of ASARECA interventions by 2014.

## FOOD SECURITY



Food security improved for beneficiary households from **74% to 81%** compared to an increase from **78% to 79%** for non-beneficiaries.

## SPILLOVER RATE

Highly positive spillover effects were noted, with an average pass-on rate to non-project farmers of 7 for each beneficiary household.



## LAND

# 4,600 ha

Land that was dedicated to improved TIMPs. As a result of this, over 800 metric tons of quality seed have been produced and sold or distributed to farmers for further multiplication.



## LAND DEGRADATION



Over **5,000 ha** of highly degraded lands and watersheds have been reclaimed, thereby providing targeted households with steady water supply for domestic and farm use.

## POLICY

ASARECA has contributed to enabling policy environments through review of existing policies, laws, regulations and management practices. A total of 100 policies, laws, regulations and procedures have been analyzed, 46 were presented for legislation and dialogue, while 17 were approved by various legislative bodies, EAC and COMESA parliaments.

# Taking Stock: Celebrating Impacts of US\$ 131 Million Investments

## CAPACITY STRENGTHENING

81,751



Stakeholders that received short-term training in integrated water management, value addition, integrated soil fertility management, value chain development, project management, monitoring and evaluation, environment and social safeguards, basic agronomic and management practices, among others.

## INFORMATION MATERIALS

10,000

Information packages produced with support from ASARECA. They include peer-reviewed journal articles, books, and chapters in books, electronic newsletters, conference proceedings and manuals. These products were made available to partners through over 260 different delivery pathways such as websites, flyers, TV, radio, SMS, dissemination events, media events, farm trials, multimedia (YouTube) among others, benefiting over 1 million targeted stakeholders.

## BENEFITS TO STAKEHOLDERS



ASARECA supported projects have led to significant generation of benefits to stakeholders, including provision of additional income for farmers, processors, small-scale traders, and increased productivity of selected commodities. For example, average total crop revenue has increased by 63% from US\$272 to US\$442 between 2008 and 2012 for beneficiaries (compared to only 5% for non-beneficiaries). Total livestock revenues also increased by 139% from US\$157 to US\$375, compared to a fall of 21% for non-beneficiaries.

## PARTNERSHIPS

400

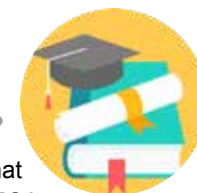
Number of partnerships formed by ASARECA in implementing its AR4D strategies.



## CAPACITY STRENGTHENING

150

Number of students that benefited from ASARECA long-term training at different levels. These includes; 15 PhD (9 male, 6 female); 112 MSc (73 male, 39 female); 4 BSc (2 male, 2 female); and 19 diploma/certificate (12 male, 7 female)







2009 - 2014

## Eastern Africa Agricultural Productivity Project (EAAPP)

*Uganda, Kenya, Tanzania, Ethiopia*

EAAPP promoted collaborative Agricultural Research for Development and sharing of research outcomes among participating countries through Centres of Excellence. Under the arrangement, Kenya is Centre of Excellence for dairy, Uganda for cassava, Ethiopia for wheat, and Tanzania for rice.

### Achievements

- Over 156 new Technologies Innovations and Management Practices (TIMPs) were developed. Of these, 64 TIMPs were disseminated across national boundaries. For example:
  - (i) Uganda shared cassava germplasm with Ethiopia, Kenya, South Sudan, Rwanda, DRC, Burundi and Malawi.
  - (ii) Kenya: shared: 4 clones of high yielding and disease tolerant Napier grass with Uganda and Rwanda, shared: An assortment of assisted reproductive technologies with Uganda, Tanzania, Ethiopia and Burundi; cassava germplasm with Uganda, Tanzania, Mozambique and Malawi; UG99 virus resistant wheat varieties with Ethiopia, Tanzania, and Uganda; rice germplasm with South Sudan, Ghana and Senegal; and
  - (iii) Tanzania shared rice germplasm with Kenya, Uganda, Ethiopia, Zanzibar and Malawi.
- There was a substantial increase in capacity for research from 232 researchers in 2009 to 661 in 2014.
- Acquisition of infrastructure, laboratories and associated equipment; milk processing centres and office space.
- The land planted with improved cultivars increased from 2,755 ha in 2010 to 12,807 ha in 2014.
- Over 5.5 million beneficiaries were reached.



Elite dairy breeds produced during EAAPP interventions in the region



2006 - 2010

## Harmonization of Cassava and Potato Standards in East Africa

*Burundi, Kenya, Rwanda, Tanzania and Uganda*

ASARECA coordinated efforts towards harmonizing quality standards for cassava and potato for cross border trade by convening private and state actors in participating countries to agree on the standards.

### Achievements

11 rationalized and harmonized standards for cassava and sweet potato were approved by the East African Community. They are: EAS 738- Fresh sweet cassava; EAS 739- Dried cassava chips; EAS 740- Cassava flour; EAS 741- Cassava wheat composite flour; EAS 742- Food grade cassava; EAS 743- Cassava crisps; EAS 744- Cassava; EAS 745- Potato crisps; EAS 746- Frozen potato chips; EAS 747; Fried potato chips; and, EAS 748- Fresh (ware) potato.



OFSP Value-added products were sold in supermarkets in Kenya



Policy harmonization directly boosts regional trade

1999 - 2006

## Promoting Regional Seed Trade Through Policy Harmonization

*Kenya, Rwanda, Tanzania and Uganda*

ASARECA coordinated efforts to reduce transaction costs through rationalization and harmonization of policies.

### Achievements

- All participating countries agreed to revise their certification procedures and harmonize variety release, import and export procedures. All the members enacted Seed Acts in 2003 and 2004.
- All participating countries produced quarantine pests lists and seed certification standards.
- In 2006, Eastern Africa Seed Committee (EASCOM) published varietal lists and standards handbooks and shared them with Permanent Secretaries in the Ministries of Agriculture in Kenya, Rwanda, Tanzania and Uganda for approval and adoption.
- Local seed production in Uganda tripled from 43,000 to 122,000 tones.



A regionally coordinated response to food prices is more effective than individualized measures.

2011

## Containing Food Prices Through Trends Analysis

All ASARECA Countries

ASARECA and partners have made concerted efforts in keeping the issue of mitigating the adverse effects of the high food prices high on the policy agenda of Governments. This comes after world food prices reached historic high levels in 2011. In collaboration with the CGIAR Alliance, ASARECA generated data on food trends, analyzed it and made it available to guide policy makers to make evidence-based decisions.

2008 - 2012

## Upscaling Adoption of Orange Fleshed Sweet Potato (OFSP)

Ethiopia, Kenya, Rwanda, Tanzania, Uganda

ASARECA promoted the adoption of OFSP technologies to improve livelihoods by increasing its production, consumption and marketing. OFSP is reputed as a cheaper source of Vitamin A, which is suitable for breast feeding mothers and children.

### Achievements

- Twelve (12) high yielding, nutritious OFSP varieties were adopted in the five countries.
- OFSP improved the food and income security for over 400,000 vulnerable communities.
- 3.3 million OFSP cuttings and 9,936 tissue culture plantlets were produced and distributed to farmers.
- A total of 102.1 ha were put under the multiplication of OFSP varieties.



Selection of OFSP root tubers for value addition in Tanzania



A farmer in Masaka in Uganda offers evenly chopped feeds to her cow

2009 - 2013

## Climate Smart Crop-Livestock Innovations

*Uganda, Kenya, Tanzania, Rwanda and Burundi*

ASARECA promoted Climate-Smart initiatives to improve the resilience of smallholder farmers to climate change.

### Achievements

- Over 26,000 people accessed water harvesting, small scale irrigation facilities and labour saving innovations.
- Innovations in dairy feed packages and feed conservation were generated and disseminated to households in intervention areas.
- Soil fertility improved, leading to increase in crop yields from 22 to 44t/ha. Fodder yield increased by 2%, milk (78%) and vegetables (500%).
- Household income increased by 66%.

2009 - 2013

## Conserving Plant Genetic Resources

*Burundi, Eritrea, Ethiopia, Madagascar, Kenya, Sudan and Uganda*

ASARECA promoted the effective implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) in harmony with national and sub-regional priorities and capacities.

### Achievements

- The Eastern Africa Plant Genetic Resources Network (EAPGREN) was born on 3rd November 1997 in Kampala Uganda to promote regional collaboration in the conservation and use of genetic resources in the member countries.
- Over 140,000 accessions of crop plants were collected and conserved in the various national gene-banks in the sub-region.



ASARECA supported partners to capture 140,000 accessions of crop resources



2008 - 2013

## Genetic Engineering of Maize for Drought Tolerance

*Ethiopia, Sudan, Tanzania, Kenya*

ASARECA facilitated the development of drought tolerant maize genotypes adapted to the region through the Genetic Engineering of Maize for Drought Tolerance in Eastern and Central Africa project by mobilizing funds for scientists from the NARIs to undertake this research.

### Achievements

- A total of nine (9) tropical maize genotypes were successfully transformed with drought conferring genes in 2010. They include two Ethiopian lines, three Kenyan lines, two Sudanese lines and two Tanzanian lines.



Rasha Adam, one of the researchers during the maize transformation process at Kenyatta University



Improved Napier grass clones developed through regionally coordinated efforts

2009 - 2013

## Controlling Napier Smut and Stunt Diseases

*Kenya, Tanzania, Uganda, Ethiopia*

ASARECA coordinated efforts to promote adoption of superior (resistant) clones and crop management practices to mitigate the spread of Napier smut and stunt diseases.

### Achievements

- Twenty (20) clones of high yielding Napier grass from Kenya were identified as resistant to Napier stunt disease.
- Diagnostic tools for Napier smut and stunt were developed, validated and disseminated to national partners to ensure materials are disease free. Best management practices to mitigate the impact of the diseases were promoted.
- Policy options for protection of vegetatively propagated genetic materials, management practices, and mechanisms for cross border movement of materials were developed.



Children at a feeding centre in Tanzania, who were given QPM porridge rapidly recovered from malnutrition

2008 - 2012

## Transfer and Dissemination of Quality Protein Maize (QPM)

DR Congo, Kenya, Tanzania, Uganda

ASARECA promoted the rapid scaling-up of QPM, reputed for its protein value, which 90% higher than of milk.

### Achievements

- QPM was adopted as a major ingredient in regular diets for over 540,000 people, especially malnourished children, and lactating mothers.
- Breeder seed for varieties promoted by the project including LONGE 5 for DR Congo and Uganda, and LISHE K1, LISHE H1, and LISHE H2 for Tanzania were produced.
- A publication with a collection of 40 proven best-bet TIMPs available for up-scaling was produced to facilitate adoption.

2009 - 2016

## Mitigating effects of climate change

Kenya, Ethiopia, Eritrea, Rwanda, Madagascar, Burundi, Uganda, South Sudan

Through two Climate Smart Agriculture projects, ASARECA used water an entry point to stimulate demand for other productivity enhancing technologies to boost agricultural productivity in ECA.

### Achievements

- Over 1,500 households adopted water use efficiency TIMPS.
- Up to 5,000 hectares of severely degraded land was rehabilitated through efficient water use and management practices.
- In Kenya, maize yields improved from 500kg/ha to 3.2 t/ha; while Napier grass production increased from 0 to 10 t/ha due to adoption of the pitting (*tumbukiza*) technique.



A water dam in an intervention site in Kenya constructed under the water productivity projects





A family celebrates a good harvest after defeating BXW

2013 - 2015

## Controlling Banana Xanthomonas Wilt (BXW)

*Uganda, Tanzania, Rwanda, Kenya, Burundi*

ASARECA coordinated efforts to use proven and cost-effective measures such as disinfecting farming tools, destroying sick plants and planting only clean materials among others to stop BXW disease.

### Achievements

- There was massive production of clean planting materials with over 6,000 clean banana suckers produced and distributed in Tanzania; 2 macro-propagation units with a capacity of producing 16,000 suckers established in DR Congo; three mother gardens for suckers set up in Kenya; and 8 in Uganda.
- Within six months of intervention, the proportion of farmers who controlled BXW increased from less than 5% to over 60%.
- Within 15 months, banana production shot up to over 80%.

2013 - 2015

## Controlling Cassava Brown Streak Disease (CBSD)

*Uganda, Kenya, Tanzania. Spill over countries: Rwanda, Burundi, Sudan, Malawi, Ethiopia*

With CBSD causing crop losses of between 50-100% in Kenya, 100% in Uganda, and 20-80% in Tanzania, ASARECA coordinated efforts by international partners and NARIs to research and promote the use of cassava varieties that are resistant to CBSD; study the spread of the disease; and generate information to control its spread.

### Achievements

- Researchers agreed that the use of resistant varieties was the long term and main strategy for controlling the disease.
- Existing relatively tolerant varieties were multiplied and distributed to farmers.
- A comprehensive CBSD awareness kit was produced and disseminated
- CBSD was subdued. Efforts continue to breed resistant varieties.



Cassava roots totally damaged by CBSD



Cassava and potato germplasm was collected for screening

2008 - 2011

## Improving Access to Clean Sweet Potato and Cassava Seed

*Burundi, DRC, Ethiopia, Kenya, Madagascar, Rwanda, Tanzania, Uganda*

ASARECA coordinated initiatives to avail and conserve cassava and sweet potato clean planting materials to member countries and strengthen their capacity in biotechnology.

### Achievements

- A baseline on the status of tissue culture applications was conducted to determine the existing capacity gaps.
- Over 200 sequences of virus for cassava and potato main diseases were collected for virus indexing.
- Laboratories were either built or refurbished and equipment for transformation was purchased.
- A field gene bank, a regional biotechnology laboratory and two glass houses were established at Muguga centre in Kenya.
- 14 regional scientists and technicians were trained in conservation and biotechnology.

2001 - 2011

## Advocacy for Development of Biotechnology & Biosafety Policy

*Implemented in COMESA countries*

The Regional Approach to Biotechnology and Biosafety Policy in Eastern and Southern Africa (RABESA) initiative was endorsed by the Common Market for Eastern and Southern Africa (COMESA) in 2003 to examine the potential ramifications of GMOs on trade, food security and access to emergency food aid in COMESA countries. ASARECA provided technical support in the roll out of the initiative.

### Achievement

- The COMESA Biosafety policy on commercial planting, trade in products and access to emergency food aid with GM content was developed and approved by the COMESA Ministers (16-20 September 2013) in Addis Ababa, Ethiopia.



Young researchers showing off maize plants that they transformed at Kenyatta, University

1994 - 1997

## Cassava Restoration in Kenya

*Implemented in COMESA countries*

Following the 1994 to 1997 attack by Cassava Mosaic Disease (CMD) in Kenya, ASARECA facilitated the Kenya Agricultural Research Institute (KARI), now KALRO to evaluate germplasm, multiply and disseminate resistant planting materials.

### Achievements

- Over 1,400 cassava clones were introduced and evaluated for the disease. Of these, 15 clones selected by farmers were distributed for rapid multiplication.
- There was wide adoption of improved varieties with yield above 15MT/ha with over 302,000 households growing the improved varieties.
- Impact studies conducted at the time indicated that 38% of the farmers adopted the improved varieties with a net return to investment of up to 200%.



Some of the 15 cassava clones selected by farmers for multiplication and use in the face of CBSD and CMD



Tissue culture banana materials developed with partners in Kenya

2009 - 2013

## Increasing Access to Clean Banana Planting Materials

*Uganda, Burundi, Kenya, Rwanda*

ASARECA coordinated efforts to produce and make available quality and disease free banana planting materials using tissue culture

### Achievements

- Disease resistant cultivars such as the FHIA-17 were developed and made available to farmers.
- Mass production of tissue culture banana materials was undertaken.
- The tissue Culture Business Network (TCBN) was formed to multiply and make available tissue culture technologies and increase information generation and dissemination.



2008 - 2013

## A seed-Plot Technology for Improvement of Seed Potato Quality

*Kenya, Uganda and Burundi*

ASARECA promoted the seed plot technologies to enhance utilization of appropriate innovations for production of high-quality potato seed. The innovation maximises tuber production per unit land area through high-density planting.

### Achievements

- There was increased availability of bacterial wilt-free seed potato; three times higher land productivity for seed; and a 50 percent reduction in land required by the farmers to produce potato.
- The technology was successfully adopted by farmers.



Researchers explain the seed plot technology for boosting potato production



Four lines of striga resistant sorghum varieties were released in Sudan

2008 - 2013

## Fighting Striga

*Sudan, Rwanda, Eritrea, Uganda*

With over 17,000 ha of sorghum infested by Striga, leading to yield losses of up to 2.3 million metric tons annually, ASARECA coordinated efforts to fight Striga by deploying resistance genes to boost sorghum productivity and enhancing sorghum adaptability to climate change.

### Achievements

- A total of 51 lines of striga-resistant sorghum varieties were generated using molecular marker breeding technology. Out of these, four lines code named ASARS1, ASARS2, ASARS3, ASARS4, were in 2012 released in Sudan.
- Thirty-six lines were advanced for evaluation and release in Eritrea, Kenya, Rwanda, Tanzania, Uganda and Sudan.



Pork consumption was affected by *Taenia solium*

2009 - 2010

## Control of *Taenia solium*

*Burundi, DR Congo, Kenya, Ethiopia, Eritrea, Uganda*

Following the prevalence of epilepsy and porcine cysticercosis in humans in the region in the early 2009, ASARECA coordinated a survey to determine associated risk factors for the disease and develop a diagnostic test kit.

### Achievements

- A diagnostic kit was developed to detect *Taenia solium* cysticercosis.
- The survey formed the basis for the acquisition of immunodiagnostic kits and vaccines for field tests.
- National action plans were developed for surveillance, prevention and control of the disease.

2008 - 2011

## Building Capacity of Weaker NARS to Drive Research

*Sudan, Rwanda, Burundi, Uganda, Kenya*

Through the project, Strengthening Capacity for Agricultural Research and Development in Eastern and Central Africa (SCARDA), ASARECA, FARA and RUFORUM worked jointly to strengthen the capacities of NARS, to undertake research.

A total of 34 young scientists from the national agricultural research institutes of Burundi, Rwanda and Sudan whom ASARECA sponsored to undertake Masters degrees in universities in East Africa completed their studies in various disciplines including Plant Breeding and Soil Science, among others. The scientists were well received in their countries and deployed in strategic AR4D positions.



Mathilde was appointed as Head of the National Soybean Programme in Rwanda after her Master's studies.





Farmers in Malawi using a Chameleon Sensor, one of the VIA tools

2015 - 2019

## Support to irrigation initiatives

*Tanzania, Malawi*

Since 2015, ASARECA has coordinated the Virtual Irrigation Academy (VIA) project, which is meant to support farmers to make evidence-based decisions for irrigation and use of best practices to increase farm productivity. Through the project farmer friendly monitoring tools such as Wetting Front Detectors, which show amount of nitrate in the soil; Chameleon sensors, which display the amount of soil moisture at different soil depths using blue, green and red lights. The lights provide visual interpretations of the moisture levels. The farmers were trained to interpret the data, which in turn informs the decisions they make on water use and agronomic options.

### Achievements

- The frequency of irrigation has reduced by 50% due to efficient use of available water.
- Farmers have noted a saving in the cost of fertiliser due to efficiency in fertiliser use.
- There was marked increase in productivity in all crops piloted.
- Conflicts over water sharing have reduced.
- Many households are now food and income secure.

2013 - 2016

## Supporting Business Incubation for Youth Empowerment

*Kenya and Uganda in partnership with FARA*

ASARECA coordinated the Business and Research in Agricultural Innovation initiative (UniBRAIN) to make agricultural innovations profitable and attractive to the youth by coordinating the identification of research products ready for commercialization and facilitating the establishment of three innovation incubator consortia.

### Achievements

- Over 91 business startups were incubated to overcome challenges that often 'kill-off' small and medium enterprises.
- Over 200 researchers were sensitized on the concept of incubation
- An inventory of technologies, innovations and management practices (TIMPs) for incubation was developed



Youthful beneficiaries of agribusiness incubation in Uganda

2010 - 2018



L-R: Dr. Leah Ndungu, Regional Manager for Africa, ACIAR; Prof. Jean Jacques Mbonigaba Muhinda, Executive Director, ASARECA; Dr. Peter Horne, Global Manager, Country Programmes, ACIAR; Mr. Moses Odeke, Technical Officer - Monitoring, Evaluation and Learning, ASARECA; and Dr. Enock Warinda, Deputy Executive Director, ASARECA, during the May 2019 ASARECA Council of Patron Ministers Summit.

## The SIMLESA Project

*Botswana, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania and Uganda*

ASARECA coordinated the implementation of the Sustainable Intensification of Maize-Legume Cropping Systems for food Security in Eastern and Southern Africa (SIMLESA) project, a multi-stakeholder collaborative research program implemented in five ASARECA countries (Kenya, Tanzania, Ethiopia, Rwanda and Uganda) and three Southern Africa countries (Malawi, Mozambique and Botswana). The project commenced in 2010 and ended in 2018 and was aimed at improving farm-level food security in the context of climate change and variability through the development of resilient, profitable and sustainable farming systems. The project was funded by the Australian Centre for International Agriculture Research (ACIAR) and managed by the International Maize and Wheat Improvement Centre (CIMMYT). Other partners included: University of Queensland and Murdoch University in Australia; International Crops Research Institute for the Semi-Arid Tropics (ICRISAT); and Agricultural Research Council (ARC), South Africa.

## SIMLESA Impacts

- Overall, SIMLESA aimed at reaching 750,000 households by 2023, to increase maize and legumes yields by 30% and reduce downside yield risk by 30%. Other key impacts include:
  - Direct benefits to 484,000 households who adopted at least two recommended CASI practices by 2018.
  - Increased farmers' net income by more than 66- 92% through combinations of crop diversification practices, intercropping, rotations and minimum tillage in Ethiopia.
  - At least 52 percent increase in net maize-legume income, and 26% reduction in the use of pesticides when farmers combined legume-maize intercropping and legume-maize rotations in Malawi.
  - Time-saving among the farmers by adopting two-wheel tractors.
- Over 30% increase in maize and legume productivity due to the adoption of permanent planting basins and rip-lines in Uganda.
  - Up to 20% increase in maize yields using planting basins compared with conventional tilled seedbeds in Mozambique.
  - Increased soil stability and fertility through shifting from conventional tillage-based cropping systems to conservation agriculture.
  - In Ethiopia, the project reached 375,557 farmers, while up to 90% of the farmers who had no access to extension services benefited from AIPs in Uganda.
  - ASARECA in collaboration with CIMMYT, ACIAR and member countries organized two High-Level Policy Fora. These fora – in October 2015 and May 2019 were held to present the SIMLESA evidence to Agriculture Ministers to fast track integration into national systems.



A farmer and his household in Lira Sub-county, Lira District, Uganda make rip-lines using a ripper and oxen



# ASARECA General Assembly Presidents

The General Assembly Presidents preside over all the meetings of ASARECA stakeholders constituting the Plenary of the General Assembly



**Prof. Elly Sabiiti**

President of the 1st ASARECA General Assembly  
(2011 - 2013)



**Prof. Joseph Bigirimana**

President of the 2nd ASARECA General Assembly  
(2013 - To date)





# ASARECA Executive Directors Since 1994

The Executive Directors have over the years provided diligent management of ASARECA Secretariat and promoted partnerships with Key stakeholders and development partners



**Prof. J.S Mugerwa (RIP)**  
1994 - 1995



**Prof. Geoffrey Christopher Mrema**  
1995 - Dec 2001



**Dr. Seyfu Ketema**  
Jan 2002 - Feb 2013



**Dr. Fina Opio**  
March 2013 - June 2015



**Prof. Francis Wachira**  
June 2015 - Dec 2016



**Dr. Cyprian Ebong**  
Jan 2017 - Sept 2018



**Prof. Jean Jacques Mbonigaba Muhinda**  
Sept 2018 - To date



# Current ASARECA Board of Directors (2019)

The General Assembly Presidents preside over all the meetings of ASARECA stakeholders constituting the Plenary of the General Assembly



**Dr. Hussein Abubaker**  
Director General,  
ARC - Sudan



**Amb. Dr. Kipyego Cheluget**  
Asst. Secretary General  
(Programmes) -  
COMESA



**Dr. Robin Buruchara**  
Director of the Pan Africa  
Bean Research Alliance  
- CIAT



**Bol Andrew Wieu Riak**  
Assistant Professor,  
Upper Nile University -  
South Sudan



**Dr. Yona Baguma**  
Dep. Director General,  
NARO - Uganda



**Dr. Geoffrey Mkamilo**  
Director General,  
TARI - Tanzania



**Eng. Dieudonne Nahimana**  
Director General,  
ISABU - Burundi



**Prof. Patience M. Mshenga**  
Dept. of Agricultural  
Economics and  
Agribusiness  
Management, Egerton  
University - Kenya



**Dr. Yirga Tizale Chilot**  
Dep. Director General,  
EIAR - Ethiopia



**Ms. Regina Kayites**  
Membership and  
Marketing Manager,  
Chamber of Agriculture &  
Livestock,  
PSF - Rwanda



**Ms. Elysée Mvumbi**  
Monitoring & Evaluation  
Officer, National  
Extension Service - DRC



**Mr. Eric Hermann Raparison**  
National Coordinator,  
Civil Society Platform  
in the land sector -  
Madagascar

# ASARECA Board Members Over the Years

The Board of Directors have over the years provided governance and management over sight to the Secretariat and acted as the principle entry point to the member counries



**Prof. Joseph Mukibi,**  
Director General,  
NARO - Uganda



**Dr. Dennis Kyetere**  
Director General, NARO  
- Uganda



**Dr. Emily Kabushenga  
Twinamasiko (RIP)**  
Director General,  
NARO - Uganda



**Dr. Ambrose Agona**  
Director General, NARO  
- Uganda



**Dr. Lala Razafinjara,**  
Director General, FOFIFA  
- Madagascar



**Dr. Ephraim Mukisira**  
Director General, KARI  
now KALRO - Kenya



**Dr. Eliud Kiereger**  
Director General,  
KALRO - Kenya



**Dr. Joseph Mureithi**  
Dep. Director General,  
KALRO - Kenya



**Dr. Victor S. Bennet**  
Director General,  
Directorate of Agric  
Research, Min. Agric &  
Food Security - S. Sudan



**Prof. Lilia  
Rahajaharitompo  
Rabeharisoa,**  
Madagascar



**Dr. Marie-Goretti  
Mirerekano**  
Director General,  
ISABU - Burundi



**Mr. Richard Sahinguvu,**  
Inades - Formation -  
Burundi





**Dr. Getachew Belay**  
COMESA



**Dr. Cris Muyunda**  
COMESA



**Dr. Fidelis A. Myaka**  
Director Div. of Research  
& Dev't, Ministry of Agric -  
Tanzania



**Dr. Hussein Mansoor**  
Director Div. of Research  
& Dev't, Ministry of Agric -  
Tanzania



**Dr. Eltahir Sidding Ali  
(RIP)**  
Ag. Director General,  
ARC - Sudan



**Mr. Zubeir Ibrahim  
Mohammed**  
Private Sector  
Representative - Sudan



**Dr. Daphrose Gahakwa**  
Director General,  
ISAR, now RAB,  
Rwanda



**Dr. Mark Bagabe**  
Director General,  
RAB - Rwanda



**Dr. Patrick Karangwa**  
Director General,  
RAB - Rwanda



**Dr. Theogene Rutagwenda**  
Director General,  
Rwanda Animal Resources  
Development Authority



**Dr. Solomon Assefa,**  
Director General,  
EIAR, Ethiopia



**Dr. Mandefro Nigusie**  
Director General,  
EIAR - Ethiopia



**Dr. Iyassu  
Ghebretatios,**  
Director General,  
NARI, Eritrea



**Dr. Tsegay Berhane**  
Director General  
NARI - Eritrea



**Dr. Kallunde Pilly  
Sibuga**  
Sokoine University -  
Tanzania



**Mr Phillip Kiroo,**  
President Eastern  
Africa Farmers'  
Federation



**Prof. Paul Makuka  
Mbe Mpie**  
Director General,  
INERA - DRC



**Prof. Amand Mbuya  
Kankolongo**  
Director General,  
INERA - DRC



**Dr. Armand Claude  
Mvila**  
Director General,  
IRA - Republic of the  
Congo





**Dr. Jimmy Wilson Smith**  
Director General,  
ILRI



**Dr. Carlos Sere**  
Director General,  
ILRI



**Dr. Yemi Akinbami**  
Executive Director -  
FARA



**Mr. Stephen V. Muchiri**  
CEO, Eastern Africa  
Farmers Federation



**Mrs. Lucy Muchoki,**  
Nairobi Kenya

## ASARECA National Focal Persons

National Focal Persons (NFPs) are senior officers at the NARIs appointed by the Director Generals as foot soldiers for coordination of ASARECA supported initiatives in the member countries





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