

# A CENTURY OF AGRICULTURAL RESEARCH IN SIERRA LEONE: CHALLENGES, GAPS AND POLICY ISSUES



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# **AGRICULTURE'S IMPORTANCE IN THE ECONOMY:**

- Contribution to GDP: 32% - 55.6% (1965 - 2013)
- Employs about 70% of population.
- Employment by Gender:
  - Men: 49%
  - Women: 51%

## **Poverty Profile**

- 70% of population lived in poverty in 2000, 66.4% in 2003, and 52.9% in 2011
- Incidence of poverty highest amongst farmers

# Agriculture's share of Government Expenditure

<u>Period</u>	<u>% of total Expenditures</u>
1922-55	0.88 - 3.13
1960/61- 76/77	2.59 - 7.10
2001- 2006	2.5 - 3.0
2009 - 2012	6.16 – 8.87

# A CENTURY OF AGRICULTURAL RESEARCH AND POLICY

## Government Emphasis on:

- National economic growth
- Increasing rural incomes/wealth creation
- Food security & poverty alleviation
- Promotion of agricultural exports

To facilitate the achievement of the above goals, agriculture sector must be **transformed** from **subsistence** to a **commercial and profitable business enterprise.**

**Agriculture is regarded as the engine for economic growth with focus on Agricultural Value Chains (AVCs) of:**

- Input supply
- Production
- Value addition/agro-processing (e.g. Ag. Business Centers)
- Marketing - Quality of farm produce (e.g. local rice), prices, packaging, etc.

Consider issues dealing with financing farmers, market dynamics, and relationships along the AVCs.

- Financial Services Associations/Village Banks (51 FSAs)
- Community Banks (17 across the country) – very high interest rates, 2.5% per month capped at 36% per year.

**AVCs are included in the National Sustainable Agriculture Development Programme (NSADP) – which led to:**

- ✓ Smallholder Commercialization Scheme, and
- ✓ Medium and Large-scale Farmers Promotion Scheme

# A LOOK AT AGRICULTURAL RESEARCH

- Njala Experiment Station (1910)
  - Agronomic research
- Rokupr Rice Research Station (1934)
  - Mangrove and swamp rice
  - Became the West African Rice Research Institute in 1953
- Teko Veterinary Station, near Makeni (1942)
- Livestock Station at Musaia, Kabala (1943)
- Oil Palm Research Station at Njala became the West African Institute for Oil Palm Research in 1953
- Forestry Research Station at Bambawo (1953)
- West African Fisheries Research Institute at Kissy, Freetown established in 1953.
- National Agricultural Research Coordinating Council (NARCC) established in 1985 to coordinate research activities.
- Njala University and Univ. of Sierra Leone also carried agricultural research
- SLARI established in 2007 by an Act of Parliament

## **SLARI Mission Statement**

- *“To enhance sustainable productivity, commercialization and competitiveness of the agricultural sector through generation and promotion of innovative agricultural technologies and empowerment of stakeholders”.*

## **SLARI Vision**

- To see *“Improved and sustainable broad-based agricultural growth”*
- SLARI adopted the Agricultural Product Value Chain (APVC) approach within the frameworks of Integrated Agricultural Research for Development (IAR4D) and Agricultural Innovation Systems (AIS) to shift focus from purely production of agricultural commodities to differentiation and value-addition to commodities to meet market demands, and increase incomes and economic growth in rural areas.

**Table 1. SLARI Research Program Areas of Focus and Research Centers**

<b><u>Research Program Area of Focus</u></b>	<b><u>Coordinating and Implementing Research Center</u></b>
Root, Tuber and Grain Legume Crops Program	Njala Agricultural Research Center (NARC)
Cereal Crops Program	Rokupr Agricultural Research Center (RARC)
Horticultural Crops Program	Kabala Horticultural Crops Research Center (KHCRC)
Livestock Program	Teko Livestock Research Center (TLRC)
Fisheries Program	Freetown Fisheries Research Center (FFRC)
Forestry & Tree Crops Program	Kenema Forestry and Tree Crops Research Center (KFTCRC)
Land, Water and Environment Program	Magbosi Land and Water Research Center (MLWRC)



**Table 2. Arable and cultivated land by ecosystem in Sierra Leone**

Ecology	Area (ha)	Percent of arable land	Rice Yield (MT / ha)	
			Current	Potential
<b>Upland</b>	4,200,000	78.28	0.8 – 1.2	4.0
<b><u>Lowlands:</u></b>	1,165,000	21.72	1 – 4.0	>1.0
<b>Inland valley swamp</b>	690,000	12.86	1.4 – 1.9	3 – 4.0
<b>Mangrove swamp</b>	200,000	3.73	3.0	3.0a
<b>Bolilands</b>	145,000	2.70	1.0	>1.0
<b>Riverine grassland</b>	130,000	2.42	3 - 4	3 – 4a
<b>Total arable land</b>	5,365,000	100.00	0.8 – 4.0	>1.0
<b>Other land</b>	1,870,000	--	--	--
<b>Total national land</b>	7,235,000	--	--	--

*Notes:* a. Yields could be maintained or increased with proper farm management techniques.

--. Figures not available.

Source: GoSL/Ministry of Agriculture, *Special Programme for Food Security*, October 4, 2001.

Freetown, Sierra Leone. Appears in Kargbo (2011).

- Arable land account for ~ 74% of country's total land area.
- Only 36% of arable land is under cultivation. Thus, Sierra Leone has huge potential for economic growth via the agriculture sector.
- Average farm size: 2.7 ha
- Rice - the staple food, is grown by over 95% of the farmers in the country.

**The Strategic Plan of SLARI is in line  
with the national, regional and global  
development perspectives**

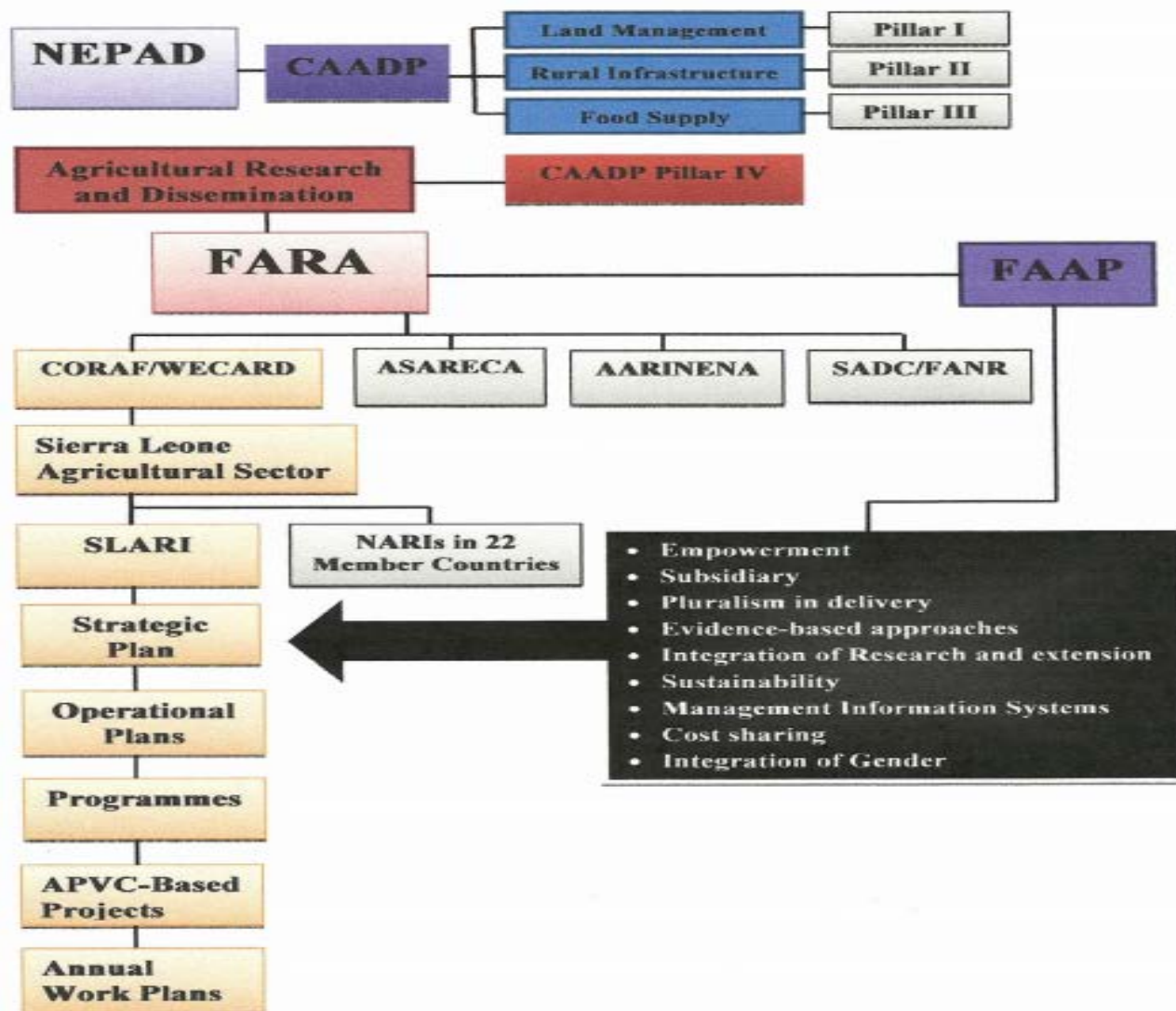


Figure . . . Relationship between CAADP, FARA, FAAP, CORAF/WECARD and SLARI planning process and plans

## **SLARI'S HUMAN RESOURCE, RESEARCH AND FINANCIAL GAP ANALYSIS**

- Done to determine the optimal numbers of research scientists, field & laboratory technicians, and administrative staff.
- Current status of research scientists is very weak in terms of level of training, disciplinary mix, age & gender distribution (see Kilewe & Kirigua, 2012).
- Optimal ratio is one research scientist to 6 support staff (1:6). But SLARI is currently way off the mark.

## **Research gap within the Agric. Product Value Chains**

- ❖ Need better understanding of issues on Financing farmers, markets and relationships between operators in the value chain.
- ❖ Quality of farm produce, e.g. local rice vs imported
- ❖ Prices and other incentives
- ❖ Currently, only 12% of the beneficiaries of Community Banks and Financial Services Associations are farmers, WHY?

## **SLARI's Operational Plan for 2012 – 16**

Strategic Plan for period requires a total of US\$274.1 million.

Total financing gap is US\$168.4 million.

**Table 3. Simulation results for sectoral income shocks of Le1.00 in Sierra Leone**

Simulation experiment: shock to	Growth multiplier	Changes in sector			
		Agriculture	Manufacturing	Services	Mining
<b>Agriculture</b>	7.96	1.450	1.690	1.050	3.770
<b>Manufacturing</b>	8.68	1.590	1.860	1.150	4.080
<b>Services</b>	8.74	1.600	1.870	1.160	4.110
<b>Mining</b>	8.69	1.590	1.860	1.150	4.090

# NEED TO ADDRESS THE CHALLENGES FACING THE AGRICULTURE SECTOR

## Key strategic areas:

- **Production and processing**
  - ❖ Lack of effective extension services
  - ❖ High cost and inferiority of farm inputs (e.g. fertilizers)
  - ❖ Limited research facilities & low absorption of modern technologies
  - ❖ Pest and diseases
  - ❖ Declining soil fertility
- **Policies, Institutions and Regulatory functions**
  - ❖ Poor governance and corruption
  - ❖ Multiple taxation along the farm-to-market chain
  - ❖ Lack of coherent policies
  - ❖ Weak surveillance of off-shore fishing
  - ❖ Inappropriate legal & regulatory framework



- **Natural resources and infrastructure**
  - ❖ Poor marketing facilities & infrastructure, e.g. roads, electricity grid, etc.
  - ❖ Degradation of biodiversity
  - ❖ Poor resource management – has negative impacts on land use sustainability, environmental degradation, land tenure, unplanned settlements, loss of revenue, etc.
  - ❖ Climate change
  - ❖ Insufficient water storage infrastructure: 20-50% of rainfall is lost as run-off.
- **Budgetary allocation and credit availability**
  - ❖ Limited capital and lack of access to credit facilities
  - ❖ Lack of sufficient budgetary allocation
  - ❖ Inefficiency and skewed patterns of public expenditures
- **Macroeconomic factors and external environment**
  - ❖ Macroeconomic instability
  - ❖ High levels of poverty
  - ❖ Increasing incidence of drug abuse and diseases

# CONCLUDING COMMENTS

- ❖ Convert challenges/constraints/crisis into opportunities for effective governance and strategic development
- ❖ Move new technology discoveries from Experimental plots to farmers at faster pace
- ❖ Maximize funding from GoSL for SLARI
- ❖ Seek funding from foreign governments, international organizations, foundations and other entities to operationalize SLARI's development plan
  - ✓ Training/Human resource development & management
  - ✓ Physical resource development
  - ✓ Information, Communication and Documentation

## CONCLUDING COMMENTS

- ❖ Increase proposal writing by SLARI scientists/staff to seek funding for projects
- ✓ Scientific excellence, publications, conference participation, public presentation of scientific results in various forums
- ❖ Develop partnerships with domestic and foreign universities, and other international organizations for the benefit of SLARI and partners.
- ❖ Work closely with SLARI and GoSL in all policy research to be initiated. Promote joint research between SLARI and GoSL.
- ❖ GoSL has given SLARI 20 acres to build its headquarters / research campus. Need US\$60.0 million for this project.



**Thank You**