MINISTRY OF AGRICULTURE AND FORESTRY (MAF)
GOVERNMENT OF THE REPUBLIC OF SIERRA LEONE

National Agricultural Transformation Plan (NAT 2025)
2019-2025

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Contents

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The cooperation of all those interviewed and consulted in all the nineteen (19) Local District Councils of Sierra Leone including the Western Area, the Cabinet Ministers, stakeholders from other MDAs, Presidential Advisers and Parliament of the Republic of Sierra Leone, Non-Government Organization (NGOs), civil society, farmers and the private sector is also very much valued.

Preface

The National Agricultural Transformation Plan 2019-2025 (NAT 2025); constitutes the 2nd of the National Agricultural Investment Plan (NAIP2) in line with the Comprehensive Africa Agriculture Development Programme (CAADP) framework under the African Union's New Partnership for Africa's Development (AU/NEPAD) activities.

The NAT 2025 is aligned to the Sustainable Development Goals (SDGs) e.g. SDG2 "*End hunger, achieve food security and improved nutrition, and promote sustainable agriculture* "focusing on the role of agriculture for human and socioeconomic development"; and SDG 15 "*Life on Land", which aims "to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests... and halt biodiversity loss*". Emphasis has also been placed on the linkages between agriculture and food systems for improved food and nutrition security. Climate Change has become a key challenge for agriculture and development in general. Consequently, climate smart agricultural procedures and practices will underpin programme implementation.

The NAT 2025, builds on the lessons learnt from the SCP formulation and implementation. Embedded in the NAT 2025 is a new National Agricultural Transformation Programme 2019-23 (NAT 2023). The NAT 2023 has four priorities and three enablers. The four Priorities are: (1). Towards Rice Self-sufficiency; (2). Livestock Development; (3). Crops Diversification; and (4). Sustainable Forest Management and Biodiversity Conservation. The enablers include: (i). Improve policy coherence, joint & strategic planning, coordination, research, and resource mobilization; (ii). Make youth and women catalysts for agribusiness development; and (iii). Invest in catalytic technology: e.g. mechanization, irrigation, water management, remote sensing feeder roads by government and private sector. The NAT 2023 which conforms to the first 5 components of the NAT 2025, forms the basis of the 2019-2023 implementation of the NAT 2025. The entire objective of the plan should be achieved by 2025.

The NAT 2025 should: (a) stimulate large-scale investors' interest in mechanized commercial-grade agriculture across the value chains, especially of rice, and (b) promote collaboration between large-scale investors, medium and smallholders. The plan also incorporates lessons learned from the implementation of the PRSP III and the recent Agricultural Sector Review findings and recommendations, as well as the outcomes of the extensive stakeholder consultation process over the past years. It also analyses the wealth of literature available for African, West African and Sierra Leonean agriculture and rural development.

The plan has been influenced by the following guiding principles: (i). Focuses on identifying and intensifying micro, small, medium and large domestic businesses, as well as the potential of large farming with foreign investment; (ii) Ensuring growth of the agriculture sector from the plan shall be inclusive and pro-poor, creating improved decent rural labour conditions and opportunities, incomes, skills and food security and nutrition; (iii) Full participation of local actors such as: NaFFSL, SLeCAD, Fisherfolks Association, Livestock Producers' Organization, SLeWOF, other producers organizations (PO), FBOs and cooperatives; (iv) The active involvement of women and youth groups and associations, as well as informal workers' organizations will facilitate their inclusion across programme activities.

Hon. Joseph Ndanema - Minister of Agriculture and Forestry of the Republic of Sierra Leone

Executive Summary

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Acronyms and Abbreviations

A4P	Agenda for Prosperity
AAG	Agricultural Advisory Group
ABC	Agriculture Business Centre
AfDB	African Development Bank
AESD	Agricultural Extension Services Division
AESD	Agricultural Engineering Services Division
AFAIP	Agriculture, Fisheries and Agro-Industry Programme
ASREP	Agricultural Rehabilitation Project
ASR	Agriculture Sector Review
ATHS	Agriculture Household Tracking Survey
AU	African Union
BMI	Body Mass Index
BSL	Bank of Sierra Leone
CAADP	Comprehensive Africa Agriculture Development Programme
CB	Community Banks
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CILSS	Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel
COOPI	Cooperazione Internazionale
COP 21	Conference of the Parties (Climate Change)
CORAD	Coalition for Relief and Development (CARE, Catholic Relief Services, AFRICARE and World Vision International)
CORAF	West and Central Africa Council for Agriculture Research and Development
CPIA	Country Policy and Institutional Assessment
CRC	Citizens Report Cards
DAO	District Agriculture Officer
DCC	District Coordinating Committee
DEPAC	Development Partnership Committee
DFID	Department for International Development
DHS	Demographic and Health Surveys
DIT	District Implementation Team
DoA	Department of Agriculture
DoF	Department of Fisheries
ECOWAP	ECOWAS Common Agricultural Policy
ECOWAS	Economic Community of West African States
EU	European Union
EUFF	European Union Food Facility
EVD	Ebola Virus Disease
FAO	Food and Agriculture Organization
FARA	Forum for Agricultural Research in Africa
FBO	Farmer Based Organization

FDI	Foreign Direct Investment
FFS	Farmer Field School
FFA	Fisherfolks Association
FFW	Food for Work
FISIM	Financial Intermediation Services Indirectly Measured
FMTI	Fisheries and Marine Training Institute
FSA	Financial Services Association
FSCA	Food Security through Commercialization of Agriculture
GAE	Government Agriculture Expenditure
GAFSP	Global Agriculture and food Security Programme
GAM	Global Acute Malnutrition
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information System
GOSL	Government of Sierra Leone
GTZ	German Technical Cooperation
HDI	Human Development Index
HDR	Human Development Report
HIPC	Highly Indebted Countries
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HQ	Headquarters
ICT	Information and Communication Technologies
IDB	Islamic Development Bank
IFAD	International Fund for Agricultural Development
IITA	International Institute for Tropical Agriculture
ILO	International Labor Organization
IVS	Inland Valley Swamp
JICA	Japan International Cooperation Programme
JMWG	Joint Ministerial Working Group
KfW	German Financial Cooperation
LBM	Labor Based Methods
LPO	Livestock Producer Association
M&E	Monitoring and Evaluation
MAF	Ministry of Agriculture, Forestry and Food Security
MDAs	Government Ministries, Departments and Agencies
MDG	Millennium Development Goal
MFI	Micro Finance Institution
MFMR	Ministry of Fisheries and Marine Resources
MIS	Management Information System
MoF	Ministry of Finance
MSME	Micro, Small and Medium Enterprise
MSMEL	Micro, Small, Medium and Large Enterprise
MOHS	Ministry of Health and Sanitation
MSWGCA	Ministry of Social Welfare, Gender and Children's Affairs

MTI	Ministry of Trade and Industry
NaCSA	National Commission for Social Action
NACU	National Agricultural Coordination Committee
NaFFSL	National Federation of Farmers in Sierra Leone
NAT 2025	National Agricultural Transformation Programme
NEPAD	New Partnership for Africa's Development
NGO	Non-Government Organization
NPCA	NEPAD Planning and Coordinating Agency
NPISH	Nonprofit Institutions Servicing Households
NRS	National Road System
NSADP	National Sustainable Agriculture Development Programme
P4P	Purchase for Progress
PAF	Partnership for African Fisheries
PAGE	Promoting Agriculture, Governance and Environment
PEMSD	Planning, Evaluation, Monitoring and Statistics Division
PER	Public Expenditure Review
PLW	Pregnant and Lactating Women
PO	Producer Organizations
PPP	Public Private Partnership
PRSP	Poverty Reduction Strategy Paper
PTFAg	Presidential Task Force on Agriculture
RCPRP	Rehabilitation and Community Poverty Reduction Project
RFCIP	Rural Finance and Community Improvement Project
SAM	Social Accounting Matrix
SCP	Smallholder Commercialization Programme
SME	Small and Medium Enterprise
SCP	Smallholder Commercialization Programme
SEED	Seed Enterprise Enhancement and Development
SLARI	Sierra Leone Agricultural Research Institute
SLeCAD	Sierra Leone Chamber for Agri-business Development
SLEIPA	Sierra Leone Investment and Export Promotion Agency
SLeWOFF	Sierra Leone Women Farmer’s Forum
SLIHS	Sierra Leone Integrated Household Surveys
SLRA	Sierra Leone Roads Authority
SMP	Seed Multiplication Programme
SSL	Statistics Sierra Leone
SWAP	Sector Wide Approach
TAA	Technical Assistance Agency
TCPs	Technical cooperation programs
TVET	Technical and Vocational Education and Training
UNCDF	United Nation Capacity Development Fund
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme

UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
USD	United States Dollars
UTB	Union Trust Bank
VAM	Vulnerability Analysis and Mapping
VCA	Value Chain Analysis
WAPP	West African Pilot Project
WARFP	West African Regional Fisheries Programme
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization

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1.0. Introduction

The National Agricultural Transformation Plan (NAT 2025) 2019-2025 is the 2nd generation of Sierra Leone's Agricultural Investment Plan within the context of the National Sustainable Agriculture Development (NSADP) 2010-2030; the current Government's New Direction Socio-Economic Agenda - the National Agriculture Transformation Programme (NAT 2023) 2019-2023; and the Poverty Reduction Strategy Paper III (2013-18). NAT 2023 2019-23 which is the focus of implementation of the overall NAT 2025 2019-2025, comprises of four priorities and three enablers embedded in the plan which comprise of 8 components.

The NSADP is a broad sector-wide development framework which also serves as Sierra Leone's contribution to the Comprehensive Africa Agriculture Development Programme (CAADP) Compact under the African Union's New Partnership for Africa's Development (AU/NEPAD) activities. The NSADP/CAADP originally identified four major investments sub-programmes: The Commodity Commercialization Sub-Programme; the Agriculture Infrastructure Development Sub-Programme; the Private Sector Promotion Sub-Programme; and the Sector Coordination and Management Sub-Programme.

Following the NSADP adoption in 2010, the Ministry of Agriculture and Forestry (MAF) in collaboration with other Ministries, Divisions and Agencies (MDAs) and Development Partners prioritized and adopted the Smallholder Commercialization Programme (SCP) 2010-2014 based on the assumption that this NSADP sub-component "had the potential to achieve the greatest impact in terms of improved food security and wealth generation for the most vulnerable populations in the short and medium term framework" (SCP Investment Plan, 2010).

The NAT 2025, builds on the lessons learnt from the SCP formulation and implementation. Embedded in the NAT 2025 is a new National Agricultural Transformation Programme (NAT 2023) 2019-23. The NAT 2023 has four priorities and three enablers. The four priorities are:

1. Towards Rice Self-sufficiency;
2. Livestock development;
3. Crops diversification; and
4. Sustainable Forest Management and Biodiversity Conservation.

The enablers are:

(i) Improving policy coherence, joint & strategic planning, coordination, research, and resource mobilization;
(ii) Making youth and women catalysts for agribusiness development; and
(iii) Investing in catalytic technology: e.g. mechanization, irrigation, water management, remote sensing feeder roads by government and private sector

The National Agricultural Transformation Plan 2025 should:

a) Stimulate large-scale investors' interest in mechanized commercial-grade agriculture across the value chains, especially of rice, and
b) Promote collaboration between large-scale investors, on the one hand and medium and small holders, on the other.

The NAT 2025 also incorporates lessons learned from the implementation of the PRSP III and the recent Agricultural Sector Review findings and recommendations, as well as the outcomes of the extensive stakeholder consultation process over the past years. It also analyses the wealth of literature available for African, West African and Sierra Leonean agriculture and rural development.

The programme is aligned to the Sustainable Development Goals (SDGs) and the Sub-Regional new vision and priorities which are highlighted in the Comprehensive African Agricultural Development Programme (CAADP); the ECOWAS Regional Agriculture Policy (ECOWAP) 2025; and other key documents such as the Strategic Orientation Framework 2016-2025; and the Regional Agriculture and Food and Nutrition Security Investment Programme (RAFNSIP) 2016-2020. The priorities of these frameworks are the result of profound and inclusive analysis of 10-year implementation of ECOWAP first version.

Following this introductory Section, the 2nd Section present the context in which the NAT 2025 and NAT 2023 have been formulated ranging from global, continental, sub-regional to country priorities. Section 3 describes the agricultural sector including trends of key commodities. In Section 4 the programme context, challenges and rationale are specified whereas; the fifth Section outlines the investment programme followed by the results framework in Section 6. The 7th Section describes the monitoring and evaluation arrangement whereas, the final Section 8 gives the risks assessment and mitigation measures.

2.0. National Agricultural Transformation Plan Formulation Context

The NAT 2025 has been formulated against recent developments within the Global, Continental and Sub-Regional context.

2.1.1. Global Context

At the global level, the Sustainable Development Goals (SDGs) have now replaced the Millennium Development Goals (MDGs), with SDG2 "*End hunger, achieve food security and improved nutrition, and promote sustainable agriculture* "focusing on the role of agriculture for human and socioeconomic development" and SDG 15 "*Life on Land*", which aims "*to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests... and halt biodiversity loss*". Emphasis has also been placed on the linkages between agriculture and food systems for improved food and nutrition security. Climate Change has become a key challenge for agriculture and development in general, and countries with their partners have decided to take actions towards reducing the negative impacts of this phenomenon through the Paris Declaration adopted during the Conference of the Parties on Climate Change (COP21). Consequently, climate smart agricultural procedures and practices will underpin the implementation of production and productivity component of this plan.

2.1.2. Continental and Sub-Regional Contexts

Following the commitment of Heads of States of Africa made at the Maputo Conference in 2003 to transform the agriculture sector, Sierra Leone Government's key response was the formulation of the National Sustainable Agriculture Development Plan (NSADP) with the aim of providing short, medium and long-term investment programmes in the agriculture sector. The NSADP identified four major investments sub-programmes: - Commodity Commercialization; Agricultural Infrastructure Development; Private Sector Promotion; and Sector Coordination and Management. In 2014, the Heads of States of Africa adopted the Malabo Declaration which established the overall Commitment to "*Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods*", aiming at eradicating hunger by 2025[1]. In order to operationalize the Declaration, an Implementation Strategy and Road Map were developed, which include an accountability mechanism (Biennial Review Requirement).

At the sub-regional level, and in line with the Malabo Declaration, and building on the assessment of 10-year implementation of the ECOWAP, ECOWAS has defined a new cycle of its regional Policy: the ECOWAP 2025. The new policy's vision and orientation are reflected in the Strategic Orientation Framework 2016-2025 and the Regional Agriculture and Food and Nutrition Security Investment Programme 2016-2020[2]. In the ECOWAS region, for the purpose of harmonizing trade policies and strengthening the common market, a Common External Tariff was adopted - effective since January 2015. This will have an impact on trade of agricultural commodities within and outside the sub-region.

2.1.3. Country Context

2.1.3.1. General Country Situation

2.1.3.1.1. Governance and Political Context

Sierra Leone experienced an unstable political climate from the late 1980s which culminated into a deadly civil war which resulted in the country becoming a failed state. However, peace and state-building processes after the war in 2002, brought in security, and the rule of law that transformed the country from a recipient of some 18,000 peace keepers to one that now contributes peace keepers to conflict-affected countries in the Region. However, the country has come a long way. It has had four democratic elections – the latest of which was in 2018, that ushered a new president, Brigadier (Retired) Julius Maada Bio. President Bio's socio-economic agenda is the *New Direction*, one of

[1] The key commitments of the Declaration are summarised at: http://www.resakss.org/sites/default/files/Malabo%20Declaration%20on%20Agriculture_2014_11%2026-.pdf

[2] See http://araa.org/sites/default/files/media/ECOWAP%202025%20Strategic%20Policy%20Framework%20ENG.pdf

whose main objectives is food self-sufficiency, and that aspiration is captured in the new agriculture programme, the National Agriculture Transformation Programme (NAT 2023).

Situated on the West African coast bordering Guinea and Liberia, Sierra Leone covers 71,740 square km with a population of around 7.7 million people. Sierra Leone is among the low human development countries (ranks 184 out of 189, according to 2018 UNDP Human Development Report). The climate is generally equatorial with distinct dry season (November – April), and wet season, (May-October). Sierra Leone has 5.4 million hectares of arable land of which about 2.0 million hectares is under cultivation[3]. The arable land comprises of upland and more fertile lowland areas. The Country Policy and Institutional Assessment (CPIA) score normally ranges from 1 to 6[4]. The rating for Sierra Leone has improved from 2.5 in 2005 to 3.0 in 2014 and currently at 3.2 with no change from the previous year[5]. The country is therefore half way to the highest score which it should endeavor to attain for a competitive agribusiness. Challenges experienced from the SCP included: weak implementation capacity; constraints in accessing appropriate equipment, materials and other essential inputs. Other challenges were weak extension service support; limitations in establishing active linkages with the private sector and in identifying viable markets.

2.1.3.1.2. Policies and Government/Development Partners Engagement in Agriculture

GoSL and the international community, have been addressing poverty and food insecurity through three post-war Poverty Reduction Strategy Papers (PRSPs) and agricultural and fisheries programmes, including: "National Sustainable Agriculture Development Plan (2009), "Smallholder Commercialization Programme Under Global Agriculture and Food Security Programme (SCP-GAFSP) (2010-2014)", "Boosting Agriculture and Food Security" (BAFS) (2016) programme funded by the European Development Fund; Smallholder Commercialisation and Agribusiness Development Project (SCADeP); Growth Poles (2014); Comprehensive Programme to Enhance Food and Nutrition Security through Agriculture, Fisheries and Agro-Industry (AFAIP); Sustainable Aquaculture for Food Security, Livelihoods and Nutrition Project (2015-2016).

2.1.3.1.2.1. National Sustainable Agriculture Development Plan (NSDP) (2010-2030)

The main policy paper for the agriculture sector is the National Sustainable Agriculture Development Plan (NSADP), which serves as the country's CAADP document. The vision of the NSADP is to make agriculture the engine for socioeconomic growth and development through commercial agriculture. More specifically, its aim is to increase commercialization of the sector and promote "farming as a business" through short, medium and long term Investment Programmes.

2.1.3.1.2.2. Smallholder Commercialization Programme Under the Global Agriculture and Food Security Programme (SCP-GAFSP) (2010-2014)

The SCP was a flagship programme of the then MAFFS and proved to be a successful attempt to consolidate and coordinate the available resources for the sector. SCP-GAFSP is a US$ 50 million programme, funded by a grant from the multi-donor Global Agriculture and Food Security Programme to the Government of Sierra Leone. IFAD is the supervising entity for this grant-funded project, with MAF as the national executing agency through a dedicated PMU. The project became effective in July 2011. The overall goal of the SCP was to empower the rural poor to increase their food security and income on a sustainable basis in order to lead to long-term economic development and poverty reduction. The main project objectives were to: (i) Reduce the gap between national rice production and demand (representing 70,000 metric tonnes), and (ii) Increase farm incomes by 10 percent for

[3] MAF

[4] The CPIA assesses the business regulatory environment with respect to the extent to which the legal, regulatory, and policy environments help or hinder private businesses by investing in the country, creating jobs, and becoming more productive.

[5] Source: World Bank Group, CPIA database (http://www.worldbank.org/ida) .

direct beneficiaries. The project consists of four components: (i) Smallholder Agriculture and Commercialization; (ii) Small-Scale Irrigation; (iii) Rural Finance; and (iv) Programme planning, coordination and management. Within three years of SCP implementation, 4023 Agribusiness Centres (ABCs) were constructed and equipped, thousands of farmers trained in Field Farmer Schools, thousands of Farmer-Based Organizations (FBOs) established, nearly 4000 km of feeder roads rehabilitated, 9,304 hectares irrigated, 17 Community Banks strengthened and 51 Financial Services Associations created. According to MAF, the SCP efforts resulted in major commodities productivity and output increases and improved food security. However, the latter is difficult to attribute only to smallholder farmers support in the absence of comprehensive agricultural statistics. The lessons learnt from SCP included: its failure to stimulate big investment in agriculture; the overemphasis on small-scale irrigation, which meant that agriculture, the production of rice, Sierra Leone's staple food, was mainly rain-fed, and the lack of an equitable agricultural machine service for farmers. This situation resulted in the country spending up to 700 million dollars every year in food importation (with $200 million spent on the importation of rice alone). In the formulation process, NAT 2023/NAT 2025 takes into consideration the limitations of focusing only on the smallest and poorest farmers and fisherfolks, and the need to support the success and growth of local medium-sized and large scale enterprises. The formulation process will also make provision for support to businesses along the value chains of selected commodities.

2.1.3.1.2.3. Boosting Agriculture and Food Security" (BAFS) (2016)

The BAFS programme is a € 35 Million European Development Fund support programme which aims to build-up a sustainable, diversified and commercial agricultural sector, ensuring food self-sufficiency, increasing exports and creating job opportunities for Sierra Leonean women and men. The main objectives of the programme are: increasing agricultural productivity, promoting commercial agriculture, and promoting sustainable land use and improving agricultural research as well as promoting institutional capacity building and sector policy reform.

2.1.3.1.2.4. Smallholder Commercialization and Agribusiness Development Project (SCADeP) 2017-2021

As part of its support to the agricultural sector and post Ebola recovery, the World Bank developed a complementary project to support the promotion of agribusinesses known as the Smallholder Commercialization and Agribusiness Development Project (SCADeP). SCADeP seeks to address the constraints highlighted above by promoting approaches which integrate smallholder farmers into organized supply chains through the creation of viable out-grower schemes. This will include strengthening the linkages between smallholder farmers and agribusinesses; creating access to markets and marketing information; promoting sustainable agro-input marketing systems; and strengthening farmer based organisations, as well as state and non-state institutions that are critical to the process.

2.1.3.1.2.5. Growth Poles Programme (2014)

A World Bank investment initiative known as Growth Poles Programme was introduced in Sierra Leone in 2014 when Growth Pole Diagnostic Value Chain Analysis were carried-out with some sectors including Agriculture, Fisheries and Mining sectors in 2014. Growth Poles are simultaneous, coordinated investments in sectors in order to support self-sustaining industrialization in a country. Typically, there is a combination of public and private investments specifically built around already existing resources at specific location in an economy.

2.1.3.1.6. A Comprehensive Programme to Enhance Food and Nutrition Security through Agriculture, Fisheries and Agro-Industry (AFAIP)

AFAIP is a new Initiative driven by many different elements of the 8 pillars in the A4P. It was planned to be implemented as a Presidential Initiative, focusing on the achievement of specific results through the concerted efforts of at least five line ministries – Ministry of Agriculture, Forestry and Food

Security (MAF), Ministry of Fisheries and Marine Resources (MFMR), Ministry of Education, Science and Technology (MEST), Ministry of Trade and Industry (MTI), Ministry of Health and Sanitation (MHS) – but with active support from Ministry of Youths (MOY), Members of Parliament (MPs,) local authorities, Non-Governmental Organizations (NGOs) and the private sector.

2.1.3.1.7. Sustainable Aquaculture for Food Security, Livelihoods and Nutrition Project (2015-2016)

The US$342,000 FAO supported project; was one of FAO's technical cooperation programs (TCPs) aimed at establishing 30 to 50 hectares of fishponds in the non-coastal communities of Bo, Kenema, Tonkolili and Kono districts, with the view of equipping rural communities with the relevant and adequate knowledge and skills to establish and manage fishponds. The Project sought to contribute to the creation of livelihood opportunities that have the tendency to generate income and ensure temporary and permanent jobs for women and youths within the project areas. The project intended to improve aquaculture by providing assistance to smallholder farmers in communities and group fish farmers through empowerment and capacity building, strengthening of extension services for fish farming and pilot production of local fish feed. It must be noted that recent fisheries sector development intervention focused on capture fisheries development and management. Consequently, support under NAT 2025 will be directed towards the development of Aquaculture.

2.1.3.2. General Country Economic Context

2.1.3.2.1. Country Economy and Participation of Agriculture Sector to Economic Growth

The civil conflict had a massive impact on the economy, as the economy contracted by around 6 % annually between 1995 and 1999. However, between 2004 and 2007, it grew by an average of 7%, driven by reconstruction and recovery in the mining and agriculture sectors. The growth slowed to 4% as Sierra Leone felt the impacts of the global economic and financial crisis in 2008-2010, but jumped to nearly 20% in 2013 due to the start of iron ore production (growing at steady 6% in 2011-2013 excluding iron ore). The economy grew by only 4.6% during 2013-2014 apparently due to the Ebola Virus Disease (EVD) outbreak and the decrease in iron ore prices which saw the growth rate visit the negative territory when the economy grew by -21.1% between 2014-2015. Growth was at 6.3 and 5.7 in 2016 and 2017 respectively and inflation continued to rise with current rate showing steady increase of between 14.40-19.63% between February and September 2018. Following a steady growth until 2012, foreign direct investment (FDI) was severely impacted by the Ebola outbreak and decrease in iron ore prices. Investment flows hit their lowest level since 2010 with USD 138 million in 2016, however they picked up considerably in 2017 to reach USD 560 million. Even with the latest figures, flows are far from their peak level recorded in 2011 (USD 950 million). FDI stock increased to USD 1.4 billion in 2017[6].

Agriculture

Agriculture is the largest sector in the economy which plays a key role in meeting the objectives of developmental plans. A joint Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel (CILSS)[7] and Famine Early Warning System Network (FEWS. NET) crop assessment for 2018/2019[8] season indicates that the 2018 crop season was characterized by erratic rainfall, which impacted negatively on crop production in some districts. Agricultural production is generally improving compared to the five-year average. The depreciation of the national currency and inflation continues to affect higher transport and food costs. The economic situation continues to weaken the purchasing

[6] (UNCTAD 2018 World Investment Report)
[7] Permanent Interstates Committee for Drought Control in the Sahel
[8] MAF

power of households and food accessibility especially for poor households. The market situation is fairly stable in terms of commodity concentration outbreak of an unknown animal disease was suspected to be 'Peste des petits ruminants (PPR) in Kenema, Moyamba, Port Loko and Kambia districts where scores of Livestock were reported to have died. Total outputs for cereals are expected to increase by about 7.8% compared with 2018/2019 production. Cassava, Potato and Groundnut production is forecasted to increase by 4.3%, 19.3%, and 8.3% respectively. Total production of the starchy staples is projected to increase by 11.8%. Field reports indicate that prices of imported commodities are rising due to the liberalization of the exchange rate which led to an overvalued and weakening local currency (around SLL 7 950 per USD in July 2018 compared to around SLL 7 528 per USD a year earlier). However, the year-on-year food inflation was set at 15.14 percent in April 2018, down from the 18.91 percent reported in April 2017 due to a slower currency depreciation and stable aggregate demand. The price of rice and palm oil experienced sharp increases between 2017/2018 cropping season which accounts for about half of household expenditure thus placing stress on household vulnerability and food insecurity. Local rice per Kilogram (Kg) increased by 39.08%, and imported rice increased by 36.91%. Cassava per Kilogram (Kg) increased significantly by 30.3% Palm oil (kg) increased by 40.3%. Meat per kg increased by 12.4%

The average rice yield is to increase from the current (official) 1.2 tons per hectare to 6.85 tons per hectare. In addition to staple crops, it is also important to invest in the diversification of the production (for example fruits and vegetables, legumes, etc.). Agriculture contributes 60.7% of total GDP in recent times, and is the largest sector in the economy, employing around 60 % of the workforce[9]. Women contribute significantly to the agricultural sector, providing an estimated 75 percent of the active labour force in food production, processing, preservation, marketing and preparation[10]. There remains a high level of informality within the agricultural sector, estimated to be up to up to 50% of the production and trade. Besides, the sector is still facing challenges in terms of productivity and production, value chains structuring and market access, mitigation and adaptation to climate change effects.

Over the years, the economy and demographics have not remained static: The mining and services sectors grew; the urban population is growing faster than those in rural areas, to the extent that in 20 years more than half of the population is projected to live in urban areas. The overall population is growing and currently stands at around 3.2% annually, increasing food demand and pressure on the production. In addition to the challenges already highlighted, the 2014 Ebola Virus Disease (EVD) outbreak and decrease in iron ore prices undermined significantly the recent growth of the economy that was projected to be at the level of 13%-15% before the occurrence of the disease. The GDP growth rate in 2015 was -20.6 compared to the current growth rate of 5.7% in 2018[11].

2.1.3.2.2. Domestic Investment and Farm Commercialization

Official data on domestic private investment in agriculture are estimated at around USD 30-40 million per annum. The domestic investors are represented by local middle to large size farms (from 10Ha) with some investment from diaspora. Increased share of Government Agricultural Expenditure has been observed. The growth rate of Government Agriculture Expenditure (GAE) slowed to 13.4% per

[9] Sierra Leone Economic Outlook 2018: https://www.afdb.org/en/countries/west-africa/sierra-leone/sierra-leone-economic-outlook/

[10] Amadu et al (2017). Integrating Gender and Nutrition within Agricultural Extension Services. SIERRA LEONE Landscape Analysis

[11] Real GDP growth rate forecasted for 2019; http://documents.worldbank.org/curated/en/304841528737912303/pdf/127049-WP-PUBLIC SierraLeoneEconomicUpdatev.pdf

year on average during the NAIP period (the period of the first generation of Investment programme), after a faster growth of 32% per year on average before the NAIP period. The share of GAE in total government expenditure increased significantly to 7% per year on average during the NAIP period from 1.2% per year on average during the period in reference. A similar trend was observed in GAE relative to agriculture value added – i.e., spending intensity – as the ratio increased from 1.2% before NAIP to 1.8% during NAIP.

World Bank-supported diagnostics on sector competitiveness in Sierra Leone[12] highlighted strong prospects for agro-processing to help drive economic growth more effectively compared with other sectors. Four Agro-processing investment opportunities are concentrated in oil palm (mainly for exports), and processed rice and poultry for domestic and regional markets. Some processors are involved in niche commodities, such as fruit juices, lemongrass, and rubber for exports, mainly to the European Union (EU) and the United States. However, the agribusiness industry, including agro-processing, is highly fragmented. Local agro-processors tend to be involved in a wide range of products, but they operate mostly in local markets. A few medium-size formal firms and a vast number of small, low-productivity informal firms coexist with a small number of large domestic and international companies that have operations linked to foreign investments.

By contrast, large domestic and foreign investors operate modern processing plants that involve few commodities, such as oil palm, rice, and forestry products. Most agro-processors, regardless of size or technology used, have underutilized capacity and face challenges getting access to domestic and international markets. However, the existing surveys demonstrate growth of an average land plot size from 2.5 Ha in 2003 to 2.9% in 2011[13]. Nearly 30 % of households operated 2 plots, while 12.6 % operated three to eight plots (equaling farm sizes from 6 Ha up to 100 Ha). This is only a proxy indicator of farms expansion. The data was based on the most recent available Sierra Leone Integrated Household Surveys (SLIHS) conducted in 2011[14] that did not include bigger commercial farms.

2.1.3.2.3. Foreign Direct Investment

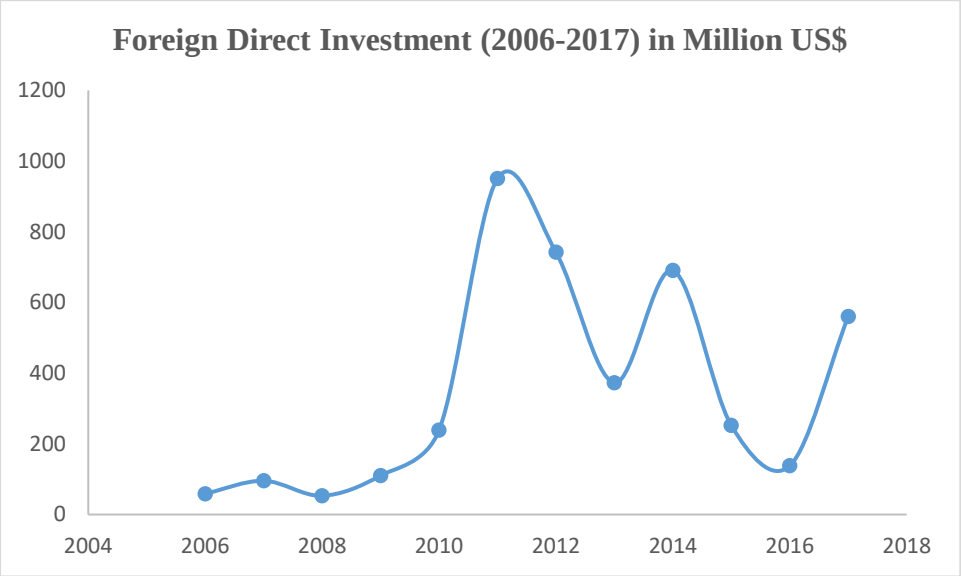
Following a steady growth until 2012, foreign direct investment (FDI) was severely impacted by the Ebola outbreak and decrease in iron ore prices. Investment flows hit their lowest level since 2010 with USD 138 million in 2016, however they picked up considerably in 2017 to reach USD 560 million (UNCTAD 2018 World Investment Report). Even with the latest figures, flows are far from their peak level recorded in 2011 (USD 950 million). FDI stock increased to USD 1.4 billion in 2017. The country's substantial mining wealth, the absence of any arbitrary discrimination against foreign companies and restrictions on the repatriation of profits, as well as the sale of assets (guaranteed by the new investment code) make Sierra Leone attractive for FDI. However, the shortage in skilled labour, the lack of infrastructure, the slow legal system, the high level of corruption, political violence and serious social disorder due to socio-economic disparities are major obstacles to FDI. Sierra Leone ranked 160th out of 190 countries in the World Bank's Doing Business 2018, losing 12 spot in comparison with 2017's ranking. The business climate of Sierra Leone was severely affected by the Ebola virus and agriculture, mining, and infrastructure sectors, which the Government had placed priority on were severely affected.

[12] http://documents.worldbank.org/curated/en/521311528274493666/text/Project-Information-Document-Integrated-Safeguards-Data-Sheet-Sierra-Leone-Agro-Processing-Competitiveness-Project-P160295.txt

[13] WB, Sierra Leone Agriculture Profile 2013; WFP Food Security Report 2015

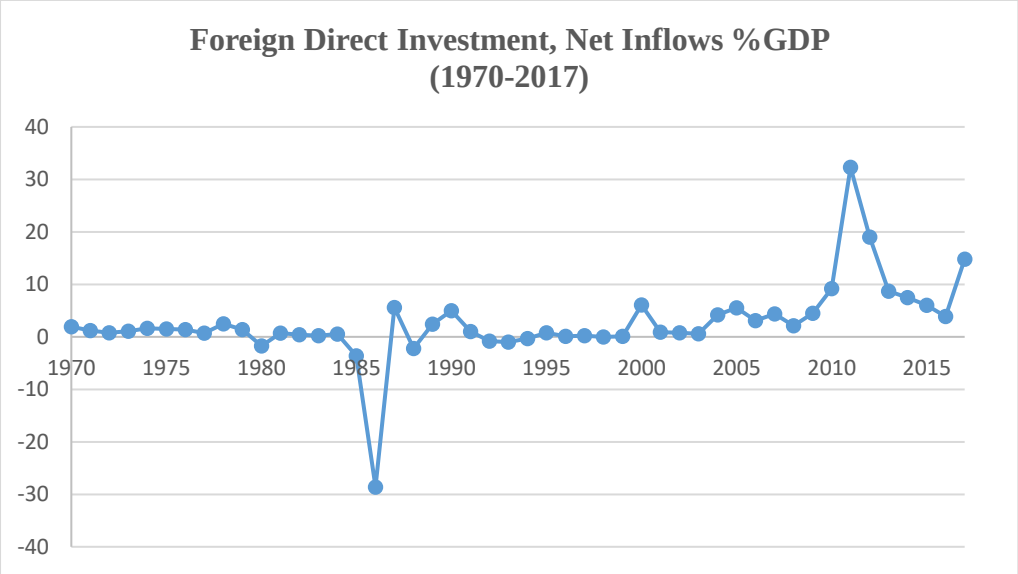
[14] The 2018 Sierra Leone Integrated Household Survey (SLIHS) is underway, implemented by Mr. Abubakarr Turay and his team at Economic Statistics Division of Statistics Sierra Leone. The discussions are therefore based on SLIHS (2011)

Figure 1a. Net FDI Inflows 2006-2017



Source: (UNCTAD 2018 World Investment Report)

Figure 1b. Net FDI Inflows 2006-2017 % GDP (1970-2017)



http://unctad.org/en/pages/DIAE/World%20Investment%20Report/Country-Fact-Sheets.aspx

Statistical data extracted from MoF indicate a dwindling annual FDI in agriculture and fisheries sector (Figure 1c) apparently due the EVD outbreak and the effects of the lag in reinvestment ounce the outbreak was contained. It is absolutely necessary to monitor the achievements and impacts of these projects, particularly their returns on investment, yields, changes on employment, growth and poverty reduction, as well as the effectiveness of the investment incentives.

Figure 1c. Foreign Direct Investment in the Agriculture Sector 2010-2017

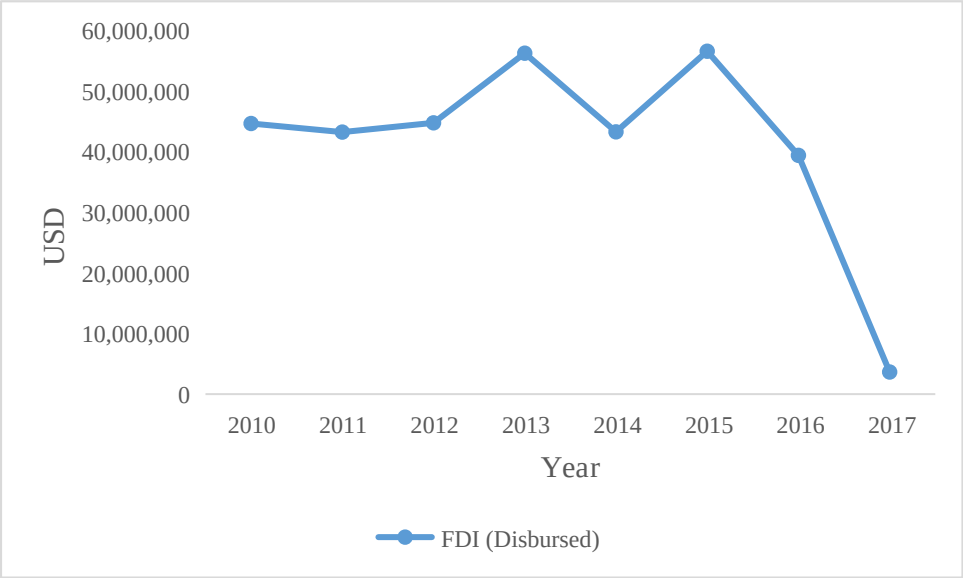


Table 1. GDP by Sector and GDP Growth[15]:

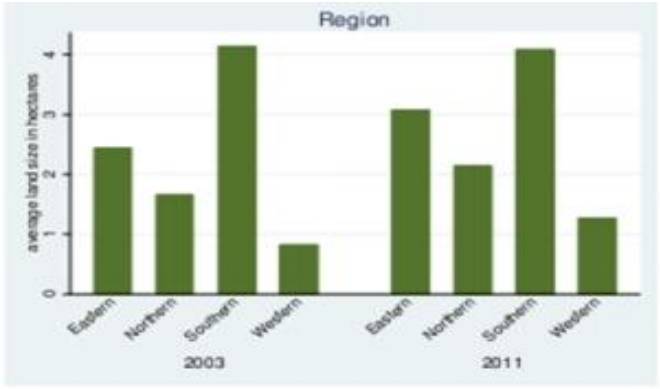
Year	GDP (Current Price Le. Bn.)	Agriculture, Forestry & Fishing	Industry	Services	GDP Growth Rates (%)	% Agric. Sector Contribution
2010	9,844,396	5,429,597	798,027	3,616,772	5.4	55.1
2011	12,460,722	6,986,660	1,007,125	4,466,937	4.8	56.1
2012	16,515,434	8,355,508	2,400,415	5,376,603	15.2	50.6
2013	21,317,382	10,228,785	4,525,363	6,071,094	20.7	48.0
2014	22,689,471	11,751,396	3,542,818	6,767,540	4.6	51.8
2015	21,582,558	12,681,597	955,044	7,323,042	-20.6	58.8
2016	24,287,894	14,023,240	1,641,659	7,958,130	6.3	57.7
2017	32,079,000	19,471,953	2,085,135	10,553,991	5.7	60.7

The Status and Progress of Sierra Leone's Agricultural Investment, Growth and Poverty which is used constitute the baseline for the results framework of this investment plan outlined in Appendix 2 for key indicator targets were accessed from RESAKSS[16].

The Agriculture Household Tracking Survey (AHTS, 2011) shows 7% of households used fertilizers and other inputs, and 8% used credit to buy agricultural machinery and equipment. Another 8% were selling their produce not at the farm gate suggesting more advanced marketing strategies. It can be presumed that these wages may represent the evolving class of bigger commercial farmers. AHTS has so far been the only survey in Sierra Leone that gives some idea of production and marketing activities of farmers. However, the AHTS did not include commercial farms. All the agricultural research carried out is dedicated to smallholders, poverty and food (in) security.

[15] Sierra Leone Economic Outlook 2018: https://www.afdb.org/en/countries/west-africa/sierra-leone/sierra-leone-economic-outlook/
[16] http://www.resakss.org

Figure 2. Average Land Size Holding by Year and Region



Source: Calculations based on SLIHS (2003 and 2011)

Objective microeconomic and market research of agricultural enterprises is virtually absent in Sierra Leone and generally in Western Africa, although it is very important for the Government to understand the drivers and patterns of local farms commercialization. It is therefore imperative to carefully analyze the nature of agricultural land expansion as it relates to agricultural commercialization at the microeconomic levels. This is particularly important given the ongoing debate about whether African governments and development partners should promote large-scale versus smallholder farming, and given the uncertainty about the extent to which current commercialization and growth in agriculture have been inclusive. Indeed, anecdotal evidence suggests that the processes entail a special group of smallholder farmers that have transitioned to become medium- and large-scale commercial farmers, although the nature and implications of this transitioning process are not understood.

2.1.3.2.4. Poverty, Unemployment, Gender and Youth Employment

Poverty

The state of food security in Sierra Leone 2015[17] indicates that the poorest wealth group constitutes 10.0 percent of households in urban areas, whilst the level is twice as high in rural areas (20.0 percent). Analysis of the lowest two groups demonstrates a similar trend, with 20.0 percent of urban households in the lowest two groups and this ratio twice as high in rural areas (40.0 percent). This means that the poverty rate is twice as high among rural households compared to urban. Among the districts, the highest percentage of households falling into the lowest wealth index quintile were found in the Urban Slums (39.0 percent), followed by Bombali (31.0 percent), Koinadugu (26.0 percent) and Pujehun (22.0 percent). The district with the lowest proportion of households in the lowest quintile is Western Area Urban.

When comparing the wealth index between the 2010 and 2015 CFSVAs, there has been a dramatic increase in urban dwellers who fall into the lowest wealth quintile, which rose from 2.0 percent to 10.0 percent, a five-fold increase. In rural areas, the proportion of households in the lowest wealth quintile group also increased, but less markedly, from 20.0 percent to 26.0 percent. Across the districts, the highest reductions in the proportion of households in the lowest wealth quintile were recorded in Bonthe (decreasing from 36.0 percent in 2010 to 13.0 percent in 2015), Moyamba (decreasing from 40.0 percent in 2010 to 16.0 percent in 2015), Kambia (decreasing from 25.0 percent in 2010 to 14.0 percent in 2015) and Port Loko (decreasing from 26.0 percent in 2010 to 16.0 percent in 2015). The

[17] WFP (2015). State of Food Security in Sierra Leone 2015. Comprehensive Food Security and Vulnerability Analysishttps://documents.wfp.org/stellent/groups/public/documents/ena/wfp288316.pdf?iframe.

highest increase in the proportion of households in the lowest wealth quintile was recorded in Bo (increasing from 8.0 percent in 2010 to 16.0 percent in 2015). In addition, households in which the head has at least some secondary or post-secondary education were less likely to be poor.

Women and youth are particularly vulnerable and trapped in perpetual poverty due to persistent norms of social exclusion, particularly common in rural areas. This undermines their participation in local decision-making, access to productive resources, fair targeting of public projects and services and opportunities to integrate into market systems. Given that the country ranked 176/188 in 2014, but dropped to 179/188 in 2015 and further dropped to 184/189 in 2018 signals a deteriorating trend which requires immediate attention.

Unemployment

In general, in the country, a lack of alignment between labor market needs and curricula (both in formal and informal education) remains. The mismatch between education and training and the labor market needs can be addressed through the development of labor market ready skills and entrepreneurship minded youth. With the capacity to successfully scale up business opportunities available, both in the informal sector and the formal sector, ensuring education and training match the requirements of both formal and informal employment, including self-employment. Holistic approaches will need to be adopted which will include not only market-demanded skills but also an array of life skills (from agro business to health related ones, diseases prevention and mitigation beyond what was available during the EVD crises).

Dwindling public expenditure on education reflected in the extremely low levels of literacy in the country. Low levels of education and vocational skills are an obstacle to decent employment and increased business opportunities. As a percentage of GDP, government's allocation to education stood at 2.8 percent, 3.2 percent and 3.1 percent, for 2010, 2011 and 2012 respectively. While recurrent expenditures account for the lion's share of expenditures, its relationship to GDP has been lower than the Sub-Saharan Africa (SSA) average. For example, recurrent expenditures for education were 2.6 percent of GDP in 2010, well below the SSA average of 4.7 percent. However, Sierra Leone's recurrent education expenditures as a percentage to GDP rose to 3.7 percent in 2011 and 3.3 percent in 2012. Expenditure dropped and stagnated at 2.9% between 2014-2017 but increased to 3.0% between 2017-2018[18]. Recent focus on human capital development has witnessed further expenditure increase. Lack of basic financial, marketing, management and other transferrable skills constrain business growth and trans-sectoral labor force movements, as well as posing a serious challenge for the investors. While the primary and secondary education situation is improving, adult education needs to be addressed with involvement of the private sector.

Decent employment also remains a challenge in the country. Basic labor standards do exist in Sierra Leone, but are not well implemented. A World Bank Study (2016: xiii) points out: Beyond job creation, in a context where most are engaged in low productivity jobs, improving the quality of jobs is critical for poverty reduction.[19]

Although in certain cases some improvements have been reported, a lot needs to be further reinforced. The country is a signatory to a number of international conventions on labor including freedom of association, elimination of compulsory labor, elimination of the worst forms of child labor and elimination of discrimination. In addition, a number of labor-market regulations that seek to balance

[18] http://www.GPE-09-2013-Education-Sector-Plan-Sierra-Leone%20(3).pdf

[19] A World Bank Study: Findings from the 2014 Labour Force Survey in Sierra Leone, David Margolis, *et. al*, 2016. World Bank

job creation with social protection exist but are not enforced well due to the lack of capacity. Such regulations include those governing the minimum wage, holidays and paid leave. Several social safety-net programmes in Sierra Leone now mostly rely on community-driven development initiatives, such as the Social Action and Poverty Alleviation Programme and the National Commission for Social Action (NACSA) project funded by the World Bank and the African Development Bank (AfDB).

Gender

- Rural women farmers contribute significantly in the agriculture sector, and deserve better recognition and greater appreciation of their tangible contributions to agriculture and rural development and food security. The already cited 2016 World Bank also notes: The majority of households and those employed within them are engaged in agricultural activities and women constitute a larger share than men among these workers[20]. But indicates another gendered area: gender gaps in earnings[21]

- About 70% of women are employed in agriculture and women provide 75% of the labor along the food value chain, from production, processing to marketing. Women's labour force participation in crop Sierra Leone recorded an increasing development progress over the last decade, farming and in trade and repairs stand at 65.8% and 21.9% respectively. 95% of women are self-employed and with a vulnerable employment against 85% of men. The dominance of women in the self-employed/informal sector with poor working conditions, low salaries and no social protection leaves them open to exploitation and increases their vulnerability to poverty.

- Rural women play a crucial role in achieving food and nutrition security. In the rural areas, women are the custodians of household food security and health. They typically engage in diversifying the household's farming to include vegetables and small ruminants, and they have primary responsibility for children's nutrition and health care, subsistence agriculture, manual food processing and water fetching.

- In rural communities, gender roles are usually rigid and place a heavy work burden on women who contribute to the family farm (notably along planting, weeding, harvesting), assist their husband in its cash crop production and are also tend to the subsistence farm, small scale animal production (poultry and small ruminant). Women are exclusively responsible for manually processing cassava and rice, which is a heavy burden and usually undertake small scale marketing as well. In addition to farm activities, women are responsible for most domestic and reproductive chores such as cooking, fetching water and fuelwood, clean and launder clothes, care of the sick, the elderly and children. Considering the lack of rural infrastructures (roads, less than 50% rural households have access to clean water, lack of access to energy etc..) and services (child care etc.), such activities take much time and limit women ability to perform their farming and other income generating activities

Gender inequality is prevalent in the following areas: access to and control over land, financial services, productive resources, and extension or market services and prevent women to fulfill their potential.

- Women in agriculture and rural areas have less access than men to productive resources. In those areas, when women are given nominal access to land, custom laws often stand in the way. The quoted World Bank on the 2014 Labor Force Survey states

[20] Op. cit.: xvii
[21] Op. cit.: xvi

Most plots are owned by men; women typically own smaller plots. Of the plots, 67.8 percent are owned by men, 20.7 percent are owned by women and 11 percent are owned by household. Plots owned by women are smaller than those owned by men (8.3 acres vs 11.1 acres)[22].

- Broader society practices patrilineal inheritance, so land is generally passed down from father to son. Also, women face the risk of losing control over the land when their husband dies or if they divorce.

- Women have less access to extension services and technologies and finances. Gender differences are observable in the 2015 census literacy level with 56.1% and 40.5% registered for females and males respectively[23]. Extension systems tend to promote innovations that benefit farmers with more assets and higher level of education. These systems tend to target established farmers, predominantly men, while poor women who desperately need the knowledge tend to be neglected. In addition to women's limited access to technology (tractors, power tillers and vehicle hire, for instance) for agriculture, they are often excluded from training programmes. This discrimination is justified and normalized by the gender stereotypes and traditional perceptions held by women, which instruct they do not have the physical capability to undertake hard work or operate machines.

- Women also have very little or no access to credit and other financial services due to absence of collaterals, limited financial literacy, poor knowledge of administrative procedures, transportation difficulties and cultural barriers.

- Patriarchal norms and gender-based violence negatively impact women's agency and their capacity to develop and benefit from economic activities. In 2013, 31% of women do not participate in any household decisions which concern their welfare. 62.8% of women believed that a husband is justified in beating his wife for various reasons while 28.6% of women aged 15-49 had been subjected to physical and/or sexual violence in the last 12 months. However, women-led households demonstrate better resilience to poverty than male-led households (WB Poverty Profile 2013).

- Rural women are often underrepresented in rural organizations and institutions, largely due to time constraints from on- and off-farm activities, and are generally poorly informed about their rights. This situation prevents them from having an equal say in decision-making processes, and reduces their ability to participate in collective activities, e.g. as members of agricultural cooperatives, etc.

Youth Unemployment

The youth population, aged 15-35, comprises one third of the population of Sierra Leone and youth unemployment has been regarded as a major root cause of the outbreak of civil conflict in Sierra Leone. Youth unemployment remains a challenging social and economic problem in Sierra Leone. The country's youth unemployment rate of around 70 % is amongst the highest in the West African sub-region and an estimated 800,000 youth today are actively searching for employment[24]. Furthermore, illiteracy remains a persistent challenge and youth that lack that skills and education find it extremely

[22] Op. cit.: 56.

[23]Statistics Sierra Leone (2017). Sierra Leone 2015 Population and Housing Census Thematic Report on Education and Literacy.https://www.statistics.sl/images/StatisticsSL/Documents/Census/2015/sl_2015_phc_thematic_report_on_education_and_literacy.pdf

[24] Human Development Report 2018

difficult to compete for the limited jobs available. In the context of the Agenda for Change for 2008-2012, the government has implemented new legislation for youth-friendly initiatives that aim to provide an environment conducive to youth development, employment and empowerment. Youth and women employment remains a top priority in the *New Direction* and MAF's key enablers. However, despite the implementation of various initiatives, aimed at creating jobs for youth, unemployment in Sierra Leone remains intractably high. With an economic growth spurred on to a large extent by the mining sector; the country is facing difficulties to absorb growing numbers of unemployed youth.

2.1.3.2.5. Food Security and Nutritional Status

On average, households spend approximately 60 % of their incomes on food. About 49.8 % of households are food insecure, according to the 2015 Comprehensive Food Security and Vulnerability Analysis (CFSVA), meaning they face difficulties to access and consume the required quantity and quality of food necessary to maintain a healthy and active life. Food insecurity slightly improved since CFSVA 2015 moving from 49.8% to 43.7% constituting 6.3% (475,172 inhabitants) increase in 2018[25]. However out of 43.7%, the 2.4% (183,288 inhabitants) is classified as severely food insecure. The proportion of households categorised as severely food insecure reduced from 8.6% (2015) to 2.4%, (2018) representing a reduction in the severely food insecure population by 411,342 inhabitants. Highest Food Insecurity: Tonkolili and Koinadugu (62 %), Bonthe (58%) and Bombali and Kenema (47%) districts. 10 out of 14 districts show an Improved Food Security situation. There has been decreased Food insecurity from 35% to 25% in the Western Area Urban (including urban slums). Food Security improved significantly in Port Loko (31 %), Moyamba (27 %) and Western Area Rural (26 %) districts. Reduction of Food Insecurity in Pujehun (41 %) and Kailahun (51 %) In spite the fact that Food Security has improved, general situation remains dangerous and in some cases precarious: in the event of shocks, some communities might revert to previous food insecurity status such as 2015.

2.1.3.2.6. Physical Health Constraints

The recent Ebola Virus Disease (EVD) crisis highlighted one of the key binding constraints for agriculture and the whole country – poor health delivery services due to very weak infrastructure. Even without the Ebola epidemic, there are up to 2 million annual cases of malaria, high incidences of cholera and other diseases, coupled with half of the population experiencing various levels of food insecurity and malnutrition. Water and food borne diseases (cholera, dysentery, etc.) induce inadequate absorption of food nutrients, due to frequent stools and therefore result in malnutrition. Another trend is the "feminisation" of agriculture due to male and youth migration to urban areas, which sets physical limits to extensive agriculture.

The estimated effect is that at least half of the work force potential is lost due to illness or malnutrition. This is a very serious constraint, particularly for the smallholder family farms, which will only be alleviated with gradual health system improvement. Health indicators depict a mixed bag. Some basic improvement in health indicators is observed. For example, the 2004 census[26] reported mortality rates for infants and under 5s of 115-121 and 194-224 respectively in 2004 which according to (HDR, 2018), decreased to 87/1000 and 120/1000 live births respectively in 2015. Nonetheless, maternal mortality is at 1360 per 100,000 in 2015 up from 1200 per 100,000 live births in 1990s. About 38% of under-fives are moderately or severely stunted. With only 0.2 physicians/10,000 people in 2015(HDR, 2018), the situation shows a sharp fall form 7.3 physicians for every 10,000 people in 2004, even when adjusted for population increase according to the 2015 census[27]. About 37% and 56% do not have

[25] Food Security Monitoring System conducted after the 2015 CFSVA. WFP, November 2018

[26]SSL (2004). 2004 Population and Housing Census. Statistics Sierra Leone (SSL), A.J. Momoh Street, Freetown, Sierra Leone.

[27] SSL (2015). 2015 Population and Housing Census. Statistics Sierra Leone (SSL), A.J. Momoh Street, Freetown, Sierra Leone.

access to safe drinking water and improved sanitation respectively in 2015 (UNICEF)[28]compared to 57% and 39% respectively in 2004. It is not surprising that citizens' overall satisfaction with wellbeing score of 4.9/10 was registered by Sierra Leone (HDR, 2018).

2.1.3.2.7. Food Self-Sufficiency and Food Security

Rice is the staple food for the entire population of Sierra Leone. From being about 95% self-sufficient at Independence in 1961, self-sufficiency took a nose-dive to as low as 50% during the civil war years in the 1990s. Although there has been some recovery in the last decade, self-sufficiency has not yet recovered to the levels in the early 1960s and currently stands at 61%[29]. It is therefore important to increase rice production, accelerate self-sufficiency in rice and increase investment in rice production in Sierra Leone. Consequently, the NAT 2023 and NAT 2025 particularly focus on the objective of achieving rice self-sufficiency.

There is high dependency on rice, the country's main staple, with 104kg consumed per capita per annum. However, there has been a rice deficit for the last two decades, a trend that dramatically worsened during the civil war. Although domestic production recovered quickly after 2001, the country produces 61% of its rice requirements, with the remaining demand being met by imports and food aid. During the food price crisis of 2008, the cost of rice rose by over 50 % between January and July of that year. Food security will very much depend on the sub-sector productivity increase through private sector development and the government policies towards balanced nutrition and food diversification as discussed in the Agricultural Sector Review (ASR) main report. The *New Direction* Government of President Bio has decided that self-sufficiency in rice is top priority.

In 2007, a total of 637,983 mt of rice were produced from a total of 659,487 ha of land.[30] The bulk of the land area under rice was in the uplands (363,894 ha). In the lowlands, the bulk of the rice was produced in the IVS (170,000 ha) followed by the bolilands (50,000 ha). The average rice yield per hectare over all the ecologies was 0.97 mt/ha. For the major ecologies, mean rice yield was 0.96 mt/ha and 1.23 mt/ha in the upland and lowland, respectively. The strategy for increasing rice production is two pronged: (1) increase in area cultivated, mainly in the lowlands where there is much underutilised capacity, and (2) increases in productivity per unit area in all ecosystems. Area expansion will mainly be in the IVS due to its existence in all parts of the country coupled with its potential for sustainable production.

2.1.3.2.8. Support for Agri-business - Farmer Linkages along Selected Agricultural VCAs

There is evidence from the 2014 ASR Report that numerous commodities provide excellent opportunities throughout Sierra Leone for agriculturalists and fisher folks to be engaged in agribusiness. Agricultural and fishery researchers, extension staff, governmental officials and donor personnel can and should provide guidance and recommendations to the agricultural community on which commodities are suitable to conditions which exist within the country; as well as bring attention to market opportunities. However, to achieve economic improvement for the entire agricultural sector; it is of primary importance for the government to resist regulatory restrictions which are overly burdensome, and a tax code which does not put agriculture in an uncompetitive position on the global stage. In addition, government should ensure there are no restrictions which inhibit trade and open markets. A key to economic success for agriculture is to maintain an environment in which the private sector can make practical, decisions relative to what to produce and market.

2.1.3.2.9. Formalising and Improving Productivity and Labor Conditions in the Informal Economy

[28]UNICEF Sierra Leone Data https://data.unicef.org/country/sle/
[29] AfricaRiceCenter/rice-trends-in-subsaharan-africa-20082018
[30] See CARD, (2009). National Rice Development Strategy for Sierra Leone

A key problem facing those involved in doing business in agriculture is mostly the informal nature of the sector. This situation deprives them of better investment financing, insurance and other social benefits. NAT 2025 will encourage the transformation of formal and legal entities in the sector. Such a development will not only promote a legal and formal agribusiness sub sector, but will enhance much improved management and use of sector statistics, increased government revenue and strengthening the agriculture and fisheries value chain stakeholders in the market. At the same time, in order to boost the achievement of its poverty reduction objectives, the NAT 2025 will work on improving productivity and decent labor conditions in the informal economy. It will also promote skills development, strengthen value chain partnerships with informal organizations of rural workers, in order to enhance inclusive responsible contract farming and out grower schemes.

3.0. The Agriculture Sector

3.1. Agriculture Development Trends

The agriculture sector remains the biggest sector of the economy contributing about 60.7% to GDP[31] and is dominated by the crops sub-sector. Crops represent 70% of the agricultural output while Fisheries contribute 14%, Forestry 11% and Livestock only 4%. It should be noted that fisheries contribution must have been under-reported as small-scale fisheries data was not collected between 2010 and 2017 - the sub-sector that contributed about 92.5% of the national catch in 2009. Traditionally, rice dominates the crops contribution to GDP with an average of over 15% in the last five years followed by cassava at 9.3%. The drivers of the value-added growth within the crops sector were rice, groundnut, maize and other crops (including cash crops).

3.1.1. Agricultural Production and Productivity Trends

There remains a high level of informality within the agricultural sector; perhaps up to 50% of the production and trade. Many of these informal producers are within the smallholder category which as a demographic group produced 47% of all agricultural raw products at the start of the implementation of the SCP. As mentioned earlier, fisheries figures are even higher, with small-scale operators contributing about 92.5% of the national catch in 2009[32]. Aquaculture and inland fisheries are yet to be fully developed. The development of MFMR capacity to keep up with data collection for management is crucial for the development of aquaculture and inland fisheries resources.

Crop Production Trends

Owing to the GoSL post-conflict reconstruction effort, agricultural production in all sub-sectors in Sierra Leone shows an increasing trend since the cessation of hostilities in 2002 as shown in Tables 2 and 3; Appendices 3, 4, 5 and 6.

Table 2. Annual Staple Crop Production Trends, '000 MT 2001-2018

Year	Paddy Rice	Maize	Cassava	Sweet Potato	Pulses/ Groundnut
2001	310.620	10.00	741.216	38.200	15.00
2002	422.065	10.03	895.817	45.450	28.00
2003	445.633	11.90	1,091.168	84.446	33.00
2004	542.000	12.49	1,758.004	153.196	40.00
2005	552.000	13.11	2,287.000	160.121	43.00
2006	562.000	16.24	2,973.100	168.129	48.00
2007	588.004	20.30	3,865.030	176.537	52.00
2008	680.097	22.85	4,058.288	180.068	58.00
2009	888.417	23.53	4,261.205	183.670	59.00
2010	1,026.671	44.46	4,697.992	187.344	70.00

[31] Sierra Leone Economic Outlook 2018: https://www.afdb.org/en/countries/west-africa/sierra-leone/sierra-leone-economic-outlook/

[32] MFMR Statistics Unit (note that small-scale fisheries data was last recorded in 2009)

2011	1,129.338	52.416	3,460.357	210.313	83.068
2012	1,141.417	39.237	3,585.172	220.829	84.748
2013	1,255.559	40.022	3,810.418	225.246	86.443
2014	816.503	20.812	2,316.811	138.207	22.882
2015	995.360	22.619	2,556.554	153.298	25.169
2016	1,160.646	12.554	3,073.121	169.375	66.308
2017	897,069	22.218	2,476,118	153.188	20.129
2018	919,585	22.981	2,538,269	157.033	20.634

Source: PEMSD/MAF

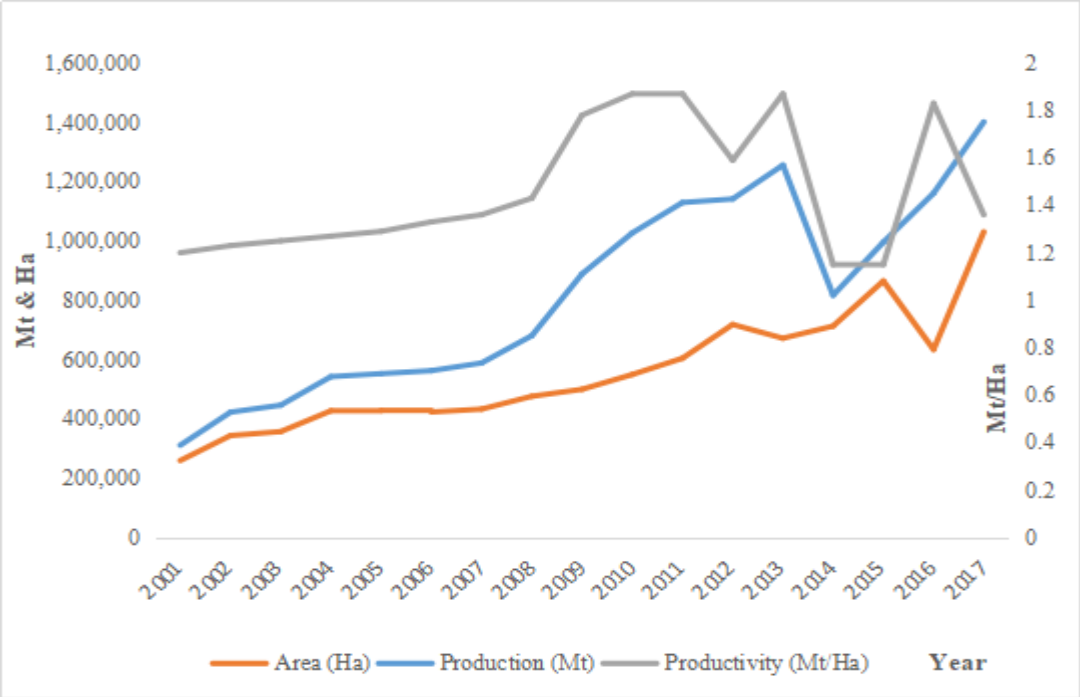
Table 3 Cassava and Sweet Potato Harvested Area and Yields 2001 – 2018

Year	Cassava			Sweet Potato		
	Area Cultivated (Ha)	Yield (Mt/Ha)	Production (Mt)	Area Cultivated (Ha)	Yield (Mt/Ha)	Production (Mt)
2001	61,768	12.00	741,216	7,640	5.00	38,200
2002	68,909	13.00	895,817	9,090	5.00	45,450
2003	83,936	13.00	1,091,168	16,379	5.40	84,446
2004	134,404	13.00	1,758,004	28,240	5.40	153,196
2005	175,923	13.00	2,287,000	29,652	5.40	160,121
2006	228,700	13.00	2,973,100	31,115	5.40	168,129
2007	297,310	13.00	3,865,030	32,692	5.40	176,537
2008	312,176	13.00	4,058,288	33,346	5.40	180,068
2009	327,785	13.00	4,261,205	34,013	5.40	183,670
2010	344,175	13.00	4,697,992	34,693	5.40	187,344
2011	420,457	8.23	3,460,357	41,729	5.04	210,313
2012	225,766	15.88	3,585,172	21,419	10.31	220,829
2013	352,816	10.80	3,810,418	64,354	3.50	225,246
2014	180,493	12.84	2,316,811	19,565	7.06	138,207
2015	201,621	12.68	2,556,554	21,040	7.28	153,298
2016	195,824	15.69	3,073,121	18,659	9.08	169,375
2017	191,541	12.93	2,476,118	20,763	7.38	153,188
2018	195,372	12.99	2,538,269	21,178	7.42	157,033

Source: PEMSD/MAF

Analysis in various reports of yields and the areas harvested demonstrates that production growth has been mainly achieved through the expansion of crop areas (Appendices 3, 6 and 7; Figures 3 and 4). Time series for Cassava and sweet potatoes (Table 3) also indicates inelastic productivity with increase in production area. The same could be said about a range of crops (Appendix 3). Possible reasons for the productivity stagnation would include low quality planting materials, little use of agricultural inputs and technologies, high post-harvest losses and farm fragmentation (lack of economies of scale). Consequently, assessing increasing productivity will be an important undertaking during NAT 2025 implementation.

Figure 3. Trends in Rice Production and Productivity (2001-2017)



Source: MAF

All surveys referred to in the text on food crops focus on smallholder households and do not capture the commercial farms; it is difficult to track the real production and productivity patterns of the different types and size of farming enterprise. The same relates to all sub-sectors productivity surveys to identify best production practices and yields.

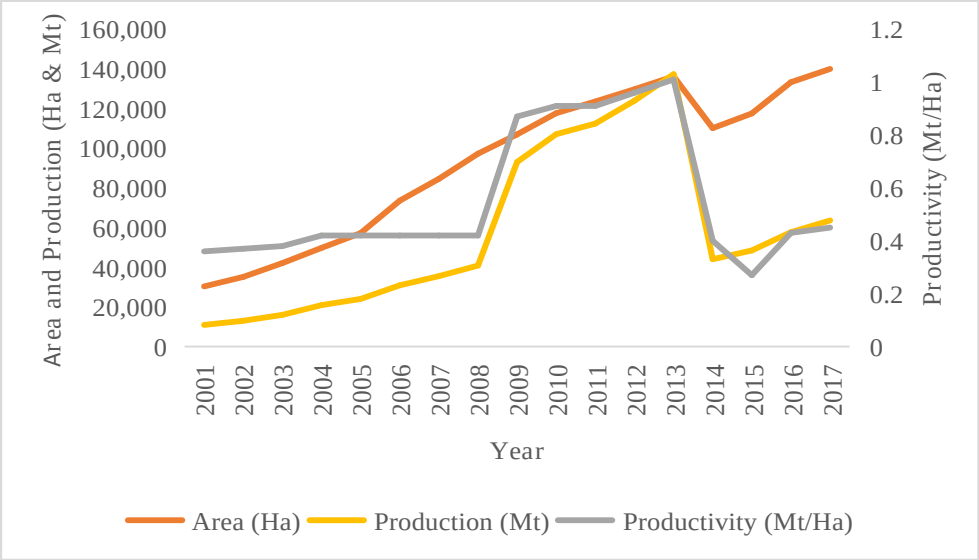
Analysis of food production and food demand in Sierra Leone illustrated that rice production and imports have increased simultaneously. Sierra Leone requires about 766,989 mts of milled rice to meet the consumption needs of the population annually in 2011 when population was 5.8million people[33] with a per caput consumption of 1.9kg. With the current population at 7.7 million people, the country would require 1,018,244mt. National Paddy Rice Production was projected at 919,585mt in 2018[34]. With the level of rice self-sufficiency estimated at 61%[35], the remainder must be imported at increasingly expensive prices in the current situation of high prices for food including rice. The prices of rice, the main staple food in Sierra Leone have seen a steady increase by more than 100% on average in the entire country over the last five years.

Rice Yields

Rice production has increased steadily and continuously after the civil war to production of 1,279,612 tons in 2017 (Appendix 6). This increase in production is attributed to increase in area cultivated which has increased form 258,850 hectares in 2001 to 1,030,450 hectares in 2017. There is also some movement in productivity, yields increased from 1.20t/ha in 2001 to 1.87 t/ha in 2013 but dropped to 1.24t/ha in 2016. This increase in yield appears to be a result of recent support with inputs (improved seeds, fertilizers), and cash transfers to smallholder farmers. Despite this increase, yields are still very low in Sierra Leone compared to the average of Sub Saharan Africa (Op. Cit.).

[33] Impact Simulation of ECOWAS Rice Self-Sufficiency Policy https://reliefweb.int/sites/reliefweb.int/files/resources/ifpridp01405.pdf
[34] PEMSD, MAF
[35] AfricaRiceCenter/rice-trends-in-subsaharan-africa-20082018

Figure 4: Trend in Cacao Production and Productivity, 2001-2017



Women's role and gender gaps in crop production

Women's labour is noticeable in most stages of every crop production. Weeding and other agronomic practices are predominantly performed by women, and women would join labour gangs to weed on large rice farms for cash payments. Manual cassava and rice processing are specifically done by women. Both men and women are heavily involved in swamp rice labour (WFP *et al*; 2015)[36]. Women are often involved in the cultivation, harvest and post-harvest processes of the household farming of each crop, which leaves them with little time to engage in other productive activities. Time constraints undermine women's ability to perform activities such as weeding and other agronomic practices, which leads to lower productivity or quality of produce, and subsequently undermines food security, participation in FBOs and CSOs, and community processes.

Forestry

Sierra Leone is part of the Upper Guinea Rainforest, accommodating a diversity of plants and animals. Thus, forest products (both timber and non-timber) have customarily being major sources of ways and means of eking-out a living especially for the rural poor. Wood products such as timber are significant income earners whereas; well-being supporters such as bush meat, medicinal plants, fuel wood (charcoal), wild fruits, nuts and tubers can also bring in income. Other non-use values and services such as serving as a carbon sink in climate mitigation; a source of water supply and recreational facilities or as fish breeding sites in the case of mangrove forest are also very important. It is therefore not surprising that this investment plan recognises the reconciliation of economic development and environmental sustainability as crucial for continued provision of those use and non-use services by forest Therefore, that, Sierra Leone developed a national biodiversity strategic action plan in 2003; which described the status of biodiversity, and action plans for its sustainable management worth the while. Sierra Leone has 48 forest reserves under the custody of government, occupying approximately 285,000 hectares of total land cover. In addition, there are 300,000 hectares of mangrove forests and 30,000 hectares of constituted community forests. Fifteen protected areas are proposed, eight in the terrestrial ecosystem and seven in the wetlands (Op.Cit.).

[36] WFP, FAO, GoSL, IDA, EU, and AfDB (2016). "State of Food Security in Sierra Leone 2015". Comprehensive Food Security and Vulnerability Analysis

Forest Resource Assessment for Sierra Leone[37] indicate that 38% of Sierra Leone's land area, or over 2.5 million hectares, comprises wooded landscapes. Effective management of Sierra Leone's natural resources and the environment is important to peace and development as unregulated exploitation of these resources has resulted in deforestation, resource depletion, environmental degradation and biodiversity loss. Consequently, NAT 2025 activities would include advocacy/research for the development of selected value chains such as neem tree, moringa, honey bee, garlic, and mint tree.

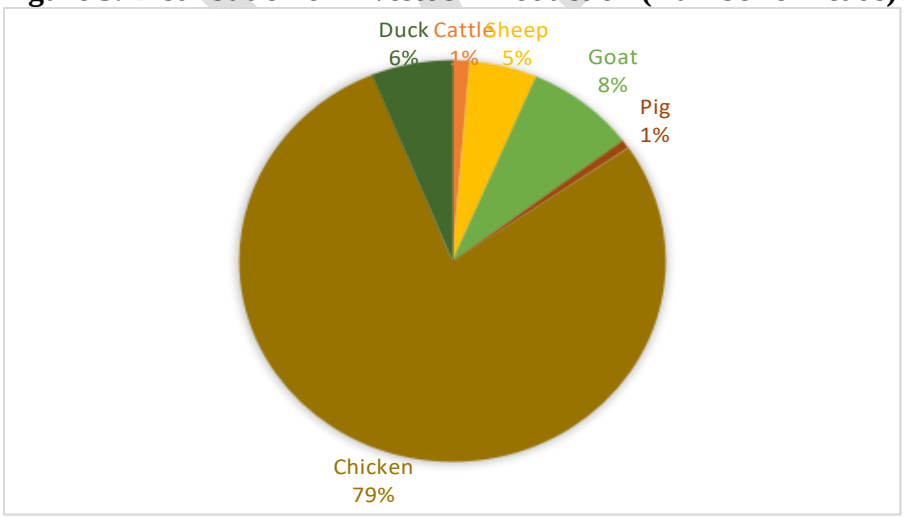
Sierra Leone lacks a comprehensive assessment of gender roles in the sector but we can infer from other country and regional reports that women play specific roles and face specific constrains in forestry management. Their limited ownership of land usually prevents them from planting trees and undertaking agro-forestry practices. They are usually little involved in plantation production and timber exploitation. However, they are often involved in harvest, transformations and marketing. Women usually dominate exploitation of non-wood forest products for both household use and sometimes income generating activities. Women are responsible to collect firewood and therefore both impact and are impacted by deforestation. Women specific user rights are not often recognized and they are usually insufficiently involved in forestry governance, therefore not able to defend such specific user rights.

Livestock

Distribution of Livestock

Figure 6 shows a somewhat marginal increase in livestock over the period 2014-2015 except for chicken production which showed a significant increase. Distribution of livestock by district depicted areas with comparative advantage for the production of the various livestock (Appendix 4). For example, Koinadugu and Falaba Districts are clearly the biggest cattle producer, contributing about 25% of production - closely followed by Kono district providing 21%. The proximity of these districts to neighbouring Guinea – a significant cattle producing country, might be influential. Port Loko and Kambia Districts lead sheep production whereas; Kailahun, Kambia, Kono, Port Loko and Tonkolili are the major producers of goats. Western Area dominates swine and chicken production contributing 31% and 35% respectively.

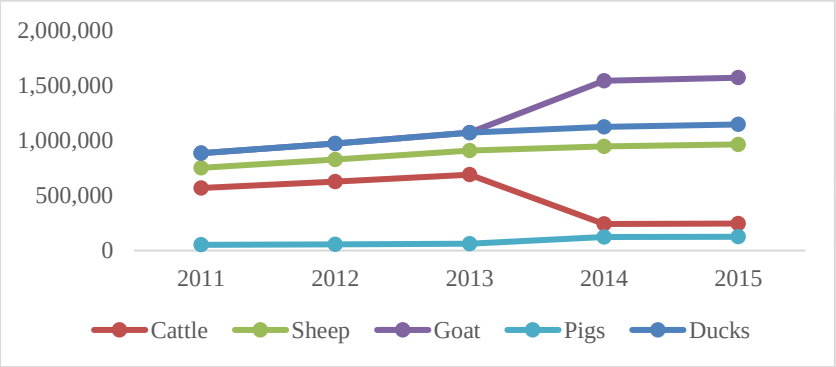
Figure 5. Distribution of Livestock Production (Number of heads) (2015)



[37] E.A. Jackson (2015). Assessment of Forest Valuation to GDP Contribution in Sierra Leone. Forest Research, 4:143. doi:10.4172/2168-9776.1000143

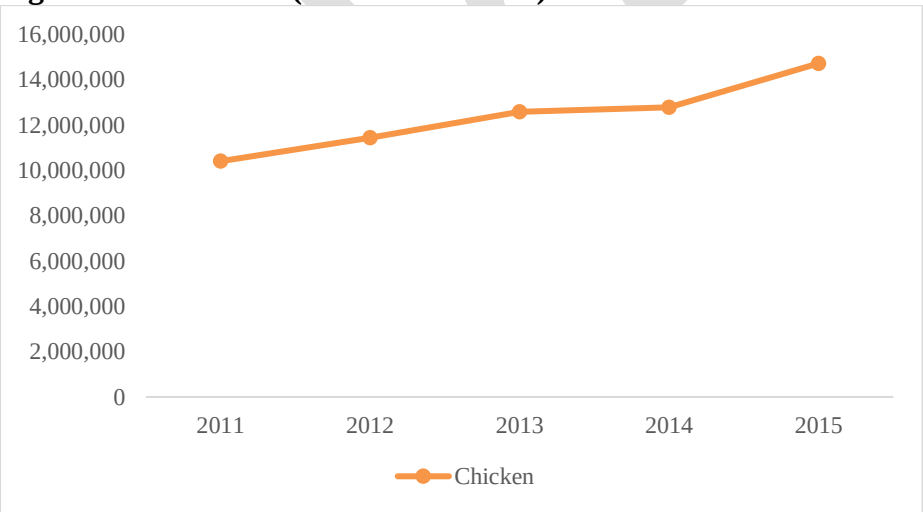
The 2015 CFSVA also estimated levels of livestock products, especially milk, produced during 2014-15 (WFP *et al*; 2015). The average production per farming household was 73.8 pints nationwide. It was observed that the production of milk is sizeable only in a few districts in Sierra Leone. The districts with the highest quantity of milk production per household per year are Koinadugu (198.0 pints), Tonkolili (40.1 pints) and Port Loko (28.0 pints). The other Districts recorded low or insignificant levels of milk production.

Figure 6. Production (Number of heads) of Key Livestock (Without Chicken)



The production of eggs was recorded at 25.4 per household per year compared to 30.7 in 2013-14, before the EVD outbreak. This may represent a knock on effect of the breakdown in the provision of livestock extension services, such as vaccination of chickens, as a result of movement restrictions during EVD. The highest egg production was in Kambia (35.6 per household per year), followed by Bonthe and Port Loko. Reduced availability of eggs, an important protein source, also bears implications for nutritional security.

Figure 7. Production (Number of heads) of Chicken



Overall, the production of livestock products declined during 2014-15 compared to 2013-14, demonstrating the impact of the EVD outbreak (Appendices 4, 5; Figures 6). Milk production declined by 40.5 percent in the country, with the highest decline at the district level observed in Kambia (89.8 percent), Kailahun (79.6 percent), Tonkolili (79.5 percent) and Bombali (73.9 percent). Similarly, egg production declined by 17.2 percent between 2013-14 and 2014-15. At the district level, whilst egg production increased in some districts, this was offset by larger decreases in other districts.

Gender roles gaps

Gender roles are well differentiated in animal production. Men predominantly manage large animals, whereas women are responsible for poultry and small ruminants. In comparison to women, male livestock keepers benefit from greater access to training and technology. Despite the fact that men and women are involved in livestock production, discriminatory practices deny women access to resources, rights and services. In comparison to women, male livestock keepers benefit from greater access to training and technology. There are gender differences in the risk associated with production income. Men's income may be more at risk from outbreaks of foot-and-mouth disease, whereas for women, the primary dangers to health and economic risks stem from avian influenza.

3.1.2. Aquaculture Sector Production and Productivity Trends

Aquaculture survey in 2005[38] estimated a total of 1,190 fishponds nationwide of which 708 (59.5%) were active and 482 (40.5%) were inactive; 95.9% of them cultured tilapia. Bo district had 29 ponds which constituted 60% of the total number of ponds in the country. About 22 percent of the ponds belong to village communities or fishing associations; approximately 80 percent of the same total number of ponds are private ponds, with about 87 percent of the same total are owned by men. A total of about 1,800 ponds is in operation nationwide, with a total annual production of about 90 t/year.

Another base line study conducted in 2009[39] indicated the existence of 2,494 ponds nationwide, of which 1,801 were in operation and the rest (31 %) had been abandoned. The estimated operational pond area was 61.8 ha and the maximum production was 92 t/year. The baseline study ACP Fish II study in 2011[40] concluded that the Districts of Bo, Kenema, Pujehun and Kailahun are suitable areas for the development of low input low output fish farming in dam ponds. The study strongly recommended the practice of low input low output dam ponds and further concluded that if the utilization of only 2 % of the existing Inland Valley Swamps (IVS) in the three Districts are developed with low input fish farming, it would result in the development of about 6900 ponds, covering 4,100 hectares, with a total potential production of 2,071 t/year to improve the food security of about 207,000 persons.

When aquaculture started in Makali in the 1970s farmers owned 1-4 fishponds, with a total surface area ranging from 100 to 500 m^2 per pond. The yield from these ponds was 1.5 to 2.5 tons/ha/year. This base line study provides the base line for NAT 2025 intervention in Aquaculture. From detailed analysis of previous surveys and evaluation of recent developments, recent baseline study on aquaculture conducted in 2015[41] offered a number of problems facing the industry based on the responses of fish farmers. These include: the difficulty in obtaining fish feed and seeds; lack of technical skills and knowledge in pond management; lack of adequate support from government and NGOs; difficult access to suitable land; difficulties and lengthy processes in obtaining the loans; high interest on loans; risks and hazards in travelling to get supplies or to dispose of the harvest by marketing.

[38] Deen, S.I.S. (2005) Report on National aquaculture baseline survey. Ministry of Fisheries and Marine Resources.

[39] MFMR 2009. Baseline studies on the aquaculture of Sierra Leone. Report by K. Dabo *et al*

[40] Anon. (2013) ACPFishII. A comprehensive aquaculture baseline study. Final technical report, Project Ref. No. WA-1.2-B1, region: Sierra Leone. European Union – COFREPECHE: Strengthening Fisheries Management in ACP countries.

[41] Baseline Survey on the Aquaculture Sector in Sierra Leone. FAO Technical Cooperation Programme TCP/SIL/3502, 2015. Report by PAT. Showers

4.0. Programme Context, Challenges and Rationale

4.1. The Context

4.1.1. Agriculture Sector Framework

The National Sustainable Agriculture Development Plan (NSADP) (2010-2030) is the broad framework for putting the objectives of the Government's development plan into action as it relates to the agricultural sector. The first flagship program under NSADP was the Smallholder Commercialisation Program (SCP) (2010-2014) which focused on commercializing agriculture through linking large and small farmers to markets.

It is vital to note that NSADP and SCP were developed to fulfill the Compact under the umbrella regional Comprehensive African Agriculture Development Program (CAADP). At sub-regional level, in line with Malabo Declaration and building on the assessment of 10-year implementation of the ECOWAP, ECOWAS has defined a new cycle of its regional Policy: ECOWAP 2025. The new policy's vision and orientation are reflected in the Strategic Orientation Framework 2016-2025 and the Regional Agriculture and Food and Nutrition Security Investment Programme 2016-2020. This NAT 2025 Investment Plan (2019-2025) serves as a follow-up to the SCP, incorporating the considerations of the Maputo and Malabo Declarations, respectively.

4.1.2. Challenges of the Sector

The agriculture sector as the largest contributor to GDP has the potential to significantly contribute to societal well-being in Sierra Leone. However, there is a general acceptance that the sector lags behind in achieving its full potential, due to a number of challenges. In addition to the main sectoral constraints identified by the Agriculture Sector Review (2014), provided in Annex 1, the following challenges should be addressed by the investment plan in other to achieve the expressed goal and objectives of the sector.

4.1.2.1. Non-Agriculture Related Challenges

Social and Age Discriminations and Cultural Barriers in the Agriculture Sector

There are social and cultural barriers that affect agribusiness in Sierra Leone, as traditional "glass ceilings" prevent even the most successful entrepreneurs from growing, and deny their access to resources. Such entrepreneurs include: those who are not well connected with the political or social elite, women entrepreneurs (notably market women) and rural women. Women face specific constraints. They have lower literacy and access to extension, technology and finances. They have no property rights or are bound with other traditional limits e.g. women cannot become part of fishing crew[42]. Also, unequal share of domestic chores places a heavy burden on women productivity while their limited participation to decision making in the households limit their autonomy and benefit from generated income. Such barriers and gender gaps constrain overall productivity, production and income growth. Such barriers can only be overcome with consistent and persistent equal rights promotion campaign, community empowerment and sensitization, as well as establishing level playing field in agriculture. Age-based discriminations are also persistent in the country. Young people have

[42] Andy Thorpe, Nicky Pouw, Andrew Baio, Ranita Sandi, Ernest Ndomahina, and Thomas Lebbie (2013): "Fishing Na Everybody Business": Women Work and Gender Relations in Sierra Leone's Fisheries, *Feminist Economics*, 20, Iss. 3, 2014

major issues concerning access to land, assets, finance and markets[43]. Considering the average aging farming population and the need to increased agricultural production to meet the food and nutritional needs of a growing population, barriers and impediments for young women and men entering the sector should be timely addressed through incentives, adequate capacity development, facilitated access and private – public partnerships (PPPs).

Physical Health Constraints

The infrastructure and medical supplies in the health sector are grossly inadequate as testified by the EVD crisis. Poor health is the key binding constraints for agriculture and the whole country.

"Feminisation" of Agriculture and Rural-Urban Migration

Another trend is the "feminisation" of agriculture due to male and youth migration to urban centres, which sets physical limits to extensive agriculture. Again the general movement of abled men and women from rural areas to urban centers/mining areas in search of greener pastures/fortune deprive the agricultural sector of much needed labour force.

Weak Sectoral Policy, Regulatory and Institutional Framework

Sectoral policy, regulatory and institutional environment are incoherence and inadequate to accommodate the required reforms that would support agricultural investment and transformation. Moreover, all sector stakeholder coordination mechanisms are not strengthened and functional. The same could be said about M&E and accountability systems which are not fully functional to inform policy-making. Public institutions and sector actors' organizations do not have adequate (institutional, technical, organizational, financial and management) capacities to carry out their professional activities.

Weak Sectoral Coordination

Low Levels of Vocational Skills and Basic Education

The agriculture sector of Sierra Leone is dominated by illiterate smallholder/artisan practitioners lacking basic skills and education. Many farmers believe that experience built over the years and imparted by their forebears are enough for their everyday agricultural practice. The technological infusion necessary for the attainment of the expressed objectives of NAT 2025 would require extensive and intensive extension services including training of practitioners in basic skills. Mismatch between the content of curricula and the contemporary needs of the agricultural sector primed for transformation and the overemphasis on theory over the practical dimensions of courses. Low levels of education and vocational skills are an obstacle to decent employment and increased business opportunities. Lack of basic financial, marketing, management and other transferrable skills constrain business growth and trans-sectoral labor force movements, as well as posing a serious challenge for the investors. While the primary and secondary education situation is improving, the adult education needs to be addressed with involvement of the private sector. In general, in the country, a lack of alignment between labor market needs and curricula (both in formal and informal education) remains.

[43] Richards, P. 2006. "Young men and gender in war and post-war reconstruction: some comparative findings from Liberia and Sierra Leone". In I. Bannon and Maria Correia, eds., *The Other Half of Gender: men's issues in development*, Washington: World Bank, pp. 195-218.

The mismatch between education and training and the labor market needs, can be addressed through the development of labor market ready skills and entrepreneurship minded youth, with the capacity to successfully scale up business opportunities, both in the informal sector and the formal sector; ensuring education and training matches the requirements of both formal and informal employment, including self-employment. Holistic approaches will need to be adopted which will include not only market-demanded skills but also an array of life skills (from agri-business to health related ones and diseases prevention and mitigation further to the current ongoing EVD crises).

4.1.2.2. Agriculture related challenges

A number of agricultural related challenges which the investment plan should address have been identified; viz:

- The low budgetary allocations to the sector. (The 2018 allocation of 5.5% was the highest, which still does not meet the Maputo minimum[44].
- Agriculture, especially the cultivation of crops, being mainly rain-fed, meaning that the norm is one cropping a year, which effectively makes productive land underutilized and being unable to meet the needs of the population. This is connected to lack of a comprehensive, large-scale irrigation plan and system to make support multiple cropping annually.
- The application of primitive crops, livestock, fishery and forestry production practices and techniques that are not climate smart
- Copious pre- and direct post-harvest losses due to weak production infrastructures.
- Inferior food safety and quality standards along the production line
- Inadequate and dysfunctional domestic markets with weak regional and global markets linkages
- Unstructured value chains that are not inclusive and sustainable
- Vulnerable groups do not have sustainable and equitable access to market infrastructure and productive resources
- Limited access to sustainable healthy and nutritious diets and lack of food choices especially among the most vulnerable
- Weak early warning and preparedness mechanisms against shocks undermining implementation of mitigation methods
- Lack of capacity by the vulnerable populations to access diversified income generation opportunities

4.1.2.3. Macro-economic challenges

Notwithstanding strides being made in stabilising the economic environment, the investment programme should be mindful of the following challenges which may undermine macroeconomic stability in the medium-term.

Less Diversified Economy

Lack of diversification in the structure of the economy which promotes high unemployment hinders sustainable inclusive growth. Mining dominate the economy and there is need to diversify into other growth-promoting and employment-creating sectors, such as agriculture, fisheries, tourism and manufacturing.

Insufficient GDP growth

But for the downturn induced by the EVD outbreak, the economy had experienced strong growth in recent years, averaging 5.2% excluding iron ore output. This rate of economic growth, even though high by regional and international standards, is not enough to have a significant impact on poverty.

[44] Ministry of Finance. 2018 Budget

External Shocks
High international prices of food and fuel affect domestic prices adversely and contribute to high inflation. Government mitigation interventions on behalf of the poor and vulnerable through the reduction in duties and taxes on basic food items and petroleum products undermines domestic revenue mobilisation. In turn, Government attempts to deliver the planned level of services in the face of higher prices of goods and services, increases public expenditure above budgeted amounts to culminate in widening budget deficits. Deficits are in most cases financed by borrowing from the domestic bank and non-bank sectors, and so have adverse consequences for macroeconomic stability, leading to higher inflation and interest rates, and depreciating exchange rates. Climatic variability and natural disasters also impact agricultural production and productivity.

Fluctuations in Commodity Prices
The commodity boom in Iron ore was expected to generate substantial revenues to support public expenditure. However, projected mineral revenues depend largely on movements in the international prices of these commodities. As it turned out that the projected prices of these mineral exports, was not as high as projected due to price fluctuations. Thus, the projected revenues did not happen, which complicated budgetary management; expenditures were adjusted accordingly, thereby disrupting the implementation of public programmes and projects. Government also borrowed to fill the shortfall, with consequences for macroeconomic stability.

Dutch Disease
A major challenge posed by the expected inflow of foreign currency from mineral/oil exports is the appreciation of the Leone. This has the tendency to make other sectors of the economy like agriculture less competitive and hence reduce growth prospects.

High Debt Burden
One of the challenges to macroeconomic stability and economic growth is the potential high debt burden. While Sierra Leone's external debt remains sustainable, with moderate risk of debt distress, a significant increase in non-concessional borrowing could increase debt overhang.

Low Domestic Revenue Mobilisation
Low domestic revenue to GDP ratio has resulted in huge budget deficits, financed partly by borrowing from the domestic banking sector. This thwarts private investment activities and is undermining macroeconomic stability. Improved management of rent from natural resources should help increase domestic revenues.

4.1.3. Programme rationale
The Agricultural Sector Review 2014 conducted after the SCP showed a significant change in the landscape of the agriculture sector. Sierra Leone is no longer a post-conflict country surviving on subsistence agriculture. There is a spectrum of micro, small, medium and large enterprises operating in the sector, including individual commercial farms, farmer-based organizations, fisherfolks cooperatives, traders, processors, input dealers, medium-size producers and processors, and large-scale commercial enterprises.

The rationale for the NAT 2025 and NAT 2023 is the commercialisation and mechanisation of agriculture and encouragement of large-scale investment in the priority areas, especially rice, while encouraging collaboration between large-scale, medium, smallholder investors and public and private sector partnerships. The NAT 2025 also intends to address sectoral challenges identified by the ASR

specified in Annex I, and resolve the challenges noted by appraisal teams of the Investment Plan summarised in sub-section 4.1.2.1. of this document. By addressing these challenges NAT 2025 will accelerate agribusiness development and unleash the promising domestic investment and business potential by providing stimuli for business formalisation. These actions will present opportunities for establishing Special Economic Zones for agro-processing and Clusters and Growth poles development in the country. Such development will target regional and international trade, thereby sustaining persistent infrastructural development and maintenance. Investment and diversification along the value chains of selected commodities will also benefit from increased financial literacy, and developing entrepreneurial culture among youth.

As the largest contributor to GDP and the biggest employer of Sierra Leoneans the Agriculture sector is the main conduit of poverty reduction in the short and medium terms. The sector has the potential to absorb unskilled youth on a large scale, provide decent employment opportunities in rural areas and enhance food security and poverty reduction. This is so because rural poverty is often a problem of poor employment quality. Most of the working poor (earning less than 1.25 USD a day) are typically subsistence farmers, own-account or contributing family workers. Furthermore, high child labor and youth unemployment and underemployment rates represent missed opportunities to harness the investment in the human capital of future generations. A transformed and competitive agriculture sector advocated by NAT 2025 would create decent employment opportunities in the country especially for young women and men - as a key priority of the programme. The implementation of NAT 2025 involves review of laws, regulations and policies pertaining to land, agricultural financing, taxation and import and export regulations. Although Sierra Leone has made some important strides towards improving the business climate, certain policy domains of particular importance to food security, agriculture and rural development require further efforts to bring in investment and ensure the achievement of development goals.

Improving food and nutrition security and reducing households' vulnerability to shocks and stresses should remain the top priority of the country's developmental efforts, but, food insecurity and malnutrition remain a pressing problem among rural populations. Coping mechanisms would include e.g. seeking off-farm labor, reducing the number and diversity of daily food intake, obtaining loans from others in the family or community. These mechanisms could negatively affect productive capacity or push people further into the debt trap. By recognizing financing of social protection as an investment in economic growth, NAT 2025 will promote equity and contribute to social stability. Poor rural households that mostly rely on agriculture for their livelihoods are often affected by limited access to resources, low agricultural productivity, poorly functioning markets and repeated exposure to risks which the investment plan will assess and alleviate.

Climatic variability also poses a serious risk that could result into production failures. Climate Smart Agriculture (CSA) measures adopted by the NAT 2025 will ensure the following: that households are resilient to climate and weather-related shocks; Agriculture is under sustainable land management practices; share of population exposed to climate risk are reduced; share of land under small-scale irrigation is increased; soil fertility management practices are adopted; awareness of climate change risk and impact among farming population is improved, and seeds adapted to heat and drought in major crops are used. The paradigm shifts from supply chain to value chain agribusiness adopted by NAT 2025 encourages a market-oriented mentality wherein products that are valued and can be sold are

produced. This enhances collaborative management and holistic participation across the value chain from up to downstream. Consequently, strong relationships are forged facilitating information flow by which stakeholders know what the market wants. The NAT 2025 is characterised by inclusiveness of stakeholders, which engenders shared vision, objectives, and strategies; agreed performance; evidence-based analysis; transparent dialogue and commitment to implement recommendation from the ASR. These characteristics will enable adherence to mutual accountability.

5.0. Description of the Investment Plan

5.1. Scope

The National Agricultural Transformation Plan (NAT 2025) follows-up from SCP with the overall goal or the desired state of affairs of "increased agriculture sector contribution to a broad-based socioeconomic development and food & nutrition security of rural Sierra Leone in a sustainable and inclusive manner". The extent of increase will be the difference in end time target outputs and that of the baseline as stipulated in the results framework in Section 6. The NAT 2025 will be implemented over a 7-year period from 2019 to 2025. All components of the NAT 2025 will incorporate social, gender and youth development indicators, which will be gender and age disaggregated for providing opportunities to men, women and youths. The Gender Desks in MDAs involved will facilitate and monitor women's and youth's participation. NAT 2025 will build on the successes and lessons learnt of previous agriculture and fisheries development programmes, the recent Smallholder Commercialization Programme and the findings of the Agriculture Sector Review 2014 (ASR). It is designed such that it incorporates the initiatives of the AFAIP. The Programme combines the existing initiatives, e.g. SCP components and programmatic gaps to be addressed.

The Plan will also reflect:

A. The overarching goals and targets of the **Malabo Commitments**

- Poverty and hunger
- Agricultural growth
- Agriculture expenditure

B. Thematic goals and targets

- Inclusive growth & value chain development
- Regional trade
- Nutrition
- Gender
- Climate Smart Agriculture & Resilience
- Mutual Accountability

In order to achieve the goals of the Programme, the following specific objectives or concrete steps will be taken:

Specific Objective 1: Strengthen governance structures and mechanisms for improved evidence-based policy to guide the production process in agriculture.

Specific Objective 2: Increase sustainable, inclusive and intensified production and productivity of rice for self sufficiency

Specific Objective 3: Increased production and productivity of priority crops such as cacao, coffee and cashew nuts for boosted foreign exchange earnings

Specific Objective 4: Increased production and productivity of livestock such as cattle, poultry, small ruminants and other animals for food & nutrition security and poverty reduction

Specific Objective 5: Sustainable development/exploitation of forest products and value addition for domestic and international markets

Specific Objective 6: Develop aquaculture production system for increased tilapia and catfish production for food & nutrition security and poverty reduction

Specific Objective 7: Increase and improve resilience of livelihoods against shocks and promote full access to nutritious foods for the most vulnerable.

Specific Objective 8: Assemble the requisite human and material resources for effective programming, coordination, implementation and monitoring of the NAT 2025

The aforementioned specific objectives will be pursued via eight (8) components viz:

Component 1: Sector Governance of the National Agricultural Transformation Plan (NAT 2025)

Component 2: Increased Rice Production Systems and Productivity for Self Sufficiency

Component 3: Increased Production and Productivity of Priority Crops Value Chains

Component 4: Increased Production and Productivity of Livestock Value Chains

Component 5: Develop Forest Value Chain

Component 6: Develop Aquaculture Value Chain

Component 7: Improve Resilience of Livelihoods and Nutrition of Vulnerable Groups

Component 8: Programme Coordination, Implementation & Management

A tailored programme i.e. the National Agricultural Transformation Programme (NAT 2023) 2019-2023 has been developed from the NAT 2025 2019-2025 which will be the focus of implementation for the first five (5) years. The vision of the programme is to double agro-forestry production by 2023 by attracting and retaining large investments, and supporting households to exit subsistence farming. The programme identifies four (4) priorities and three (3) enablers. The 4 priorities are:

1. Towards rice self-sufficiency
2. Livestock development
3. Crop diversification
4. Sustainable forest management and biodiversity conservation

The three (3) enablers include:

1. Improving the policy environment
2. Promoting women and youths in agriculture
3. Stepping up private sector involvement and technologies

The NAT 2023 Priorities correspond to the first 5 components of the NAT 2025[45].

5.1. Programme Benefits and Beneficiaries

The NAT 2025 will generate a number of interrelated economic and social benefits, including:

(i) increased production and productivity of rice and other selected commodities targeted by the programme;

[45] Not necessarily in the strict order

(ii) improved food security and nutritional status, particularly of infants, children, women and other vulnerable populations because of increased dispensable incomes and food availability;
(iii) improved access to agricultural and financial services for farmers and their organizations, agribusinesses and other actors along the value chain;
(iv) formalization of agribusinesses and MSME development, leading to increased and diversified income opportunities and a vibrant rural economy;
(v) improved market access and trade promotion through infrastructure improvements, market development, information provision and the enforcement of quality standards and food safety;
(vi) decent work creation in both in formal and informal segments of agriculture, either in salaried employment or self-employment;
(vii) a more effective and capacitated public sector, able to respond to sector stakeholders evolving support requirements;
(viii) foreign exchange savings though increased production leading to a more positive trade balance and food price reductions. The programme benefits will all contribute to achieving a pro-poor and equitable growth path in Sierra Leone through sustainable agricultural development.

The programme will impact on several groups of direct beneficiaries: smallholder commercializing farmers and their organizations, medium and small scale agri-business, large-scale investors and, vulnerable populations - including the unemployed and underemployed youth. Consumers will also benefit from the improvement of the sector. Commercialized farming will be supported to enable them to realize sustainable production and productivity increases. This action will lead to increased rural incomes through strengthened farmer organizations, improved availability and access to rural services such as: agricultural machinery, technology in general, inputs, cash transfers and finance, productive asset building, and market opportunities. Existing and emerging agri-businesses and rural entrepreneurs will be supported by addressing administrative and physical constraints to doing business, and providing targeted incentives to the development of this sub-sector.

Furthermore, NAT 2025 will improve market access and development through the following: feeder road rehabilitation and maintenance, provision of accurate and up-to-date market information. promoting the introduction of food safety and quality standards. Vulnerable populations will be supported by participating in either productive safety nets or cash transfer schemes. Further support will be provided to these groups in the form of additional (child) feeding, nutrition training and skills development. Throughout the programme special emphasis will be placed on women and youth, particularly in identifying special interventions that will raise their incomes, enhance their food security, by improving their production, and promoting non- and off-farm income generating activities.

The interventions of the programme will also bring indirect benefits to the wider rural population through expected multiplier effects, achieved through increased dispensable incomes and a more diverse and vibrant rural economies.

5.2. Programme Components

A curtailed description of the components is provided in this subsection as detailed specification of components, sub-components and activities are in both Appendix 1 (indicative cost) & 2 (plan results framework).

5.2.1. Component 1. Sector Governance of the NAT 2025 (US$)

NAT 2025 will contribute to the strengthening of governance structures and mechanisms for improved policy and programming. The focus will be on providing the enabling environment for implementing

the NAT 2025. This will take the form of: developing policy, legal and regulatory environment that adequately supports agricultural investment; undertaking research to inform agricultural policy and practice; developing data collection and analysis capabilities; strengthening of institutional, technical, organizational, financial and management capacities of public institutions and sector actors in order to carry out their professional activities effectively; strengthening of national and decentralised coordination mechanisms; promoting investment; facilitating compliance with standards; and developing farm demonstrations and communication strategies.

5.2.2. Component 2. Increased Rice Production Systems and Productivity for Self Sufficiency (US$)

NAT 2025 will support increased, sustainable and inclusive rice production and productivity to achieve self-sufficiency in Sierra Leone's staple food. The programme will pursue: research and extension for viable seed availability to institute and sustain high quality and economically attractive seed production and transfer systems; establishing a functional and fair out-growers scheme; instituting and maintaining improved irrigation and water management schemes; establishing enablers such as, schemes for the procurement, operations and maintenance of agricultural machinery; improving the nutritional value and marketability of rice; providing infrastructure related to rice production - targeting the large-scale rice production domain and; adopting climate smart agronomic practices for rice production.

5.2.3. Component 3. Increased Production and Productivity of Priority Crops Value Chains (US$)

Under this component, the plan will increase the production and productivity of priority cash crops such as cacao, coffee and cashew and also improve on the productivity of essential crops including; vegetables, legumes, root and tubers, cereals and spices. In doing so, the plan should embark on: establishing new improved cacao, coffee and cashew plantations and replacing old ones; building capacity in the production of these crops; ensuring quality control and maintaining standards; establishing robust integrated pest and disease management system delivered by an intensive extension service delivery system; developing key required policies and; building linkages between the these crops and the forestry priority component, especially for cash/economic crops products.

5.2.4. Component 4. Increased Production and Productivity of Livestock Value Chains (US$)

Component 4 is concerned about increasing livestock production and productivity. The focus will be on improving animal health facilities; improving meat and milk value chains for cattle, poultry, small ruminants and other animals (honey-bee, ducks, pigs, grass-cutter, rabbit); improving and sustaining animal nutrition through the adoption of new sustainable innovations; establishing animal processing and marketing infrastructures; developing farmers' capacity; developing animal production, processing and marketing-related policies and laws for improved livestock investment climate; improving livestock value chain development from empirical data and evidence based decision making and; adopting climate-smart agriculture practices.

5.2.5. Component 5. Develop Forest Value Chain (US$)

This component will go about developing forest value chain by adapting and implementing forest development and management systems together with community-based forest management approaches; fully integrating forest information systems into agricultural information systems and disseminating through information, education and behavioural change communications; establishing and operationalising management systems for protected areas and; promoting the establishment and sustenance of commercial forests.

5.2.6. Component 6. Develop Aquaculture Value Chain (US$)

The development of aquaculture value chain will be addressed under component 6. This will involve: identifying productive areas; creating formal and informal systems for the provision and timely distribution of quality and improved inputs for aquaculture development; addressing post-harvest issues and; decentralizing aquaculture.

5.2.7. Component 7. Improve Resilience of Livelihoods and Nutrition of Vulnerable Groups (US$)

NAT-Plan will support efforts to increase and improve resilience of livelihoods against shocks and promote full access to nutritious foods for the most vulnerable. The focus will be on: ensuring that the most vulnerable have sustainable and equitable access to markets, infrastructure, productive and financial resources; improving access to sustainable healthy and nutritious diets and improving food choices among the most vulnerable; improving early warning and preparedness mechanisms against shocks and ensuring that mitigation measure are implemented in consonance with National Adaptation Programme of Actions (NAPA) priorities and; building capacities of the vulnerable populations in order to have access to diversified income generation opportunities.

Component 8. Programme Implementation & Management (US$)

The Project will finance a National Project Implementation Unit (PIU) at MAF - staffed by project management specialists. The PIU will comprise both technical agricultural management and fiduciary (procurement and financial) specialists. The technical team will be responsible for the technical management and coordination of project activities, monitoring and evaluation of the project, communication of project activities, and management of the social and environmental aspects of the project. In addition, the team will implement Agricultural Performance Indicators (APIs) aligned with the CAADP indicators which will be measured periodically. The essence is to provide the human and material resources requirements for project implementation and management.

5.3. Programme Key Principles

5.3.1. Inclusiveness

NAT 2025 will focus on the following: identifying and intensifying growth poles: micro, small, medium and large domestic businesses, as well as harnessing the potential for large-scale farming with foreign investment. This growth shall create improved decent rural labour conditions and opportunities, incomes, skills and food security and nutrition. NAT 2025 will also make sure that medium-size enterprises and middlemen playing a vital role in the value chains and markets development are not excluded from the support programmes while checking the tendency of exorbitant profiteering. A major role in this inclusive process will be played by regional, national and local member organizations including following: National Federation of Farmers of Sierra Leone ((NaFFSL), the Sierra Leone Chamber for Agribusiness Development (SLeCAD), Fisherfolk Association, Livestock Producers' Organization, Sierra Leone Women's Forum (SLeWOF), Sierra Leone Cocoa and Coffee Commodity Association (SLCCCA), Sierra Leone Business Forum (SLBF), other produce organizations (PO), Farmer-Based Organizations (FBOs), Cooperatives and Sierra Leone Fisher Organisations.

The active involvement of women, youth groups and their Associations, as well as informal workers organisations will facilitate their inclusion across programme activities.

5.3.2. Comprehensiveness

The NAT 2025 is a comprehensive programme as it identifies and promotes the key and viable commodities and priorities covering the four subsectors of Agriculture: *Crops, Fisheries, Livestock*

and Forestry and envisages measures strengthening the Value Chain approach for each of the prioritized commodities. It is also comprehensive in the sense that it aims to bring sustainable benefits to the diverse array of livelihood groups of rural Sierra Leone.

5.3.3. Competitiveness and Commercialization

NAT 2025 will provide support to improve the competitiveness of locally grown products and their commercialization, development and growth of domestic small and medium agribusinesses and agricultural entrepreneurs, as well as stimulating investments by large-scale business and attracting FDIs. Development of the agricultural value chains will be supported through a package of investment incentives for the private sector. It will promote linkages among smallholders, medium and large-scale enterprises as vertical and horizontal integration strategies for promoting commercialization and modernization of production as well as processing and value addition in Sierra Leone. Issues of meeting international food safety standards will be addressed. NAT 2025 will address the key binding constraints and seize growth opportunities for the agricultural sector contribution to A4P.

5.4. Priority Value Chains of Food Commodities for the Promotion of Food Security and Nutrition

Stakeholders categorized the various foodstuff produced in Sierra Leone to promote food security and nutrition during a well-attended retreat over 5 days (Table 4), offering opportunities for both men, women and youth. These priority value chains will be the focus of NAT 2025.

Table 4: Food Category and Type

Food/Non-Food Category	Food type
Staples	Rice
Other Crops	Cacao, Coffee, Cashew and Development of Vegetables, Legumes, Tubers, Cereals, and Spices
Livestock	Cattle, poultry, small ruminants and other animals (honey-bee, ducks, pigs, grass-cutter, rabbit
Fish/Aquatic Resource Value Chains	Tilapias, Cat fish

5.4.1. Staple Crops – Value Chain Analysis (VCAs)

The GoSL has, with good rationale, encouraged the production of *Rice* in the interest of the nation becoming self-sufficient for this crop. While this goal has yet to be achieved, good progress has been made. At the same time, as noted further, a more balanced diet involving fruits and vegetables has been recommended by nutritionists and leaders within the GoSL. For businesspeople who engage in agriculture; two general crops emerge within the ASR as having great potential for continued expansion within the unique conditions which exist within Sierra Leone. *Sorghum* and *Cassava* each present largely untapped potential as commodities with stable processing possibilities. The success of developing increased *Sorghum* production to serve beer distilleries in Sierra Leone is a classic example of how to engage and improve a value chain in a developing country. *Cassava,* which is now referred to as the "multipurpose crop for the 21st century" presents a host of multiple opportunities as a

commodity destined for processing and product development. In addition to these staples, the country could engage in production of nutrient-dense crops such as legumes/pulses

5.4.2. Cash Crops VCAs

On export crops are considered, the ASR Report indicates how devastating the loss of exports is for a fragile economy as was evidenced during and after the long period of turmoil and war in Sierra Leone. *Cocoa* and *coffee* were the major traditional export commodities produced in Sierra Leone prior civil war. After the war, a decade of effort and investment was required to regain a foothold for these two commodities in the global marketplace. Although exports of *cocoa* or *coffee* are yet to make Sierra Leone a major player as a supplier of these commodities in the world stage, in recent years, producers and exporters have developed a solid reputation as dependable suppliers. This has been especially true of organic *cocoa*.

A foundation for growth in the export marketplace was established in the past few years, increased production along with globally acceptable standards. This should set the stage for continued export expansion, especially for *cocoa* which trends show will continue to be in short supply in the coming few years. In addition, as Sierra Leone continues to gain a reputation as a dependable source for *cocoa* and *coffee*; opportunities for other crops such a *cashew nuts, vegetables, legumes, tubers, cereals and spices* should evolve substantially.

In addition to increased production of exportable commodities, acceptable standards of quality and identity, sound promotion and marketing will be promoted by GoSL in order to achieve sustainable success. The GoSL will also continue to improve logistical infrastructure like roads, air transport and seaports. Without these improvements, exports will not flourish. The NAT 2025 will also aim to provide appropriate support to meet the desired objectives for selected Cash Crops.

5.4.3. Livestock VCAs

As compared to crops, the ASR makes note of little investment being made by either the GoSL or donors to stimulate the development of the livestock and poultry sub-sectors in agriculture. NAT 2025 will promote opportunities for *poultry and small and large ruminants*, as well as specifically in the *dairy* business which are currently dominated by women and shall facilitate their inclusion. Although there are constraints, primarily of a social nature there remain vast areas where livestock grazing is practical. In addition, adding livestock as a component of general farming, a practice which largely evaporated during the long war, presents a viable income addition for small and medium holders. Additional research, education and extension focus on livestock all represents very good investments in the interest of a stronger agricultural sector. The GoSL will be investing in extension and veterinary services to provide sustainable livestock and poultry Value Chains.

5.4.4. Forestry VCAs

Value-added Forestry Products present a valuable opportunity in Sierra Leone. Value added wood working ventures will be encouraged within the country as opposed to loosening restrictions on export of logs. Forested areas are facing serious challenges due to traditional farming practices which involve clearing land via fire, deforestation from logging activities, and the development of large commercial farms. The GoSL will develop stronger regulations and enforcement as related to the ‘slash and burn’ practices; especially for smallholder farmers. Non-timber forest products will also be promoted, as a means of income diversification, gender inclusion and considering their contribution to food and nutrition security

5.4.5. Fisheries/Aquaculture VCAs

One of the greatest resources within Sierra Leone is the aquatic ecosystem which includes not only ocean waters; but inland water bodies such as rivers, estuaries, lakes and flood plains richly endowed with abundant and diverse species of finfish, shellfish and wetland resources. As reported within the ASR, the contribution of fisheries to the GDP has been increasing substantially between 2004 and 2013; however, the national demand is yet to be met. Illegal, unreported and unregulated (IUU) fishing is a serious global problem, and one of the main constraints to the achievement of sustainable fisheries. Investment within the Ministry of Fisheries and Marine Resources (MFMR) to reduce IUU will benefit private business interests engaged in the fisheries sector. As an important nutritional source for domestic consumption and a potentially significant export revenue stream; fisheries should be given a high priority from an investment perspective. Aquaculture will be particularly promoted under NAT 2025 investment. Attention shall also be paid to support improvement of fish processing.

5.5. Specific Strategies for VCs

A number of specific strategies could be followed in the development of the value chains specified in the food categories in Table 4 above. These strategies include the following:

5.5.1. Smallholder, gender and youth inclusiveness strategy: implementing Malabo commitments

The Malabo Declaration stipulates that states commit to value chain development and prioritise agricultural commodities that have strong linkages with smallholder farms; create employment opportunities for at least 30% of young people in agricultural value chains; provide entry and preferential participation of women and young people in lucrative and attractive agri-business. Specific strategy is required to achieve such commitment, ensuring youth and gender diagnosis, preferential mechanisms etc.

Export Strategy

Under this strategy, an export market oriented mentality is encouraged for the traditional cash crops such as coffee, cacao, and cashew nuts.

5.5.2. Increasing Input Access and Production to Satisfy Sufficiency

Here, the focus is on increasing production from access to inputs supplies and other factors of production to satisfy the demand for staples with a focus on rice.

5.5.3. Promoting Agribusiness

Livestock integrated with cereals and vegetable production is a viable agribusiness. Cereals and vegetables could be used in ration formulation and animal waste is used as organic manure in vegetable production. Net feeding cost reduction gained would translate into good profit margins as animal feeds account for a significant proportion of production cost in livestock production.

6.0. Results Framework for NAT 2025

6.1. Background

Sierra Leone's National Sustainable Agriculture Development Plan (NSADP) 2010-2030 as the Agricultural Sector's Development Framework is also the country's contribution to the Comprehensive Africa Agriculture Development Programme (CAADP) at the continental level under the auspices of the African Union's New Partnership for Africa's Development (AU/NEPAD) initiatives. The commodity commercialization aspect of NSADP - as an important sub-programme identified under the NSADP/CAADP, attracted national and donor priority which resulted in the implementation of the Smallholder Commercialization Programme (SCP) 2010-2014 as the component with the greatest potential impact with respect to improved food security and wealth generation.

This National Agricultural Transformation Plan (NAT 2025) is a follow-up programme building on the lessons learnt from the process of developing the NAT 2025 and implementation of the SCP. The programme's developmental genealogy outlined above is germane to the approach used in preparing this Results Framework for NAT 2025 (Appendix 2) as an M&E tool for results-based programming and performance monitoring. The M&E method for the Programme is based on Monitoring and Evaluation indicators set in this results framework including:

i) result based mechanisms of the CAADP Result Framework;
ii) programme development objectives/outcomes result indicators,
iii) component activity indicators subjected to logframe analysis;
iv) participatory methods to include the views of direct beneficiaries from surveys e.g. Citizens Report Cards (CRC).

In their Declaration in Malabo, during the Assembly oF the Union's Twenty-Third Ordinary Session 26-27 June 2014 (see Part VII - Commitment to Mutual Accountability to Actions and Results), the African Heads of State were mindful of the need for monitoring, tracking and reporting on the implementation of the Declaration using the CAADP Results Framework for bench-marking programme progress. This is to say that the CAADP Results Framework is an integral part of CAADP implementation. Consequently, as NAT 2025 is a product from the CAADP process, this NAT 2025 result framework has been contextualised in the CAADP Results Framework ensuring strengthening systematic capacity to deliver results as the basis of agricultural transformation and sustained inclusive agricultural growth in order to enhance agriculture's contribution to economic growth and inclusive development. Within that global structure, a results matrix has been developed for monitoring programme development objectives indicators. The logical framework matrix will be used to track progress on implementing component activities on short term basis to feed into the results framework

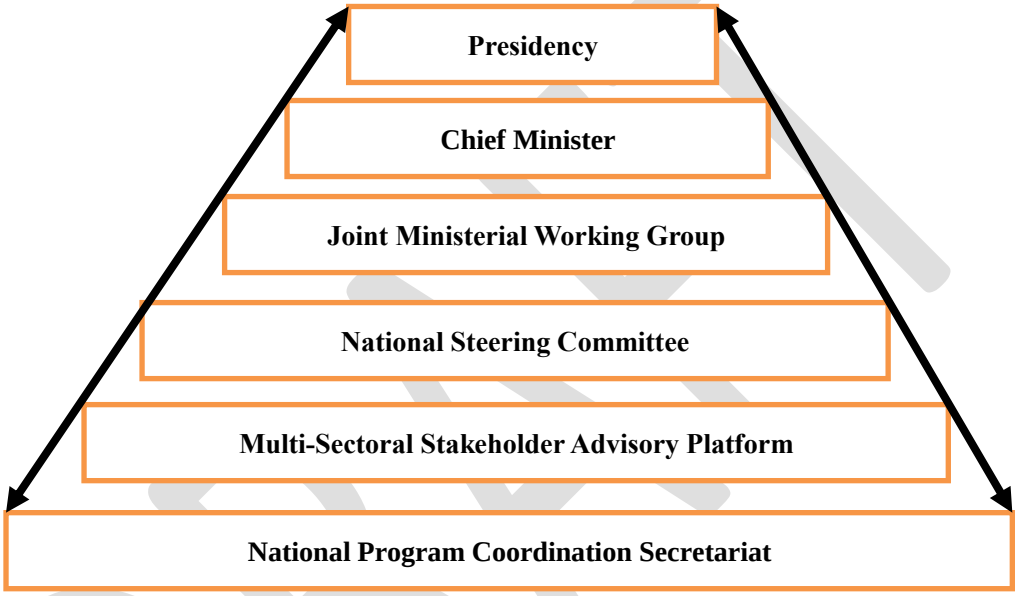
The NAT 2025 Results Framework should strengthen and align existing systems and tools, including enhancing multi-sectoral linkages and promoting multi-stakeholder implementation, partnership, monitoring & evaluation and improving accountability. The framework is meant to standardise and harmonise strategies and programmes by stakeholders, including farmers' and fishers' organisations, the private sector, civil society, research institutions and multi-lateral and donor partners. Importantly, systematic tracking and monitoring of core indicators will generate progress reports from robust monitoring plans for data generation and from stakeholder consultations to corroborate the reports.

Such reports will be useful for planning, implementation and decision-making. The proposed project will be implemented over a seven-year period.

7.0. Monitoring and Evaluation

The NAT 2025 management will be multi-tiered: operating on the Vertical Hierarchical Management System (VHMS). Multiple-stakeholders such as producers, traders, women, the youth and investors/business associations and NGOs will be major actors in programme implementation accommodated by a multi-sectoral advisory platform.

Figure 8. Organogram for NAT 2025 Implementation and Monitoring



An important element of the NAT 2025 is its aim to significantly improve agriculture sector governance through regulatory assessment reform, statistics and information management, and improved M&E systems and capacities. One core activity related to M&E is the development of a results framework at the medium- and long term level outlined in Section 6. The M&E Manual developed under the supervision of National Program Coordination Secretariat will constitute a framework, which focuses on tracking the impacts of the NAT 2025 on a short term-basis which will be the basis of informing the results framework. To this effect, a log frame will be developed to monitor the impacts of the NAT 2025 activities at field level for the components and sub-components.

The constituent sections of the log frame will include:

- an intervention logic – which specifies the general objective;
- activity section - which gives the activities to be carried out and in what sequence;
- a section on expected results - outlining output envisaged;
- verifiable indicators (target) section – providing key indicators related to general objectives; disaggregated per age and gender as much as possible
- assumptions/risks section – which provides the necessary conditions to achieve objectives;
- a section on responsibility –specifying institution responsible for implementation
- the timeframe section – which indicates period activities takes place or are projected to occur.

At least 50% of the indicators will be disaggregated per group age and gender so as to monitor specific priority for women and youth as committed under Malabo declaration and the SDGs.
MAF in collaboration with partner MDAs will establish baselines that will serve the basis for the programme progress measuring. Sources for verification will include the official and harmonized statistical data of GOSL's MDAs and non-governmental organisations; WB, FAO, AfDB, UNCTAD, UNDP, Enterprise Surveys, Government, Donor and private sector reports.

The multiple-tiered Vertical Hierarchical Management System comprises:

1. The Presidency - comprising the President and his/her advisers will be the highest governing body of the programme. The Presidency is responsible for resource mobilization, oversight, coordination of various MDAs, monitoring and evaluation of higher level objectives (Goal/Impact).

2. The Steering Committee report to the Joint-Ministerial Working Group comprising of Ministers and their Permanent Secretaries who report to the Chief Minister's Office at State House for the attention of the Presidency. At the Ministerial level, the program will be chaired by MAF, to be co-chaired by MFMR, MHS and MTI (**Note that the NAT 2025 will be immediately aligned to the next generation of National Development Plan or PRSP under preparation**). The programme will therefore be implemented within that existing structure and new joint performance management systems. It will, among others, be responsible for ensuring the accomplishment of targets under their direct purview, supervising implementation, establishing and developing a base for record-keeping and reporting (area specific Management Information System). For that purpose, Component Teams will be established accordingly. It will report to the Chief Minister on overall programme progress, issues or challenges and recommendations. Some modifications can be made as necessary.

3. The National Steering Committee of the program is responsible for reviewing more technical issues, approaches and monitoring the outcomes level of objectives. The National Steering Committee constituting Directors of the participating Ministries and the NAT 2025 Focal Points in those Ministries will report to the Ministerial group and engage the multi-sectoral platform in order to solicit and elicit their views.

4. Multiple-stakeholders such as traders, women, producer and investor/business associations and NGOs will be major actors in programme implementation accommodated by a multi-sectoral stakeholder advisory platform where their concerns and inputs will be discussed while appraising them on the programme's progress and challenges.

5. The day-to-day coordination of the program will be the responsibility of the unified National Program Coordination Secretariat housed at the MAF, while the various MDAs and other stakeholders will be responsible for implementing specific aspects of the program under Performance based MOUs at national and decentralized levels. Their main activity will be to

collect and analyse data on programme indicators and report results to the other 3 levels above. Tracking of the indicators and activities will be conducted daily by the MDAs' national and district departments in charge of M&E which will constitute the National Programme Coordination Secretariat that will then engage and appraise the Multi-Sectoral Stakeholder Advisory Platform on progress. Other functions include:

i. Developing and establishing M&E coordination procedures between implementing partners

ii. Developing M&E Manual under supervision of National Program Coordination Secretariat

iii. Preparing and submitting M&E reports to the Presidency/SPU, Ministerial JWG, National Steering Committee, Stakeholders and Donors for review.

The principles of mutual accountability will be adhered to, wherein; vision, objectives and strategies are shared with all stakeholders who will then agree on performance indicators. Programme analysis will be evidence-based and inclusive of all stakeholders in order to facilitate transparent dialogue and enhance commitment to implementation of recommendations emanating from the review process.

7.1. Communication and Visibility

The people of Sierra Leone are the ultimate programme beneficiaries or losers, depending on programme outcome. They are the beneficiaries in case of favourable outcomes, and losers where there are adverse outcomes or failures. This is so because, grant or loan for programme implementation will be on their behalf. In the case of loans, the people will have to repay and even government contribution to the programme will likely come from taxpayers' money or national resources. Again, the successful attainment of all programme objectives should translate into improved society wellbeing. Therefore, it is the right of the population to be abreast with both the achievements and challenges encountered during project implementation. Accordingly, at the level of the day-to-day monitoring of programme implementation, communication departments of all participating MDAs will be involved in M&E with the aim of reporting implementation progress or otherwise via print, television or social media. Citizens' report cards will be periodically obtained to gauge public opinion about programme implementation.

8. 0. Risk Assessment and Mitigation Measures

The following risks and mitigation measures have been identified for NAT 2025.

Table 5: Risks and Mitigation Measures

Risk	Probability/ Impact	Implications and Risk Mitigation Measures
Ebola health re-occurs	High/High	Resources will be diverted to curb epidemic and for the provision of free and/or subsidised food, seeds and inputs. It is important to maintain a robust awareness and prevention messages about the disease.
Lower than expected GOSL revenue and, consequently, lower than expected resources made available for the Programme	High/Medium	GOSL should still aim at 10% budget spent on agriculture and provide necessary resources for NAT 2025. Active involvement of the private sector, in all components and traditional support by Donors in such times of national disaster will also mitigate this risk. Simplification and streamlining tax, inspection, licensing and trade will encourage SMEs to "formalize" and increase the tax revenue.
Foreign investors will withdraw due to difficulty in doing business in Sierra Leone	Medium/Medium	The FDI impacts have not been assessed yet. Most were expected to start full commercial operations in 2014-2018. Part of the investors is expected to continue because of the well-established operations and multi-million investments. In any event, the short-term negative impacts are possible. However, the central concept of NAT 2025 and the follow-up programmes is to prepare and develop a highly profitable and socially responsible class of domestic medium and large-scale farmers, fishers and entrepreneurs that would fully mitigate the risk of the foreign investment exit.
Global rice price will continue to increase	Low/High	The medium-term projections indicate stable global rice prices, production and consumption. This programme aims at development of a number of high-growth and high productivity enterprises that will have the potential to ensure rice self-reliant sufficiency in SL in medium-term. In case of short-term fluctuations temporary price subsidising will be possible. High rice prices is also an opportunity/incentive for increased production
Fluctuation of cocoa prices	Low/Low	The long-term forecast for global cocoa price is positive. Temporary fluctuations are not expected to significantly reduce the profitability of Sierra Leonean exporters, and therefore reduce significantly foreign exchange and local revenue.
Lack of MDAs and donor coordination	High/High	This risk will be mitigated through incorporation of common performance targets in MAF, MTI and MFMR Performance Plans and the leading role of the State House and PTFAG. GOSL will continue improving its transparency and accountability indicators to convince donors. Steering Committee for the Programme will be established comprising of MDAs and Donors.

Lack of MDA capacity to implement the Programme	High/Medium	GOSL has reasonably competent human resources for such undertakings. Moreover, one of NAT 2025 objectives is for MDAs to readjust the existing structures and HR to new functions. The donors will help with the necessary training and improve their coordination to make the MDAs project management task easier.
Poor credit culture and low quality of bank portfolios	High/Medium	The risk is from medium to low because of low number of agricultural loans. The SL commercial banks have increasing number of NPLs. In this context, in the short term it is much more important to improve the banks' portfolio quality than extend more loans. BSL shall strictly implement prudential controls over banks and MFIs and banks shall take legal action against NPL. On the other hand, MAF, MTI and MFMR will support developing good quality bankable credit portfolios for participants and the establishment of agricultural banks, with one-digit interest rates for farmers.
NAT 2025 will concentrate only on the poor farmers/fishers and/or large foreign investors	Low/High	A key principle of NAT 2025 is an inclusive approach and value chain development. While it is important to support the poor (and this is what most donor focus on), the GOSL will also make sure that medium farmers/fishers will receive the government support understanding that agricultural growth for prosperity needs economies of scale and significant increase in both productivity and profitability. GOSL will be improving business climate for all business sizes and monitor large farms for the balance of economic and social successes and lessons learnt, as well as incentives efficiency.
Information and statistical systems become unsustainable	High/Medium	It is important that information and statistical systems developed within this Programme are properly institutionalized in the form of laws, regulation and operating instructions and become part of the GOSL routine operations. To this effect, Component 1 will guide the implementation and provide the enabling environment for successful implementation of the Plan.
Social or political unrest	Medium/High	Post-election squabbling and the institutions of the commissions of inquiry may generate unease. To mitigate this risk, GOSL will ensure fair and transparent governance in general. Specifically, participatory involvement of beneficiaries and partners, and maximum transparency in providing support to farmers, fishers and rural population and run an intensive information campaign on types of government support, achievements, problems and solution sensitisation. Youth employment initiatives will have a particular emphasis in all Component activities and in the information campaigns.
Insufficient funding of infrastructure projects	Medium/High	GOSL Government will seek public - private partnership with private investors.

Targeting and elite capture risks	Medium/Medium	Information and sensitization of communities (during the trainings, through radio programmes) and implementing partners. Complaint mechanisms in place. Audit, monitoring and evaluation, regular assessments of the targeting strategy. Clear criteria of the beneficiary selection. Involvement of traditional and district authorities as well as the communities in the selection process of the beneficiaries. Clear national criteria for medium and large enterprise support and M&E.

Appendix 1. Detailed Cost (US$) of Project Financing by Component, Sub-Components and Activities

Component	Description	Cost (US$)						
		2019	2020	2021	2022	2023	2024	2025
Component 1. Sector Governance of NAT 2025 (US$)								
Sub-Component 1. Policy, legal and regulatory environment that adequately supports agricultural investment and transformation developed in an inclusive manner, systematically including participation and involvement of women and youth								
Activity 1.1.0	Organize inclusive cross-sectoral and multi-stakeholder dialogues in order to formulate sector policies, strategies, regulatory measures and investments							
Activity 1.1.1	Conduct a mapping of current agricultural, fishery, livestock, land and forestry policy gaps							
Activity 1.1.2	Conduct an analysis of the legal, fiscal and regulatory environment for agricultural investment and value chain promotion							
Activity 1.1.3	Develop, review and domesticate current policies, strategies and fiscal measures on rice production and other crops; livestock; forestry and aquaculture							
Activity 1.1.4	Implement policies and evaluate performance through established monitoring and evaluation delivery systems							
Activity 1.1.5	Build synergy between all projects within MAF including BAFS; SCADeP, GAFSP with the aim of complimenting/supplementing the objects of NAT 2025							
Sub-Component 2. Research								
Activity 1.2.0	Empower SLARI, in collaboration with the MAF, Njala University to do research into improved varieties of rice, other crops, livestock, forestry resources, and to research on diseases and pests to prevent and tackle							

	both, and support the patenting of their research findings							
Activity 1.2.1	MAF to stimulate partnerships to support SLARI research activities							
Activity 1.2.2	Enable SLARI's findings to inform agriculture policy and practice							
Activity 1.2.3	Provide support for the Planning, Evaluation, Monitoring and Statistics Division (PEMSD), singly and partnerships, to implement social research that will inform national and international data needs, and enable the finding to inform policy and practice							
Activity 1.2.4	Research into and develop national cropping calendar taking into account recent climatic changes							
Activity 1.2.5	Undertake ecology and soil thematic studies (with support from DAOs and District Agricultural Engineers, University, SLARI)							
Activity 1.2.6	Undertake fish feed and seed adaptive research with support from IMBO, USL and Njala University							
Activity 1.2.7	Needed database: inputs, farmers, livestock, land, processing, agro-dealers, fish farmers, market information (AMIS: Agricultural Market Information System), weather, national food and security early warning system. To be collected by farmers, extension workers, frontline staff							
Activity 1.2.8	Policy and governance reform impact assessment undertaken to provide updated guidance							
Activity 1.2.9	Market research on agricultural commodities and inputs including pricing, improved varieties, agrochemicals, innovations etc							
Activity 1.2.10	Capacity development for researchers/training of MAF/other MDAs							

	personnel to capture and manage agricultural statistics							
Sub-Component 3. Data collection for agriculture and aquaculture								
Activity 1.3.0	Review and strengthen existing agriculture-based information systems and data management for a sustained data collection on a regular basis							
Activity 1.3.1	Develop and ensure effective management of a multi-sectoral web-based information sharing platform including mobile app, GIS, cloud-based dashboard with support of the Directorate for Science, Technology and Innovation (State House)							
Activity 1.3.2	Commission data collection and management equipment and central information management dash board at PEMSD							
Activity 1.3.3	Set up of a farmer's registration system with PIN code as a condition to access input, with a targeted number of farmers for piloting							
Activity 1.3.4	Robust extension system to disseminate and improve utilization of research results							
Sub-Component 4. Data Analysis for agriculture and aquaculture								
Activity 1.4.0	Capacity development in contemporary data analysis methods							
Activity 1.4.1	Provide data analytical tools/equipment and train in use							
Sub-Component 5. Institutional, technical, organizational, financial and management capacities of public institutions and sector actors strengthened in order to carry out their professional activities effectively								
Activity 1.5.0	Conduct an assessment to identify capacity gaps among national and decentralized sector institutions, actors and implementers for policy analysis, advice, planning, programming, data and statistics management, gender and youth targeting and mainstreaming							
Activity 1.5.1	Update payments and set a system in place to ensure timely payments to international bodies							

Activity 1.5.2	Upward revision of conditions of service to provide adequate incentives for workers							
Activity 1.5.3	Management and Functional Review of MAF/stakeholder Ministries for effective performance completed and implemented							
Activity 1.5.4	Identification cards for MAF/stakeholder Ministry personnel							
Activity 1.5.5	Develop an inclusive capacity building programme for sector actors and implementers across all value chains							
Activity 1.5.6	Implement the capacity building programme for sector actors and implementers, including extension agents							
Activity 1.5.7	Develop District Agricultural Investment Plans taking into account sustainable energy supply for field offices (e.g. solar)							
Activity 1.5.8	Strengthen system for fleet management and other logistics support							
Activity 1.5.9	Develop policy on reporting format							
Sub-Component 6. National and decentralized sector stakeholder coordination mechanisms strengthened in order to make them effectively functional								
Activity 1.6.0	Strengthen multi-sectoral coordination dialogues through the multi-stakeholder coordination platform created under the monitoring and evaluation system							
Activity 1.6.1	Establish intra-institutional working groups to address sector coordination gaps							
Activity 1.6.2	Promote multi-sectoral synergies and potential win-wins interactions between the agriculture sector and other sectors such as nutrition, fisheries, education, social protection and gender							
Activity 1.6.3	Develop dialogue platforms at decentralized levels by using decentralized advisory platforms							
Activity 1.6.4.	Strengthen monthly district agriculture sector meetings and quarterly rice district meetings							
Activity 1.6.5	Establish quarterly farmers' fora to enhance information sharing and accountability							

	(MAF, district council, NGOs, farmers, MPs, CSOs etc)							
Activity 1.6.6	Incorporate agriculture and forestry plans, policies and strategy in district councils' development plan (aligned with NAT 2025)							
Activity 1.6.7	Agriculture and forestry champions competition (with compensation for winners)							
Activity 1.6.8	Encourage out-grower scheme at chiefdom level							
Sub-Component 7. Investment Promotion								
Activity 1.7.0	Development of investment and promotion guideline for investors, policy (including tax review for agri-businesses, local industrialization of produce), and Act							
Activity 1.7.1	Development of a communication strategy for broadcasting of agriculture policies, acts and investment successes							
Activity 1.7.2	Land zoning (including analysis on soil/livestock and database development of potential investment areas) with comparative advantage for agricultural businesses							
Activity 1.7.3	Investment in outreach to attract commercial farming: annual donor conferences (SLIEPA source investors) agricultural trade fairs, monthly documentary on agricultural investment potentials via national and international media							
Activity 1.7.4	Establish partnership with financing institutions to facilitate inclusive access to credit to acquire production and processing infrastructures and equipment for all value chains							
Sub-Component 8. Compliance with Domestic, Regional and International Standards								
Activity 1.8.0	Ensure compliance with international phytosanitary standards for seed, fertilizers, pesticides, livestock, forest products and fish and fish products for ease of regional and international trade.							

Activity 1.8.1	Development of local standards for importation of agro-inputs, production, processing, storage and marketing							
Activity 1.8.2	Capacity building of stakeholders along the agricultural value chain to ensure adherence to standards							
Activity 1.8.3	Sensitization, monitoring and evaluation of local and international standards (including formulation and or strengthening of existing standards compliance and monitoring bodies to better monitor standards compliance)							
Sub-Component 9. Farm Demonstrations and Communication Strategies								
Activity 1.9.0	District Agro-Forestry Technology demonstration and promotion farms based on the Songhai model (inputs, machinery, irrigation, agronomic, livestock, processing)							
Activity 1.9.1	Establish district farms with an assured market through school feeding program							
Activity 1.9.2	Promote agriculture show and trade fair organized by political heads							
Activity 1.9.3	Public media relations							
Activity 1.9.4	Promotional engagement campaigns							
Activity 1.9.5	Information / Educational services							
Activity 1.9.6	Visibility campaigns							
Subtotal								
Component 2. Increased Rice Production and Productivity for Self Sufficiency (US$)								
Sub-Component 1. Research and extension for viable seed availability to institute and sustain high quality and economically attractive seed production and transfer systems enabled by and improved rice focused policy and regulatory environment								
Activity 2.1.0	Assess the human and institutional capacity of the SMP and the extension division of the MAF							
Activity 2.1.1	Based on the assessment strengthen SMP to increase on the production of foundation seeds.							
Activity 2.1.2	Review extension protocol to facilitate technology transfer							

Activity 2.1.3	Organize farmers into out-growers for the cultivation of foundation seeds into certified seeds							
Activity 2.1.4	Strengthen capacity for foundation seeds for rice production stakeholders							
Activity 2.1.5	Conduct normative and operational research for improved quality seeds;							
Activity 2.1.6	Create formal and informal system via the private sector for the provision and timely distribution of quality and improved seeds for rice production;							
Activity 2.1.7	Assess the rice seed policy and regulatory landscape							
Activity 2.1.8	Review or develop new policies, with focus on rice and private sector engagement policies with their respective implementation plans							
Activity 2.1.9	Institute government led agricultural data collection and publishing programmes							
Sub-Component 2. Out-growers scheme established and functional								
Activity 2.2.0	Conduct needs assessment and reinvest in reformed Agri-Business Centres (ABCs) for effective governance and operationalize as profitable business in rice-bowl districts							
Activity 2.2.1	Support the linkage between 100,000 farm families and rice agribusinesses nationwide							
Sub-Component 3. Improved irrigation and water management schemes instituted and maintained								
Activity 2.3.0	Carry out a national irrigation assessment and draw up a National Irrigation Plan							
Activity 2.3.1	Set up a functional irrigation system that supports all-year round agricultural production							
Activity 2.3.2	Establish 400 solar powered boreholes and 400 dams across rice-bowl districts							

Activity 2.3.3	Develop large scale irrigation in flood plain ecologies such as Toma Bum, Gbondapi, Rhombe, Komrabai, Mambolo							
Sub-Component 4. Agricultural machinery procurement, operations and maintenance schemes established								
Activity 2.4.0	Establish and operationalize 6 private sector managed machine rings nationwide							
Activity 2.4.1	Establish and operationalize 6 mechanical workshops for spare parts and maintenance of agricultural machines nationwide							
Activity 2.4.2	Train 5,000 operators, mechanics and engineers including women and youth							
Activity 2.4.3	Identify potential small-scale industries to fabricate appropriate agricultural equipment (develop standards for equipment) for production and processing							
Sub-Component 5. Nutritional value and marketability of rice improved.								
Activity 2.5.0	Introduce bio-fortification of rice for micronutrients							
Activity 2.5.1	Introduce appropriate rice processing machines that will retain micronutrients and vitamins							
Activity 2.5.2	Promote Sierra Leone brand /trade name							
Activity 2.5.3	Promote regional trade issues							
Activity 2.5.4	Train laboratory technicians and extension agents about food safety standards;							
Activity 2.5.5	Ensure food safety for local market							
Activity 2.5.6	Build and rehabilitate feeder roads in collaboration with local authorities							
Activity 2.5.7	Strengthen domestic and international rice market information systems							
Activity 2.5.8	Strengthen linkages between local farmers, agro-processing actors and institutional markets (schools, army, hospitals, prisons, etc.) to enhance home-grown institutional feeding program for improved diet quality of occupants of those institutions							
Activity 2.5.9	Organize and support rice trade fairs and periodic markets							

Activity 2.5.10	Facilitate trans-boundary trade by providing post-harvest market structure at border points such as Gbalamuya, Jendema, Koindu.							
Activity 2.5.11	Build/rehabilitate rice post-harvest infrastructures in selected areas							
Activity 2.5.12	Align national food safety policies and standards to regional and global ones							
Sub-Component 6. Infrastructures related to rice production are provided targeting the large scale rice production areas.								
Activity 2.6.0	Build storage facilities for the storage of husk and cleaned rice at major production areas e.g. Toma Bum, Gbondapi, Rhombe, Komrabai, Mambolo							
Activity 2.6.1	Provide, rehabilitate and maintain storage facilities for seeds and crops to smallholders and enterprises;							
Activity 2.6.2	Build storage facilities to store pesticides, insecticide, fertilizer and other agricultural inputs targeting large scale rice production areas							
Activity 2.6.3	Coordinate with local government to identify roads and bridges for rehabilitation, repair and construction that link farms to market							
Activity 2.6.4	Establish and equip food safety laboratories at Toma Bum, Gbondapi, Rhombe, Komrabai, Mambolo.							
Sub-Component 7	***Climate smart agronomic practices adopted for rice***							
Activity 2.7.0	Promote the use of adaptable rice varieties and other climate smart agronomic practices							
Activity 2.7.1	Stop the practice of slash and burn in rice production							
Activity 2.7.2	Manage natural resources							
Component 3. Increased Production and Productivity of Priority Crops Value Chains (US$)								
Sub-Component 1. Establishment of new improved Cacao, Coffee and Cashew plantations and replacement of old ones								
Activity 3.1.0	Support SLARI to research into improved seeds and seedlings							
Activity 3.1.1	Establish and manage nurseries							

Activity 3.1.2	Assess and analyse soils							
Activity 3.1.3	Plant/replace and manage main fields							
Sub-Component 2	***Capacity Building***							
Activity 3.2.0	Training trainers (ToT) for staff and farmers							
Activity 3.2.1	Intensive extension service delivery by MAF and through PPP							
Activity 3.2.2	Establish tree crop farmer field schools (farmer business school, quality control)							
Activity 3.2.3	Establish/strengthen demonstration sites							
Activity 3.2.4	Re-establish clonal gardens							
Activity 3.2.5	Promote out-grower schemes							
Sub-Component 3	***Quality Control and Standards***							
Activity 3.3.0	Improve post-harvest/processing practices							
Activity 3.3.1	Adopt innovative technology							
Activity 3.3.2	Integrate local technology with new technology							
Activity 3.3.3	Establish linkages to international markets including PPP (Certification)							
Activity 3.3.4	Establish Cocoa Coffee, Cashew boards							
Activity 3.3.5	Introduce regulations							
Activity 3.3.6	Maintain standards							
Activity 3.3.7	Establish/strengthen aggregation centres							
Activity 3.3.8	Encourage use of Good Agricultural Practices and Integrated Pest and Disease Management							
Activity 3.3.9	Use improved varieties							
Activity 3.3.10	Add value to meet international market standards							
Activity 3.3.11	Apply best and timely agronomic practices Good Land preparation (such as optimum plant density, correct planting time and spacing, site specific management for fertilizer application and site sanitation)							

Activity 3.3.12	Apply robust integrated Pest and Disease Management							
Sub-Component 4. Development of Vegetables, Legumes, root and tubers and cereal productivity and spices -5,000 hectares to be established in the next 5 years								
Activity 3.4.0	Increased area under cultivation (Establishment of greenhouses)							
Activity 3.4.1	Research and introduction of Bio-fortified varieties							
Activity 3.4.2	Establish irrigation systems							
Activity 3.4.3	Installation of Post-harvest technologies							
Activity 3.4.4	Quality Control and Standards for vegetables							
Activity 3.4.5	Good management practices including (Use of improved varieties, Best and timely agronomic practices, Good Land preparation, Optimum plant density, Correct planting time and spacing, Site specific management for fertilizer application, and Site sanitation)							
Sub-Component 5. Robust integrated Pest and Disease Management (pesticide lifecycle management) delivered by an intensive extension service delivery system								
Activity 3.5.0	Training –ToT and farmers							
Activity 3.5.1	Establish demonstration plots							
Activity 3.5.2	Post-harvest trainings							
Sub-Component 6. Development and implementation of key policies								
Activity 3.6.0	Cocoa Policy							
Activity 3.6.1	Coffee Policy							
Activity 3.6.2	Cashew Policy							
Sub-Component 7. Building linkages between the "other crops" and the forestry priority component, especially for cash/economic crops products								
3.7.0	Develop agro-forestry linkages							
Subtotal								
Component 4. Increased Production and Productivity of Livestock Value Chains (US$)								
Sub-Component 1. Improved Animal Health facilities								
Activity 4.1.0	Establish animal health clinics at district level, with basic laboratory facilities							
Activity 4.1.1	Strengthen veterinary health services by introducing a harmonized para-veterinary							

	curriculum at Njala and other tertiary institutions to train intermediate and junior staff cadre to diploma and certificate levels respectively							
Activity 4.1.2	Construct 24 livestock inspection posts and 4 quarantine stations							
Activity 4.1.3	Establish or strengthen and sustain a national disease surveillance and control mechanisms							
Sub-Component 2. Meat and milk value chains improved for cattle, poultry, small ruminants and other animals (honey-bee, ducks, pigs, grass-cutter, rabbit)								
Activity 4.2.0.	Establish breeding centres (artificial insemination centres) at regional level for breeding and distribution to farmers							
Activity 4.2.1.	Rehabilitate livestock stations and establish new ones; and then commercialize/privatize them.							
Activity 4.2.2.	Build the capacity of farmers in livestock and animal management practices							
Activity 4.2.3.	Mobilize and organize farmers into out grower schemes and by species and link them to private sectors.							
Activity 4.2.4.	Establish honey production centers in each district							
Sub-Component 3. Animal nutrition improved and sustained through the adoption of new sustainable innovations								
Activity 4.3.0	Establish and manage range and pasture							
Activity 4.3.1	Promote maize production							
Activity 4.3.2	Rehabilitate and establish industrial animal feed mills							
Activity 4.3.3	Build the capacity of farmers to locally produce animal feed through farm residues, special crop (maize and soya) production for animal feed, silage and hay production							
Activity 4.3.4	Establish Feed analysis laboratories							
Sub-Component 4. Animal processing and marketing infrastructures are established and farmers' capacity developed.								
Activity 4.4.0	Feed analysis							
Activity 4.4.1	Establish milk and meat quality control laboratories							
Activity 4.4.2	Establish dairy processing plant							

Activity 4.4.3	Construct livestock markets and marketing outlets nationwide							
Activity 4.4.4	Establish standard abattoirs within regions with high concentration of livestock.							
Activity 4.4.5	Construct 16 standard slaughter houses at district level							
Activity 4.4.6	Manage farm manure and biogas development							
Activity 4.4.7	Set up farm waste management detoxifying systems that produce farm manure in six animal husbandry priority areas and demonstration farms							
Activity 4.4.8	Establish biogas generating plants to support agricultural production, harvesting processing, and preservation							
Activity 4.4.9	Construct and rehabilitate key roads connecting livestock farmers to the market							
Activity 4.4.10	Develop a livestock processing and marketing communications strategy							
Sub-Component 5. Animal production, processing and marketing related policies and laws are in place for improved livestock investment climate								
Activity 4.5.0.	Develop and implement standards and guidelines on animal diseases prevention and management							
Activity 4.5.1.	Develop policies and laws that strengthen relationship with relevant regional and international organizations on livestock (including regular payment of dues)							
Activity 4.5.2.	Review existing livestock MoUs (e.g. MoU with land owners of current livestock stations)							
Activity 4.5.3.	Domesticate ECOWAS transhumance policy							
Activity4.5.4.	Develop policy to transform/outsource public vet clinics to private sector actors							
Activity 4.5.5.	Develop a comprehensive livestock policy including guidelines for animal slaughter and dairy processing							
Sub-Component 6. Livestock value chain development is informed and improved through empirical data and evidence based decision making								

Activity 4.6.0	Take stock (national livestock census) to ascertain the number of livestock and livestock farmers in the country							
Activity 4.6.1	Conduct research on animal feeds and production methods							
Activity 4.6.2	Research on emerging and re-emerging animal disease and explore recommended treatments							
Sub-Component 7	***Climate-smart agriculture***							
4.7.0	Produce and manage safe biogas and livestock manure to serve the other three Priorities							
4.7.1	Link this Priority area to the other Priorities							
Subtotal								
Component 5. Develop Forest Value Chain (US$)								
Sub-Component 1. Forest Development and Management with community-based forest management approaches adapted and implemented.								
Activity 5.1.0	Conduct research and cross-border visits to document best practices for community-based forest management							
Activity 5.1.1	Carry out sensitization and awareness raising campaigns on the management and protection of forests within the targeted communities							
Activity 5.1.2	Integrate Forestry in Local Council Plans							
Activity 5.1.3	Forestry decentralised at chiefdom, community, home and school levels							
Activity 5.1.4	Using the documented and adapted best practice, maintain and scale up the establishment of 3800 ha of community forests.							
Activity 5.1.5	Using handheld GPS, establish the boundaries of each of the identified community forests							
Activity 5.1.5	Assessment, inventory and deployment of technology							
Sub-Component 2. Forest Information systems fully integrated into Agricultural Information systems and disseminated through Information, Education and Behavioural Change Communications								
Activity 5.2.0	Data for forestry deployed in all 16 Districts							

Activity 5.2.1	Build the capacity of communities on nurseries, out planting and maintenance (seeds, grafting and budding, vegetative propagation methods etc)							
Activity 5.2.2	Carry out an alternative livelihood needs assessment on forest-edge communities							
Activity 5.2.3	Use the findings to develop and implement an alternative livelihood programme for the communities							
Activity 5.2.4	Establish community forest management governance structures							
Activity 5.2.5	Establish bylaws and monitoring its enforcement, using appropriate technologies and community structures.							
Sub-Component 3. Management systems for protected areas established and functional.								
Activity 5.3.0	Conduct a nationwide forest inventory to update the last one done in the 70s							
Activity 5.3.1	Capacity development plan implemented based on evidence/assessment							
Activity 5.3.2	Appropriate working groups established and operational							
Activity 5.3.3	Promote, scale up and implement REDD+ in 1000 ha of Protected Forest Areas							
Activity 5.3.4	Delineate all the protected areas using handheld GPS and produce and validate the maps							
Activity 5.3.5	Map out the relevant partnerships for protection and revenue generation (Stakeholder management groups, Benefit sharing, Ecotourism, Carbon trade, water, NTFP, etc)							
Activity 5.3.6	Use the findings to develop and implement an alternative livelihood programme for the communities							
Activity 5.3.7	Develop bye laws, monitor and enforce them							
Sub-Component 4. Establishment of commercial forests promoted and sustained.								
Activity 5.4.0	Establish linkages and partnership with sectors and division that work on other crops,							

	including commercial tree crops and local governments to identify set up and sustain commercial forest across							
Activity 5.4.1	Development of wood lots that grow quick maturing varieties of trees to support the production of wood fuel and charcoal domestic home market							
Activity 5.4.2	Work with partners to undertake monthly tree-planting (including tree crops) exercises across the country							
Activity 5.4.3	Create the enabling environment for investment in forest plantations (mapping of land resource, waivers, logistics, policies etc)							
Activity 5.4.4	Facilitate the establishment of 25,000 ha of commercial forests							
Activity 5.4.5	Introduce new early maturing species and seed multiplication (new varieties, experimentation, technology, etc.)							
Activity 5.4.6	Cultivating carbon-reducing bamboo tree							
Activity 5.4.7	Develop import and export standards for forest products							
Activity 5.4.8	Add value to forests and none forests products							
Activity 5.4.9	Assess the forestry policy and regulatory environment to identify gaps							
Activity 5.4.10	Develop or update the policies and laws such as (Forestry, Wildlife Conservation, NPAA & CTF Acts and Forestry Regulations) e.g. Forestry Act 1988; Wildlife Conservation; NPAA and CTF Acts							
Activity 5.4.11	Develop and implement their respective implementation plans.							
Subtotal								
Component 6. Develop Aquaculture Value Chain (US$)								
Sub-Component 1. Identification of productive areas								
Activity 6.1.0	Productive aquaculture area mapping							
Activity 6.1.1	Assessment, inventory of ponds							

Activity 6.1.2	Aquaculture Information Systems fully integrated into fisheries dash board							
Activity 6.1.3	Vulnerability/Adaptation to climatic change							
Activity 6.1.4	Capacity building							
Activity 6.1.5	Pond development engineering							
Sub-Component 2. Create formal and informal systems for the provision and timely distribution of quality and improved inputs for aquaculture development.								
Activity 6.2.0	Provision of inputs/tools equipment/infrastructure							
Activity 6.2.1	Adaptive Seed and Feed Research and Extension							
Activity 6.2.2	Fish disease preparedness (monitoring, prevention and treatment facilities/equipment including human resource development)							
Activity 6.2.3	Extension/demonstration farms							
Activity 6.2.4	Presidential farms established in 16 Districts							
Sub-Component 3. Post-harvest Issues								
Activity 6.3.0	Fish Handling and Processing							
Activity 6.3.1	Develop import and export standards for aquaculture products							
Activity 6.3.2	Aquaculture and Tourism (Point and kill markets and restaurants)							
Activity 6.3.3	Women and youth employment							
Activity 6.3.4	Trade issues							
Sub-Component 4. Decentralise Aquaculture								
Activity 6.4.0	Integrate Aquaculture in Local Council Plans							
Activity 6.4.1	Aquaculture decentralised at chiefdom levels							
Activity 6.4.2	Data for aquaculture deployed in all 16 Districts							
Activity 6.4.3	Build collaboration between MAF and MFMR							
Sub-Component 5. Support the sustained collection of small-scale fisheries data collection, analysis and sharing system								
Activity 6.5.0	Develop data collection, analysis and sharing system							

Activity 6.5.1	Train and provided renumeration for enumerators							
Activity 6.5.2	Assess needs and provide for data collection and analysis equipment, tools and logistics							
Component 7. Improve Resilience of Livelihoods and Nutrition of Vulnerable Groups (US$)								
Sub-Component 1. Most vulnerable have sustainable and equitable access to markets, infrastructure, productive and financial resources								
Activity 7.1.0	Set up and maintain strategic stocks of rice at regional/district level and national level to respond to natural and man-made emergencies							
Activity 7.1.1	Set up an agriculture emergency fund to provide seed money address emergencies that befall agriculture							
Activity 7.1.2	Conduct a situation assessment and analysis of the most vulnerable groups in agriculture and rural areas, paying attention as well to intra-household dynamics and gender roles which play some crucial roles in food insecurity and resilience.							
Activity 7.1.3	Develop a targeting system, including Cash-Transfer Programme, and an interactive database of most vulnerable groups.							
Activity 7.1.4	Develop/strengthen preventive and productive social safety nets including cash and asset transfer programmes to improve and diversify livelihoods of the most vulnerable, targeting both women, men and youth within vulnerable households as they have different livelihoods and coping mechanisms.							
Activity 7.1.5	Build and strengthen organizational capacity and financial literacy of community -based saving groups.							

Activity 7.1.6	Capitalise and review the modus operandi of community banks and financial services associations in order to enhance their capacities to reach the most vulnerable.							
Activity 7.1.7	Promote access to finance by smallholders to help transition to commercialised farming							
Activity 7.1.8	Develop and implement a strategy for women and youth inclusion in agriculture.							
Sub-Component 2. Access to sustainable healthy and nutritious diets is improved, and food choices among the most vulnerable are improved								
Activity 7.2.0	Conduct gender sensitive situation assessment							
Activity 7.2.1	Conduct mass media and community campaigns on food and nutrition education and BCC (Behavior Change Communication), capitalizing on the existing Food Based Dietary Guidelines - emphasising diversifying food production systems for nutrition security)							
Activity 7.2.2	Strengthen capacities of local communities on food preparation, preservation and processing techniques and enterprises for nutrient-sensitive food processing, packaging and conservation							
Activity 7.2.3	Support backyard gardening for diversification and enhancement of increased nutritious food consumption							
Activity 7.2.4	Encourage the consumption of locally grown food stuffs							
Sub-Component 3. Early warning and preparedness mechanisms against shocks improved and mitigation measure implemented in consonance with National Adaptation Programme of Actions (NAPA) priorities								
Activity 7.3.0	Carry out gender sensitive assessment to identify gaps, constraints and needs in current early warning systems;							
Activity 7.3.1	Strengthen the capacity of institutions responsible for early warning systems and inter-agency collaboration with ONS;							

Activity 7.3.2	Develop a communication strategy and platform to disseminate information on/of early warning systems;							
Activity 7.3.3	Provide adapted information and tools/plans to strengthen capacity of communities and households to take early action before shocks;							
Activity 7.3.4	Improve risk management tools (as household insurance) and support mitigation and adaptation actions at central and decentralized levels							
Activity 7.3.5	Implement social safety nets in emergencies for affected agricultural communities (including conditional and non-conditional cash transfers during seasonal vulnerability)							
Sub-Component 4. Capacities of the vulnerable populations built in order to have access to diversified income generation opportunities								
Activity 7.4.0	Provide business development services, vocational training (+basic literacy and numeracy) to affected communities							
Activity 7.4.1	Provide value-chain oriented start up kits to affected communities, for both women and men, as they are often involved in different value chains							
Activity 7.4.2	Promote integrated farming systems							
Component 8. Programme Implementation & Management (US$)								
Sub-Component 1. Human and material resources for project implementation and management								
Activity 8.1.0	Engage technical and fiduciary staff							
Activity 8.1.1.	Provide logistical support							

Appendix 2. NAT 2025 Results Framework

INTERVENTION LOGIC *General objective*	**ACTIVITY** *Activity to be carried out and in what sequence*	**EXPECTED RESULTS** *Output envisaged*	**MILESTONE INDICATORS** *Key indicators related to general objectives* **Indicator/Unit of Measurement**	**TARGETS** *Output quantification with timeline* **Baseline**	**Mid-term**	**End**
Goal (Impact) Sustainable and diversified production of food on a scale enough to feed the growing population as well as providing gainful employment		Rural income growth Rural poverty reduced Extreme hunger reduced Food insecurity reduced	% Increase % Reduction % Reduction Reduced	2.2% 66% 49.4%	3.5% 50%% 25% 37%%	7% per annum 40% by 2025 50% by 2025 25% by 2025
Development Objective Conducive environment and incentives in place for sustainable agricultural production and agribusiness and value chain development.		Agriculture growth	Growth rate of agriculture value added, in constant US dollars, per agricultural worker (ţAgW) Growth rate of agriculture value added, in constant US dollar, per hectare of agricultural arable land (ţAgL) Growth rate of yields for selected VCs, (t/ha) Maize; Cassava; Rice	2.2 3.5 -6.5; 6.2; 3.3	2.7 4.0 -3.5; 6.5; 3.8	3.0 4.5 0; 7.0; 4.0

		Budgetary allocation to agriculture	Public agriculture expenditure as share of total public expenditure (ţPAE)	2.5%	7%	10%
			Volume of foreign direct investment in agric (disbursed). VC	41.5M (2010-2017 average)	60M	100M
		Incidence of rural working poor	Reduction rate of poverty headcount ratio, at national poverty line (% of population), dpovN, by age group and gender	66%	50%	40%
			Reduction rate of the gap between the wholesale price and farmgate price (ţfgws)	50%	30%	20%
		No of agricultural jobs created along the value chain	Number of part-time jobs created per annum by age group and gender (doubled 100%)	20,000	30,000	40,000
			Number of full-time jobs created per annum by age group and gender (doubled 100%)	10,000	15,000	20,000

COMPONENT 1: Sector Governance of the National Agricultural Transformation Plan (NAT 2025)						
Specific Objective 1: Strengthen governance structures and mechanisms for improved evidence-based policy to guide the production process in agriculture						
1.1. Policy, legal and regulatory environment that adequately supports agricultural investment and transformation developed in an inclusive manner, systematically including participation and involvement of women and youth	1.1.0. Organize inclusive cross-sectoral and multi-stakeholder dialogues in order to formulate sector policies, strategies, regulatory measures and investments	Inclusive multi-sectoral/multi-stakeholder dialogues for policy/strategy formulation organised	Number of inclusive multi-sectoral/multi-stakeholder dialogues for policy/strategy formulation organized including women and youth	15	30	45
	1.1.1. Conduct a mapping of current agricultural, fishery, livestock, land and forestry policy gaps	Policy review undertaken and gaps identified & rectified	Number of reviewed & updated agricultural, fisheries, livestock and forestry policies/strategies available	Rice: 0 Cacao: 0 Coffee: 0 Cashew: 0 Aquaculture: 1 Livestock: 0 Forestry: 0 Crop Protection 0 Land: 1	1 1 1 1 1 1 1 1 1	1 updated 1 1 1 1 1 1 1 1 updated
	1.1.2. Conduct an analysis of the legal, fiscal and regulatory environment for agricultural investment and value chain promotion	Comprehensive legal, fiscal and regulatory needs assessment for agricultural investment and value chain promotion carried-out	Available report on assessment analysis available and used in implementation.	0	1	1 updated
	1.1.3. Develop, review and domesticate current policies, strategies and fiscal measures on	Existing agricultural policies and institutional settings strengthened to	Number of evidence-based policies and strategies developed	Rice: 0 Cacao: 0 Coffee: 0 Cashew: 0	1 1 1 1	1 1 1 1

	rice production and other crops; livestock; forestry and aquaculture	successfully implement NAT 2025 to achieve goals and targets.		Aquaculture: 1 Livestock: 0 Forestry: 0 Crop Protection Land: 1	1 1 1 1 1	1 1 1 1 1
	1.1.4. Implement policies and evaluate performance through established monitoring and evaluation system	Evidence of policy implementation and publication of performance	Number of performance report on each policy developed	0	1 each	1 each updated
	1.1.5. Build synergy between all projects within MAF including BAFS; SCADeP, GAFSP with the aim of complimenting/supplementing the objects of NAT 2025	Reviewed projects at MAF and assessed ways of aligning to NAT 2025 outcomes determined	Number of assessment reports published and implemented	0	1	1 updated
1.2. Research	1.2.0. Empower SLARI, in collaboration with the MAF, Njala University to do research into improved varieties of rice, other crops, livestock, forestry resources, and to research on diseases and pests to prevent and tackle both, and support the patenting of their research findings	SLARI empowered to undertake research on improved varieties and diseases and pest	Number of improved crops varieties developed Number of diseases and pest prevented/tackled	1 3	2 5	4 7
	1.2.1. MAF to stimulate partnerships to support SLARI research activities	Partnerships forged to support SLARI research	Number of partnerships forged to support SLARI research	1	3	5
	1.2.2. Enable SLARI's findings to inform agriculture policy and practice	SLARI findings used to inform policy and practice	Number of policy information adopted	1	3	5

	1.2.3. Provide support for the Planning, Evaluation, Monitoring and Statistics Division (PEMSD), singly and partnerships, to implement social research that will inform national and international data needs, and enable the finding to inform policy and practice	PEMSD supported with capacity building and materials to perform M&E functions	% improvement in performance from base	15%	50%	75%
	1.2.4. Research into and develop national cropping calendar taking into account recent climatic changes	Cropping calendar developed and updated regularly	Number of cropping calendar of key crops developed	1	1 updated	1 updated
	1.2.5. Undertake ecology and soil thematic studies (with support from DAOs and District Agricultural Engineers, University, SLARI)	Ecology and soil thematic studies undertaken	Number of studies undertaken Increased level of Investments in Agricultural Research and Development to at least 1% of the Agricultural GDP, from 2019 to 2023.	1 0.04%	1updated 0.5%	1 updated 1%
	1.2.6. Undertake fish feed and seed adaptive research with support from IMBO, USL and Njala University	Fish feed and seed adaptive research undertaken	Number research undertaken and implementable outputs	0	Feed ration formulated Improved strains of tilapia and catfish developed	Reviewed Reviewed
	1.2.7. Collect needed database: inputs, farmers, livestock, land, processing, agro-dealers, fish farmers, market information (AMIS: Agricultural Market	Databased with information on value chains established	Number of database established with capability of sharing information	0	1 Central dash board 16 – one in each	Updated Updated

	Information System), weather, national food and security early warning system. To be collected by farmers, extension workers, frontline staff				agricultural district	
	1.2.8. Policy and governance reform impact assessment research and review to provide updated guidance	Policy and governance reform impact assessment conducted	Number of report published	0	1	Updated
	1.2.9. Market research on agricultural commodities and inputs including pricing, improved varieties, agrochemicals, innovations etc	Market research conducted and information shared via database	Number of report published and shared	1	3	5
	1.2.10. Capacity development for researchers/training of MAF/other MDAs personnel to capture and manage agricultural statistics	Capacity of personnel built in agricultural statistics	Number of personnel trained	Agric: 5 Aquaculture: 0	Agriculture: 10 Aquaculture: 5	Agriculture: 20 Aquaculture:10
1.3. Data collection for agriculture and aquaculture	1.3.0. Review and strengthen existing agriculture-based information systems and data management for a sustained data collection on a regular basis	Information system strengthened	Frequency of information update	0	3	5
	1.3.1. Develop and ensure effective management of a multi-sectoral web-based information sharing platform including mobile app, GIS, cloud-based dashboard with support of the Directorate for Science, Technology and Innovation (State House)	Multi-sectoral web-based information sharing established	Number of functional web-based platform established	0	1	1 updated

	1.3.2. Commission data collection and management equipment and central information management dash board at PEMSD	Data collection equipment provided at PEMSD	Number of equipment Number of agricultural districts equipped with data collection equipment	4 16	8 16 maintained	12 16 maintained
	1.3.3. Set up of a farmer's registration system with PIN code as a condition to access input, with a targeted number of farmers for piloting	Farmer's registration system established	% of farmer registered	0%	50%	100%
	1.3.4. Robust extension system to disseminate and improve utilization of research results	Extension system strengthened	Proportion of farmers having access to advisory services	15%	75%	100%
1.4. Data analysis for agriculture and aquaculture	1.4.0. Capacity development in contemporary data analysis methods	Capacity built in data analysis	How many officials trained	0	36	72
	1.4.1. Provide data analytical tools/equipment and train in use	Equipment/tools provided	Number of licensed software installed	0	3	6
1.5. Institutional, technical, organizational, financial and management capacities of public institutions and sector actors strengthened in order to carry out their professional activities effectively	1.5.0. Conduct an assessment to identify capacity gaps among national and decentralized sector institutions, actors and implementers for policy analysis, advice, planning, programming, data and statistics management, gender and youth targeting and mainstreaming	Capacity need assessment conducted	Number of report published	0	1	1 reviewed
	1.5.1. Update payments and set a system in place to ensure timely payments to international bodies	Payments updated	Proportion of obligations fulfilled to international agricultural organisations	0	50%	100%
	1.5.2. Upward revision of conditions of service to provide adequate incentives for staff	Condition of service revised upwards	% increase in salary	5%	10%	20%

	1.5.3. Conduct Management and Functional Review of MAF/stakeholder Ministries for effective performance	Management and Functional Review of MAF / stakeholder Ministries for effective performance completed and implemented	Report on staff review	0	1	1 updated
	1.5.4. Identification cards for MAF/stakeholder Ministry personnel	Staff carry ID cards	% covered	5%	100%	100% renewed annually
	1.5.5. Develop an inclusive capacity building programme for sector actors and implementers across all value chains	Capacity building programmes developed	Number of programme developed	1	4	4 updated
	1.5.6. Implement the capacity building programme for sector actors and implementers, including extension agents	Programmes implemented	Number of programmes implemented	1	4	4 updated
	1.5.7. Develop District Agricultural Investment Plans taking into account sustainable energy supply for field offices (e.g. solar)	District plans developed	Number of plans developed	2	16	16 updated
	1.5.8. Strengthen system for fleet management and other logistics support	Fleet management system developed	Number of management system	0	1	1 updated
	1.5.9. Develop policy on reporting format	Policy on reporting format developed	Number of report published	1	1 updated	1 updated
1.6. National and decentralized sector stakeholder coordination mechanisms	1.6.0. Strengthen multi-sectoral coordination dialogues through the multi-stakeholder coordination	Multi-sectoral coordination platform created	Number of platforms established and functional	0	16	16 maintained

strengthened in order to make them effectively functional	platform created under the monitoring and evaluation system					
	1.6.1. Establish intra-institutional working groups to address sector coordination gaps	Inter-sectoral working groups established and coordination gaps identified and addressed	Number of working groups forged	2	6	8
	1.6.2. Conduct an analysis on multi-sectoral synergies and potential win-wins interactions between the agriculture sector and other sectors such as nutrition, fisheries, education, social protection and gender	Study conducted on multi-sectoral synergies to discern win-win possibilities within the agriculture sector	Number of study conducted	0	1	2
	1.6.3. Develop dialogue platforms at decentralized levels by using decentralized advisory platforms	Multi-sectoral/stakeholder platform established at district and local council levels	Number of districts with platform established at decentralised levels	13	16	16 maintained
	1.6.4. Strengthen monthly district agriculture sector meetings + quarterly rice district meetings	Monthly district agric sector meetings and quarterly rice district meetings held	Minutes of meetings and evidence of implementation of recommendations	Agric sector: 12 Rice: 0	Annually 4/year	Annually 4/year
	1.6.5. Establish farmer's forum meeting quarterly to enhance information sharing and accountability (MAF, district council, NGOs, farmers, MPs, CSOs etc)	Farmer's forum established	Number of farmer's forum established	2	4	6

	1.6.6. Incorporate agriculture, aquaculture and forestry plans, policies and strategy in district council's development plan (align with NAT 2025)	Plans incorporated in district council plans	Number of incorporations and alignment undertaken	2	16	16 maintained
	1.6.7. Agriculture, aquaculture and forestry champions competition (compensation for winners)	Competitions held and winners compensated	Number of competitions	0	6	12
	1.6.8. Encourage/Support out-grower scheme at chiefdom level	Out-grower schemes supported	Number of out-grower schemes	0	2000	4000
1.7. Investment Promotion	1.7.0. Development of investment and promotion guideline for investors, policy (including tax review for agri-businesses, local industrialization of produce), and Act	Investment guidelines published	Number of guidelines	1	1	1 updated
	1.7.1. Development of a communication strategy for broadcasting of agriculture policies, acts and investment successes	Communication strategy developed and implemented	Number of useful information generated and disseminated across sub-sectors annually	4	20	40 maintained
	1.7.2. Land zoning (including analysis on soil/livestock and database development of potential investment areas) with comparative advantage for agricultural businesses	Land zoning for agribusiness published	Number of report published	0	1	1 updated
	1.7.3. Investment in outreach to attract commercial farming: annual donor conferences (SLIEPA source investors) agricultural trade fairs, monthly documentary on agricultural investment potentials	Investment outreach conducted	Number of outreached activities	Donor conference: 0 Trade fairs: 0	Annually Donor conference: 1 Trade fairs: 1	Annually Donor conference: 1 Trade fairs: 1

	via national and international media			Agric Investment Documentary: 0	Agric Investment Documentary: 1	Agric Investment Documentary: 1
	1.7.4. Establish partnership with financing institutions to facilitate inclusive access to credit to acquire production and processing infrastructures and equipment for all value chains	Partnerships with financial institutions established	Number of partnerships forged Number of districts with accessible financial institutions	1 12	2 16	3 16 maintained
1.8. Compliance with Domestic, Regional and International Standards	1.8.0. Ensure compliance with international phytosanitary standards for seed, fertilizers, pesticides, livestock, forest products and fish and fish products for ease of regional and international trade.	Safety standards and regulations updated and food safety control and certification systems strengthened	% of farm families complying with standards	0%	5% (of 750,000)	10% (of 750,000)
	1.8.1. Development of local standards for importation of agro-inputs, production, processing, storage and marketing	Local standards developed	Number of reports published	0	1	1 updated
	1.8.2. Capacity building of stakeholders along the agricultural value chain to ensure adherence to standards	Stakeholders capacity developed to adhere to standards	Number of food safety officers trained and employed (1 per block)	0	33	66
	1.8.3. Sensitization, monitoring and evaluation of local and international standards (including formulation and or strengthening of existing standards compliance and monitoring bodies to better monitor standards compliance)	Local and international standards monitored and evaluated for update	Number of monitoring and evaluation activities with evidence of update	0	3	6

1.9. Farm Demonstrations and Communication Strategies	1.9.0. District Agro-Forestry Technology demonstration and promotion farms based on the Songhai model (inputs, machinery, irrigation, agronomic, livestock, processing)	Demonstrations campaigns conducted	Number of campaigns concluded based on Songhai experiment	0	5	10
	1.9.1. Establish district farms with an assured market through school feeding program	District farms established and linked to school feeding programme	Number of farms established and linked to school feeding programme	0	8	16 maintained
	1.9.2. Promote agriculture show and trade fair organized by political heads	Trade fairs organised	Number of trade fairs held	1	3	6
	1.9.3. Public media relations	Media campaigns conducted on value chain development	Number of information campaigns carried out across sub-sectors	10	36	72
	1.9.4. Promotional engagement campaigns	Promotional engagement campaigns conducted	Number of slots in community radio discussions on Agricultural Market and product promotion information	0	36	72
	1.9.5. Information / Educational Services - Set up an Information, Education and Communication (IEC) innovative platforms for technology transfer;	IEC innovative platforms set up and effectively functional	Number of IEC platforms set up and functional (1 per district)	1	16	16 maintained
	1.9.6. Visibility campaigns	Establish website and presence on social media platform	Number of websites developed and social media visibility	0	4	4 maintained

COMPONENT 2: Increased Rice Production and Productivity for Self Sufficiency (US$)						
Specific Objective 2: Increase sustainable, inclusive and intensified production and productivity of rice for self sufficiency						
2.1. Research and extension for viable seed availability to institute and sustain high quality and economically attractive seed production and transfer systems enabled by an improved rice focused policy and regulatory environment	2.1.0. Assess the human and institutional capacity of the SMP and the extension division of the MAF	Human and institutional capacity assessed	Number of published report	0	1	1 updated
	2.1.1. Based on the assessment strengthen SMP to increase on the production of foundation seeds.	Foundation seed production increased Certified seed production increased	Number of tons	0 0	66mt 5,760mt	66mt 5,760
	2.1.2. Review extension protocol to facilitate technology transfer	Protocol reviewed to ease technology transfer	Reviewed protocol available Increased use of fertilizer for agriculture development	0 Food Crops: 150kg/ha	1 Food Crops:300 kg/ha	1 updated Food Crops:300 kg/ha maintained
	2.1.3. Establish partnership with financing institutions to facilitate inclusive access to credit to acquire production and processing infrastructures and equipment	Partnership forged	Number of MoU implemented	0	2	2 maintained
	2.1.4. Organize farmers into out-growers for the cultivation of foundation seeds into certified seeds	Farmers organised	Number of out-grower schemes	0	2000	4000

	2.1.5. Strengthen capacity for foundation seeds for rice production stakeholders	Capacity strengthened	Number of training sessions at district level	0	12	24
	2.1.6. Conduct normative and operational research for improved quality seeds	Research conducted	Quantity of improved rice seeds (mt) distributed to farmers	0	80,000	100,000
	2.1.7. Create formal and informal system for the provision and timely distribution of quality and improved seeds for rice production	Seed distribution system in place	Number of distribution outlets	0	33	66
	2.1.8. Assess the rice policy and regulatory landscape	Rice policy environment assessed for gaps	Number of report published	0	1	1 updated
	2.1.9. Review or develop new private sector investment policies for rice production and marketing	Policy reviewed with focus on private sector engagement	Number of report published	0	1	1 updated
	2.1.10. Institute government led agricultural data collection and publishing programmes	Data collection and publishing programme instituted	Number of data collection and publishing outlets	1	16	16 (1/district)
2.2. Out-growers scheme established and functional	2.2.0. Conduct needs assessment and reinvest in reformed Agri-Business Centre for effective governance and operationalize as profitable business in rice-bowl districts	ABC assessed and revamped for profitable rice business centre	Number of ABCs profitably operational	0	53	106
	2.2.1. Support the linkage between 100,000 farm families and rice agribusinesses nationwide	Linkages supported	Number of linkages made between farm families and agribusiness centres	0	50,000	100,000

2.3. Improved irrigation and water management schemes instituted and maintained	2.3.0. Establish 400 solar powered boreholes and 400 dams across rice-bowl districts	Solar powered boreholes and dams built	Number built	Boreholes: 2 Dams: 1	200 50	400 50 maintained
	2.3.1 Develop large scale irrigation in flood plain ecologies such as Toma Bum, Gbondapi, Rhombe, Komrabai, Mambolo	Large scale dams developed	Number of large scale dams Increase the size of irrigated areas (as per its value observed in the year 2018)	0 7,176 hectares	3 14,000	6 28,000
	2.3.2. Development and maintenance of 28,000 hectares of IVS	IVS Developed and maintained % increase in rice production	Number developed Increase rice yield Increased rice production	9304 1.3mt/ha 1,160,646mt	14,000 4mt/ha 1,600,000mt	28,000 6mt/ha 2,000,000mt
	2.3.3. Train 5,000 youth and female contractors and irrigation engineers on IVS development and maintenance, and water management	Youth and women trained	Number of people trained Women Youth	 15 120	 500 2,000	 1,000 4,000
2.4. Agricultural machinery procurement, operations and maintenance schemes established	2.4.0. Establish and operationalize 6 private sector managed machine rings nationwide	Private sector machine rings established and operationalised	Number established	0	3	6
	2.4.1. Train 5,000 operators, mechanics and engineers including women and youth	Operators trained	Number trained Women Youth	 0 0	 500 2,000	 1,000 4,000
	2.4.2. Identify potential small-scale industries to fabricate appropriate agricultural equipment (develop	Small scale industries identified and supported to	Number of industries identified and supported	0	16	16 maintained

	standards for equipment) for production and processing	fabricate standard equipment				
2.5. Nutritional value and marketability of rice improved.	2.5.0. Introduce bio-fortification of rice for micronutrients	Bio-fortification introduced across the country	Number of agric blocks introduced	0	33	66
	2.5.1. Introduce appropriate rice processing machines that will retain micronutrients and vitamins	Processing machines introduces in agric blocks	Number of blocks introduced	0	33	66
	2.5.2. Promote Sierra Leone brand /trade name	Sierra Leone brand promoted	% of Sierra Leone rice supply in market	30%	50	100
	2.5.3. Promote regional trade issues	Popularise the ECOWAS Trade Liberalisation Scheme (ETLS) for citizens to take advantage of the trade opportunity	Number of training workshops on ETLS Number of radio discussions	0 0	10 20	20 40
	2.5.4. Train lab technicians and extension agents about food safety standards;	Personnel trained in food safety and standards	Number of personnel trained % of farm families complying with food safety standards and regulations	0 0	32 5% (of 750,000)	32 maintained 10% (of 750,000)
	2.5.5. Ensure food safety for local market	Local food safety ensured	% of country covered by trained local food safety monitors Number of monitoring exercise/month	0 0	25 10	50 15
	2.5.6. Build and rehabilitate feeder roads in link with local authorities	Feeders roads built and rehabilitated	Km of feeder roads rehabilitated	3789	5789	7789

	2.5.7. Strengthen domestic rice market information systems	Market information readily available to farmers	% of farmers accessing domestic market information	10	25	50
	2.5.8. Establish and capacitate a market information platform targeting external opportunities	Market information platform for external opportunities established	Number of hits at the market information portal % Increase in Income generated from provision of market information	0 0	5,000 10	10,000 20
	2.5.9. Strengthen linkages between local farmers, agro-processing actors and institutional markets (schools, army, hospitals, prisons, etc.) to enhance home-grown institutional feeding program for improved diet quality of occupants of those institutions	Local farmers and institutional markets strengthened	Number of market information system such as radio discussions etc held to disseminate information in good time Number of agro-processor cooperatives forged Food needs assessment study of key institutions (Police, Hospitals, Correction Centres etc) At least 50% of food needs of institutions met by local agro-processors Number of campaigns conducted to promote consumption of local foods	5 0 0 10% 8	25 10 1 25% 25	50 20 1 updated 50% 50
	2.5.10. Organize and support rice trade fairs and periodic markets	Trade fares and periodic markets	Number of trade/market fares organised and supported	0	8	16

		organised and supported	Number of period markets across the country supported with WASH, Storage, medical facilities and Accommodation	0	48	96
	2.5.11. Facilitate trans-boundary trade by providing post-harvest market structure at border points such as Gbalamuya, Jendema, Koindu.	Transboundary trade facilitated	Percentage of businesses applying NFIQ standard certificates	5%	25%	50%
	2.5.12. Build/rehabilitate rice market structures in selected areas	Market structures built/rehabilitated	Number of market structures built/rehabilitated	2	66	132
	2.5.13. Align national food safety policies and standards to regional and global ones	Foods safety policies aligned with global ones	Number of food safety policy alignment to global ones	1	1 updated	1 updated
2.6. Infrastructures related to rice production are provided targeting the large scale rice production areas.	2.6.0. Build storage facilities for the storage of husk and cleaned rice at major production areas e.g. Toma Bum, Gbondapi, Rhombe, Komrabai, Mambolo	Storage facilities built	Number built	0	16	32
	2.6.1. Provide, rehabilitate and maintain storage facilities for seeds and crops to smallholders and enterprises	Smallholder storage facilities built	Number built	403	403 upgrade	403 maintained
	2.6.2. Build storage facilities to store pesticides, insecticide, fertilizer and other agricultural inputs targeting large scale rice production areas	Storage facilities for other agric inputs built	Number built	0	16	16 maintained
	2.6.3. Coordinate with local government to identify roads and bridges for rehabilitation, repair	Rood and bridges identified for rehabilitation, repair or	Report on assessment	0	1	1 updated

	and construction that link farms to market	construction to link key farm gates to markets				
	2.6.4. Establish and equip food safety laboratories at Toma Bum, Gbondapi, Rhombe, Komrabai, Mambolo.	Food safety labs established	Number established	0	33	66
2.7. Climate smart agronomic practices adopted for rice	2.7.0. Promote the use of adaptable rice varieties and other climate smart agronomic practices	Extension workers trained in climate smart practices that are passed on to farmers.	Increase % of farm, pastoral, and fisher households are resilient to climate and weather related risks, by the year 2025.	0	25%	50%
	2.7.1. Stop the practice of slash and burn in rice production	Promote initiatives of building resilience of production systems to reduce vulnerabilities of the livelihoods of farming communities to climate variability and other related risks by eliminating slash and burn.	Increase % of agricultural land placed under sustainable land management practice. Number of agronomic natural resource management measures developed and introduced Number of vegetative natural resource management measures developed and introduced	0.13% 0 0	1% 2 2	5% 4 2
	2.7.2. Manage natural resources	Research for developing appropriate natural resource management measures conducted and results implemented	Number of structural natural resource management measures developed and introduced Number of management measures developed and introduced	0 0	3 2	5 4

		Pest management and control measures improved	% reduction of deforestation Number of farmers who can effectively use improved measures including sample kits	0 5%	10% 25%	20% 50%
	2.7.3. Promote the use of rice husks as material for fertilizer and energy production	The use of rice husk for energy generation promoted	Number of gasifiers installed Number of fertilizer production factories commissions	0 0	33 16	66 32

COMPONENT 3: Increased Production and Productivity of Priority Crops Value Chains (US$)						
Specific Objective 3: Increased production and productivity of priority crops such as cacao, coffee and cashew nuts for boosted foreign exchange earnings						
3.1. Establishment of new improved Cacao, Coffee and Cashew plantations and replacement of old ones	3.1.0. Support SLARI to research into improved seeds and seedlings	Research into improved seeds and seedlings conducted	Number of improved seed introduced	0	4	8 updated
	3.1.1. Establish and manage nurseries	Nurseries established and managed	Number of nurseries established and managed	0	66	66 maintained
	3.1.2. Assess and analyse soils	Soils assessed and analysed	Number of reports on soil assessment	0	1	1 updated
	3.1.3. Plant/replace and manage main fields	Main fields replaced and managed	Number of fields	0	66	66 maintained
3.2. Capacity Building	3.2.0. Train trainers (ToT) for staff and farmers	Trainers trained	Number of trainers	4	32	32 maintained
	3.2.1. Intensive extension service delivery by MAF and through PPP	Increased current levels of the farmer/extension work ratio delivering effective innovative advisory services in collaboration with private sector	% improvement in farmer/extension ratio	0.05%	10%	20%
	3.2.3. Establish tree crop farmer field schools (farmer business school, quality control)	Field schools established	Number of field schools established	0	16	16 maintained

	3.2.4. Establish/strengthen Demonstration sites	Established demonstration sites	Number of demonstration sites established	0	66	66 maintained
	3.2.5. Re-establish clonal gardens	Clonal gardens re-established	Number of gardens	0	5	5 maintained
	3.2.6. Promote out-grower schemes	Out-grower schemes promoted	Number of out-grower schemes	0	2000	4000
3.3. Quality Control and Standards	3.3.0. Improve Post-Harvest/Processing Practices	Post-harvest practices improved	Reduction of post-harvest losses	40%	20%	5%
	3.3.1. Adopt innovative technology	Innovative technology adapted	Number of technology adapted	0	4	8
	3.3.2. Integrate local technology with new technology	Local technology integrated	Number of local technology integrated	0	4	8
	3.3.3. Establish linkages to international markets including PPP (Certification)	International market linkages established	Number of linkages established	0	5	10
	3.3.4. Establish Cocoa Coffee, Cashew board	Boards established	Number of boards established	1	3	3 maintained
	3.3.5. Introduce regulations	Regulations updated	Number of regulations	0	3	3 updated
	3.3.6. Maintain standards	Standards updated	Number of reports on standards	0	3	3 updated
	3.3.7. Establish/strengthen aggregation centres	Aggregation centres established	Number of centres established	0	8	16
	3.3.8. Encourage use of Good Agricultural Practices and Integrated Pest and Disease Management	Integrated pest and disease management improved	Degree of awareness of climate change risk and impact among farming population practices Number of improved Pest management control	5% 84	25% 150	50% 150 maintained

			measures developed and implemented Recommended and approved Pesticides, herbicides, etc made available in all Agric blocks Number of Pest Management Demonstration sites strengthened or established	0 13 existing strengthened	33 66 established and maintained	66 66 established and maintained
	3.3.9. Use improved varieties	Improved variety used	Number of improved seeds/planting material distributed to farmers Other improved arable crop planting materials (units): Improved tree crop (mt):	0 2,991,000 13,380,000	4 3,619,000 14,280,500	8 4,376,800 19,603,000
	3.3.10. Apply best and timely agronomic practices (Good Land preparation, Optimum plant density, Correct planting time and spacing, Site specific management for fertilizer application, Site sanitation)	Best agronomic practices adopted	Number of report on best practices adopted % of farmers adopting best practices	0 5	1 25	1 updated 50%
	3.3.11. Apply robust integrated Pest and Disease Management	Robust pest and disease management applied	% of farmers applying robust pest and disease management practices	5%	25%	50%

3.4. Development of Vegetables, Legumes, root and tubers and cereal productivity and spices -5,000 hectares to be established in the next 6 years	3.4.0. Increased area under cultivation (Establishment of greenhouses)	Area under cultivation increased	Area under cultivation Increase in other arable crops production: Increase in tree crops production:	1000ha 830,280 1,678,984	2,500ha 1,004,640 2,031,000	5,000ha 1,215,000 2,460,000
	3.4.1. Research and introduction of Bio-fortified varieties	Research conducted and bio-fortification varieties introduced	Number of research reports Number of bio-fortified varieties introduced	0 0	1 6	1 updated 12
	3.4.2. Establish irrigation systems	Irrigation system established	Increased current levels of large scale irrigation infrastructure and equipment - Dams (80x50x5m) - Giant Sprinklers - Pumps (50,000 hp) Increased current levels of small scale irrigation infrastructure and equipment Dams (10x20x3m)	 0 0 0 2	 3 60 6 20	 5 80 10 50
	3.4.3. Installation of Post-harvest technologies	Post-harvest technologies installed	Number of post-harvest storage facilities Solar powered cold chain facilities	403 10	403 maintained 403	403 maintained 403

	3.4.4. Quality Control and Standards for vegetables	Guideline for quality control and standards developed for vegetable	Number of report on guidelines	0	1	1 updated
	3.4.5. Good management practices including (Use of improved varieties, Best and timely agronomic practices, Good Land preparation, Optimum plant density, Correct planting time and spacing, Site specific management for fertilizer application, and Site sanitation)	Best management practices adopted	Number of report on best practices adopted % of farmers adopting best practices	0 5	1 25	1 updated 50
3.5. Robust integrated Pest and Disease Management (pesticide lifecycle management) delivered by an intensive extension service delivery system	3.5.0. Training –ToT and farmers	Trainers trained	Number of trainers	4	16	32
	3.5.1. Establish demonstration plots	Demonstration plots established	Number of plots established	0	8	16
	3.5.2. Post-harvest trainings	Post-harvest training conducted	Number of sessions	5	25	50
3.6. Develop Key Cash Crop Policies	3.6.0. Cocoa Policy	Cocoa policy developed	Number of report	0	1	1 updated
	3.6.1. Coffee Policy	Coffee policy developed	Number of report	1	1	1 updated
	3.6.2. Cashew Policy	Cashew policy developed	Number of report	1	1	1 updated
3.7. Building linkages between the “other crops” and the Forestry Priority component, especially for cash/economic crops products	3.7.0. Develop agro-forestry linkages	Agro-forestry practices introduced	% of farmers adopting agro-forestry practices such as planting nitrogen fixing trees	0	25%	50%

COMPONENT 4: Increased Production and Productivity of Livestock Value Chains (US$)						
Specific Objective 4: Increased production and productivity of livestock such as cattle, poultry, small ruminants and other animals (honey-bee, ducks, pigs, grass-cutter, rabbit) for food & nutrition security and poverty reduction						
4.1. Improved Animal Health facilities	4.1.0. Establish animal health clinics at district level, with basic laboratory facilities	Health clinic with lab facilities established	Number of facilities	1	8	16
	4.1.1. Strengthen veterinary health services by introducing a harmonized para-veterinary curriculum at Njala and other tertiary institutions to train intermediate and junior staff cadre to certificate and diploma levels respectively	Curriculum at tertiary institutions reviewed to introduce para-veterinary studies for intermediate and junior cadre	Number of reviewed curricula	0	2	2 maintained
	4.1.2. Construct 24 livestock inspection posts and 4 quarantine stations	Livestock inspection posts and 4 quarantine stations established	Number of posts Quarantine stations	0 0	12 2	24 4
	4.1.3. Establish or strengthen and sustain a national disease surveillance and control platform	Disease surveillance and control platform established	Number of surveillance platforms	1	3	5 (1 in each region)
4.2. Meat and milk value chains improved for cattle, poultry, small ruminants and other animals (honey-bee, ducks, pigs, grass-cutter, rabbit)	4.2.0. Establish breeding centres (artificial insemination centres) at regional level for breeding and distribution to farmers	Breeding centres established at regional level	Number of centres	0	3	5
	4.2.1. Rehabilitate livestock stations and establish new ones; and then commercialize/privatize them.	Livestock stations established	Number of stations rehabilitated/constructed	0	8	16

	4.2.2. Build the capacity of farmers in livestock and animal management practices	Farmers capacity built in livestock management practices	% of farmer's capacity built	0	25% (750,000)	50% (750,000)
	4.2.3. Mobilize and organize farmers into out grower schemes and by species and link them to private sectors.	Farmers organised into out-grower groups and linked to private sector	How many out-grower groups	0	50	100
	4.2.4. Establish honey production centers in each district	Honey centres established	How many centres	0	66	132 (2/ agric block)
4.3. Animal nutrition improved and sustained through the adoption of new sustainable innovations	4.3.0. Establish and manage ranch and pasture	Establish and manage ranch and pasture	How many ranch and pasture	0	8	16
	4.3.1. Promote maize production	Maize production for animal feed developed	% increase in production	24284 tons	15%	25%
	4.3.2. Rehabilitate and establish industrial animal feed mills	Animal feed mills established/rehabilitated	Number of animal feed mill established	1	2	4
	4.3.3. Build the capacity of farmers to locally produce animal feed through farm residues, special crop (maize and soya) production for animal feed, silage and hay production	Capacity of farmers built to locally produce animal feed	Number of training sessions	0	5	10
	4.3.4. Establish feed analysis laboratories	Feed analysis labs established	Number of lab established	1	3	5
4.4. Animal processing and marketing infrastructures are established and farmers' capacity developed.	4.4.0. Feed analysis	Feed analysis conducted regularly	Number of analysis	0	15	30
	4.4.1. Establish milk and meat quality control laboratories and processing plants	Milk and meat quality control labs and processing plants established	Number of milk and meat quality control labs and processing plants established (Peri-Urban)	0	3	5
	4.4.2. Establish dairy processing plant	Dairy processing plants established	Number of plants established	0	3	5

	4.4.3. Construct livestock markets and marketing outlets nationwide	Livestock markets established	Number of markets established	0	16	16 maintained
	4.4.4. Establish standard abattoirs within regions with high concentration of livestock.	Abattoirs established	Number of abattoirs established	0	16	16
	4.4.5. Construct 16 standard slaughter houses at district level	16 standards slaughter houses constructed	Number of slaughter houses constructed	0	8	16
	4.4.6. Manage farm manure and biogas development	Biogas stations developed in areas with high concentration of livestock	Number of biogas stations developed	0	16	16 maintained
	4.4.7. Set up farm waste management detoxifying systems that produce farm manure in six animal husbandry priority areas and demonstration farms	Farm manure production centres established in 6 priority areas with demonstration farms	Number of farm manure production centres established	0	16	16 maintained
	4.4.8. Establish biogas electricity generating plants to support agricultural production, harvesting processing, and preservation	Biogas electricity generation plants commissioned	Number of biogas electricity generation plants	0	16	16 maintained
	4.4.9. Construct and rehabilitate key roads connecting livestock farmers to the market	Key roads connecting livestock stations rehabilitated	Number of Kilometers of road	0	2000	4000
	4.4.10. Develop a livestock processing and marketing communications strategy	Processing and marketing communication strategy developed	Published report	0	1	1 updated
4.5. Animal production, processing and marketing related policies and laws are in place for improved livestock investment climate	4.5.0. Develop and implement standards and guidelines on animal diseases	Guidelines on animal disease developed	Published guidelines	0	1	1 updated
	4.5.1. Develop policies and laws that strengthen relationship with	Policy on strengthening relationship between	Published policy	0	1	1 updated

	relevant regional and international organizations on livestock (including regular payment of dues)	regional and international bodies developed	Frequency of payments	0	6 times over 6 years programme cycle	6 times over 6 years programme cycle and maintained thereafter
	4.5.2. Review existing livestock MoUs (e.g. MoU with land owners of current livestock stations)	MoUs reviews	Reviewed MoUs	0	5	5 updated
	4.5.3. Domesticate ECOWAS transhumance policy	ECOWAS transhumance policy domesticated	Published livestock policy aligned with ECOWAS transhumance policy	0	1	1 updated
	4.5.4. Develop policy to transform/outsource public vet clinics to private sector actors	Policy on privatizing public vet clinics developed	Published policy	0	1	1 updated
	4.5.5. Develop a comprehensive livestock policy including guidelines for animal slaughter and dairy processing	Livestock policy complete with guidelines on animal slaughter and dairy processing developed	Publish policy	0	1	1 updated
4.6. Livestock value chain development is informed and improved through empirical data and evidence based decision making	4.6.0. Take stock (national livestock census) to ascertain the number of livestock and livestock farmers in the country	National livestock census completed	Published report ascertaining number of livestock and livestock farmer	1	1 updated	1 updated
	4.6.1. Conduct research on animal feeds and production methods	Research on animal feeds and production methods undertaken	Research reports	0	3	5
	4.6.2. Research on emerging and re-emerging animal disease and explore recommended treatments	Research on emerging and re-emerging animal disease conducted and treatments recommended	Research reports	0	3	5

4.7. Climate-smart agriculture	4.7.0. Produce and manage safe biogas and livestock manure to serve the other priorities	Biogas stations established in Kabala and Falaba districts	Number of stations established	0	16	16 maintained

COMPONENT 5: Develop Forest Value Chain (US$)						
Specific Objective 5: Sustainable development/exploitation of forest products and value addition for domestic and international markets						
5.1. Forest Development and Management with community-based forest management approaches adapted and implemented.	5.1.0. Conduct research and cross-border visits to document best practices for community-based forest management	Research conducted	Published report	0	1	1 updated
	5.1.1. Carry out sensitization and awareness raising campaigns on the management and protection of forests within the targeted communities using Behavior Change Communication (BCC)	Mass media and community campaigns on forestry education and Behavior Change Communication (BCC) conducted, capitalizing on the existing forestry guidelines - emphasising forest conservation	Number of trainings, sensitization and advocacy conducted % of farmers/exploiters aware of the forestry guidelines emphasising forest conservation and management	5 0	15 50%	25 65%
	5.1.2. Integrate Forestry in Local Council Plans	Forestry integrated in local council plans	Published plans with forestry integrated	0	1	1 updated
	5.1.3. Forestry decentralised at chiefdom levels	Forestry decentralised and strategies implemented by local institutions	Number of published forestry strategies implemented by local institutions	0	1	1 updated

	5.1.4. Using the documented and adapted best practice, maintain and scale up the establishment of 3800 ha of community forests.	3800 ha established	Number of ha established	0	1900	3800
	5.1.5. Using handheld GPS, establish the boundaries of each of the identified community forests	Boundaries identified	Number of area plans	0	16	16 maintained
	5.1.6. Assessment, inventory and deployment of technology	Technology needs assessment undertaken	Published report	0	1	1 updated
5.2. Forest Information systems fully integrated into Agricultural Information systems and disseminated through Information, Education and Behavioural Change Communications Activity	5.2.0. Data for forestry deployed in all 16 Districts	Forestry data decentralised	Published data shared on district information systems	0	16	16 maintained
	5.2.1. Build the capacity of communities on nurseries, out planting and maintenance (seeds, grafting and budding, vegetative propagation methods etc)	Capacities built on nurseries etc	Number of community demonstrations/training	5	66	66 maintained
	5.2.2. Carry out an alternative livelihood needs assessment on forest-edge communities	Alternative livelihoods needs assessment conducted	Published report	0	1	1 updated
	5.2. 3. Use the findings to develop and implement an alternative livelihood programme for the communities	Alternative livelihood programme developed	Number of programmes implemented	0	3	5
	5.2.4. Establish community forest management governance structures	Governance structure established	Published report on governance structure	0	1	1 updated
	5.2.5. Establish bylaws and monitoring its enforcement, using appropriate technologies and community structures.	Bylaws established and enforced	Published report on bylaws	0	1	1 updated

			% of farmers/exploiters aware of the forestry guidelines emphasising forest conservation and management	0	50%	65%
5.3. Management systems for protected areas established and functional.	5.3.0. Conduct a nationwide forest inventory to update the last one done in the 70s	Forest inventory updated	Published report on inventory	0 since 1970s	1	1 updated
	5.3.1. Develop and implement capacity development plan implemented based on evidence/assessment	Capacity development plan implemented	% of farmer/exploiters benefiting	0	50%	65%
	5.3.2. Appropriate working groups established and operational	Working groups established and operational	Number of working groups	0	32	64
	5.3.3. Promote, scale up and implement REDD+ in 1000 ha of Protected Forest Areas	REDD+ implemented in 1000ha of protected forest areas	% of proposed 1000ha covered	0	50%	100%
	5.3.4. Delineate all the protected and produce and validate the maps	Protected areas delineated	Published maps validated	0	1	1 updated
	5.3.5. Map out the relevant partnerships for protection and revenue generation (Stakeholder management groups, Benefit sharing, Ecotourism, Carbon trade, water, NTFP, etc)	Partnerships forged for protection	Number of partnerships formed	0	3	5
	5.3.6. Use the findings to develop and implement an alternative livelihood programme for the communities	Alternative livelihoods programmes developed	Number of programmes	0	3	5

	5.3.7. Develop bye laws, monitor and enforce them	Bylaws developed	Published reports on bylaws	0	1	1 updated
5.4. Establishment of commercial forests promoted and sustained.	5.4.0. Establish linkages and partnership with sectors and division that work on other crops, including commercial tree crops and local governments to identify, set up and sustain commercial forest	Linkages established and commercial forests set up	Number of partnerships formed	0	3	5
	5.4.1. Development of wood lots that grow quick maturing varieties of trees to support the production of wood fuel and charcoal domestic home market	Wood lots developed	Number of woodlots developed Hectares of woodlots established	0 0	16 200	32 400
	5.4.2. Work with partners to undertake tree-planting (including tree crops) exercises across the country	Tree planting exercises undertaken	Hectares Planted % reduction in deforestation	- 0	900 10%	1,800 20%
	5.4.3. Create the enabling environment for investment in forest plantations (mapping of land resource, waivers, logistics, policies etc)	Policy/regulations reviewed to encourage investment in forest plantations	Published reviewed policy/laws	0	1	1 updated
	5.4.4. Facilitate the establishment of 25,000 ha of commercial forests	Commercial forests established	Area 25,000ha covered	0	10,000ha	15,000ha
	5.4.5. Introduce new species and seed multiplication (new varieties, experimentation, technology, etc)	New species introduced	Number of species introduced	0	2	2 maintained

	5.4.6. Develop Import and export standards for forest products	Develop import and export standards	Number of publish reports on standards	0	1	1 updated
	5.4.7. Add value to forests and none forests products	Add values to forest products	Number value addition industries	0	2	4
	5.4.8. Assess the forestry policy and regulatory environment to identify gaps	Gaps identified in reviewed policy and regulations	Published report on reviewed policy and regulation	0	1	1 updated
	5.4.9. Develop or update the policies and laws such as (Forestry, Wildlife Conservation, NPAA & CTF Acts and Forestry Regulations) e.g. Forestry Act 1988; Wildlife Conservation; NPAA and CTF Acts	Laws updated	Enacted laws	0	2	4
	5.4.10. Develop and implement their respective implementation plans.	Implementation plans developed and developed	Number of developed plans implemented	0	2	4
	5.4.11. One Presidential Forest farm established	Presidential forestry farm established	Number of farm	0	16	16 maintained

COMPONENT 6: Develop Aquaculture Value Chain (US$)						
Specific Objective 6: Develop aquaculture production system for increased tilapia and catfish production for food & nutrition security and poverty reduction						
6.1. Identification of productive areas	6.1.0. Productive aquaculture area mapping	A map of suitable areas of the country for aquaculture produced	Number of maps of area suitability	0	1	1 updated
	6.1.1. Assessment, inventory of ponds	An inventory of functional pond obtained	Number of inventory of productive ponds	0	1	1 updated
	6.1.2. Integrate Aquaculture Information Systems fully into fisheries dash board	Aquaculture Information fully integrated into dash board	Number of time of system integration	0	3	5 updated annual
	6.1.3. Vulnerability/Adaptation to climatic change	Vulnerability to climate change assessed and adaptation mechanisms recommended	Number of assessment reports published	0	1	3 updated every other year
	6.1.4. Capacity building	Capacity built in Aquaculture business management, feed formulation, hatchery/seed preparation	Number of candidates trained	Aquaculture business management: 0 Feed formulation: 0 Hatchery management: 0	Aquaculture business management: 5 Feed formulation: 5 Hatchery management: 5	Aquaculture business management: 10 Feed formulation: 10 Hatchery management: 10
	6.1.5. Pond development engineering	Pond development engineers trained	Number of aquaculture engineers trained	0	5	10

6.2. Create formal and informal systems for the provision and timely distribution of quality and improved inputs for aquaculture development.	6.2.0. Increase pond development and provide inputs/tools equipment/infrastructure	Increased pond development and Inputs/tools equipment/infrastructure provided	Increase levels of fish pond (400m2) from current levels (maintain existing ponds and develop new ones Existing New Ponds - 100/district **Tools/Pond** Shovels (6/pond) Machetes (6/pond) Hoes (3/pond) Pipes - 6" (2/pond) Elbows (2/pond) Mattocks (2/pond) Tape rule (100 Pieces for country) Lines (1,700 pieces for country) Head pan (5/pond) Hacksaw frame (50 for country) Hacksaw Blades (1,000 pieces for country) Wheelbarrow (20/district) Drag nets (4/District) Fertilizer (5/pond) Lime (5/pond) Vehicles (10 for country) Bikes (40 for country) Computer and accessories	1170 0	1170 700	1170 1,400

			Lab equipment (0_2 and PH meter; test tubes, sachi disc, cupboards)			
			Labour requirement/pond and capacity development			
			Labour/pond	2person/pond	10/pond	Maintain 10/pond
			National sensitisation campaigns	0	2	4
			Training Programmes	2/year	10	20
			Exchange Programmes			
			National	0	2	4
			International	0	1	2
			Infrastructure			
			Rehabilitation of Stations	2 buildings /stations	Rehabilitate 2	Rehabilitate 2
			Farm House			
			3 Bedroom accommodation for Aquaculture Officers – 1/District	0	7	14
			Fingerlings/pond.			
			Tilapia	800	1,500	Maintain 1,500
			Catfish	800	1,000	Maintain 1,000
			Rehabilitated and maintained			
			Hatcheries:	2	2	2
			Feed mill:	1	1	1
			Provided			

			Hatcheries: Feed mill: Cold Chains	0 0 0	4 5 8	6 9 16
	6.2.1. Adaptive Seed and Feed Research and Extension	Adaptive seed and feed research conducted	Number of results implemented	0	2	4 updated annually
	6.2.2. Fish disease preparedness (monitoring, prevention and treatment facilities/equipment including human resource development)	Fish disease preparedness capacity developed	Number of technicians: Number of equipped laboratories	0 0	14 7	28 (2/district) 14 (1/district)
	6.2.3. Extension/demonstration farms	Demonstrations farms established	Number of farms	0	14	28 (2/district)
	6.2.4. Presidential farms established in 16 Districts	Presidential farm established	Number of farms	0	8	16
6.3. Post-harvest Issues	6.3.0. Fish Handling and Processing	Fishing handling and processing labs developed and personnel trained	Number of Labs Number of personnel	0 0	7 14	14 28
	6.3.1. Develop import and export standards for aquaculture products	Standards developed	Evidence of product acceptability overseas	-	Accepted	Accepted
	6.3.2. Aquaculture and Tourism (Point and kill markets and restaurants)	Aquaculture products markets built	Number of markets	0	10	20
	6.3.3. Women and youth employment	Women and youths employed in commercial aquaculture	Number of women Number of youths	0 0	1000 1000	2000 2000
	6.3.4. Trade issues (standards etc)	Capacity built on trade issues	Number of training on ECOWAS Trade Liberalisation Scheme (ETLS) for	0	10	20

6.4. Decentralise Aquaculture	6.4.0. Integrate Aquaculture in Local Council Plans	Aquaculture integrated in local council plan	Number of plan published	0	2	4 updated annually
	6.4.1. Aquaculture decentralised at chiefdom levels	Aquaculture decentralised	Number of demonstrations/outreach farm established at chiefdom level	0	100	190
	6.4.2. Data for aquaculture deployed in all 16 District	Aquaculture data collection deployed at districts levels	Number of data collection personnel trained and deployed	0	16	32 (2/district)
6.5. Support the sustained collection of small-scale fisheries data collection, analysis and sharing system	6.5.0. Develop data collection, analysis and sharing system	Develop data collection, analysis and sharing system	Published data collection, analysis and sharing system	0	1	1 updated
	6.5.1. Train and provide renumeration for enumerators	Enumerators trained and renumeration provided	Number of enumerators	10	60	120
	6.5.2. Assess needs and provide for data collection and analysis equipment, tools and logistics	Needs assessed and equipment tools and logistics provided	Number published needs assessment report Equipment, tools and logistics provided	0 0	1 Evidence of available equipment tools and logistics (Lump sum)	1 updated Evidence of available and updated equipment tools and logistics (Lump sum)

COMPONENT 7: Improve Resilience of Livelihoods and Nutrition of Vulnerable Groups (US$)						
Specific Objective 7: **Increase and improve resilience of livelihoods against shocks and promote full access to nutritious foods for the most vulnerable**						
7.1. Most vulnerable have sustainable and equitable access to markets, infrastructure, productive and financial resources	7.1.0. Set up and maintain strategic stocks of rice at regional/district level and national level to respond to natural and man-made emergencies	Stock of rice maintained for emergencies	Quantity of stock maintained	0	2, 500,000mt	2, 500,000mt replace regularly
	7.1.1. Set up an agriculture emergency fund to provide seed money address emergencies that befall agriculture	Emergency fund established	Value of fund	0	$5m	$5m
	7.1.2. Conduct a situation assessment and analysis of the most vulnerable groups in agriculture and rural areas, paying attention as well to intra-household dynamics and gender roles which play some crucial roles in food insecurity and resilience.	Situation analysis of the most vulnerable groups in agriculture and rural areas completed	Number of report published	0	1 by year 1	Report reviewed and updated
	7.1.3. Develop a targeting system, including Cash-Transfer Programme, and an interactive database of most vulnerable groups.	Database on most vulnerable groups developed with baseline of their poverty, nutrition status, accessibility to productive resources, health status etc.	Number of databases developed (1/district)	0	8	16
	7.1.4. Develop/strengthen preventive and productive social	Preventive and productive social	No. of farmer groups receiving reliable and	78	228	378

	safety nets including cash and asset transfer programmes to improve and diversify livelihoods of the most vulnerable, targeting both women, men and youth within vulnerable households as they have different livelihoods and coping mechanisms.	safety nets developed and strengthened	timely cash transfer through national institutions Proportion of farmer groups covered by social protection:	5% (of 750,000)	25%	50%
	7.1.5. Build and strengthen organizational capacity and financial literacy of community-based saving groups.	Organizational capacity and financial literacy of community based saving groups strengthened	Number of financial literacy studies successfully completed Number of loan beneficiaries (farm families)	0 15,000	5 187,500	10 375,000
	7.1.6. Capitalise and review the modus operandi of community banks and financial services associations in order to enhance their capacities to reach the most vulnerable.	Community banks capitalised and reviewed to reach most vulnerable	At least 50% of farmers having access to finance		25%	50%
	7.1.7. Develop and implement a strategy for women and youth inclusion in agriculture.	Strategy developed in which women and youth are included	At least 15% of volume of agriculture credit provided directly to youth and women Number of youths that are engaged in new job opportunities in agriculture value chains, (ţYth) Proportion of rural women that are empowered in agriculture, (ţWE)	0 10,000 5%	10% 50,000 15%	15% 100,000 25%

			Number of jobs created per annum Strategy developed, implemented and monitored	10,000 0	100,000 1	150,000 1 updated
7.2. Access to sustainable healthy and nutritious diets is improved, and food choices among the most vulnerable are improved	7.2.0. Conduct gender sensitive situation assessment	Gender sensitive situation analysis conducted	Number of report published	0	1	1 updated
	7.2.1. Conduct mass media and community campaigns on food and nutrition education and BCC (Behavior Change Communication), capitalizing on the existing Food Based Dietary Guidelines - emphasising diversifying food production systems for nutrition security)	Mass media and community campaigns and BCC conducted for diversifying food production for nutrition security	Number of trainings, sensitization and advocacy conducted % of farming population aware of the food based dietary guidelines emphasising food diversification for nutrition security	5 0	15 50%	25 65%
	7.2.2. Strengthen capacities of local communities on food preparation, preservation and processing techniques and enterprises for nutrient-sensitive food processing, packaging and conservation	Local community capacity strengthened	Prevalence of stunting (% of children under 5 years old) (St) reduced by 1.5% per year from current levels Prevalence of underweight (% of children under 5 years old) (Uw) – reduced by 1.5% per year from current levels Prevalence of wasting (% of children under 5 old)	28.5% 12.9% 4.7%	25.5% 9.9% 4.5%	22.6% 6.9% 4%

			(W) reduced to ≤ 5% from current levels			
			Increase in proportion of Minimum Dietary Diversity-Women (ţMDDW) – increased by 20% from current levels	0%	10%	20%
			Proportion of 6-23 months old children who meet the Minimum Acceptable Diet (MAD) increased by 50% from current levels	7%	23%	50%
	7.2.3. Support backyard gardening for diversification and enhancement of increased nutritious food consumption	Backyard garden promotion scheme designed and implemented	Number farm families with backyard gardens growing diversified and nutritious food stuffs	45% (of 750,000)	65% (of 750,000)	85% (of 750,000)
	7.2.4. Encourage the consumption of locally grown food stuffs	Campaigns and demonstrations to promote consumption of locally grown foods stuffs undertaken	Number of campaigns	10	30	50
			Number of demonstrations	10	30	50
7.3. Early warning and preparedness mechanisms against shocks improved and mitigation measure implemented in consonance with National Adaptation Programme of Actions (NAPA) priorities	7.3.0. Carry out gender sensitive assessment to identify gaps, constraints and needs in current early warning systems;	Early warning systems assessed and improved for effective preparedness	Published report	0	1 by year 1	1 updated and implemented
	7.3.1. Strengthen the capacity of institutions responsible for early warning systems and inter-agency collaboration with ONS	Preparation for the Use of Meteorological Satellite in Africa (PUMA) station at	Frequency of weather alerts received	0	Every other day	Daily

		the Lungi airport capacitated to provide Early Warning of Imminent Hazardous Weather or Climate as it relates to agriculture/fisheries. Permanent investment budget-lines created to respond to spending needs on resilience building initiatives, especially for disaster preparedness plans, functioning early warning and response systems.	Number of mitigation measures instituted against hazardous weather or climate from early warning alerts Number of preparedness measures in place	5 5	10 10	10 10
	7.3.2. Develop a communication strategy and platform to disseminate information on/of early warning systems;	Communication and strategy and platform developed	Proportion of farmers reached with early warning information from platform	20% (of 750,000)	50%	100%
	7.3.3. Provide adapted information and tools/plans to strengthen capacity of communities and households to take early action before shocks;	Early warning systems apps install in personnel phone and trained in used	Number of personnel receiving early warning information via phone	52	60 maintained and equipped	60 maintained and equipped
	7.3.4. Improve risk management tools (as household insurance) and support mitigation and	Risk management tools improved.	Number of mitigation measures instituted against hazardous weather or	5	10	10

	adaptation actions at central and decentralized levels		climate from early warning alerts Proportion of farmer groups covered by social protection	 5%	 15%	 25%
	7.3.5. Implement social safety nets in emergencies for affected agricultural communities (including conditional and non-conditional cash transfers during seasonal vulnerability)	Social safety nets in emergencies provided	Number of farming households provided with Input: Cash transfer	 100 78	 400 228	 600 378
7.4. Capacities of the vulnerable populations built in order to have access to diversified income generation opportunities	7.4.0. Provide business development services, vocational training (+basic literacy and numeracy) to affected communities	Capacity of affected communities developed via vocational training	% of affected communities trained Number engaged in new job opportunities in agriculture value chains	0% of (750,000) 10,000	15% 50,000	25% 100,000
	7.4.1. Provide value-chain oriented start up kits to affected communities, for both women and men, as they are often involved in different value chains	Affected communities provided with start-up	% of farmers provided with start-up and operational	0% of (750,000)	15%	25%
	7.4.2. Promote integrated farming systems	Integrated farming systems promoted to guard against risk total agri-enterprise/income failure	Number of farm families undertaking integrated farming system involving crop/forestry and farm animal/aquaculture production	25% (of 750,000)	50%	75%

COMPONENT 8: Programme Implementation & Management (US$)						
Specific Objective 8: Assemble the requisite human and material resources for effective programming, coordination, implementation and monitoring of the NAT 2025						
8.1. Human and material resources for project implementation and management	8.1.0. Establish PIU and engage technical and fiduciary project management staff	PIU established and staff recruited	Number of staff recruited and at post Project Manager: Deputy Project Manager: Financial Management Specialist: Account Clerks Procurement Specialist: M&E Specialist Administrative Manager Office Assistants Drivers Security	At Post 1 1 1 5 1 5 1 3 8 1 (Firm)	Maintained 1 1 1 5 1 5 1 3 8 1 (Firm)	Maintained 1 1 1 5 1 5 1 3 8 1 (Firm)
	8.1.1. Provide logistical support	Logistical support (Office space, furniture, vehicles, computers/printing and accessories, stationary etc), provided	Lump sum	Lump	Lump	Lump

Appendix 3. Recent Production and Productivity of Key Agricultural Products

Crop	Rice	Sweet Potato	Cassava	Maize	Sorghum	Sesame	Cacao	Coffee	Oil Palm	Cashew	Pepper	Groundnut
Year	**Area (ha)**											
2014	712,498	19,565	180,493	9,904	63,714	17,501	110,138	51,238	86,265	3,822	23,374	37,759
2015	864,574	21,040	201,621	10,766	70,115	18,837	117,550	55,985	119,614	4,174	25,739	50,889
2016	936,774	16,559	195,824	5,625	75,547	20,275	133,314	64,854	648,570	4,682	12,133	85,908
2017	983,613	20,525	215,407	6,188	83,102	22,303	139,980	68,097	680,999	4,916	13,346	94,499
Year	**Productivity (mt/ha)**											
2014	1.15	7.10	12.84	2.10	0.65	0.30	0.40	1.70	7.50	0.36	0.26	0.61
2015	1.15	7.30	12.67	2.10	0.65	0.30	0.27	1.71	7.50	0.08	0.26	0.50
2016	1.24	9.08	15.70	2.23	0.65	0.31	0.43	1.71	7.50	0.34	0.96	0.77
2017	1.30	9.53	16.47	2.24	0.68	0.32	0.45	1.80	7.88	0.36	1.01	0.81
Year	**Production (mt)**											
2014	816,503	138,27	2,316,811	20,812	41,414	5,250	44,055	87,105	646,988	1,376	6,077	22,882
2015	995,360	153,298	2,557,588	22,619	45,554	5,775	48,461	95,816	897,103	1,514	6,686	25,169
2016	1,160,646	150,312	3,073,121	12,554	49,106	6,215	56,836	115,482	4,864,275	1,605	12,841	66,083
2017	1,279,612	195,600	3,547,746	14,479	56,509	6,852	57, 672	122,328	5,362,863	1,769	13,480	76,544

Source: PEMSD/MAF Annual Yield Studies for Food Crops

Appendix 4. Distribution of Livestock Production (Number of heads) by Districts (2015)

No	District	Cattle	%	Sheep	%	Goats	%	Pigs	%	Chicken	%	Ducks	%
1	Bo	15,376	6.3	35,872	3.7	100,781	6.4	10,208	8.2	932,509	6.3	81,650	7.1
2	Bombali	26,681	10.9	51,444	5.3	117,366	7.5	2,705	2.2	919,064	6.2	79,168	6.9
3	Bonthe	3,166	1.3	14,350	1.5	33,728	2.2	5,462	4.4	585,364	4.0	20,745	1.8
4	Kailahun	12,936	5.3	106,075	11.0	173,860	11.1	10,350	8.3	903,470	6.1	154,714	13.5
5	Kambia	27,377	11.1	172,691	17.9	192,172	12.3	2,931	2.3	703,470	4.8	94,243	8.2
6	Kenema	3,081	1.3	46,218	4.8	55,458	3.5	4,033	3.2	789,313	5.4	129,402	11.3
7	Koinadugu	61,561	25.1	101,806	10.6	142,940	9.1	5,612	4.5	862,146	5.9	72,371	6.3
8	Kono	51,785	21.1	83,195	8.6	170,211	10.9	4,471	3.6	813,872	5.5	81,498	7.1
9	Moyamba	8,999	3.7	37,120	3.9	104,800	6.7	13,190	10.5	763,032	5.2	83,990	7.3
10	Port Loko	17,021	6.9	163,578	17.0	205,356	13.1	9,758	7.8	960,297	6.5	88,200	7.7
11	Pujehun	3,631	1.5	22,824	2.4	22,046	1.4	5,236	4.2	392,415	2.7	52,132	4.6
12	Tonkolili	13,467	5.5	117,352	12.2	205,856	13.1	11,837	9.5	886,996	6.0	105,333	9.2
13	W/Area	655	0.3	10,476	1.1	43,215	2.8	39,271	31.4	5,209,770	35.4	100,179	8.8
	National	**245,736**	**100**	**963,001**	**100**	**1,567,789**	**100**	**125,064**	**100**	**14,721,718**	**100**	**1,143,625**	**100**

Source: PEMSD/MAF

Appendix 5. Production (Number of heads) of Key Livestock

Livestock	Cattle	Sheep	Goat	Pigs	Chicken	Ducks
Year						
2011	568,700	750,200	883,300	52,100	10,406,000	882,768
2012	625,570	825,220	971,630	57,310	11,446,800	971,044
2013	688,127	907,742	1,068,793	63,041	12,591,260	1.068,147
2014	241,153	945,047	1,538,557	122,925	12,781,575	1,122,301
2015	245,736	963,001	1,567,789	125,064	14,721,718	1,143,625
Source: PEMSD/MAF						

Appendix 6. Trend in Rice Production and Productivity, 2001-2017

Year	Area (Ha)	Productivity (Mt/Ha)	Production (Mt)
2001	258,850	1.20	310,620
2002	343,142	1.23	422,065
2003	356,506	1.25	445,633
2004	426,772	1.27	542,000
2005	427,907	1.29	552,000
2006	422,556	1.33	562,000
2007	432,356	1.36	588,004
2008	475,592	1.43	680,097
2009	499,111	1.78	888,417
2010	549,022	1.87	1,026,671
2011	603,924	1.87	1,129,338
2012	717,872	1.59	1,141,417
2013	671,422	1.87	1,255,559
2014	712,498	1.15	816,503
2015	864,574	1.15	995,360
2016	936,774	1.24	1,160,646
2017	983,613	1.30	1,279,612

Source: PEMSD.

Appendix 7. Trend in Cacao Production and Productivity, 2001-2017

Year	Area (Ha)	Productivity (Mt/Ha)	Production (Mt)
2001	30,333	0.36	10,920
2002	35,135	0.37	13,000
2003	42,105	0.38	16,000
2004	49,762	0.42	20,900
2005	57,226	0.42	24,035
2006	73,576	0.42	30,902
2007	84,578	0.42	35,523
2008	97,265	0.42	40,851
2009	106,992	0.87	93,083
2010	117,691	0.91	107,099
2011	123,576	0.91	112,450
2012	129,755	0.96	123,981
2013	136,243	1.01	137,333
2014	110,138	0.40	44,055
2015	117,550	0.27	48,461
2016	133,314	0.43	57,672
2017	139,980	0.45	63,583

Source: PEMSD.