LIBERIAN AGRICULTURAL SECTOR INVESTMENT PLAN
(LASIP II)
(2018-2022)

By:

MINISTRY OF AGRICULTURE (MOA)
MONROVIA, LIBERIA

JANUARY 2018

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ACRONYM AND ABBREVIATIONS

ACC	Agricultural Coordination Committee
ADWG	Agriculture Donor Working Group
AfDB	African Development Bank
AJSR	Agricultural Joint Sector Reviews
ASRP	Agriculture Sector Rehabilitation Project
AU	African Union
BNF	Bureau of National Fisheries
CAADP	Comprehensive Africa Agriculture Development Program
CAC	County Agricultural Coordinators
CARI	Central Agricultural Research Institute
CBL	Central Bank of Liberia
CBO	Community Based Organization
CDA	Cooperative Development Agency
CIF	Climate Investment Fund
CSOs	Community-Based Organizations
DPs	Development Projects
ECOWAP	ECOWAS Agricultural Policy
ECOWAS	Economic Community of West African States
EU	European Union
FAPS	Food and Agriculture Policy and Strategy
FBOs	Famer Based Organizations
FNSIEWS	Food and Nutrition Security Information and Early Warning System
GDP	Gross Domestic Production
HIES	Household Income and Expenditure Survey
IMF	International Monetary Fund
LASIP	Liberia Agricultural Sector Investment Plan
LATA	Liberia Agricultural Transformation Agenda
LISGIS	Liberia Institute for Statistics and Geo-Information Services
LPC	LASIP II Program Coordinator
LRA	Liberia Revenue Authority
M&E	Monitoring and Evaluation
MACs	Ministries, Agencies, and Commissions
MDGs	Millennium Development Goals
MOA	Ministry of Agriculture
MOCI	Ministry of Commerce and Industry
MOE	Ministry of Education
MOFA	Ministry of Foreign Affairs
MOFDP	Ministry of Finance and Development Planning
MOH	Ministry of Health
MRU	Minor River Union

MSMEs	Micro Small and Medium-Scale Enterprises
NGO	Non-Governmental Organization
NIC	National Investment Commission
NSA	Non-State Actors
PM	Program Manager
PrM	Project Manager
PMU	Project Management Unit
REDD	Reducing Emissions from Deforestation and Degradation
SDGs	Sustainable Development Goals
SIDA	Swedish International Development Agency
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WARFP	West Africa Regional Fisheries Project
WFP	World Food Program

CURRENCY EQUIVALENTS
January 2018

Currency = Liberian Dollar (LRD)
US$ 1 = LRD 125.10
Euro € 1.00 = LRD 147.38
British Pound £ = LRD 167.18
(Source: www.oanda.com as at 19/01/2018)

WEIGHTS AND MEASURES
Metric System
1metric tonne = 2204 pounds (lbs)
1 kilogramme (kg) = 2.200 lbs
1 metre (m) = 3.28 feet (ft)
1 millimetre (mm) = 0.03937 inch (”)
1 kilometre (km) = 0.62 mile
1 hectare (ha) = 2.471 acres

GOVERNMENT FISCAL YEAR
July 1 - June 30

1. INTRODUCTION

1.1. Geographical and climatic features

The Republic of Liberia, with Monrovia as a capital city, is an independent West African country with a total surface area of 111,370 km^2, consisting of 96,320 km^2 of land and 15,049 km^2 of water. Stretching along 560 km of North Atlantic coastline on its southern boundary, Liberia is bordered on the west by Sierra Leone, the north by Guinea and the east by Côte d'Ivoire. Administratively, the country is divided into 15 counties, which are further divided into a total of 136 administrative districts.

The climate of Liberia is tropical and humid with relatively small variations between day and night and between seasons. There are three types of climate in the country: Monsoon climate, Tropical Savanna and equatorial climate (Bateman *et al.*, 2000). These types affect different Counties (Figure 1.1).

Figure 1.1: Map of Liberia showing the Counties

Temperatures never exceed 37ºC nor does it fall below 12ºC. Mean annual temperatures range between 18° C in the northern highlands to 27° C along the coast. The average humidity in the coastal belt is between 82 % during the wet season and around 76 % during the dry season. However, it is liable to drop to 30 % during the harmattan (dry, heavily dust-laden winds blow from the Sahara) that occurs from December to March.

There are two seasons, the wet season from May to October and the dry season from November to April, although this can be changed depending on the County. In general, the annual rainfall averages from 3,810 mm to 4,320 mm along the coast and decreases to about 1,778 mm in areas farthest inland. The greatest amount of rainfall (5,200 mm) occurs at Cape Mount and diminishes inland to about 1,800 mm on the central plateau.

There are sensitive differences in precipitation among Counties in the crop lands (Table 1. 1)[1]. The highest precipitation are found in the Equatorial climate, in a range from 1,300 to 1,600 mm, and the lowest in Bomi (871 mm) that present a Monsoon climate.

Table 1. 1: Estimate of annual average precipitation by County, on crop land from 1996-2012

County	Precipitation (mm)	Climate
Bomi	871	Monsoon Climate
Montserrado	907	
Grand Cape Mount	929	
Margibi	943	
Bong	964	
Gbarpolu	959	
Grand Bassa	1001	
Lofa	1086	
River Cess	1120	
Nimba	1009	Tropical Savanna / Monsoon Climate
Grand Gedeh	1247	Tropical Savanna / Monsoon Climate / Equatorial Climate
Sinoe	1361	Equatorial Climate
Grand Kru	1437	
Maryland	1504	
River Gee	1616	

Source: NOAA/FEWSNET, climate classification based on World Maps of Köppen-Geiger

1.2. Socio-demographic profile

Liberia's population is estimated at about 4.13 million for 2011 (43 persons/km^2), comprising 48% urban and 52% rural, and an average household size of 5.1 persons[2]. This urbanization trend is expected to continue to reach a 54% urban and 46% rural population by 2020 (Table 1. 2).

Notable ethnic groups include: Kpelle (20%), Bassa (16%), Dan (Gio) (8%), and Kru (Klau) (7%). Other twelve (12) ethnic groups constitute the remaining 49%[3]. English, the official language, is spoken by 20% of the population alongside at least 20 common indigenous languages. Christians are the majority (85.6%), followed by Muslims (12.2%), and the remaining 2.2% belong to other traditional faith/beliefs.

[1] Based on the data available from US National Oceanic and Atmospheric Administration (NOAA) / Famine Early Warning Systems Network (FEWS NET)

[2] LISGIS, Household income and expenditure survey, 2014

[3] ACAPS, 2015

Table 1. 2: Demographic Profile

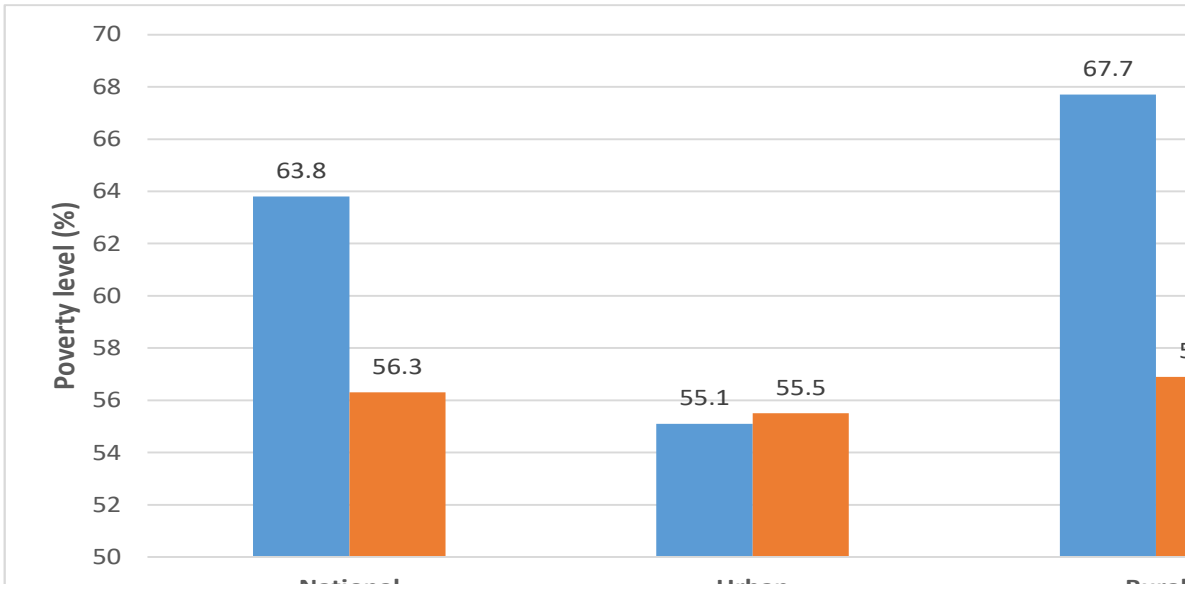
Year	1990	1995	2000	2005	2010	2011	2013	2020 (est.)
Total Population (x1000)	2,127	2,095	2,847	3,183	3,994	4,129	4,558	5,166
% Urban	41	43	44	46	48	48	52	54
% Rural	59	57	56	54	52	52	48	46

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects. The 2011 Revision, http://esa.un.org/undp

With an average life expectancy of 60.6 years, Liberia is below the global average of 71.5 years[4]. In 2013, the country was ranked nearly at the bottom (175th) out of 187 countries on the United Nations Development Program's (UNDP) Human Development Index.

Using data from the Core Welfare Indicator Questionnaire (CWIQ) for 2007 and 2010 (see Figure 1.2), poverty at the national level declined from 63.8% (2007) to 56.3% (2010). This improvement in poverty level could be attributed to a significant drop in rural poverty from 67.7% (2007) to 56.9% (2010) whilst urban poverty marginally increased within the same period.

Figure 1.2: Incidence of Poverty (2007 and 2010)



Source: Data from CWIQs for 2007 and 2010

LISGIS (2016), using the 2014 HIES estimated that about 54.1% of Liberians are poor, thus living below the national poverty line.

[4] UNDP, 2015

Table 1. 3: Population (%) living below the poverty line, 2014

Liberia	**Share of poor (%)**
	54.1
Area of residence	
Rural	70.0
Urban	43.3
Region County	
Montserrado	31.6
North Central	71.7
North Western	66.0
South Central	47.5
South Eastern A	51.1
South Eastern B	78.9

Source: LISGIS, 2016

Major challenges associated with population growth include destroyed infrastructure, power cut, weak health system, malnutrition, lack of clean drinking water, bad road conditions, and high levels of unemployment. As the population increases, there will be a high demand not only for the limited basic social services but also for the untapped natural resources.

1.3. Economic context

Liberia's Gross Domestic Product (GDP) per capita increased from about US$ 700 (US dollars) in 1960 to just above US$ 800 in 1970 and then dropped throughout the 1980s to its lowest level, less than US$ 100, during the civil war of the mid-1990s. The decrease from 1970 to 1990 reflected the downward shift in the global economy. From 1995 onward, Liberia's GDP started improving and was steadily increasing at high rates of 11 to 14 percent from 2007. This steady growth has been largely attributed to the growth in the mining and rubber industries which have been rehabilitated after the end of the second Liberian civil war (1999-2003). However, this overreliance on extractive industries presents important risks to growth, employment, fiscal revenues and stability.

The sharp drop in global commodity prices coupled with the outbreak of the Ebola Virus Disease in 2015 severely affected the Liberian economy which plummeted from 8.7% real GDP growth to 0.7% in 2014, 0.0% in 2015, and -0.5% in 2016. This negative growth rate in real GDP was attributed to major declines in all respective sectors of the economy, except the agricultural and fisheries sectors (CBL, 2016). The agricultural sector in 2014 experienced a slump in real annual GDP growth of -0.6% but grew by 1.1% in 2015 and projected to grow annually by at least 2.4% over the period (Table 1. 4). Likewise, the industrial sector shrunk by -22.4% in 2015 and was estimated to shrink by -26.2% in 2016.

Fiscal revenues stagnated and projected tax revenues did not meet non-discretionary expenditure obligations. As a fiscal measure, government increased tax rates, including the General Sales Tax rate from 7 to 10%, and cut spending by 11% (World Bank, 2016). Inflation remains in the single digit, declining from 9.8% in 2014 to 7.7% in 2015 and estimated to increase to 9.7% in 2017. These downward spiraling trends suggest weak macroeconomic fundamentals. The debt burden (% of GDP) worsened, increasing from 33.4% in 2014 to 42.2% in 2015, with a forecast of 50.4% in 2017.

Table 1. 4: Key macroeconomic indicators and outlook for Liberia, 2014-2019 (Annual percentage change)

2014		2015	2016 e	2017 f	2018 f	2019 f
Real GDP growth, at constant market prices	0.7	0.0	-0.5	3.2	5.2	5.7
Private Consumption	7.7	29.6	0.0	-0.5	3.2	5.2
Government Consumption	-10.0	-20.2	19.3	33.8	23.7	11.6
Gross Fixed Capital Investment	0.3	-1.8	-9.4	-11.8	-10.1	1.1
Exports, Goods and Services	1.4	-44.8	-3.5	-8.2	3.3	1.7
Imports, Goods and Services	6.4	5.5	-7.1	-15.1	-10.7	1.0
Real GDP growth, at constant factor prices	3.0	0.3	-0.6	3.1	5.2	5.7
Agriculture	-0.6	1.1	2.4	3.7	4.8	4.7
Industry	10.8	-22.4	-26.2	1.8	8.2	13.0
Services	4.9	9.1	3.6	2.6	5.1	5.3
Inflation (Consumer Price Index)	9.8	7.7	8.7	9.7	8.1	7.5
Current Account Balance (% of GDP)	-26.9	-32.2	-31.8	-26.1	-13.7	-10.4
Fiscal Balance (% of GDP)	-3.5	-9.9	-4.1	-8.1	-5.9	-4.4
Debt (% of GDP)	33.4	42.2	44.9	50.4	51.2	46.9
Primary Balance (% of GDP)	-3.2	-9.6	-3.7	-7.6	-5.3	-4.5
Poverty headcount ratio at national poverty lines (%) of population)[a,b,c]	54.1	55.6	57.6	56.9	55.3	53.2

Source: World Bank (2016).

Notes: e = estimate, f = forecast. (a) Calculations based on SSPOV harmonization, using 2014-HIES. (b) Projection using neutral distribution (2014) with pass-through = 0.7 based on GDP growth. (c) Actual data: 2014. Nowcast: 2015 - 2016. Forecast are from 2017 to 2019.

With some fiscal and monetary measures put in place, the economy is projected to grow at a rate of 3.2% in 2017 and 5.2% in 2018. The GDP growth rate is expected to recover over the medium-term to around 5.5% on average, partially due to improvements in services and agriculture (World Bank, 2016). The general economic outlook for the medium-term suggests a very slow recovery.

The GDP per capita in 2013, adjusted for the Purchasing Power Parity was low at US$878 as compared to about US$2,000 average for the Sub-Saharan Africa, making Liberia one of the poorest countries in the world.

1.4. Infrastructure overview

1.4.1. Transport network

Infrastructure in Liberia has improved over the last five years, but more needs to be done[5]. Two major road corridors, the North-South highway from Monrovia to Ganta, Nimba via Kakata and the West-East highway from the Sierra Leone border at Bo Waterside to Buchanan have been completed.

Out of the 10,600 km of road network available, only 657 km (6.2%) are paved. It must also be noted that the majority of roads in the country, especially in rural areas, are inaccessible in the rainy season.

Railways network is very limited in Liberia as only 429 km stretch of railways has been provided as an alternative and effective means of transport. Interestingly, the only two separate railway systems are being operated by private mining companies, 2 lines from Monrovia and the other one from Buchanan (LCA, 2014).

There are two international airports, namely, Roberts International Airport (RIA) which is 50 km drive away from Monrovia and James Spriggs Payne which is in town. In addition to these two, there are 27 unpaved airstrips. There are four seaports, one each located in Monrovia, Greenville, Buchanan, and Harper.

1.4.2. Energy

Access to electrical energy, a major catalyst for development, is very much limited in Liberia. Only 4.1% of Liberians had access to electricity in 2010: 7.5% access in urban areas and 1% access in rural areas (World Bank, 2011). With respect to mobile phone connectivity, there are two major players in this industry, with connectivity in all counties but limited coverage in remote areas.

1.4.3. Telecommunications

With respect to mobile phone connectivity, there are two major players (Lonestar Cell Inc. and Orange Liberia Inc.) in this industry, with connectivity in all counties but limited coverage in remote areas.

[5] In 2013, a report by the Millennium Challenge Corporation named roads as the primary binding constraint to growth in Liberia, stating the following, “the destruction of infrastructure [has] resulted in widespread market failures as reflected in high transportation and transaction costs, and low competition of the value chains.”

1.5. Foundations of LASIP II

This second generation of LASIP reconfirms the commitment of Liberia to substantially transform its agricultural sector in accordance with the global, continental, regional and national agricultural development agendas. As an instrument of change to transform the agricultural landscape of Liberia, this agricultural investment plan constitutes an avenue for effective planning, collaboration and coordination with partner Ministries to achieve LASIP II goals. A twin-track approach is adopted to ensure that mainstream/targeted investments are inclusive and do not discriminate against the specific needs of vulnerable and disadvantaged groups.

1.5.1. Global framework

The Sustainable Development Goals (SDGs) were adopted in 2016 to consolidate the gains made in achieving the Millennium Development Goals, integrate global environmental challenges, such as climate change and natural disasters, food, nutrition, and water insecurities, and promote sustained, inclusive economic and agricultural growth. Member States, including Liberia, have committed to the achievement of 17 SDGs with 169 targets, including the eradication of extreme poverty (SDG 1), ending hunger (zero hunger) (SDG 2),and equality in gender (SDG 5).

1.5.2. Continental framework

Spearheaded by the African Union and the New Partnership for African Development (NEPAD), the Comprehensive Africa Agricultural Development Program (CAADP) was adopted in Maputo, Mozambique in 2003 and re-affirmed ten years later in Malabo, Equatorial Guinea in 2014. The CAADP highlights that the agricultural sector accounts for about 60% of the total labor force of the continent and is the backbone of most African economies. Yet, Africa has been a net food importer since the 1980s. To address this "crisis", the CAADP recommends that agriculture-led development is pursued, arguing that it is "fundamental to cutting hunger, reducing poverty, generating economic growth, reducing the burden of food imports and opening the way to an expansion

Some key features of Malabo Declaration, 2014

African countries vow to:

- Allocate at least 10% of public expenditure to agriculture
- Support systems for facilitation of private investment in agriculture, agri-business and agro-industries
- Give priority to local investors
- At least double current agricultural productivity levels by 2025
- Support systems to facilitate access to quality inputs, water management, mechanization and energy supplies
- Integrate social protection initiatives focusing on vulnerable social groups
- Strengthen strategic food and cash reserves
- Encourage consumption of locally produced food items
- Sustain agricultural GDP growth of at least 6%
- Create job opportunities for at least 30% of youth in agricultural value chains
- Support preferential participation for women and youth in agri-business
- Triple intra-African trade in agricultural commodities and services by 2025
- Mainstream resilience and risk management in policies, strategies and investment plans
- Conduct a biennial agricultural review process that involves tracking, monitoring and reporting on progress

of exports."[6] Emphasizing that "more than any other sector, agriculture can uplift people on a mass scale"[7], the CAADP emphasizes that "agriculture will provide the engine for growth"[8] for Africa.

1.5.3. Regional framework

In 2004, the Economic Community of West African States Agricultural Policy (ECOWAP) was adopted. Even though the majority of the regional population's food needs are met by regional produce, agriculture in the region remains characterised by low productivity and is plagued by major environmental constraints. The potential to upscale agricultural production in the region is considerable with huge expanses of available cultivable land, a large workforce and a growing urban population. The policy aims at developing a modern and sustainable agriculture based on effective and efficient family farms and the promotion of agricultural enterprises through the involvement of the private sector. Once productivity and competitiveness on the intra-community and international markets are achieved, the policy should be able to guarantee food security and secure decent incomes for agricultural workers.

The strategy of ECOWAP to transform agriculture is rooted in three main policy thrusts:

1. Increasing productivity and competitiveness of West African agriculture;
2. The implementation of an intra-community trade regime;
3. Adaptation of the external trade regime.

The adoption of ECOWAP brought up the issue of how well this regional agricultural policy integrates with CAADP/NEPAD's agricultural Programs. To ensure harmonization of Programs amidst scarcity of institutional, human, and financial resources, ECOWAS in July 2005 drew up a regional action plan that will jointly implement ECOWAP and CAADP: the Regional Agricultural Investment Program (RAIP). Thus, the Regional Agricultural Investment Program (RAIP) is developed to provide a common agricultural development framework for all Member States whilst the National Agricultural Investment Plans (NAIPs) are developed by each Member State to reflect their agricultural sector development and investment priorities that will ensure resilient economies and production systems. The RAIP thrives on four specific objectives:

1. Contribute to increasing agro-forestry-pastoral and fisheries productivity and production through diversified and sustainable production systems, and to reducing post-production losses;

2. Promote contractual, inclusive and competitive agricultural and food value chains oriented towards regional and international demand, with a view to the regional market integration;

[6] African Union (2003, p .7)
[7] African Union (2003, p .7)
[8] African Union (2003)

3. Improve access to food, nutrition and resilience for the vulnerable populations;

4. Improve business environment, governance and funding mechanisms of the agricultural and food sector.

Thus, ECOWAP implementation is premised on the development of these two investment plans. The NAIPs in general target the agriculture, livestock, fisheries, and forestry sectors. The first generation of the NAIPs was developed by each ECOWAS Member State with a 5 year period of implementation. The Liberia Agricultural Sector Investment Plan (LASIP I) was developed and implemented for the period 2010-2015 with national targets set and also ensuring that the global MDG targets are also achieved.

1.5.4. National policies

At the national level and soon after the return to democratic governance in 2005, some policies, Programs, strategies, and investment plans have been implemented to achieve various policy objectives and targets. National reconciliation, peace and security were the immediate objectives for post-civil war Liberia. Thereafter, the need to develop the economy and ensure agricultural and economic growth and development for the Liberian people was paramount, in addition to the development priorities of alleviating poverty, increasing food and nutrition security at the local and national levels, as well as employment and wealth creation, amongst others.

Some of the major development and policy directions of the Government of Liberia are reflected in the following documents prepared and implemented over the period (Table 1. 5):

Table 1. 5: Major Policy and Strategy Documents Developed and Implemented by the GOL

No.	Name of Document	Year Prepared
1	Statement of Policy Intent for Agriculture	2006
2	Comprehensive Assessment of the Agriculture Sector in Liberia (CAAS-Lib)	2007
3	Liberia Poverty Reduction Strategy	2007
4	Food Security and Nutrition Strategy (FSNS)	2008
5	Food and Agriculture Policy and Strategy (FAPS)	2008
6	Liberia Agriculture Sector Investment Plan (LASIP I)(2010-2015)	2010
7	Strategy for Mainstreaming Gender Issues in Agricultural Programs and Projects	2010
8	A Nutrition Country Paper-Liberia	2011
9	Agenda for Transformation (AfT) (2012-2017)	2013
10	Fisheries and Aquaculture Policy and Strategy, Bureau of National Fisheries	2014
11	Food Security and Nutrition Strategy (FSNS) (Revised)	2015

12	Liberia Agriculture Transformation Agenda (LATA)	2016
	Documents mainly from the health sector	
13	National Nutrition Policy (NNP, 2009)	2009
14	Nutrition Country Paper-Liberia	2011
15	Water, Sanitation and Hygiene Sector Strategic Plan (WSHSSP, 2011-17)	2011
16	National Health and Social Welfare Policy and Plan (NHSWPP, 2011-2021)	2011
17	Essential Package of Health Services (EPHS, 2013)	2013
18	Essential Package of Social Services (EPSS, 2014 draft)	2014
19	Environmental Health annual work plans.	
20	Strategy for Gender Mainstreaming in the agricultural sector	

These policies, strategies and plans are geared towards contributing to the elimination of hunger and malnutrition, improving food and nutrition security, reducing poverty, and improving the livelihoods and incomes of Liberians. Some implementation progress has been achieved, but a lot remains to be done to tackle poverty and provide better quality of life to Liberians.

1.6. The LASIP II formulation process

The development and formulation of LASIP II plan went through several phases of stakeholder engagements to ensure full participation in the formulation process. The stages through which the investment plan design process went through are highlighted below.

Request for technical support

Recognising the need for a well-developed LASIP for the second generation of National Agricultural Food and Nutrition Security Investment Plan (NAFNSIP), the Liberian Ministry of Agriculture (MOA) requested for technical support in the review of the LASIP I implementation and in the formulation of LASIP II. As a technical partner to the Ministry of Agriculture, the Food and Agriculture Organization (FAO) in Liberia supported a review of the outcome of the implementation of LASIP I. FAO and ECOWAS also supported the process of developing and formulating LASIP II, the second generation of investment plans for the agricultural sector in Africa Union (AU) Member States.

Initial thematic areas/components for LASIP II

With LASIP I components serving as the reference point, initial discussions were held within the Ministry of Agriculture, other stakeholders, and FAO to identify the main thematic areas that will drive LASIP II agenda. Through these stakeholder engagements, the MOA initially approved five (5) broad thematic areas/components for LASIP II. These components were Food and Nutrition Security; Competitive Value Chain Development and Market Linkages; Agricultural

Research and Development; Sustainable Natural Resource Management; and Institutional Strengthening. Stakeholders were identified for each component for further discussions.

Scheduling stakeholder consultations

Several meetings were held among key MOA staff members and that of FAO Liberia who are directly involved with the LASIP II formulation process. The aim of such internal consultations was to identify wide range of relevant stakeholders to contribute to the entire process. Groups of stakeholders were then identified for each of the five components and consultations held for further clarity on the theme. The purpose of these stakeholder engagements were severalfold: provide information on the CAADP agenda, process, and responsibilities of each Member State; comprehensively discuss the findings of the LASIP I review; introduce the identified LASIP II components and sub-components to stakeholders for their review and inputs; and for stakeholders to suggest areas to incorporate into this LASIP II.

In addition to the internal consultations held, major stakeholder engagements were held along thematic areas (Table 1.6). Whereas government and donors are key players, the Non-State Actors (NSA's) are a major strategic stakeholder group identified in this policy formulation process to make huge economic and social impacts.

Table 1. 6: Schedule of Consultative Stakeholder Meetings, 2017

No.	Date	Stakeholder group	Venue
1	22nd June	Food and Nutrition Security Technical Committee	FAO
2	26th June	Consultative Meeting with members of the Ministry of Agriculture (MOA)	MOA
3	27th June	Research and Development	MOA
4	28th June	Competitive Value Chain Development and Market Linkages	MOA
5	29th June	Sustainable Natural Resource Management	FAO
6	5th July	Non-State Actors (NSA's)	Sharks Hotel
7	6-7th July	Stakeholder Workshop	The Cape Hotel
8	11th July	Donor Roundtable Discussions	Boulevard Palace Hotel
9	28-31st August	Review of LASIP II draft document	Farmers Paradise Resort (Wulki Farms)
10	11th-15th December	Technical Working group	Development Education Network Liberia (DEN-L)

The need for a donor roundtable meeting with technical and development partners was relevant for the following reasons:

- Provide an update on the progress made in the LASIP II formulation process;
- Gather views and concerns regarding priority areas for development;

- Get assurances from the Government of Liberia and the development partners regarding their political will and financial commitments in fully supporting the current policy formulation process and the implementation phase.
- Have a common understanding on how to effectively collaborate during the period of LASIP II implementation.

Financial resources for the development of the agricultural sector investment plan will be mobilized from both domestic and external sources. Through high-level consultations, the GoL through the Ministry of Finance and Development Planning (MFDP), indicated their full commitment to the CAADP process and Malabo Principles to provide the needed financial and technical resources to accelerate agricultural development in Liberia. On the part of the international Development Partners, they reconfirmed their commitment to supporting the priority Programs of the government.

2. THE ASSESSMENT OF THE FIRST GENERATION NAIP

A review of the implementation and performance of LASIP I has been done. The findings of the review have been discussed in multi-stakeholders consultative meetings organized in the perspective of the development of the LASIP II. This section benefits from the review findings of the LASIP I and briefly presents key issues regarding funding, performance and the effective management. Its benefit also from the report of the Food and Nutrition Security Impact, Resilience, Sustainability and Transformation (FIRST).

2.1. Performance of LASIP I

2.1.1. Performance of sub-sectors (external effectiveness of the NAIP)

2.1.1.1. Agricultural production and productivity

Crops:

Agricultural production in Liberia is generally characterized by non-competitive productions and productivities for all crops: 1.7 tons/ha (rice); 8 tons/ha (cassava); 0.2 tons/ha (cocoa); 0.8 tons/ha (natural rubber); and 2.5 tons/ha (crude palm oil). Only a little over 1% of irrigable land is developed. LASIP I indicated its focus will be on rice, cassava, and vegetable production. The review indicated that food crop production and productivity improved to some extent as documented in LASIP I project reports. For example, rice productivity for improved rice varieties (NL-19, WITTA-4, etc.) increased from 1.5 MT/ha to 3.5 MT/ha for 1,629 lowland rice farmers in the Southeast under the ASRP/AfDB Project (MOA, 2015); however, with the SAPEC project, rice yields increased from 1 MT/ha to 2.5 MT/ha (upland) and 1.5 MT/ha to 3.0 MT/ha (lowland); maize (ASRP project) increased from 1 t/ha in 2009 to 3 t/ha in 2015; cassava increased from 5 ton/ha in 2009 to 7 t/ha in 2015[9].

Meanwhile rice production in 2012 decreased by 2.4% compared to 2011 and this was attributable to increased importation of rice (MFDP, 2014). Cassava production, however, increased significantly, potentially due to the fact that cassava to some extent serves as a substitute for rice. Value is being added to raw cassava by the production of cassava flour, fufu, and different kinds of gari. What is not clear is whether these food crop productivity improvements have been sustained on farmer fields after the end of the projects. Some tree crop projects (STCRSP/WB for oil palm and STCRSP/IFAD for cocoa and coffee) resulted in increased production and productivity, although there is not any clearly established baseline data. Provided with improved seedlings and better agronomic practices, seven cooperatives increased yields: 965.96 MT/ha for cocoa and 62.22 MT/ha for coffee.

Despite these documented productivity increases, production still remains low during the period (2010-2015). For instance, due to domestic demand outstripping domestic production

[9] Liberia ASRP_PCR Aide Memoire_Feb 2017-FINAL

and supply, Liberia imported an average of 212,937 MT of rice worth US$128,985,159.85 on the average during the period 2010-2015. Serving as a conduit to disseminate agricultural technology to farmers, the nation has only 83 agricultural extension officers (MOA, 2016). The capacity of agricultural extension services still remains low (as evidenced in the agricultural extension agents to farmer ratio of 1:33,333 (i.e., an average of 1 extension agent expected to reach 33,333 farmers).

Fisheries

There is no readily available data on fisheries productivity. However, through the implementation of the West Africa Regional Fisheries Project (WARFP), illegal fishing activities were reduced from 83% to 30% and the Bureau of National Fisheries was able to generate nearly US$60,000.00 during the fiscal year 2014/2015. Fishermen also experienced increased fish catch and less frequent damages to their fishing gear.

Livestock

With the aim of supplying at least 50% of domestic meat demands during the implementation period, the overall performance of the livestock sub-sector was below expectation. All efforts towards this sub-sector failed mainly due to absence of technical expertise/knowledge in this field. For example, the first set of livestock distributed to farmers for piloting purposes under the ASRP project all died. Nevertheless, support from USAID FED and Land O'Lake brought some improvements in the sub-sector. The swine, small ruminants (i.e., sheep and goats) and beef cattle unit of CARI was reactivated through the stocking of about 5 sheep, 40 goats, 50 pigs, and 40 cattle, in addition to a quarantine facility for goats.

Forestry:

The forestry sector contributed about US$131.8 million to GDP in 2012, and about US$138.4 million in 2013, representing a 5% increase. After the resumption of logging activities in 2009, the GoL undertook the following initiatives:

- Granted 1,007,266 ha to Forest Management Concessionaires with plans to further issue another 2,270,097 ha;
- Issued timber sale contracts for 65,000 ha with plans to further issue another 230,000 ha;
- Granted 126,785 ha of Community Forest Management Agreements with plans to further grant another 194,102 ha, and
- Granted 2,239,630 ha of private use permits with plans to further grant another 2,239,630 ha.

In 2013, round logs export declined by 56% relative to 2012. This culminated in the increase of 64.1% of sawn timber in 2013 relative to 2012. Revenues from the forestry sector declined by

22% in 2011/12 (US$8.46 million) to US$6.6 million in 2012/13. According to Leiserson et al (2017), the USAID had estimated that as of 2013, more than 50% of Liberia's land had been officially granted to foreign investors. The Rights and Resources Initiative, an NGO put this estimate at 75% whilst civil society groups in Liberia lament that almost 10% of the country's land had been ceded to 3 agribusinesses, namely, Sime Darby, Golden Veroleum, and Equatorial Palm Oil.

2.1.1.2. Integration into markets

Very little was achieved in terms of linking farmers to markets. Domestically, there are difficulties for smallholder farmers accessing both input and output markets. Planned agribusiness models to link smallholder farmers to commercial enterprises by way of out-grower schemes did not materialize. A study by the Farmer Union Network of Liberia (FUNL) in 2017 revealed that local farmers have little or no access to domestic output and input markets, have no market information to enable them make informed decisions, and even have to commute about 6 hours to reach nearest markets.

2.1.1.3. Value chain development and market linkages

To enhance the development of the value chains, adequate and good road network is very paramount. With a target of 1,200 km of farm-to-market roads to be rehabilitated and/or expanded, 1,196.2 km of roads were actually rehabilitated and another 445.2 km maintained in various counties.

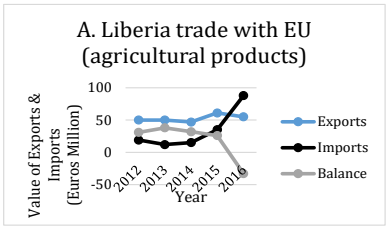
2.1.1.4. Access to financial services

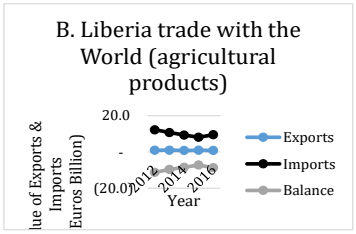
The target under LASIP I was to increase commercial bank's lending portfolio to the agricultural sector from 5% to 15%. Within the LASIP I implementation period, an average of 5.3% of commercial bank's lending went to the agricultural sector.

2.1.1.5. Agri-food trade balance

Liberia's agri-food trade balance with the rest of the world from 2012 to 2016 shows huge trade deficits, with imports of goods outstripping exports of goods in terms of value (Figure 2. 1), showing -2.4% average annual growth in imports as against -6% for exports. A focus on trade in agricultural products with the European Union (EU) depicts increasing trend in the value of imports over the period (2012-2016), averaging 46.7% growth whilst exports averaged 2.6% growth over same period. Thus, the agricultural import bill is consistently increasing, partly due to the inability of Liberians to produce enough to feed themselves.

Figure 2. 1: Trade in Liberia agricultural products 2012-2016





Source: Data from EC (2017)

2.1.1.6. Effective Management of LASIP I

Effective project coordination, monitoring and evaluation (M&E), supervision, and communication strategies are vital to project implementation success. The review indicated that there were good and clearly spelt out coordination mechanism but was not adhered to, probably due to ineffective leadership and/or the lack of capacity to do so. LASIP I was devoid of a centralised M&E system to oversee progress of projects being implemented alongside their supervision. Interestingly, individual projects implemented under LASIP I had very good inbuilt M&E components. Furthermore, there was an absence of a clear communication strategy to help disseminate relevant information among project implementers and to create awareness among stakeholders. In general, there was no proper management structure in place as required byLASIP I.

2.1.2. Contribution of agriculture to economic development

Agriculture in Liberia remains subsistence in nature, rainfall dependent, employing rudimentary technology, and characterized by non-competitive agricultural production and productivity. Nevertheless, agriculture still contributes immensely to the socioeconomic development of the economy through food security, employment, household income generation, government revenues, and social stability, amongst others.

Agriculture creates employment for about 70% of the population, especially for women and therefore serves as a major source of livelihoods for its citizens, the majority (54.1%) of whom lives below the poverty line (CIA Factbook, 2017). The sector comprises four broad sub-sectors: food crops, tree/plantation crops, livestock, and fisheries.

The CIA World Factbook (2017) projected the 2016 GDP contributions by the three main sectors as follows: Agriculture (35.4%), Industry (14.4%), and Services (50.2%). However, data from the Central Bank of Liberia (CBL, 2016) indicates that Agriculture and Fisheries sectors contributed

24.2% to GDP in 2014, 24.3% (2015), and projected to contribute 26% in 2016 and 26.2% in 2017 (Table 2. 1). The services sector is the highest contributor to GDP over the period.

Table 2. 1: Origin of Gross Domestic Product (GDP) (At 1992 Constant Prices) (In Millions of US$)

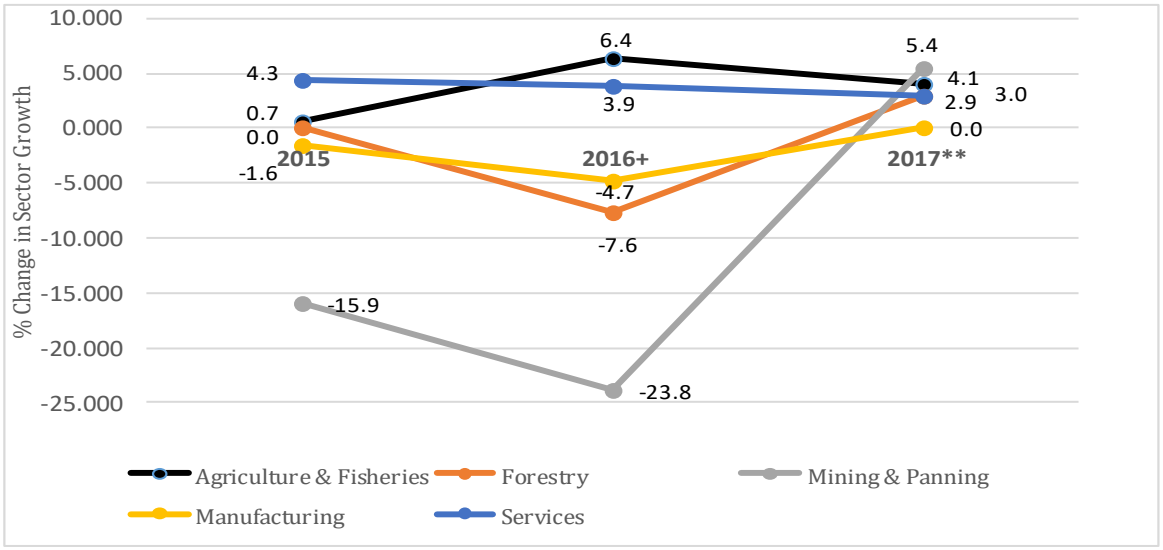
Sector	2014		2015		2016+		2017**	
	US$	%	US$	%	US$	%	US$	%
Agriculture & Fisheries	216.7	24.2	218.2	24.3	232.2	26.0	241.7	26.2
Forestry	92.9	10.4	94.8	10.6	87.6	9.8	90.2	9.8
Mining & Panning	123.1	13.7	103.5	11.5	78.9	8.8	83.2	9.0
Manufacturing	64.5	7.2	63.5	7.1	60.5	6.8	60.5	6.6
Services	399.2	44.5	416.4	46.5	432.8	48.5	445.3	48.4
Real Gross Domestic Product	**896.4**	**100.0**	**896.4**	**100.0**	**891.9**	**100.0**	**920.9**	**100.0**

*Source: CBL, 2016, ** Projection, + Revised/Actual*

In terms of annual growth of each sector,

Figure 2. 2 reveals that the annual growth in the agriculture and fisheries sectors increased from 0.7% in 2015 to 6.4% in 2016, followed by a projected decline to 4.1% in 2017.

Figure 2. 2: Annual Percentage Growth by Sector, 2015-2017



Source: Data from CBL, 2016

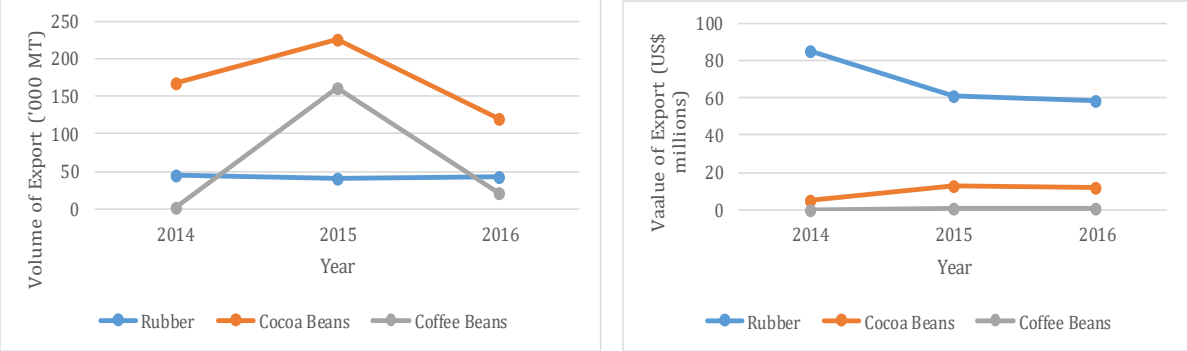
The forestry sector's contribution to GDP increased by 5% in 2013, growing from US$131.8 million in 2012 to about US$138.4 million in 2013. The fiscal year 2012/13, forestry specific revenues collected (excluding income taxes) generated US$6.6 million, a decline by 22% from the 2011/12 revenues of US$8.46 million, mainly attributable to lower revenues from export

taxes which can also be traced to the poor transport infrastructure. In view of challenges in the sector, amongst others, the sector experienced a slump from 0.0% in 2015 to -7.6% in 2016 and then projected to grow to 3% in 2017 (CBL, 2016).

Regarding contribution to export revenues, the tree/plantation crops sub-sector showcases the three major exportable commodities, namely, rubber, cocoa and coffee beans exports contributed about US$90.1 million in export value in 2014, representing 20.2% of total export value. In 2015, the combined export value of these commodities dropped to US$73.7 million but recorded an increase to 27.8% in export value. Agriculture in Liberia is therefore a major contributor to export revenue.

At commodity level, rubber is a high value commodity due to the low volumes exported and commands a very high export value compared to cocoa and coffee beans over the period, as shown in Figure 2. 3. For example, preliminary figures for 2016 indicate that 42,500 MT of rubber exported generated US$58.8 million in export revenue whilst cocoa beans generated US$11.9 million by exporting 119,500 MT of cocoa beans.

Figure 2. 3: Export volume and value of rubber, cocoa and coffee beans, 2014-2016



Sources: CBL, 2016;

2.2. Distribution and causes of food and nutrition security situation

While the data is to be updated, it was estimated in 2014 that about 640,000 people living in Liberia (16% of the population) are food insecure whilst 52,000 of them (2%) are severely food insecure (WFP, 2015). This situation of stunting and food insecurity per county basis is presented in **Error! Reference source not found.**.

There are more food secure people in Monrovia than in rural communities, thus making food insecurity mainly a rural phenomenon. As indicated in Table 2. 2, the most food insecure households are mostly found in Grand Kru (33%), River Gee (32%), Grand Cape Mount (30%), and Bomi (29%) counties. These food insecurity situations were attributed to difficulties in

physically accessing markets, the closure of borders and roadblocks during the Ebola epidemic. This shows that many households depend on markets for their food security.

Table 2. 2: Stunting and Food Insecurity by County (by prevalence of chronic malnutrition)

No.	County	Children <5 stunted (-2SD) (%)	Households with severe and moderate food insecurity (%)
1	River Gee	43	32
2	Grand Bassa	38	15
3	Nimba	37	10
4	River Cess	35	22
5	Bong	35	10
6	Bomi	33	29
7	Maryland	33	25
8	Sinoe	32	23
9	Grand Gedeh	31	15
10	Grand Kru	31	33
11	Margibi	31	28
12	Grand Cape Mount	29	30
13	Lofa	29	11
14	Montserrado	27	14
15	Gbarpolu	25	26
16	Monrovia	N/A	8

Sources: 2013 DHS for stunting and the Emergency Food Security Assessment prepared by WFP et al. 2015 for food insecurity and Murphy, et.al. (2016).

The country still lingers in food and nutrition insecurity and poverty. The Household Income and Expenditure Survey (HIES, 2014), indicates that about 49% of the population is food insecure while another 45% of the population are food poor (with 19% in extreme poverty), and expected to increase to 57.6% in 2016 due to protracted effects of the Ebola crisis and high prices of imported food and particularly rice, which constitutes 20% of total food purchases (World Bank, 2017). World Bank estimates suggest that the depth of food deficit (kcal/capita/day) is widening on a yearly basis and the number of undernourished people increased from 0.6 million (1999-2001) to 1.4 million in 2013-2015. Chronic malnutrition is high and about 32% of children are stunted.

The causes of food and nutrition insecurity situation are manifold:

- Low agricultural production resulting from weak and inappropriate technologies significantly contributes to food insecurity;
- Poverty and insecure livelihoods characteristic of rural people;

- Poor road networks and infrastructure that hinder farmers from accessing and integrating into local markets as well as limiting the purchase of agricultural inputs. This leads to poor market integration and subsequent high commodity prices especially in rural areas;
- Limited and difficult access to financial schemes hindering farmers to improve their agricultural capacities;
- Limited access to and control over natural resources especially land which is a constraint for agricultural production and productivity improvement;
- Weak coverage of social protection to protect and promote the livelihoods of poor people and build their capacity of resilience to crisis;
- Post-harvest losses contributing to the phenomenon where it is estimated that Liberian farmers annually lose about 50% of their production due to bad storage practices and processing facilities, pest and diseases, and humidity (WFP, 2015);
- Very low dietary diversity.
- Low educational, entrepreneurial and technical skills level preventing gainful employment in both public and private sectors;
- Poor Water, Sanitation and Hygiene (WASH) systems etc.

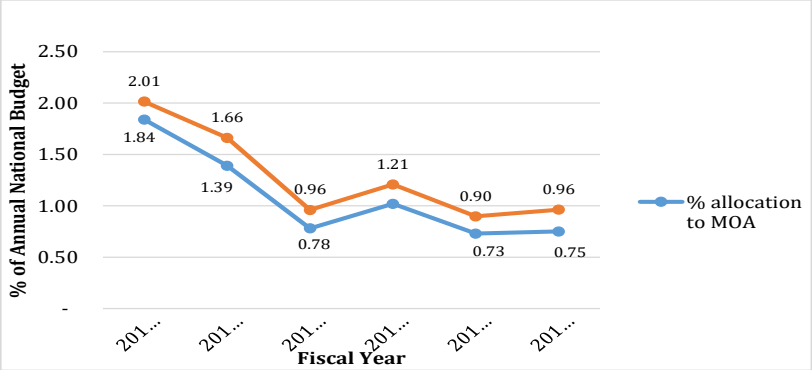
It must be mentioned that Liberia has the potential to leap from production level of 107.4 kg/capita/year (2011) to the 1979 pre-war production levels of 128.9 kg/capita/year (Murphy, *et al*., 2016).

2.3. Governance of the agricultural and food sector

2.3.1 Public efforts for agricultural development (to mobilize domestic and external resources)

An amount of US$947.7 million was budgeted to implement LASIP I Programs. However, only US$ 409.26 million was mobilized and allocated for the purpose, representing 43.18% of budgeted amount. Further disaggregation of the US$409.26 million mobilized revealed that US$175.4 million was directly utilized by MOA to implement some of the LASIP I Programs through its Program Management Unit (PMU) whilst the remaining US$233.86 million came from the implementation of 27 projects that were directly funded by development partners and implemented by NGOs and PMU/MOA. The inability to meet the funding gap of US$538.44 million could be attributed to the possible over-estimation of the actual costs of LASIP I investment projects. It could also be linked to the difficulty in mobilizing adequate funds by both the GoL and the donor community, given that the budgeted amount is right. For example, on average, about 1.39% of the annual government budget was released to the entire agricultural sector, of which 1.09% of that was allocated to only the MOA for the fiscal period between 2010/2011 and 2015/2016.

Figure 2. 4: Annual national budgetary allocation to the agricultural sector

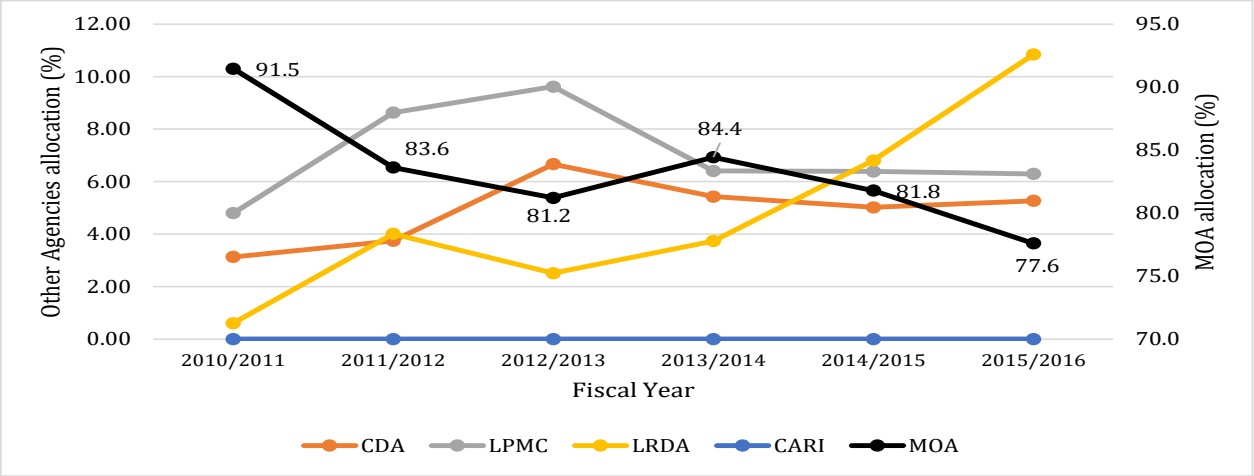


Source: Data from Kanneh (2017)

As indicated in Figure 2. 4, the trend in GoL's annual budgetary allocation to the agricultural sector and to the MOA has been declining over the years, with 0.75% and 0.96% of the allocation given to the MOA and the agricultural sector respectively in 2015/16 fiscal year. Further disaggregation indicates that the MOA received the bulk (at least 77%) of the budgetary allocation to the agricultural sector, although this shows a declining trend (Figure 2. 5). Worthy of note is the complete neglect of the Central Agriculture Research Institute (CARI) over the 2010/11-2015/16 fiscal year with no budgetary allocation to it. The other agencies are the Cooperative Development Agency (CDA), Liberia Produce Marketing Corporation (LPMC), and the Liberia Rubber Development Authority (LRDA).

Funding of LASIP I came from two major sources/partners: the GoL, and bilateral donors. Donors provided at least 90% of the funding through multilateral and bilateral means. Even though there was limited involvement of the private sector in the LASIP I implementation, there are 7 concession agreements with the GoL that injected more than US$2.6 billion into the Liberian economy through investments in oil palm, rubber, cocoa, and rice. As shown in Table 2. 3, about US$1.754 billion was invested by private sector on cash crops during LASIP I implementation. Only one private sector entity, the Liberia Agriculture and Assets Development Company (LAADCO), provided seed fund or working capital to food crop farmers in Lofa County and bought and exported produce from farmers and cooperatives in Lofa County under the STCRSP/IFAD project. The other investments were directed to tree and cash crops.

Figure 2. 5: Agricultural sector budgetary allocations



Source: Data from Kanneh (2017)

Table 2. 3: Private Sector Investments: 2007-2014

No	Concessionaire	Tenure (years)	Year signed	Location (County)	Budget (USD million)	Status
	During LASIP I (2010-2014)					
1	Liberia Cocoa Corporation	40	2014	Lofa	12	Ongoing
2	Cavalla Rubber Plantation Rehabilitation	50	2011	Maryland	78	Active
3	Maryland Oil Palm Plantation/Decoris	33	2011	Maryland	64	Active
4	Golden Veroleum/Southeast Plantation	65	2010	Sinoe/Grand Kru	1,600	Active
					1,754	
	Before LASIP I (2007-2009)					
5	Sime Darby Guthrie Plantation	63	2009	Bomi/Cape Mount/Gbarpolu	800	Active
6	Equatorial Oil Palm	43	2008	Grand Bassa	100	Active
7	ADA/LAP Commercial	N/A	2007	Lofa	30	Inactive
					930	
Total					**2,684**	

Source: Adapted from Amara Kanneh (2017) from National Investment Commission, Republic of Liberia, 2017

2.3.2. State and functionality of governance systems of the agricultural, food and nutrition policy

In 2010, the PMU was set up to oversee the implementation, coordination, monitoring, and evaluation of various donor-funded agriculture projects in the MOA within the framework of the LASIP.

At partner level, an Agriculture Donor Working Group (ADWG) is set up to discuss the issues of this sector. This platform is led by the Minister of Agriculture. During the Ebola crisis, a food and

nutrition cluster existed, but is no longer working. The cluster is now replaced with a Food and Nutrition Technical Committee (FNTC) in which the coordination of the food security has to be discussed. After a long period of non-functionality, the FNTC is being reactivated.

Despite the efforts of creating the PMU, it is noted that there are various impediments: a weak coordination mechanism between Government ministries/agencies and donor funded projects for LASIP I implementation, a limited participation of farmers, civil society organizations and the private sector in the LASIP I implementation process and limited human resource capacity to drive the CAADP/LASIP process and a non-existence of an M&E system to track CAADP/LASIP indicators. The implication is a lack of tracking funding commitments and gaps of LASIP I implementation from public and private sectors and donors/partners. There is no reliable data on the actual commitments made so far and the donor funding gaps. The ADWG could play an important role in the implementation monitoring of the Investment Plan in terms of funding tracking and gaps.

Liberia has many policies and strategies in the agriculture sector that makes it necessary to have an overall multi-dimensional approach and a coordination of agriculture that include fisheries, livestock, forest and natural resources. LASIP II could be the platform that will create inter-ministerial coordination in the agriculture sector.

3. STRATEGIC DIRECTION FOR THE AGRICULTURAL SECTOR BY 2025

3.1. Vision for the Agricultural Sector (2017-2025)

The GoL, being guided by CAADP commitments, the SDGs, and ECOWAP vision for its agricultural sector, has commitments to achieve an aggressive agricultural transformation agenda. To build on the success and lessons learnt from LASIP I: 2010-2015 implementation, the current strategic long-term vision for the agricultural sector is generally *to promote an inclusive and sustainable agricultural transformation through catalytic investment in agricultural value chains and industrialization and resilience to ensure food and nutrition security, environmental health, job and wealth creation and inclusive growth for Liberians.*

3.2. Challenges to agricultural transformation and food security

Transforming the Liberian agricultural landscape is an arduous task when viewed in respect of the challenges that the business and policy environment presents. The challenges can be summarized under the following major underlying factors that are inimical to the growth and development of this sector:

- **Weak private sector and entrepreneurial skills**: LASIP II implementation is expected to be led and driven by private sector participation through Micro, Small and Medium-

Scale Enterprises (MSMEs). According to AfDB et al. (2017), data from the Liberian Business Registry for 2014 classifies Liberian registered businesses as follows: 48% micro, 40% small (employing 4-20 people), 8% medium-sized, and only 4% large enterprises. Moreover, more than 50% of these businesses are focused on construction services and food and beverages. Furthermore, only 28% of these businesses have operated for less than 2 years whilst 27% have managed their businesses for over 6 years. These provide evidence on the little entrepreneurial capabilities of Liberians, suggesting a weak private sector that is expected to lead the agricultural transformation agenda.

The IMF (2016) described the investment climate of Liberia as weak, ranking 179th out of 189 countries in the World Bank's 2016 Ease of Doing Business Rating. Again, the country's entrepreneurship capacity has also been identified as weak, ranking 121st out of 137 countries based on the 2017 Global Enterprise Index (AfDB, et al., 2017). LISGIS (2016), also notes that the informal sector businesses dominate, with about 81% of Liberians engaged in informal employment, of which approximately 50% of households in urban areas engage in farm businesses. These metrics, although challenging, should rather be seen as opportunities to transform the economy into a business hub within the sub-region.

- **High subsistence and inefficient production systems**: Due to the influx of imported agricultural commodities at lower prices, subsistence farmers must be efficient producers in order to remain competitive domestically and on the international markets. Moreover, the shift from subsistence agriculture to demand-driven market oriented production need to be pursued to take advantage of increasing population, urbanisation, and increasing tastes and preferences for high quality commodities globally and from the ECOWAS community.

- **Weak policy and business environment:**
  Inappropriate policy and business environment for active private sector participation in the agriculture and economic development agenda;
  Lack of incentives for private sector actors to provide decent jobs, create wealth, and for Liberia to experience an accelerated and inclusive growth and transformation for shared prosperity and improved livelihoods.

- **Human resource challenges**

Lack of effective coordination, monitoring, evaluation, and supervision of implemented projects, including lack of qualitative and quantitative metrics enabling informed decision;

Weak technical, institutional, and human resource capacities to implement Programs and projects, whether in the public or the private sectors, which translate into poor strategic capabilities, coordination, supervision and management, monitoring and evaluation, communication and marketing.

- **Inadequate infrastructure**
  Despite of some efforts especially roads building and maintenance, there is still major gap for supporting the development of agribusinesses in terms of energy/electricity, ICT/communication, water, storage facilities and farm-to-market roads.

- **Inadequate agricultural funding**
  Inadequate financial support for agriculture, including highly insufficient government commitment towards agriculture and the lack of technical knowledge about agriculture and agribusiness by formal and informal financial institutions;

- **Subsistence farming**
  The sector is largely dominated by subsistence agricultural production which is practiced by resource-poor farm families who remain vulnerable to the vagaries of the weather and climate variabilities;

- **Natural resources management**
  The poor management and improper utilization of natural resources are major impediments to agriculture development; and

- **Very low agricultural research and development**
  Inadequate and lack of dissemination of agricultural research results and development/technologies to enhance farmers' capacity for agricultural productivity and production.

This agricultural investment plan recognizes the need to eliminate these economic realities or bottlenecks and get agriculture moving in Liberia through the transformational agenda. Various studies[10] conducted in recent years indicate that Liberia has a comparative advantage in the

[10] Reference: National Export Strategy by the Ministry of Commerce and industry and the International Trade Centre (2014); the Ministry of Planning and USAID Liberia Growth Corridors' Project (2011); SIDA's GROW project (2014/15); the Investment Promotion Strategy by the National Investment Commission (2013) and the International Finance Corporation and USAID' Food

primary production and value addition of some specific crops in terms of its contribution to food and nutrition security and export earnings. These are oil palm, rubber, cocoa, fisheries (marine/aquaculture), rice, cassava, horticulture (i.e., vegetables) and poultry/livestock. Producing diverse outputs (including value added products) for domestic and international markets could result in gains in agricultural and economic growth. For example, a study on Liberia by the IMF (2016) indicates huge potential for vertical diversification (i.e., adding value to produce new and high quality products) in the following products/areas: rice; crude rubber and rubber manufacturing; wood and wood manufacturing (excluding furniture); and cocoa and coffee. A lot of untapped business opportunities in the agricultural value chains holds promise for emerging agribusinesses and job creation.

The key issues that are impacting food security and nutrition are: 1) the changes in rainfall patterns that have resulted in low agricultural crop yields; 2) the tree cutting for firewood and charcoal that have resulted in the depletion of natural resources; 3) the shift to rubber that has pushed farmers to planting new trees on disputed land; 4) the lack of equitable land tenure system and water and pasture resources that would allow more secure access to land. The lack of policy on the acquisition of land for agricultural purposes is somehow undermining the development of agriculture of vulnerable farmers and 5) the sea level rise that affect the livelihood along coastal areas where the majority of Liberian lives.

3.3. Strategic objectives and framework

In order to realize its vision, LASIP II will need to achieve the following:

- Ensure food and nutrition security of the Liberian population and strengthen the resilience of vulnerable populations and their livelihoods
- Diversify Liberia's economy through robust agricultural value chains and a modern industrial policy to increase production, productivity and incomes
- Improve research and extension services to support the transformation of agriculture
- Manage responsibly and sustainably the unique natural resources of Liberia

It aims to do so through the following five strategic objectives (SO):

1. To sustainably and reliably access adequate, nutritious, and needed food for utilization for healthy lives,
2. To develop and support competitive value chains and market linkages
3. To strengthen agricultural extension, research and development for enhancing sustained productivity growth.

Enterprises Programs' Analysis of Selected Agricultural Commodities (2015). Also, the Comprehensive Assessment of the Agricultural sector by the Ministry of Agriculture, World Bank, IFAD and FAO (2007)

4. To adopt agricultural practices that maintain the ecological and biological integrity of natural resources
5. To improve governance and institutional capacity to implement Programs and projects

The strategic framework, as shown in Table 3. 1, presents five (5) strategic policy objectives, with the associated expected outcomes, activities and actions.

Table 3. 1: Strategic Framework Matrix of LASIP II

	Expected outcome	Activities	Actions
Component 1 : Food and Nutrition Security			
	Expected outcome	**Activities**	**Actions**
Strategic Policy Objective 1: To sustainably and reliably access adequate, nutritious, and needed food for utilization for healthy lives	Outcome 1.1: Reliable and functioning food and nutrition security information and monitoring system in place	Activity 1.1.1 Promote and support the conduct of national comprehensive food security and nutrition survey	Action 1.1.1.1: Define survey methodologies Action 1.1.1.2: Organize field teams and training Action 1.1.1.3: Collect field data and conduct the analysis Action 1.1.1.4: Validate the survey report
		Activity 1.1.2 Establish food and nutrition security information and monitoring system	Action 1.1.2.1: Put in place functioning food and nutrition coordination mechanisms Action 1.1.2.2: Conduct food and nutrition security and vulnerability analysis twice a year Action 1.1.2.3: Establish early warning and food and nutrition security information system Action 1.1.2.4 Organize annual food and nutrition security day
	Outcome 1.2: Effective chronic and acute food insecurity and malnutrition prevention and management system in place and functional	Activity 1.2.1:Improve emergency preparedness, response and contingency	Action 1.2.1.1: Conduct two country Cadre Harmonise (CH) analysis annually Action 1.2.1.2: Develop a response plan and implement to address identified food and nutrition insecurity Action 1.2.1.3: Support the development of the contingency plan
		Activity 1.2.2:Promote and support social protection for vulnerable people	Action 1.2.2.1: Provide strategic food reserves/buffer stocks at national, community and county levels for food stability Action 1.2.2.2: Provide social safety nets through the school feeding Program in deprived and vulnerable communities Action 1.2.2.3: Provide cash and non-cash transfer to vulnerable populations
	Outcome 1.3: Productive capacity, productivity and incomes of poor and vulnerable farmers increased	Activity 1.3.1: Facilitate access to farmland for the poor and vulnerable	Action 1.3.1.1: Support advocacy for the implementation of the Land Rights ActAction 1.3.1.2: Reduce land use conflicts through appropriate means

		Expected outcome		Activities		Actions
						Action 1.3.1.3: Develop/produce land use maps
				Activity 1.3.2: Promote access to appropriate productive resources and inputs for the poor and vulnerable		Action 1.3.2.1: Assess and develop sustainable systems of innovative agriculture financing (warehouse receipt system, warrantage) Action 1.3.2.2: Conduct assessments of and provide other innovative agriculture inputs package to poor and vulnerable farmers especially women headed households
		Outcome 1.4: Nutrition and food access improved		Activity 1.4.1: Mainstream nutrition into agricultural programs with strong gender sensitivity		Action 1.4.1.1: Implement multi-sector nutrition strategy with a focus on gender Action 1.4.1.2: Promote and support women's participation in vegetables and poultry production and agro-processing Action 1.4.1.3: Map out/zone urban and peri-urban areas for vegetable and small ruminant production Action 1.4.1.4 Support gender-sensitive nutrition Programs
				Activity 1.4.2 : Promote and support food diversification		Action 1.4.2.1 : Develop and conduct advocacy for programs that encourage the diversification of food production Action 1.4.2.2 : Implement programs that support the utilization of foods fortified micronutrients, diversified diets, and increased access to safe water and sanitation Action 1.4.2.3 : Promote food crops and animal products Action 1.4.2.4 : Build awareness for proper utilization of other food in addition to rice and cassava
				Activity 1.4.3 : Promote and support local production and consumption of micro nutrients		Action 1.4.3.1: Strengthen the production of local food Action 1.4.3.2: Build awareness for local food consumption Action 1.4.3.3: Support the provision of micronutrient supplements and dewormers
				Activity 1.4.4: Promote access to safe drinking water, sanitation, nutritional caring practices and education		Action 1.4.4.1: Provide farm level, hygienic local markets for better physical access to food Action 1.4.4.2: Improve educational opportunities that integrate nutrition, agriculture and food security Action 1.4.4.3: Improve access to safe drinking water and sanitation
Component 2: Competitive Value Chain Development and Market Linkages						

	Expected outcome	Activities	Actions
Strategic Policy Objective 2: To develop and support competitive value chains and market linkages	Outcome 2.1 :Conducive business environment improved	Activity 2.1.1: Harmonize national agricultural instruments with regional and international policies, strategies and regulations	Action 2.1.1.1: Ensure the continued compliance with regional and international trade policies and regulations (WTO, ECOWAS Common External Tariff, EU, AGOA, etc.) Action 2.1.1.2: Support, domesticate and implement regional (ECOWAS) instruments
		Activity 2.1.2: Facilitate the creation of an enabling environment for public and private institutions for increased investments in agriculture	Action 2.1.2.1: Identify, review and update existing policies that will stimulate agricultural growth and development Action 2.1.2.2: Support the enactment of the Land Rights Act and Land Authority Act Action 2.1.2.3: Develop land use and suitability map plan and support its implementation Action 2.1.2.4: Support the development of export-oriented industrial policy for agro-processing and manufacturing and support its implementation Action 2.1.2.5: Support the operationalization of the Liberia Agriculture Commodity Regulatory Authority (LACRA) Action 2.1.2.6: Register smallholder farmer and value chain actors through the electronic platform (e-platform) Action 2.1.2.7: Support the implementation of agricultural input and output price instruments, such as input subsidies to smallholder farmers through the e-platform and guaranteed minimum producer prices for farmers Action 2.1.2.8: Strengthen the implementation of public investments on irrigation, transportation and technology Action 2.1.2.9: Support the establishment and implementation of a “signature investors” mechanism along the value chains
	Outcome 2.2– Agro-industry development promoted	Activity 2.2.1: Promote and support the operationalization of potential agro-poles	Action 2.2.1.1: Develop action plan for agro-poles promotion with relevant government institutions and the private sector Action 2.2.1.2: Set up two agro-poles through public-private partnership Action 2.2.1.3: Support the reactivation of the Special Economic Zone using public-private partnership

	Expected outcome	Activities	Actions
		Activity 2.2.2: Promote and support the engagement of actors in the agriculture value chains	Action 2.2.2.1: Establish and manage working group for all value chains Action 2.2.2.2: Develop 15 Ribbed Smoke Sheets Business Clusters Action 2.2.2.3: Seek and support investors in crop, livestock and fisheries processing Action 2.2.2.4: Promote and support market linkages for agro commodities Action 2.2.2.5:
		Activity 2.2.3: Support the promotion of incubators for women and youth	Action 2.2.3.1: Develop an incubator strategy for women and youth Action 2.2.3.2: Support the implementation of incubators in each county by 2022
	Outcome 2.3: Agriculture infrastructure developed	Activity 2.3.1 Rehabilitate/ construct farm-to-market roads to link major production areas to markets	Action 2.3.1.1: Conduct periodic assessment of priority farm to market roads and develop roads building/rehabilitation plan Action 2.3.1.2: Construct 1000 km of farm-to-market roads Action 2.3.1.3: Rehabilitate 2000 km of farm-to-market roads for all seasons Action 2.3.1.4: implement maintenance plans of roads for all seasons
		Activity 2.3.2 Rehabilitate/construct processing and storage facilities at strategic locations	Action 2.3.2.1: Conduct needs assessment of storage and processing infrastructures Action 2.3.2.2: Construct appropriate storage and processing facilities in each county and equip them with improved technologies Action 2.3.2.3: Rehabilitate storage and processing facilities in each county and equip them with improved technologies Action 2.3.2.4: Conduct training on use, supervision and maintenance of storage and processing facilities
		Activity 2.33 Promote and develop farm mechanization	Action 2.3.4.1: Conduct a study on agricultural mechanization priorities and schemes Action 2.3.4.2: Develop a plan to facilitate farmers' access to agriculture machines/ equipment Action 2.3.4.3: Provide trainings on use and maintenance of agricultural mechanization equipment Action 2.3.4.4: Support the use of alternative energy sources (bio-gas, solar system, etc.)
	Outcome 2.4: Competitive value chains and market linkages	Activity 2.4.1: Develop and improve knowledge of	Action 2.4.1.1: Set up and strengthen platforms for market information gathering, processing and dissemination.

		Expected outcome		Activities		Actions
		developed		market information systems and quality control measures and standards		Action 2.4.1.2: Establish and maintain marketing data and information registry Action 2.4.1.3: Support the establishment of standard (weight and measure) for locally produced agricultural products Action 2.4.1.4: Support the development of certification systems and branding of Liberian agriculture products Action 2.4.1.5: Support the development, revision and harmonization of guidelines, regulations and standards for food safety and quality control
				Activity 2.4.2: Develop and strengthen agribusinesses along commodity chains to facilitate linakges to input and output markets		Action 2.4.2.1: Support the strengthening of agro-dealer network across Liberia Action 2.4.2.2: Support the provision of smallholders with an electronic wallet (e-wallet) Action 2.4.2.3: Use Extension services for supporting the linkages between farmers and input and output markets .
		Outcome 2.5: Inclusive and innovative agro-financing promoted		Activity 2.5.1: Facilitate access to credit for actors along the agricultural value chain		Action 2.5.1.1: Conduct an assessment on agricultural risks and financing needs for smallholders and other value chain actors Action 2.5.1.2: Design and execute the Liberia incentives-based risk sharing agricultural lending mechanism. Action 2.4.2.3: Support the development of financing schemes for agro-entrepreneurs Action 2.5.1.4: Advocate for the reactivation of the Agriculture Cooperatives and Development Bank (ACDB)
				Activity 2.5.2: Promote adapted community level credit schemes for actors along the agricultural value chain		Action 2.5.2.1: Strengthen existing community-based financing schemes for smallholder farmers Action 2.5.2.2: Provide supporting services such as business training for actors in the chain Action 2.5.2.3: Promote and support innovative financing schemes (e.g: warehouse receipt systems, warrantage etc…)
Component 3: Agricultural Extension, Research and Development						
Strategic Policy Objective 3: To		Outcome 3.1 Agricultural research strengthened		Activity 3.1.1 Promote and support public/private		Action 3.1.1.1: Develop a public/private partnership agenda and action plan for a vibrant agricultural research service

	Expected outcome	Activities	Actions
strengthen agricultural extension, research and development for enhancing sustained productivity growth		sectors partnership in research activities across the country	Action 3.1.1.2: Strengthen linkages between CARI and national partners regional and international research centres in support of smallholders farmers
		Activity 3.1.2 Support capacity development of agricultural research institutions	Action 3.1.2.1: Support implementation of the national plan for institutional development for planning and research Action 3.1.2.2: Support the establishment of the National Agricultural Innovation System (NAIS) as contained in Liberia's Food and Agricultural Policy Strategy 2009 (MOA, 2008) Action 3.1.2.3: Enhance human resource development at CARI and other research institutions Action 3.1.2.4: Improve coordination among research centres and line-ministries to efficiently manage resources and ensure mutual accountability to stakeholders Action 3.1.2.5: Support the development of demand-driven technologies and innovations Action 3.1.2.6: Monitor and evaluate the level of adoption and impact of new technologies on productivity Action 3.1.2.7: Support research on improved breed (animals and fish), crop varieties, animal feeding and health, derived products, pest management, production systems and equipment
	Outcome 3.2: Extension and technical services delivery system strengthened	Activity 3.2.1: Support the legislation and implementation of the National Policy for Agricultural Extension and Advisory Services (NPAEAS)	Action 3.2.1.1: Advocate for the legislation of the NPAEAS Print and disseminate NPAEAS to stakeholders Action 3.2.1.2: Develop an action/strategic plan to support the implementation of the NPAEAS Action 3.2.1.3: Organise multi stakeholders dialogue to review and validate the action plan (NPAEAS Strategic plan)
		Activity 3.2.2: Promote and support the development of Agricultural Extension and Advisory Services (AEAS) system	Action 3.2.2.1: Strengthen AEAS through effective coordination, supervision and monitoring Action 3.2.2.2: Increase the number of extension agents to farmers Action 3.2.2.3: Provide support for participatory and pluralistic extension approaches and gender mainstreaming Action 3.2.2.4: Strengthen the technical capacities of extension agents to adapt to farmers market-driven demand Action 3.2.2.5: Support partnership with MOA, universities and partners for reducing farmer ratio to extension agent

		Expected outcome		**Activities**		**Actions**
						Action 3.2.2.6: Support partnership with universities to improve agriculture curricula to include internship for graduates
		Outcome 3.3: Science, technology, and innovations applied to the agricultural sector		Activity 3.3.1: Strengthen public-private partnership and farmers capacity for technology adoption and up scale		Action 3.3.1.1: Support the ddevelopment and implementation of multi-stakeholders MoU for technology adoption and sharing Action 3.3.1.2: Strengthen linkages between extension and research for technologies and best practices transfer to farmers Action 3.3.1.3: Strengthen capacities of selected farm-based community organizations Action 3.3.1.4: Strengthen adaptive and applied research activities at CARI and other research institutes
				Activity 3.3.2. Promote research, knowledge and skills transfer		Action 3.3.2.1: Conduct an assessment of crop sector, fisheries and livestock (production) potentialities, opportunities and challenges in support of the development of new demand-driven value addition technologies and innovations Action 3.3.2.2: Review existing value addition technologies available to and adopted by agricultural producers, fisher folks and breeders Action 3.3.2.3: Conduct research on the stages of value addition Action 3.3.2.4: MoA in partnership with CARI and other research centres disseminate knowledge on improved technologies to agricultural producers, fisher folks and breeders (farmers and agro-processors) Action 3.3.2.5: Provide technical training to smallholders for improved and sustainable production techniques and practices (such as integrated pest management, production and use of biofertilizers, animal feed, etc.) Action 3.3.2.6: Promote national and international farmers to farmers exchanges for knowledge sharing Action 3.3.2.7:
		Outcome 3.4: Funding for agricultural research increased		Activity 3.4.1: Develop plans to raise/mobilise funds (internal and external sources) for agriculture research		Action 3.4.1.1: Compete for donor funded projects (research grants) Action 3.4.1.2: Negotiate for 2% of national budget for agriculture research Action 3.4.1.3: Establish business development units in research centres/institutes to internally generate funds Action 3.4.1.4: Sell published research findings and training materials
Component 4: Sustainable Production and Natural Resource Management						

		Expected outcome		Activities		Actions
		Outcome 4.1: Natural Resource Institutions strengthened		Activity 4.1.1: Harmonise natural resource sector policies		Action 4.11.1: Review policies on natural resources management for harmonization Action 4.1.1.2: Conduct multi-stakeholders dialogue on harmonized natural resources policy
				Activity 4.1.2: Strengthen natural resource institutions capacity		Action 4.2.1.1 : Reinforce the technical and organizational capacity of natural resources institutions Action 4.2.2.2: Support the implementation of the harmonized natural resources policy.
Strategic Policy Objective 4: To increase sustainable production and adopt agricultural practices that maintain the ecological and biological integrity of natural resources		Outcome 4.2: Production and productivity of priority value chains increased		Activity 4.2.1: Promote mechanization and irrigation		Action 4.2.1.1: Conduct a survey and develop a map of potential areas for agricultural mechanization Action 4.2.1.2: Improve smallholders knowledge of and access to modern farming technologies and mechanization Action 4.2.1.3: Review available designs of irrigation schemes Action 4.2.1.4: Develop/rehabilitate smallholders irrigation schemes Action 4.2.1.5: Develop medium and large irrigation schemes Action 4.2.1.6: Provide training on use and maintenance of machineries and irrigation schemes
				Activity 4.2.2: Strengthen and promote livestock and poultry development		Action 4.2.2.1: Conduct livestock and poultry sector (production) potentialities, opportunities and challenges assessment : Action 4.2.2.2: Support the sustainable production of livestock and poultry feeds Action 4.2.2.3: Improve infrastructures for livestock and poultry Action 4.2.2.4: Support the implementation of veterinary services, education and animal health
				Activity 4.2.3: Strengthen and promote fisheries and aquaculture development		Action 4.2.3.1: Conduct fisheries and aquaculture (production) sector potentialities, opportunities and challenges assessment Action 4.2.3.2: Support the scale up of hatcheries and aquaculture best practices Action 4.2.3.3: Support sustainable production of fish feed and juveniles
				Activity 4.2.4: Enhance crops production and productivity		Action 4.2.4.1: Strengthen the provision of improved crop varieties Action 4.2.4.2: Support the implementation of integrated pest management program Action 4.2.4.3: Support the use of post-harvest technologies

	Expected outcome	Activities	Actions
			Action 4.2.4.4: Promote agroforestry systems and improved tree plants
		Activity 4.2.5 : Collaborate with the Land Authority in ensuring the availability and sustainable utilization of arable land	Action 4.2.5.1: Support the development and dissemination of legal frameworks protecting smallholder land rights including the VGGT guidelines at all levels Action 4.2.5.2: Undertake land suitability assessments for crops and pasture
	Outcome 4.3 : Climate smart agricultural production techniques enhanced	Activity 4.3.1: Support the mainstreaming of climate smart agriculture into programs	Action 4.3.1.1: Collaborate with EPA and other relevant ministries, agencies and partners in the implementation of the National Adaptation Program for Action (NAPA) Action 4.3.1.2: Support the development of an action plan for the implementation of NAPA
		Activity 4.3.2: Promote and support the implementation of climate smart agricultural production techniques	Action 4.3.2.1: Promote the dissemination of information on climate smart technologies to small farmers Action 4.3.2.2: Develop, train, and adapt productive enhancement technologies including propagation and use of high-quality seeds and seedlings that are climate resistant Action 4.3.2.3: Promote agroforestry and develop out-grower (smallholder) climate smart programs in cooperation with agricultural concessions and other partners. Action 4.3.2.4: Support the diversification of climate smart high value crops
	Outcome 4.4: Use of gender and environment sensitive technologies and Practices enhanced	Activity 4.4.1: Promote appropriate labour saving devices	Action 4.4.1.1: Develop and implement gender sensitive agriculture programs that will enhance access to inputs and labour saving devices Action 4.4.1.2: Support the mainstreaming of gender issues in all agricultural programs and proposed intervention at all levels
	Outcome 4.5: Sustainable use and management of natural resources improved	Activity 4.5.1: Promote and support the conservation of forest areas and sustainable environmental friendly farming practices	Action 4.5.1.1: Support and promote actions for establishment of forests for protection of watersheds and wetlands Action 4.5.1.2: Advocate for and support the combating of desertification and conservation of biological diversity to contribute to the stabilization of global climate
		Activity 4.5.2: Promote and	Action 4.5.2.1: Support climate change-related research, education

		Expected outcome		Activities		Actions
				support sustainable and gender sensitive use of natural resources		and training for women and youth Action 4.5.2.2: Promote proven best practices and measures that support natural resource management (forest protection, land use and sustainable farming, sustainable energy utilization, water bodies and marine protection
Component 5: Governance and Institutional Strengthening						
Strategic Policy Objective 5: To improve governance and institutional capacity to implement Programs and projects		Outcome 5.1: Coordination mechanism for mutual accountability strengthened		Activity 5.1.1 Operationalize central M&E system at the MOA		Action 5.1.1.1: Provide technical support to the centralized M&E system at the MOA Action 5.1.1.2: Conduct training for stakeholders in data management and use of the M&E system Action 5.1.1.3: Conduct quarterly sector performance assessments (including service delivery effectiveness and efficiency of MOA, subsector and partners' progress reports, etc.) and disseminate the findings Action 5.1.1.4: Uundertake biennial and other CAADP mandatory reviews
				Activity 5.1.2: Strengthen and support multi-stakeholder platforms for policy dialogue and sector coordination		Action 5.1.2.1: Organize annual peer-review with Private Sector, donors, farmer' groups women and youth associations and Civil Society Organizations (CSO's) for coordination and supervision Action 5.1.2.2: Reinforce the monthly sector coordination meetings with stakeholders Action 5.1.2.3 : Improve the mapping of interventions and actors in the agriculture sector Action 5.1.2.4: Create a database or "dashboard" to coordinate and monitor all projects in the sector Action 5.1.2.5: Improve on inter and intra-ministerial consultations, collaborations, and coordination Action 5.1.2.6: Set up CAADP Country Teams at all levels
		Outcome 5.2: Capacity of institutions strengthened		Activity 5.2.1: Support technical and human capacities of institutions		Action 5.2.1.1: Conduct needs assessment of institutional capacities in the agriculture sector Action 5.2.1.2: Provide human, institutional and operational capacity development for the sector Action 5.2.1.3: Undertake capacity development for FBOs, CBOs, Cooperatives, NSAs and SMEs, in human, institutional, managerial, organizational, coordination and communication skills

3.4. Expected impacts for 2025

To achieve the desired impacts through series of planned Program interventions requires a sound theory of change that must guide the processes.

As shown in **Error! Reference source not found.**, activities will be implemented to generate targeted results in terms of outputs, outcomes, and expected impacts.

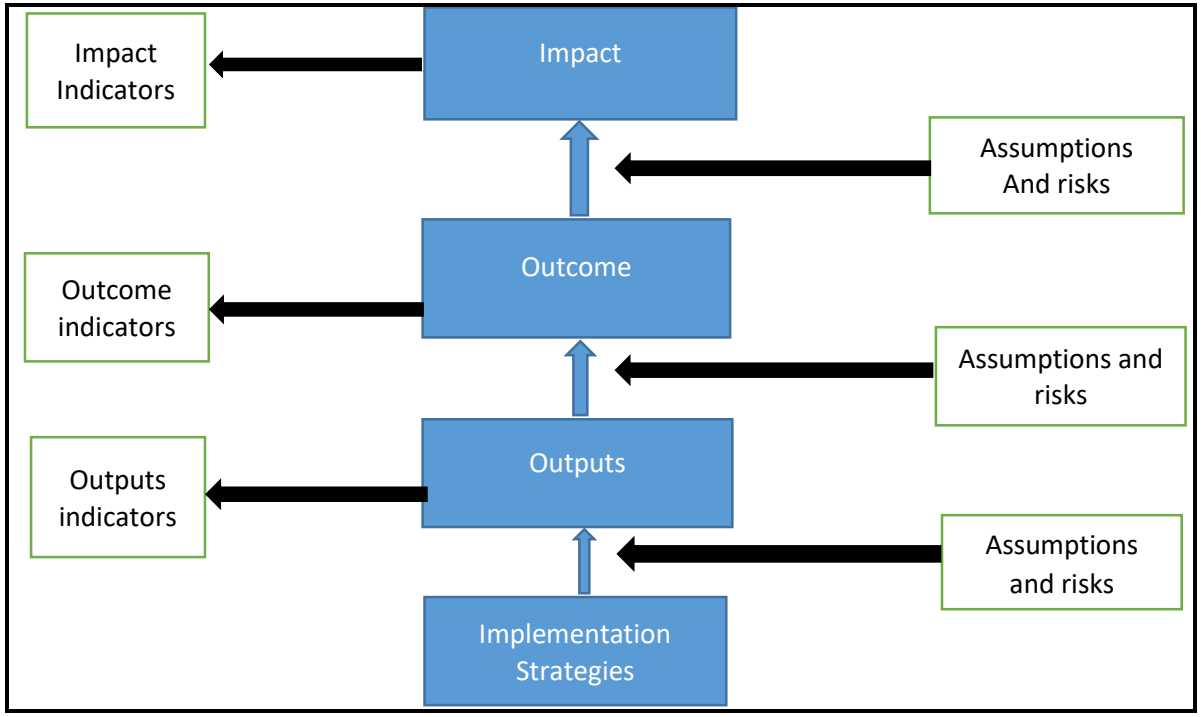
As implementation proceeds, there is need to review the plan when required to ensure that desired results and impacts are achieved. Then the institutionalization of an M&E system will be required to monitor and track progress using identified indicators..

This agricultural investment plan is expected to generate the following impacts:

- **Overall impact**: Increased wealth creation/income security and improved poverty alleviation, food and nutrition and resilience through the transformation of agriculture

- **Impact objectives:**
  1. Improved food and nutrition security and resilience
  2. Increased sustainable market-based agricultural growth
  3. Enhanced agricultural research and development and extension services for the transformation of the sector
  4. Improved management of natural resources
  5. Improved institutional governance of the agriculture sector

Figure 3. 1: Basic depiction of theory of change for LASIP II



Source: Rogers (2014)

4. DETAILS OF LASIP II (2018-2022)

4.1. Liberia's Agricultural Development Priorities (2018-2022)

The quest to achieve a transformational agenda in the agricultural sector of Liberia recognizes the need to develop agricultural markets and the production capacity as well as the multidimensional nature of food and nutrition security attainment and the cross-sectoral dimensions of the situation. It puts emphasis on the active involvement of state and non-state actors for advancing the sector. The agenda also recognizes the advantages in integrating and ensuring economic, social, and environmental considerations towards a sustainable agriculture. The transformation needs strong institutions for better coordination in achieving the desired results.

Whilst this plan is based on the needs and the context of Liberia, it is aligned with SDGs, especially: to reduce poverty (SDG 1); eradicate hunger/ "zero hunger"/food and nutrition security (SDG 2); gender equality (SDG 5); sustainable and reliable access to energy services (SDG 7); decent employment and economic growth (SDG 8); build resilient infrastructure, promote sustainable industrialization that benefits all (SDG 9); preserve, restore, and sustainably manage terrestrial ecosystems and forests (SDG 15); and strengthen capacity to implement sustainable development initiatives (SDG 17), amongst others.

Over the years, Liberia's economy had been dependent and driven by the mining and utility sectors, with very few jobs provided. For the period 2005 to 2013, the GDP growth from the agricultural sector was only 2.8% and yet provided employment for over 500,000 people. In 2010, the agricultural sector employed about 47% of total employment (IMF, 2016).

However, most of these smallholder, subsistence, and resource-poor farm families remain vulnerable to the climate variabilities, unpredictable input and output prices therefore resulting in low productivities. To be resilient, there is need to call for an adaptation strategy at the farm and households levels which is climate-smart and also diversification of production in terms of upgrading the value chains. Due to the numerous potentials provided by the agricultural sector of Liberia, an export diversification strategy to minimise external shocks (such as volatile international commodity prices and any possible epidemic outbreaks) and enhance export revenue generation are imperative.

Various studies[11] conducted in recent years indicate that Liberia has a comparative advantage in the primary production and value addition of some specific products in terms of its

[11] Reference: National Export Strategy by the Ministry of Commerce and industry and the International Trade Centre (2014); the Ministry of Planning and USAID Liberia Growth Corridors' Project (2011); SIDA's GROW

contribution to food and nutrition security and export earnings. These are oil palm, rubber, cocoa, fisheries (marine/aquaculture), rice, cassava, horticulture (i.e., vegetables), and poultry/livestock. Producing diverse outputs (including value added products) for domestic and international markets could result in gains in agricultural and economic growth. For example, a study on Liberia by the IMF (2016) indicates huge potential for vertical diversification (i.e., adding value to produce new and high quality products) in the following products/areas: rice; crude rubber and rubber manufacturing; wood and wood manufacturing (excluding furniture); and cocoa and coffee. A lot of untapped business opportunities in the agricultural value chains hold promise for emerging agribusinesses and job creation.

Due to the influx of imported agricultural commodities at lower prices, subsistence farmers must be efficient producers in order to be competitive on domestic and international markets. Moreover, the shift from subsistence agriculture to demand-driven market oriented production need to be pursued to take advantage of increasing population, urbanisation, and increasing tastes and preferences for high quality commodities globally and especially from the ECOWAS community. The involvement of the private sector in Liberian agriculture is not encouraging although considered as the engine of agriculture growth and a key partner in the agricultural transformational agenda of Liberia. These private sector actors need to be incentivized to provide decent jobs, create wealth, and for Liberia to implement the Malabo declaration on "Accelerated and inclusive growth and transformation for shared prosperity and improved livelihoods''. An integral part of this transformation strategy is the crucial role that financial institutions should play in providing adequate financing support to private sector actors. For an effective financial inclusion, adequate capital injection with appropriate financing mechanisms by financial institutions into profitable private sector investments will have to be explored in order to ensure continuous and reliable supply of produce onto the markets.

4.2. Components of LASIP II (2018-2022)

Five (5) major inter-related components have been identified as strategic in delivering the plan. These components are Food and Nutrition Security; Competitive Value Chain Development and Market Linkages; Agricultural Extension, Research and Development; Sustainable Production and Natural Resource Management; and Improved Governance and Institutional Strengthening. The priority agricultural products of interest are indicated, the investments in the sector needed to achieve the expected results/outcome from the implementation of various policy instruments are also presented.

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project (2014/15); the Investment Promotion Strategy by the National Investment Commission (2013) and the International Finance Corporation and USAID' Food Enterprises Programs' Analysis of Selected Agricultural Commodities (2015). Also, the Comprehensive Assessment of the Agricultural sector by the Ministry of Agriculture, World Bank, IFAD and FAO (2007)

4.2.1. Component 1: Food and Nutrition Security

Strategic Policy Objective: To sustainably and reliably access adequate, nutritious, and needed food for utilization for healthy lives.

Sub-components/Expected outcomes: The following represents the investment priorities for the food and nutrition security component.

1. A reliable and functioning food and nutrition security information and monitoring system is in place;
2. Effective chronic and acute food insecurity and malnutrition prevention and management system is in place and functional;
3. Productive capacity and incomes of poor and vulnerable farmers are increased
4. Nutrition and food access are improved

Situation Analysis: Well-endowed with agricultural resources, only 28% of arable land is currently utilized for agricultural purposes. Poverty and food and nutrition insecurity are widespread in Liberia and more acutely in rural areas where 51% of the population dwell[12]. The World Bank, for example, estimates that 69.3% of rice producers in Liberia live below the poverty line.

Agriculture growth and development is one of the key instruments that can secure food and nutrition security for Liberia. To comprehensively tackle food insecurity and malnutrition in Liberia requires a multi-sectoral and multi-disciplinary approach spanning across ministries and sectors. The need for a reliable information system to track both transitory (short-term) food insecurity (arising from weather changes and price shocks) and chronic food insecurity (long-term) which stems from poverty and the lack of development are addressed. Prevention and the management of the food insecurity situations are also proposed whilst ways to improve the productive capacity of subsistence and market-oriented farmers addressed. Improving access to food and nutrition to reduce vulnerabilities of producers and consumers are considered, likewise approaches to effectively plan, coordinate, and manage food and nutrition investment projects. The availability of and access to food is also a key constraint for the population to ensure food and nutrition security. This is why a focus is also put on improving food and nutrition access for all.

[12] Https://www.wfp.org/countries/liberia

4.2.1.1. Sub-component 1/Expected outcome: A reliable and functioning food and nutrition security information and monitoring system is in place

Agricultural data system for informed decision-making regarding food production, livestock and fisheries, food and nutrition security, consumption, markets, prices, is lacking in Liberia. However, LISGIS annually collects data on livelihoods analysis through the Household Income and Expenditure Survey. The available data are also unreliable and therefore inadequate to support effective planning and development of food and nutrition Programs. The establishment of a food and nutrition security information and monitoring system will help provide reliable and regular data on food in line with the ECOWAS Charter on Food Crisis Prevention and Management. This sub-component/investment priority plans to develop, at the end of 2022, a workable system that places a lot of demands on data collection and analysis for the purpose of preventing and managing chronic and acute food insecurity and malnutrition. .

Key development gaps:

- Unavailable data on key indicators to track food and nutrition insecurity
- Unreliability of available data for effective analyses and planning

The following deliverables are the expected outputs and associated activities/interventions planned to achieve the expected outcomes.

Activities :

a) Promote and support the conduct of national comprehensive food security and nutrition survey

The proposed activity is anchored on the food security monitoring system as articulated within the National Food Security and Nutrition Strategy that underscores the necessity for regular monitoring of the food security and nutrition situation given the vulnerability of Liberia to external and internal shocks. The activity will also make available data and analysis in support of the Cadre Harmonise.

b) Establish food and nutrition security information and monitoring system

This activity is proposed in the Food and nutrition strategy and contributes to improving coordination among actors in terms of planning, harmonizing interventions and making decision. It involved all actors intervening in food and nutrition security. The Food and Nutrition Security Information and monitoring system will have a secretariat to monitor food security indicators and validate forecasts of the Cadre Harmonise.

4.2.1.2. Sub-component 2 /Expected outcome: Effective chronic and acute food insecurity and malnutrition prevention and management system is in place and functional

Although some measures have been implemented but with little success, there still remains significant food and nutrition security. With an information system put in place to signal or detect potential risk prone areas, further measures must be instituted to prevent acute (short-term) and chronic (long-term) food insecurity situations and thereby manage the situation. Under this sub component, the aim is to address the chronic and acute food insecurity and malnutrition through the development of appropriate responses and provision of social protection to vulnerable people.

Key development gaps:

- The high levels of malnutrition caused by poverty, poor access to health care, education, and poor food diversification.
- Absence of strategic food and nutrition response plan
- Unhygienic environments and poor sanitation facilities

Activities

a) Improve emergency preparedness, response and contingency

Emergency preparedness, which is a short-term response to acute food insecurity situations (e.g., droughts, flooding, bushfires, and unexpected pests and disease outbreaks on crops and livestock), must be put in place. Response plan will be developed following the Cadre Harmonise results validation

b) Promote and support social protection for vulnerable people

Chronic food insecurity and malnutrition requires consistent long-term initiatives to address the problem. There should be strategic food and nutrition response plan developed to support vulnerable groups in dire situations. There should also be strategies developed, such as providing cash and non-cash transfers, facilities for access to health care, provision of food and or cash/food for work. Social protection approach should focus on supporting food and nutrition objectives. The provision of social protection should include the promotion of local food reserves and buffer stocks as well as school feeding with the purpose of supporting smallholder farmers. The implementation of local reserves and school feeding programs should be as much as possible prioritize the local procurement in order to provide secure incomes to farmers.

4.2.1.3. Sub-component 3/Expected outcome: Productive capacity, productivity and incomes of vulnerable farmers are increased

The current land tenure is a far-reaching constraint for smallholder farmers to develop agriculture and ensure food security. For this reason, the Land Acts bill need to be promulgated

and implemented to improve access to land for poor and vulnerable farmers, increase production and limit conflicts due to land disputes. The issue of land is also related to the lack of available land use map. As a result, the government has been engaged in developing a land use map to fill the gap. Moreover, access to finance, a major production input, is limited and makes it undermine the productive capacity of smallholder farmers.

Key development gaps:

- Low land tenure security
- Low production and productivity
- Use of low quality inputs
- Low agriculture technologies
- Access to and control over land
- Limited access to financial resources
- Low farmer incomes
- High vulnerabilities of farmers

Activities:

a) Facilitate access to farmland for the poor and vulnerable

The issue of land ownership for poor and vulnerable groups has been a problem for generations. This is evidenced by the short term access granted to poor and vulnerable farmers to cultivate only short duration crops instead of perennial crops. As such, the poor and vulnerable are at higher risk of food insecurity, land use conflict and unstable income among others. Consequently, this investment plan will support advocacy for the implementation of the Land Rights Act as well as develop land use maps and planning.

b) Promote access to appropriate productive resources and inputs for the poor and vulnerable

The poor and vulnerable have no secure access to land and other productive resources. It is especially more difficult for them to access credit and input. Therefore, the plan will seek to assess and develop sustainable systems of innovative agriculture financing and input package for the poor and vulnerable, especially women headed households. It will also help build resilience of the food production system.

4.2.1.4. Sub-component 4/Expected outcome: Nutrition and food access improved

Among other problems, there is a high level of iron deficiency among young children and women of child bearing age. In view of these, food insecure and nutritionally vulnerable groups must be targeted for support. Ability to produce own food requirements, improved markets, available physical infrastructure such as trunk and feeder roads, provision of improved safe

water access and sanitation facilities, and Programs to reduce malnutrition among vulnerable groups will great enhance accessibility and improve utilization.

Key development gaps:

- High levels of malnutrition
- Low levels of dietary diversity
- Low capacity of accessing food
- Poor level of food diversification
- Difficulty of mainstreaming nutrition in agriculture
- Low level of nutrition care practices

Activities:

a) Mainstream nutrition into agricultural programs with strong gender sensitivity
To advance nutrition it will be important to mainstream it into agricultural programs by implementing multi-sectoral nutrition strategy. A special focus should be also put on gender in all programs to ensure the participation of all in the efforts of building awareness on the linkages between agriculture and nutrition. For the implementation of mainstreamed programs in vegetables, poultry and agro-processing support will be provided to women.

b) Promote and support food diversification

Supporting the mainstreaming in agricultural programs can result in food diversification. This proposed activity will advocate for programs and projects that promote and encourage food production diversification as well as utilization of foods fortified micronutrients. This will involve the promotion of crops and animal products that are very limited in the country. With the potential of an estimated 2 million ha of pastureland, the animal products can be developed along with crops and fisheries especially at household's level. Indeed, CAAS-Lib highlights that traditional systems accounted for 100% of the holdings of cattle, goats, and sheep; 58% of pigs; and 100% of guinea fowl (LASIP I). The diversification of food utilization is therefore vital given the fact that rice and cassava are the main staple of Liberians.

c) Promote and support local production and consumption of micro nutrients

Food production security is threatened by the high dependence on imported food commodities, with rice import bill alone amounting to US$200 Million in 2013. Promoting the local production and consumption can help reduce the dependency on imported increase farmers revenues and food availability and access. However, the consumption of local food production will be combined with micronutrient supplementation to address existing acute and chronic malnutrition.

d) Increase access to safe drinking water, sanitation, nutritional caring practices and education

The need of multi-coordination on nutrition and its complexity require to pay attention to drinking water, hygiene, sanitation and nutritional caring practices in the agriculture sector. This activity proposes to promote access to such facilities. The sector will then promote the provision of hygienic local markets with access to drinking water and sanitation, educational opportunities that integrate nutrition.

4.2.2. Component 2: Competitive Value Chain Development and Market Linkages

Strategic Policy Objective: To develop and support competitive value chains and market linkages

Sub-components/Expected outcomes: The following represents the investment priorities for the competitive value chain development and market linkages component.

1. Conducive business environment improved
2. Agro-industry development promoted
3. Agriculture infrastructure developed
4. Competitive value chains and market linkages developed
5. Inclusive and innovative agro-financing promoted

Situational Analysis: Very little value is added along the food commodity chains in Liberia, except for some cash crops such as rubber, oil palm, and cocoa. It has been documented that agricultural value addition (agro-processing) has a positive impact on employment and agricultural and economic growth and nations. Moreover, countries such as Brazil, Ethiopia, and Mauritius, which experienced inclusive growth focused on the long-term development of few value chains. According AGI estimates, five (5) well developed value chains can provide over 450,000 jobs by 2030: rubber value chain (200,000); oil palm value chain (120,000); cocoa value chain (70,000); aquaculture value chain (50,000); and marine fisheries value chain (10,000). These identified priority value chains are profitable with huge potential export earnings from existing markets globally. For example, refined palm oil has an export potential of US$ 1.056 billion per annum, compared to iron ore peak export value of US$ 440 million per annum (representing 240% increase over iron ore exports). Liberia has high potential to develop in these identified products'

Liberia therefore needs to move away from raw commodity or primary production to promote growth agriculture and manufacturing sectors. Inimical to the realisation of this objective are numerous challenges, such as unfavourable enabling policy environment for business, and

insufficient rural infrastructure (public goods) for market development. There is also little investment in research and development and electricity/energy.

To be therefore competitive regional and globally, four (4) guiding principles are needed: create conducive policy and business environment; target and develop key agricultural value chains through private sector investment; adopt innovative financing solutions; and promote exports of value-added goods. Five (5) sub-components are identified under this theme.

4.2.2.1. Sub-component 1/Expected outcome: Conducive business environment improved

The creation of viable agribusinesses is predicated, amongst others, on conducive and attractive policy and business environment that lowers business risks. The purpose of this sub-component is to make Liberia an investor-friendly economy in the sub-region where good returns on investments is guaranteed for local and foreign investors.

Key development gaps:

- Inadequate and unfavourable policy and business environment and regulatory framework
- Insufficient private sector investment at all stages of the value chain
- Uncertainties in returns on investment due to land tenure insecurities

Activities:

a) Harmonize national agricultural instruments with regional and international policies, strategies and regulations

Under this period of the LASIP implementation the GoL will work on the harmonization of national policies, strategies, regulations and instruments with regional and international ones. This activity will be carried out in close collaboration relevant stakeholders including Ministry of Commerce, Finances and Development Planning and National Investment Commission. Efforts have been done in complying with

b) Facilitate the creation of an enabling environment for public and private institutions for increased investments in agriculture

There is low investment in the agriculture sector especially in the value addition. One of the major constraint for investment in agriculture is the nonexistence of Land tenure security. As a result, LASIP will advocate for the enactment of the Land Rights Act and its implementation with the Land Authority. There is also little knowledge on soil fertility and use for improving the capacity of production of smallholder farmers. Furthermore developing a Land Use map will be key action in contributing to an increased investment in the sector. The GoL has established the

Liberia Agriculture Commodity Regulatory Authority (LACRA) that aims at ensuring that traders operate under a licensing regime. It is time to move for its operationalisation. For an increased investment in the agriculture sector, there is a need to support the development of export-oriented industrial policy for agro-processing and manufacturing and support its implementation that can be facilitated by LACRA. The establishment and implementation of a "signature investors" mechanism along the value chains will be promoted. Moreover, attention will be paid to the development of smallholder farmers in agriculture. In so doing, smallholders and value chain actors will be registered through an electronic platform as well as being supported with inputs subsidies and also investments on irrigation.

4.2.2.2. Sub-component 2/Expected outcome: Agro-industry Development promoted

With the numerous challenges and constraints bedevilling the value chains, a sequenced approach of fix-one-problem-at-a-time will be adopted. Resolving a challenge could come as a complete package comprising several activities. Thus, problems are identified and interventions targeted. In depth assessment indicated eleven (11) potentially profitable value chains. Based on their export revenue potential, local preferences, and the need for a healthy, balanced, and nutritious diets, six (6) values chains will be focused on for the next 5 years. These are crude and refined palm oil, rubber, cocoa, rice, poultry/livestock, and horticultural crops value chains. The other value chains, namely, cassava, aquaculture, and marine fisheries will however will be supported. An efficient value chain system is therefore a prerequisite for the realisation of potential benefits.

Key development gaps:

- Low production and productivity
- Low development of value addition
- Insufficient private sector investment at all stages of the value chain
- Poor infrastructure network
- Few cooperative development
- Minimal use of ICT

Activities:

a) Promote and support the operationalization of potential agro-poles

There is willingness of the GoL to develop agropoles in support of the growth of agriculture. Taking advantages of existing investments in infrastructure and agriculture, a PPP approach will be used for building the agropoles in Kakata and Gbarnga along the Kakata-Ganta development

corridor. Additionally, these will be further connected to the special economic zone being planned in Buchanan.

b) Promote and support the engagement of actors in the agriculture value chains

Along the value

There is Agriculture Coordination Committee (ACC) for the overall coordination of the sector. But for more specific and technical discussion on value chains, multi-stakeholder sector working groups will be either set up or, if already existing will be strengthened for each of the value chains. They will enable representatives of a wide range of stakeholders (government, farmers/cooperatives, private sector, international & local NGOs, civil society and others) across value chains to engage and make concrete progress on implementing the program. In addition, support will be provided to investors in livestock, fisheries and crops production. Support for market linkages for agro-commodities will continue to be strengthened especially for processors and dealers.

c) Support the promotion of incubators for women and youth

There is a dire need for in-service training especially for women and youths interested in being agri-preneurs. Therefore, this activity endeavors to provide training to women and youths in agribusiness. In so doing, incubators strategy will be developed and implemented in the fifteen counties and will primarily target youths and women.

4.2.2.3. Sub-component 3/Expected Outcome: Agriculture infrastructure developed

Situation Analysis

The challenge of agricultural infrastructure cannot be overemphasized. Thus, the Plan will focus on supporting the development of infrastructure for agriculture purposes. Additionally, rural electrification will be addressed as it is crucial for all the different stages in the value chains. Also there are poor road networks, limited processing and storage facilities, and proper markets structures among others across the country. Therefore, the below activities will address the key development gaps in terms of infrastructure for the agriculture sector.

Key development Gaps:

- Poor road network
- Inadequate transport systems
- Insufficient storage facilities
- Lack of rural electricity
- Lack of processing facilities

- Inadequate irrigation systems

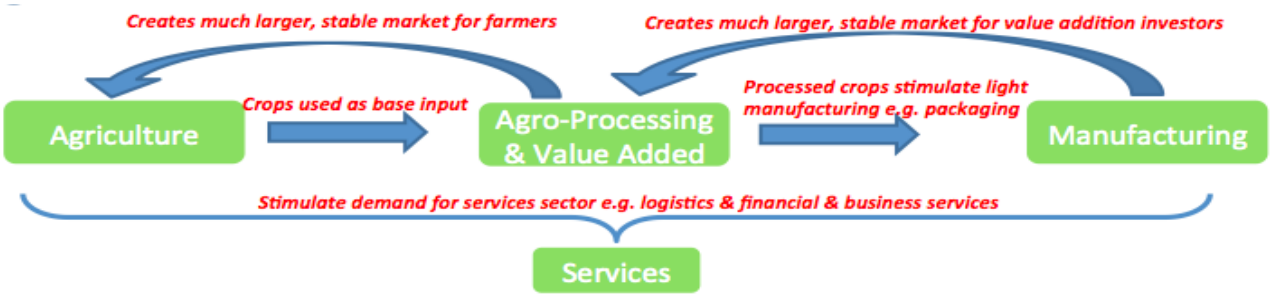
Activities:

a) Rehabilitate/ construct farm-to-market roads to link major production areas to markets

The level of agricultural infrastructure in Liberia is not enabling the development of value chains and markets. It is one of the biggest constraints in the country especially in rural areas. This is why LASIP II puts emphasis on and prioritises the constructions and maintenance of feeder roads. Improving Liberia's rural road infrastructure in major producing areas is key for helping link farmers to markets. Special attention will be dedicated to rice producing counties. In so doing, there will be periodic assessment of priority farm to market roads.

b) Rehabilitate/construct processing and storage facilities at strategic locations

As in many African countries, Liberia is facing big challenges in post-harvest losses. This is largely due to the lack of efficient storage and processing facilities. This has contributed to the high level of food insecurity and low incomes for smallholder farmers. In this context, the government will support the rehabilitation and construction of storage and processing infrastructures. This strategy of rehabilitation and construction will be based on needs assessment in order to realize adequate actions. For sustainability, training on use, supervision and maintenance of storage and processing facilities will be prioritized. The objective is to improve the value addition by building the linkages between producers, processors and manufacturers as shown the figure below.



c) Promote and develop farm mechanization

There is no agriculture mechanization strategy for Liberia and this has led to fragmented approaches. This situation is not contributing to the increase in productivity and production in a sufficient manner. There is no genuine assessment for the applied schemes that are adapted to the needs of farmers and agriculture in general. For instance, there is a lack of high quality agricultural research for the development of machineries and new technologies and innovations for farmers. The development of mechanization can make agriculture profitable and attractive for young age group. Consequently, the government must create the necessary business environment to promote mechanization. In the

strategy of developing mechanization, the promotion of private sector involvement will be key for achieving results. Based on the current needs and challenges, the strategy will include among other a plan to facilitate farmer's access to agriculture machines and equipment, capacity building and support the use of alternative energy sources such as bio-gas and solar system.

4.2.2.4. Sub-component 4/Expected outcome: Competitive value chains and market linkages developed

As a result of the susceptibility to post harvest losses during storage, transportation, and handling and the perishability of agricultural commodities (both crops and livestock), the issue of marketing and distribution in a timely and efficient manner becomes very relevant in terms of sustaining rural incomes and livelihoods. As marketing activities develop through diversification and specialisation, trading becomes inevitably important. Pro-poor marketing development is envisaged for the smallholder farmer in this LASIP II. The plan to achieve competitive value chains and to link markets across counties and districts in Liberia is addressed in the sub-component.

Key development gaps:

- Inaccessible markets due to high product quality standard requirements
- Poorly developed local markets for staple foods, jobs, and production inputs
- Inadequate market information and opportunities
- Poor infrastructure network
- Limited value-added products
- Insufficient private sector investment in marketing activities along the value chains

Activities:

a) Develop and improve knowledge of market information systems and quality control measures and standards

Farmers have limited access to market information and therefore have insufficient knowledge on products requirements and standards. This is contributing to disconnection between farmers and the rest of actors in the value chains. LASIP II is encouraging the use of technological platforms (such as mobile devices) to help value chain players, particularly small holder farmers and the market, to have access to more timely and accurate information on prices, volumes and quality, as well as points of contact in the value chains. At the same time, food safety is a big concern for food security and nutrition in the country. In achieving this objective, there is a need to support the development, revision and harmonization of guidelines, regulations and standards for food safety and quality control. In view of improving

the functioning of markets, the government will support the establishment of standard (weight and measure) for locally produced agricultural products.

b) Develop and strengthen agribusinesses along commodity chains to facilitate linkages to input and output markets

The ultimate goal is to reduce information asymmetries with regard to farmer-specific productivity and output, site-specific input requirements. In the context of Liberia, there is no government strategy to facilitate easy access of farmers to inputs and output markets. This has led to high transactions cost along the value chains. In the past there was an input subsidy program that disappeared as a result of the war. The program that included extension services, contributed to increase farmers' productive capacities and also impacted a lot on food and nutrition security. Consequently, it is crucial to prioritize access to input and output markets for farmers. Under LASIP II, a cost-sharing mechanism will be put in place to allow for government-backed subsidy of major agricultural inputs, such as fertilizers and improved varieties of seeds. It is delivered through the e-wallet system by linking up input suppliers to farmers through the privately-run agro-dealer network. In the e-wallet system, each e-registered farmer will have a voucher card which can be topped up with funds provided by the government and its partners, and redeemed by the farmer at agro-dealers. The government top up should cover only a proportion of the total cost of farm inputs, and while starting high this should gradually decrease over time as farmer yields increase.

4.2.2.5. Sub-component 5/Expected outcome: Inclusive and innovative agro-financing promoted

Financial constraints remain a major challenge to smallholder producers, processers, and marketers in Liberia. This affects, amongst others, the ability to expand their activities which negatively impacts productivity and competitiveness locally and internationally. As formal financial institutions are mostly not in the position to support smallholder farmers, an inclusive and innovative agricultural financing mechanism must be developed to reduce production costs and minimize financial risks amongst smallholder producers. At the end of this 5-year investment plan, an inclusive, innovative and workable value chain financing model(s) would be reached. Both internal and external value chain financing options must be explored to achieve the above stated purpose. Workable agribusiness financing models/products must be identified for various categories of value chain actors and the right instruments applied.

Key development gaps:

- Financial constraints among farmers and value chain actors
- Insufficient private sector investment at all stages of the value chain
- Scarce agricultural financing services
- Inappropriate agricultural financing products by financial institutions
- Weak value chain financing among actors

- Untapped opportunities in the value chain
- High interest rate of existing credit

Activities:

a) Facilitate access to credit for actors along the agricultural value chain

LASIP I had targeted to increase the share of total commercial banks credits allocated to the agriculture sector from 5% to at least 15%, and expand the accessibility of farmers and farmer based organizations (FBOs) to formal rural financial services by 2015. Though there was somehow incremental growth in commercial bank lending to the agricultural sector between 2010 and 2015, the growth was less than 5% as agricultural sector share only increased from 3.2% in 2010 to 7.3% in 2015. Loans to the agriculture sector accounted for 5.3% of the total commercial banks loan portfolio from 2010 to 2015. Given the important role of credit for farmers to develop their productive capacities, there is an overall agreement to facilitate its access. To move forward, an assessment will be conducted to identify risks and financial needs for smallholder farmers and other value chain actors. The assessment will help support the development of financing schemes for agro-entrepreneurs. In addition, LASIP II will support the implementation of the Liberia incentives-based risk sharing agricultural lending mechanism. It will also advocate for the reactivation of the Agriculture Cooperatives and Development Bank (ACDB) that contributed to the development of the sector even though it faced some concerns regarding the repayment of the loans.

b) Promote adapted community level credit schemes for actors along the agricultural value chain

The difficulty of accessing credit is more prominent for poor and vulnerable farmers. In Liberia there are community saving and loan associations in place with the aim of providing adaptive credit to its members. Even though it has an impact on livelihoods, a lot needs to be done to support the smallholder farmers along the value chains. LASIP II is promoting adapted community level credit schemes. It will strengthen existing community-based financing schemes for smallholder farmers and promote and support innovative financing schemes (e.g: warehouse receipt systems, warrantage etc…).

4.2.3. Component 3: Agricultural Extension, Research and Development

Strategic Policy Objective: To strengthen agricultural extension, research and development to enhance sustained productivity growth.

Sub-components/Expected outcomes: The following represents the investment priorities for the agricultural research and development component.

1. Agricultural research strengthened;
2. Extension and technical services delivery system strengthened

3. Science, technology and innovations applied to the agricultural sector
4. Funding for agricultural research increased

Situational Analysis: A major contributor to agricultural productivity increases is the significant role science and technology plays in agricultural research and development. Farmers in Liberia do not really benefit from advances in agricultural technological inventions for some reasons: technologies are not disseminated to farmers or they do not meet the specific needs of various agricultural producers due to the largely supply-driven (top down) approach. This results in very low technology adoption. According to The Food and Agriculture Policy and Strategy (FAPS), the approach to revitalise agricultural research in Liberia is to establish a National Agricultural Innovation System (NAIS), based upon the innovation systems. This system integrates farmers and all agricultural value chain actors into the agricultural research agenda, thereby making it demand-driven.

Due to the fact that agricultural research is largely a public good, private sector involvement in agricultural research is virtually non-existent. Human resource capacity is low with some expertise lacking. To experience greater impact on productivity, professional skills should be upgraded, key specialists employed in both CARI and other tertiary agricultural centres of learning. It is also imperative for the GoL to increase funding towards agricultural research so that farmer needs, such as provision of viable seeds, good quality planting materials and animal breeds as well as good agronomic and cultural practices, are provided. CARI which has been recently revamped to provide innovative demand-driven solutions to producers, processors, and all actors along the agricultural value chains, is set to effectively play a leading role to push the innovation frontier.

4.2.3.1. Sub-component 1/Expected outcome: Agricultural research strengthened

The review of LASIP I reveals that couple of interventions geared towards the achievement of research were undertaken and significantly contributed to improve the agricultural research. One key achievement was the building of human resource capacity at CARI, as well as restructuring CARI's research programs, skills gap analysis, competency and job profiles plan among others. Two major documents were also developed for CARI: the 10-year strategic plan and a master plan that has led to CARI becoming autonomous. However, the revitalisation of agricultural research and development requires a clear policy direction. This begins with the development and implementation of a harmonised agricultural research, science and technology policy.

Key development gaps:

- No clear policy direction on agricultural research and development agenda
- NAIS not yet established and implemented

- Low funding for research and development
- Lack of dissemination of research products
- Limited linkages between CARI and other institutions

Activities:

a) Promote and support public/private sectors partnership in research activities across the country

The private sector is more or less absent in agricultural research. Notwithstanding, in the first generation of LASIP, it was envisaged to have the PPP in the development of agriculture. However, it was not promoted even though the private sector was involved to some extent in agriculture. In the LASIP I review, it was recommended to build a PPP agenda in order to advance agriculture research and make it vibrant. In the same vein, there is a need to strengthen the linkages between CARI and national partners regional and international research centres in support of smallholders farmers.

b) Support capacity development of agricultural research institutions

Lot of efforts have been made to develop the capacities of CARI. However, there is still gaps to make it more efficient and active for undertaking its activities. To build the system, FAPS prioritised the establishment of a National Agricultural Innovation System (NAIS) that is not yet established. LASIP II will support its realization along with the implementation of the national plan for institutional development for planning and research. Given the paramount role that research should play in the current context of Liberia, the human resource development at CARI and other research institutions will be enhanced. Similarly, to make research efficient, manage resources and ensure mutual accountability to stakeholders, focus will also be put on improving the coordination among research centres and line-ministries. Therefore, all these efforts and investments will help research work on identified needs in the agriculture sector. Under this LASIP II CARI will support the development of demand-driven technologies and innovations, monitor and evaluate the level of adoption and impact of new technologies on productivity. More importantly, research will prioritize improved breed (animals and fish), crop varieties, animal feeding and health, derived products, pest management, production systems and equipment.

4.2.3.2. Sub-component 2/Expected outcome: Extension and technical services delivery system strengthened

The current agriculture extension system in Liberia is highly pluralistic. Key providers include the MOA, international and national NGOs and UN agencies including FAO and WFP. The

private sector and producer organizations are less prominent in providing advisory services but are becoming more active especially in the context of the Agricultural Coordination Committee of the MoA. Despite the role of MoA in providing extension services, it is realized that in many counties there is an inadequate number of extension agents. Extension services are alarmingly inadequate and non-existence for some framers as the ratio of extension worker to farmers is estimated at 1 to 33,000. Agricultural parastatals are still in need of improvement to reach their full potentials. There is no strategic plan to provide the agriculture sector with specialized professionals in extension. For instance, there is currently no specific curricula in Agricultural Extension and Advisory Services (AEAS) or degree granting program in this area of specialty. In view of strengthening extension and technical services delivery, the government has developed the National Policy for Agricultural Extension and Advisory Services (NPAEAS).

Key development gaps:

- Weak human resources in Extension and technical services
- Weak coordination

Activities:

a) Support the legislation and implementation of the National Policy for Agricultural Extension and Advisory Services (NPAEAS)

Extension is generally weak in the agriculture perspective of many stakeholders. Therefore, to revigorate it in support of agriculture and food and nutrition security, LASIP II will support and advocate for the legislation of the NPAEAS. It will develop an implementation plan involving all stakeholders.

b) Promote and support the development of Agricultural Extension and Advisory Services (AEAS) system

For the coordination of Extension, Liberia Forum for Agricultural Advisory Services (LIFAAS) has been created. It serves as a platform that brings together advisory service providers in the country from the public, private and civil society sectors and which has a mandate to coordinate advisory services activities and advocate for reforms in the sector. However, this forum is not effectively operational. Hence, LASIP II will support the coordination of extension and advisory services. Apart from the coordination issue, extension is facing huge capacity gaps in terms of public agents and technical capacities. In this plan, support will be provided for participatory and pluralistic extension approaches and gender mainstreaming as well as increase the number of extension agents to farmers.

4.2.3.3. Sub-Component 3/Expected outcome: Science, technology, and innovations applied to the agricultural sector

The application of science and technology to the agricultural sector requires the needed expertise with the required technical support and financial commitments from government and development partners to pursue both adaptive and applied research. Thus, the required infrastructure is needed to perform research functions. Collaboration amongst public sector research agencies is little in Liberia and must be encouraged to create synergies. Without the application of science and technology through research, the agricultural sector of Liberia cannot be competitive regionally and globally.

Key development gaps :

- Inadequate and inexperienced research staff to pursue adaptive and applied research
- Inadequate infrastructure for agricultural research
- Inadequate adaptive and applied research output or contributions
- Little interactions amongst public sector research units (such as the Forest Development Authority, the Liberia Rubber Research Institute (LRRI), and the Department of Fisheries), universities, agricultural extension agents, and private sector and civil society organizations
- Little interaction with users or beneficiaries of research innovations

Activities:

a) Strengthen public-private partnership and farmers capacity for technology adoption and up scale

Productivity continues to be low in Liberia primarily due to use of un-improved technologies on the one hand; and/or the inability of improved technologies to reach farmers for adoption on the other hand. To bridge and remedy this gap, there is a need for sustained actions and collaboration amongst relevant stakeholders (i.e. research institutions, government agencies and farmer groups). Furthermore, LASIP II will support the development and implementation of technology adoption and sharing as well as strengthen capacities of selected farm-based organizations. To this end, adaptive and applied research activities at CARI and other research institutes will be strengthened.

b) Promote research, knowledge and skills transfer

Currently, little or no interaction exist between research and farmers. Also, there is no feedback from farmers to research institutes and vice versa for demand-driven research. Hence, LASIP II will support the dissemination and transfer of research findings that will enhance farmers' knowledge and skills for increased productivity. Additionally, for the development of demand driven technologies and innovation, a subsector (i.e. crops, fisheries and livestock) needs assessment will be conducted. In so doing, MoA will partner with CARI and other research centres to disseminate knowledge on improved technologies to agricultural producers, fisher

folks and breeders (farmers and agro-processors). To further enhance knowledge and skills transfer, technical training to smallholders for improved and sustainable production techniques and practices (such as integrated pest management, production and use of biofertilizers, animal feed, etc.) will be conducted. Farmers to farmers' exchanges at the local and international levels will also be supported.

4.2.3.4. Sub-component 4/ Expected outcome: Funding for agricultural research increased

The public allocation for research is very low despite the fact that CARI is autonomous since 2016. This government entity is generally supported by partners for its activities. There is a need to sustain its efforts that led to improve its human resources.

Key development gaps :

- Inadequate funding for agricultural research and extension delivery
- No investment of private sector in research

Activities:

Develop plans to raise/mobilise funds (internal and external sources) for agriculture research

Generally, research component is neglected in donor funded project in a context where public investment is practically non-existent. LASIP II will advocate for an increase and/or integration of research during project. CARI will also develop its own business plan for fundraising.

4.2.4. Component 4: Sustainable Production and Natural Resource Management

Strategic Policy Objective: To increase sustainable production and to adopt agricultural practices that maintain the ecological and biological integrity of natural resources

Sub-components/Expected outcomes: The following represents the investment priorities for the sustainable natural resource management component.

1. Natural Resource Institutions strengthened and adopt agricultural practices
2. Production and productivity of priority value chains increased
3. Climate smart agricultural production techniques enhanced
4. Use of gender and environment sensitive technologies and Practices enhanced
5. Sustainable use and management of natural resources improved

Situational Analysis: The need to preserve and efficiently manage Liberia's naturally endowed resources (renewable and non-renewable) is critical to the attainment of food and nutrition

security and a sustainable path for agricultural development. Smallholder farmers in Liberia are highly dependent on natural resources, especially land, for their livelihoods. Land design and development issues must first be dealt with to for sustainable production.

4.2.4.1. Sub-component 1/expected outcome: Natural Resource Institutions strengthened

Agriculture in Liberia is mainly rural and forest-based. The low use of agricultural production inputs manifests in low productivities. The impact of climate change and variability has increased the vulnerabilities of producers. Hence the effects of climate change on agricultural outputs must be clearly understood. Natural resources institutions must collaborate in their efforts to maintain the ecological and biological integrity of natural resources whilst improving the livelihoods and income generating potentials of farm households. Harmonization of efforts and policies create synergies.

Key development gaps :

Natural resources sector policies not harmonisedIneffective inter-sectoral collaboration for policy dialogue, cooperation and coordination

Activities:

a) Harmonise natural resource sector policies

Liberia has four government entities involved in environment, natural resources, land and fisheries. All these institutions are independent and not under the leadership of the MOA and have their own mandates, strategies, plans and policies that to some extent overlap. In this context, there is a need to work on the harmonization of the different policies and strategies for the purpose of improving the management of natural resources.

b) Strengthen natural resource institutions capacity

There is low capacity to implement the existing policies and strategies at various entities. However, all of them are supported by donors to implement projects especially in land and forestry. To strengthen the capacities of natural resources institutions, LASIP II will encourage the reinforcement of the technical and organization capacity. The capacity building will also include support to the implementation of the harmonized natural resources policies and strategies. Building institutional capacities will enable to perform key functions, such as taking forest and Green House Gas (GHG) emission inventories, environment protection and land-use planning.

4.2.4.2. Sub-component 2: sustainable production and productivity of priority value chains increased

The sustainable management of land and water resources is beneficial to sustained livelihood outcomes. Land and water resources must be sustainably harnessed for development. For example, maximizing the use of available spaces within urban and peri-urban environs for agriculture production and the development of hydropower to power ago-industries. Through the Climate Investment Fund (CIF), Liberia has been award, in 2017, an amount of US$ 23.25 million to help transform the country's renewable energy sector by developing a 9.8 MW hydropower plant at Gbedin Falls on the Mano River in Nimba County. This initiative is expected to provide a sustainable, reliable, and low-cost electricity to Liberians. Illegal fishing is a big challenge in Liberia that the world's second biggest ship registry in the world. This is contributed to deplete the incomes and deteriorate the food and nutrition security of fisher folk communities. In this context sustainable and viable solutions for developing the agriculture growth.

Key development gaps:

- Ineffective management and monitoring of forest resources
- Illegal and unregulated activities in the forests
- Untapped alternative livelihood potential for forest dwelling communities
- Illegal fishing, unreported and unregulated fishing
- Underdevelopment of land

Activities:

a) Promote mechanization and irrigation

Mechanization of agriculture for the most part is far-fetched; local farmers are still using traditional, manual methods with drudgery to carry on their agricultural activities. Likewise, traditional and limited irrigation methods are applied, thus, leading to low levels of production and productivity. Also, there is lack of irrigation facilities as well as little or no water management control for agriculture in place. Consequently, LASIP II will consider the development of map for potential areas for agricultural mechanization. The plan will prioritizes the improvement of smallholders' knowledge and access to modern farming technologies and machineries. Most importantly, focus will be on reviewing available designs for irrigation schemes as well as develop and rehabilitate the ones for smallholders. Medium and large irrigation schemes will also be developed and training for the maintenance of machineries and irrigation will be realized.

b) Strengthen and promote livestock and poultry development

Traditional systems accounted for 100% of the holdings of cattle, goats and sheep; 58% of pigs and 100% of guinea fowl (CPF Liberia, 2012). Under LASIP I, it was targeted to expand domestic livestock production to satisfy at least 50% of domestic demand. It was also planned to rebuild

veterinary services, including quarantine areas at borders crossings; to improve the institutional environment and infrastructure for livestock, and strengthen zoo sanitary standards; to expand existing programs to re-stock the national herd, with a focus on small ruminants; and to initiate micro-projects to pilot animal production centres in selected villages, among other things. It is realized that little has been done due in general to low capacity and technical know-how in the management of livestock including but not limited to appropriate breed, disease control and management and feed. Given, the insufficient implementation of LASIP I, this new plan re-emphasizes the importance of promoting livestock and poultry development to meet the domestic demand. The country has shown potential to promote the livestock through CARI which made some gains in reactivating the Swine, Small Ruminants (goats and sheep) and Beef Cattle Unit.To promote sustainable livestock and poultry development, LASIP II will assess the potentialities, opportunities and challenges of the sector. It will help develop the production of livestock and poultry feeds, infrastructure, veterinary services, education and animal health.

c) Strengthen and promote fisheries and aquaculture development

Liberia has a potential to develop aquaculture, but it is underexploited. It has a potential of producing 15,000 tons by 2030 if it is developed across the country (MOA, 2008). The main constraints of the sector are related to the limited number of fish farmers involved in fish culture and the subsistence characteristic of the sub-sector. In addition, there is a lack of seed and fish feed production and supply and extension. Some pilots have been implemented in the country with support of partners such as FAO. LASIP II seeks to support hatcheries and aquaculture best practices and sustainable production of fish feed and juveniles.

d) Enhance crops production and productivity

Crop production is low for all crops, likewise the productivity. For instance, 1.7 tons/ha (rice); 8 tons/ha (cassava); 0.2 tons/ha (cocoa); 0.8 tons/ha (natural rubber); and 2.5 tons/ha (crude palm oil). The main export commodities, such as oil palm, cocoa, rubber, and coffee are experiencing declines in international prices and hence deepening the vulnerabilities of the country to international commodity prices. Therefore ways to increase crops productivity to remain competitive within ECOWAS and global markets is key. The role of agricultural research to drive innovations and enhance technology adoption has been impaired for long and needs to support the uptake of appropriate technologies. With massive irrigation potential, only 1% of irrigable land is developed (about 600,000 hectares).

The country highly relies on food commodities (especially rice and wheat) imports for domestic utilization (about 73%). The domestic production is not enough to meet the highly increasing demand as a result of rapid urbanization. The food domestic supply was estimated at 445,000 tons of cereals in 2015, including 350 000 tons of rice, 67,000 tons of wheat and 28 000 tons of maize (FAO &WFP, 2014). The total cereal import is 65 000 tons higher than the quantities imported during 2014 and are similar to the year before. In this context, there is a need to enhance sustainable crop production and productivity. Under this activity, provision of

improved crop varieties and implementation of integrated pest management will be supported. Post-harvest technologies and agroforestry systems and improved tree plants will be promoted.

e) Collaborate with the Land Authority in ensuring the availability and sustainable utilization of arable land

Land is not readily available for sustainable cultivation due to poor tenure especially for poor and vulnerable people who can only grow short-term crops. Besides, most lowlands are not developed in a way that allows for infrastructures that promote sustainable development such as irrigation scheme and water management system. Thus, the plan seeks to support the development and dissemination of legal frameworks protecting smallholder land rights including the VGGT guidelines at all levels. Also, the plan will advocate for land suitability assessments for crops and pastures.

4.2.4.3. Sub-component 4/Expected outcome: Climate smart agricultural production techniques enhanced

Liberia has the largest remaining rainforest in Africa. This serves as a carbon store to reduce global warming. According to the UNDP (2009), tropical deforestation and degradation resulting from agricultural land expansion (crops and livestock), logging, and bushfires account for about 20% of global greenhouse gas emissions, which supersedes emissions from the transportation sector. At community level, farmer have adopted diverse coping strategies to deal to adapt to climate change. These activities need to be strengthened and support through climate-smart techniques and technologies. This sub-component will support the mainstreaming of climate smart agriculture into programs and the implementation of climate smart agricultural production techniques.

Key development gaps:

- Inadequate education and awareness on climate change
- Poor copping strategies of farmers regarding climate change
- Inadequate production techniques in relation to climate change

Activities

a) Support the mainstreaming of climate smart agriculture into programs

Under the leadership of EPA, the government has designed the National Adaptation Program for Action (NAPA) but the action plan for implementation is not yet developed. The NAPA identified key adaptation needs and listed priority activities to be implemented. LASIP II will encourage the collaboration between EPA and other relevant ministries, agencies and partners in developing the action plan for the NAPA for implementation.

b) Promote and support the implementation of climate smart agricultural production techniques

To improve the adaptation to climate change, build resilience and develop sustainable agricultural production, farmers efforts of building coping strategies have to be strengthened. There are techniques of climate-smart techniques applied to agriculture in Liberia and supported mainly by donors. LASIP II will promote the scale up of best practices through the dissemination of information on climate smart technologies to small farmers. It will be supported by capacity building on productive enhancement technologies including propagation and use of high-quality seeds and seedlings that are climate resistant. Agroforestry and out-grower smallholder climate smart programs in cooperation with agricultural concessions and other partners will be developed. The diversification of climate smart high value crops will be supported as well.

4.2.4.4. Sub-component 5/Expected outcome: Use of gender and environment sensitive technologies and practices enhanced

The issue of gender in agriculture has not been fully addressed in the past when it comes to technologies. Even though the mechanisation is not well developed in Liberia, women and men have no equal access to the existing machines and tools. Women in agriculture keep using traditional agricultural tools that negatively impact production levels and food and nutrition security. Despite that, women contribute greatly in the overall agriculture production. This is why LASIP II will promote the use of gender and environment sensitive technologies and practices.

Key development gaps:

- Lack of labour saving devices in agricultural production

Activities:

a) Promote appropriate labour saving devices

To address gender inequalities in terms of access to inputs and technologies, women need to be supported with appropriate tools. In the context of Liberia's agriculture, labour saving devices will be promoted. It will contribute to sustainably increase the production and enhance food and nutrition security. As such, programs that include inputs and labour saving devices will be encouraged. At the same time, mainstreaming of gender issues in all agricultural programs and proposed intervention at all levels will be supported.

4.2.4.5. Sub-component 5/Expected outcome: Sustainable use and management of natural resources improved

Liberia has important natural resources for agriculture purpose. It is benefiting large water resources which is key for agriculture development. For instance, there exist nine major perennial river systems and short coastal watercourses which drain approximately 66% and 3% of the country, respectively. The irrigation potential is about 600,000 ha leading LASIP I to increase the share of arable land under irrigation from less than 0.2% to 5%. But little has been

achieved and no irrigation system has been fully completed. The total water-managed area in 1987, including rice swamp control, was estimated at about 20,100 ha; these include equipped lowlands (2,000 ha) and non-equipped cultivated swamps (18,000 ha). Liberia has a large potential of land that is mainly used for cash crops. LASIP I had targeted developing and increasing the total area of wet and degraded land for year-round utilization to produce food crops, particularly rice and vegetables. Some efforts have been done and need to be strengthened and sustained. Liberia also has huge potential of marine resources but there is no marine protected areas (MPAs) established.

Key development gaps:

- Lack of land use policy and planning
- Very low electrical and other energy sources to power agro-industries

Activities:

a) Promote and support the conservation of forest areas and sustainable environmental-friendly farming practices

Forest areas are necessary resources for communities and household livelihoods. The development of charcoal and logging is growing and can negatively impact the livelihood of the communities. Even though, measures of regulating the exploitation of forests have been undertaking, efforts need to be pursued for the conservation and use of sustainable farming practices. Therefore LASIPII will support and promote actions for protecting forests, watersheds and wetlands. To further act against climate change, the plan will advocate for and support the combating of desertification and conservation of biological diversity.

b) Promote and support sustainable and gender sensitive use of natural resources

The issue of women accessing natural resources has always been problematic, particularly the land rights situation remains unresolved especially under the customary law. There are also social and educational barriers that limit the contribution and participation of women in the management of natural resources. Consequently, the plan will support climate change-related activities, education and training for women and youth as well as promote proven best practices and measures that support natural resource management.

4.2.5. Component 5: Governance and Institutional Strengthening

Strategic Policy Objective: To improve governance and institutional capacity to implement Programs and projects.

Sub-components/Expected outcomes: The following are the investment priorities to improve governance and strengthen institutions.

1. Coordination mechanism for mutual accountability strengthened
2. Capacity of institutions strengthened

Situational Analysis: Effective project/Program coordination, good communication strategy, monitoring and evaluation strategy, and effective supervision are critical to the achievement of Liberia's food and nutrition security goals. Lessons learnt from the review of the implementation of the first generation of LASIP by MOA, the key implementing partners, suggest ineffective coordination, inadequate collaboration and cooperation between MOA and other stakeholders on the one hand, and between MOA's PMU and other stakeholders on the other hand, in achieving project results. Non-state actors and the private sector in particular need to be fully involved in this investment plan. The inclusion of this component is to mutual accountability mechanisms are established in line with the Malabo declaration.

4.2.5.1. Sub-component 1: Coordination mechanism for mutual accountability strengthened

LASIP II is the output multi-stakeholder consultations that involved private sector, CSO, donors and farmers. Non-state actors (comprising the private sector actors, civil society organizations, international and local Non-Governmental Organizations), are a group of economic agents whose involvement in the policy making process matter to the achievement of policy targets. To walk the talk of mutual accountability as one principle of CAADP, coordination mechanism will be strengthened.

Key development gaps:

- Weak coordination among stakeholders
- Ineffective communication strategy among MACs, Development Partners (DPs), Non-State Actors (NSAs), and the general public.
- Fragmented interventions
- No systemic M&E of the LASIP I
- Weak inter-ministerial coordination

Activities:

a) Operationalize central M&E system at the MOA

There is a clear provision for M&E within the LASIP I plan. However, the process was fragmented and was not implemented as planned. Practically, individual projects contributing to the achievements of LASIP objectives have very good and strong M&E framework and system but this did not feed well into an overall M&E system or framework for LASIP I. There was no central M&E system to manage the M&E framework for LASIP I. As a result, there was no

coherent, coordinated and systematized data collection, analysis and reporting. Therefore, measurement of LASIP I's results tends to be very difficult and challenging. In addition, there was no regular monitoring and periodic evaluation and/or review of LASIP I as a program during its life span. Moreover, no mid-term review or evaluation was conducted that could have provided information on progress and challenges and consequently guide implementation. For this new plan, focus will be on providing technical support to build a centralized M&E system at the MOA. This system will be performed by a capacity building package that include regular training in data management. This will help facilitate the conduct of quarterly sector performance assessment and disseminate the findings. As a key indicator for mutual accountability biennial reports will be more effectively realized.

b) Strengthen and support multi-stakeholder platforms for policy dialogue and sector coordination

The LASIP I clearly laid out coordination mechanism from the national to the community levels. Currently, there are many coordination mechanisms in place for agriculture and food and nutrition security. For instance, the Agricultural Coordination Committee (ACC) has been established to provide technical assistance in coordination, implementation, monitoring and evaluating the investment program. Secondly, a donors' forum exists, which aims at sharing progress reports and solicit the views of donors, advocate for resource mobilization within the donor community, and reassure donors of the GOL's continuing commitment to agricultural sector growth and development. For the coordination of food and nutrition security, two mechanisms are proposed: a steering and a technical committee. However, the mechanisms are not functional, leading to weak coordination.

As a result, many projects were implemented in silo and/or without the full involvement of the Ministry. Also, there is high likelihood of duplications and concentration of projects in some localities at the expense of others given the poor level of coordination. Nevertheless, it is stated in the LASIP I: "the implementation of LASIP will rest with the MoA. A LASIP Coordinator will be based at the ministry's Program Management Unit... The PMU's overall goal is to coordinate projects, procure equipment and provide management, supervision and capacity building support to the agricultural sector."

For this activity, annual peer-review with private sector, donors, farmers' groups, women and youth associations and CSOs for coordination and supervision will be organised. In addition, monthly sector coordination meetings with stakeholders will be reactivated. For information sharing among stakeholders, mapping of interventions and actors as well as a database will be put in place. For the overall monitoring of the plan CAADP country teams will be put in place at all levels. To ensure the government's responsibility, inter and intra-ministerial consultations, collaborations, and coordination will be undertaken.

4.2.5.2. Sub-component 2/Expected outcome: Capacity of institutions strengthened

The key requirement for a successful implementation of the LASIP II will depend on the government institutional capacity. The civil crisis decimated nearly all the institutions within the agriculture and food security sector. The ministries, agencies and commissions (MACs) of

government within the agriculture and food security sector did not have the institutional, human and technical capacities to function optimally. Since then, the sector has seen some level of progress and improvement, up to and after the implementation of LASIP in institutional, technical and human capacities, even though there still remain enormous challenges in terms of capacities that require urgent attention. The expected outcome over time is increased human resource capacity for the sector. At the same time, the technical capacity is gradually improving. Specialists have been trained in different areas to introduce and advance the use of technology and improved farming methods for enhanced production and productivity and mostly with support from partners. However, it is recognized that there is a need for the strengthening of the institutional capacities in terms of human resources, organization and techniques.

Key development gaps :

- Weak institutional implementation capacity of the government
- Limited human resources to implement the plan

Activities:

a) Support technical and human capacities of institutions

For proper and coherent implementation of this investment plan, it is crucial that the level of technical and human capacities within the institution are strengthened. Therefore, this activity will focus on training to enhance the human and operational capacities of the institutions. Likewise, the capacity development of FBOs, CBOs, Cooperatives, NSAs and SMEs in terms of human, institutional, managerial, organizational, coordination and communication skills will be improved.

5. THE BUDGET AND FUNDING STRATEGY 2018-2022

5.1. Evaluation of the LASIP II budget

As noted earlier in the LASIP I review, US$947.7 million was earmarked or budgeted to implement the five (5) LASIP I Programs and only US$ 409.26 million (43.18%) was mobilised and allocated. This resulted in a funding gap of US$ 538.44 million.

With respect to LASIP II, five (5) investment Programs are again proposed for implementation. Based on the LASIP I implementation assessment, and aligning with the Liberia agriculture, food security and nutrition objectives for 2018-2022, the estimated budget for LASIP II implementation is **US$ 554,463,800.00** (See Table 5. 1). This budget represents a **35.4%** increase as compared to resources mobilized throughout the LASIP 1 implementation. The LASIP II budget is built on the realistic operational deliveries capacity of Liberia agriculture sector and designed to address major sectoral challenges and gaps in a view to enhance food security and nutrition in Liberia.

5.2. Funding Strategy for LASIP II

Three major funding sources are envisaged for LASIP II: the Government of Liberia (GoL), bilateral donors/Development Partners (DPs), and the private sector. In retrospect, LASIP I funding received at least 90% of funding through multilateral and bilateral means. It is also predicted that a similar funding trend will be followed.

Through the livelihoods, resilience and nutrition components (Program 1), the Government intends to:

1. Establish a safety net for the benefit of 125,000 people,
2. Operationalize national and community reserve schemes
3. Provide crop, livestock and Non-Wood Forestry Production starter kits to more than 100,000 smallholders in a view to enhance diversified household-based production and promote healthy and quality diets, as well as provide starter processing and conservation packages for fruits and vegetables to 2,000 households, aiming to maintain food and nutrient quality throughout the year. This Program represents **18.40 %** of the LASIP II budget and addresses major nutrition-sensitive agriculture issues, as per the year-long supply of diverse and nutritious foods, market access, post-harvest loss and nutrition education and leverage livelihoods.

Through the Sustainable production and productivity systems in rural areas components (Program 2), the government aims to:

1. Provide subsidies to 2,500 smallholders for mechanized equipment
2. Increase the irrigated areas by 1,000 ha
3. Provide training and subsidies to more than 1,000 fish producers and fisheries and aquaculture value chain stakeholders
4. Provide training and subsidies (starter kits) to 5,000 livestock producers
5. Provide training and subsidies (starter kits) to 110,000 food crop producers
6. Provide technical trainings and subsidies (starter kits) to 6,000 tree crops producers, and
7. Promote sustainable land and water management at the community level in all the country. This Program is **38.12%** of the LASIP II budget.

Through the Competitive value chains and market linkages component (Program 3), the government aims to:

1. Construct 1000 km of farm to market roads
2. Rehabilitate 2,000 km rural roads
3. Construct and rehabilitate 300 agriculture product market sites, processing and storage facilities in a view to limit post-harvest loss
4. Strengthen the technical capacities of the agriculture product quality control laboratories and
5. Develop 6 “Agropoles”. This Program characterize the largest budget allocation of LASIP II, constituting **39.03 %.** This allocation shows the government's willingness to develop agribusiness and modernizing the agricultural sector in Liberia.

Through the Governance and institutional capacity of the agriculture sector component (Program 4), the government will strengthen the human, technical, operational and institutional capacities in the agricultural sector in Liberia. The budget for this component is **4.45%** of LASIP II budget with the focus on agriculture research. **The specific allocation for agriculture research is 6.4 % of the LASIP II budget (around US$ 34 million)**.

Table 5. 1: Liberia Agriculture Sector Investment Plan (LASIP II) Detailed Budget

LASIP II STRATEGIC OBJECTIVES (SOs)	PROGRAMS	SUB-PROGRAMSS	2018	2019	2020	2021	2022	Total
SO1 / To improve resilience to crises and food and nutrition security of vulnerable populations	C.1 Livelihoods, resilience and nutrition		**18 918 000**	**18 468 000**	**18 389 000**	**18 389 000**	**18 599 000**	**92 763 000**
		C.1.1 Management of food insecurity & malnutrition vulnerability, with a focus on women and youth	9 860 000	9 410 000	9 410 000	9 410 000	9 760 000	**47 850 000**
		C.1.2 Diversification of food production	4 160 000	4 160 000	4 160 000	4 160 000	4 160 000	**20 800 000**
		C.1.3 Improvement of nutrition knowledge, attitudes and practices for vulnerable populations	4 898 000	4 898 000	4 819 000	4 819 000	4 679 000	**24 113 000**
SO2 / To improve sustainable production and productivity (ag, fisheries, livestock and forestry VCs)	C.2 Sustainable production and productivity systems in rural, peri-urban and urban areas		**30 544 000**	**36 444 000**	**36 661 000**	**41 853 000**	**46 628 000**	**192 130 000**
		C.2.1 Agricultural mechanization and irrigation	7 365 000	13 115 000	13 565 000	19 015 000	23 765 000	**76 825 000**
		C.2.2 Fisheries & Aquaculture Development & promotion	2 240 000	2 265 000	2 240 000	2 190 000	2 215 000	**11 150 000**
		C.2.3 Livestock (and Poultry) Development and Promotion	3 683 000	3 808 000	3 933 000	4 058 000	4 058 000	**19 540 000**
		C.2.4 Food Crops Production and Productivity Enhancement	10 155 000	10 155 000	10 155 000	10 155 000	10 155 000	**50 775 000**
		C.2.5 Smallholder Tree Crops and Agroforestry Development	1 765 000	1 765 000	1 715 000	1 665 000	1 665 000	**8 575 000**
		C.2.6 Land tenure and sustainable natural resource management	5 336 000	5 336 000	5 053 000	4 770 000	4 770 000	**25 265 000**
SO3 / To	C.3 Competitive		**27 255 000**	**32 955 000**	**39 605 000**	**46 155 000**	**50 755 000**	**196 725 000**

LASIP II STRATEGIC OBJECTIVES (SOs)	PROGRAMS	SUB-PROGRAMSS	2018	2019	2020	2021	2022	Total
strengthen value addition, competitiveness and market access	value chains and market linkages	C.3.1 Farm to market roads development	12 300 000	13 700 000	19 850 000	26 000 000	27 400 000	**99 250 000**
		C.3.2 Storage and commercialization infrastructure and energy development	9 725 000	9 725 000	9 725 000	9 725 000	9 725 000	**48 625 000**
		C.3.3 Food safety and quality enhancement	1 025 000	1 025 000	1 025 000	1 025 000	1 025 000	**5 125 000**
		C.3.4 Agribusiness and marketing development	4 205 000	8 505 000	9 005 000	9 405 000	12 605 000	**43 725 000**
SO4 / To improve sector governance	C.4 Governance and institutional capacity of the agriculture sector		**4 230 000**	**4 460 000**	**4 610 000**	**4 470 000**	**4 670 000**	**22 440 000**
		C.4.1 Capacity development for stakeholders of the sector (incl. CSOs; cooperatives and women and youth groups)	850 000	1 050 000	1 250 000	1 450 000	1 650 000	**6 250 000**
		C.4.2 Policy process support	200 000	200 000	200 000	200 000	200 000	**1 000 000**
		C.4.3 Coordination mechanisms	70 000	70 000	70 000	70 000	70 000	**350 000**
		C.4.4 M&E systems and accountability mechanisms	90 000	120 000	90 000	100 000	100 000	**500 000**
		C.4.5 Inclusive and innovative rural financing	3 020 000	3 020 000	3 000 000	2 650 000	2 650 000	**14 340 000**
Operational costs			**80 947 000**	**92 327 000**	**99 265 000**	**110 867 000**	**120 652 000**	**504 058 000**
Administrative and Operational costs (10%)"			**8 094 700**	**9 232 700**	**9 926 500**	**11 086 700**	**12 065 200**	**50 405 800**
Total			**89 041 700**	**101 559 700**	**109 191 500**	**121 953 700**	**132 717 200**	**554 3 800**

6. THE IMPLEMENTATION STRATEGY FOR THE PERIOD 2018-2022

The timely review of the implementation of LASIP I revealed lapses in the overall implementation strategy which adversely impacted on project results. Communication, coordination, and M&E (including project supervision) components of the strategy under LASIP I suffered at the local and national levels. First, the communication strategy was unclear and ill-defined. Thus, there was limited awareness and understanding about the investment plan, resulting in the lack of commitment and coordination efforts. Second, project coordination activities by the MOA was weak, resulting in the duplication of some projects within the same county and therefore inefficiency in resource allocation. Third, there was lack of a comprehensive and centralized M&E system or framework although individual projects could boast of a well-designed project M&E system. In view of this, proper data collection was lacking, likewise project monitoring and evaluation and reporting. The implementation strategy for LASIP II therefore takes cognizance of the lessons learnt during the implementation of the first generation of agricultural sector investment plan.

6.1. Management of LASIP II Implementation

The management of LASIP II implementation will be based on three (3) guiding principles to ensure successful implementation:

- Build a strong coalition of industry players (public and private sectors) through shared vision
- Efficiently allocate resources through the alignment of public and private sector investments/projects
- Focus on tangible results

Hence, for a successful implementation of LASIP II, this strategy has been developed to institutionalized programs and sub-programs of the LASIP II. It closely adheres to the institutional arrangements contained in the Food Security and Nutrition Strategy to guarantee government continuous commitment, coordination, and accountability of efforts, resources, and results at the national, sectoral, and local levels. As such, the President of Liberia will provide national oversight and regularly inform/consult with the Cabinet on progress and issues arising. The President will also chair the national *Stakeholders' Forum* held periodically for the purposes of sharing information and experiences on the implementation of the investment program which fulfils continental commitments as contained in the CAADP Principles or Malabo Declaration.

The highest decision-making body at the Sectoral level is the Inter-ministerial Food Security and Nutrition Technical Committee (FSNTC), which is chaired by the MOA. Other members on this Committee include, but not limited to heads of the Ministry of Finance and Development Planning, Central Bank of Liberia, Ministry of Commerce and Industry, Ministry of Internal

Affairs, Ministry of Public Works, Ministry of Health, Environmental Protection Agency, Liberian Business Association, Liberian Bankers Association, Liberia Federation of Cooperative Societies, and Liberia National Farmers Union Network.

Also, at the Sectoral level, the Agriculture Coordination Committee (ACC) seated at the MOA along with the Donors' Forum shall continue to collaborate to advance the sector objectives. For technical programs and assistance, the ACC comprised of the Divisions of Sector Coordination and M&E of the MOA along with selected stakeholders' institutions will coordinate, implement, monitor and evaluate the investment programs. These actions shall aid the MOA to prepare annual plans/programs based on elements of the investment priorities for resource mobilization, allocation, and utilization in the sector. The Donors' Forum on the other hand will advocate for mobilization of resources from the donor community as well as disseminate progress reports and solicits views/inputs into policies/programs for effective and efficient planning and implementation. The Forum comprised of the Divisions of Planning and Policy and Food Security and Nutrition at the MOA along with key stakeholders' institutions shall continue to reassure donors of the GOL's continuing commitment to agricultural sector growth and development.

For effective coordination, the Sector will continued to be coordinated and monitored at the local levels (County, District and Clan). A Steering Committee at each local level will coordinate inputs into the annual plans and programs prepared by the MOA. The Committees will be assisted through the MOA decentralized structures to organize, contribute to, develop annual plans as well as participate in investment activities and also serve as M&Es. The Steering Committee shall be composed of the highest agriculture staff along with key stakeholders entities present at each local level.

Furthermore, as lead of the Sector, the MOA will ensure the management/coordination and implementation of LASIP II. The Ministry's Program Management Unit (PMU) was set up at the Ministry as part of reform to manage donor funded projects. The overall goal of the PMU is to coordinate donor funded projects, provide management, supervision, and capacity building to the agriculture sector. Projects are generally developed based on LASIP programs to strengthen the capacity of the agriculture sector. Hence, the Director of the PMU will serve as LASIP II/CAADP implementation Coordinator. The PMU will thus strive to demonstrate transparency to the GOL, stakeholders including donors. The PMU Director shall work in close collaboration with the CAADP Focal Person who is the Director of Planning and Policy of the MOA.

The role of the LASIP/CAADP Coordinator will remain critical to ensuring that all The existing and proposed projects under LASIP II, irrespective of the funding source and who the project/Program originators and/or implementers are, will be coordinated, monitored and evaluated, and supervised by the MOA. With complete oversight responsibility, the LASIP/CAADP Secretariat will be strengthened by recruiting the needed team of experts or professionals in various fields to deliver the intended results under LASIP II. As LASIP II comprises five (5) major program areas/strategic objectives, a Program Manager (PM) will be

assigned to each Program and sub-Programs with the responsibilities of managing and coordinating project-related tasks to ease coordination. These respective managers shall constitute the CAADP/LASIP Country Team.

A workable and transparent governance structure will be established with clearly defined duties and responsibilities for the CAADP/LASIP Country Team under the leadership of the MOA. T Amongst others, the PMU shall therefore comply with all accountability principles and international standards in executing its onerous management duty. LASIP/CAADP operations will be visible at the local levels (County, District, and Clan) by liaising with the MOA County Agriculture Coordinators (CACs), District Agricultural Officers (DAOs), and Clan Technicians. CAADP/LASIP operations will derive support from implementing projects as part of capacity-building to the Sector.

6.1. Coordination Mechanisms

An important component for the effective delivery of LASIP II results is deploying a workable Program and project coordination mechanisms. An integral part of these delivery is the clear definition of roles and responsibilities amongst stakeholders from the MACs and Non-State Actors (NSAs), who are largely private sector players and civil society organizations (CSOs).

The PMU, through the **LASIP II Program Coordinator (LPC)**, will be responsible for ensuring effective Program coordination amongst Development Partners (DPs), Sector Ministries, Agencies, and Commissions, and Civil Society Organizations (CSOs). Clearly established coordination mechanisms and arrangements (whether explicitly written or not) will be agreed upon by all implementing stakeholders mainly to ensure effectiveness in achieving project results. Whilst the LASIP II Program Coordinator (LPC) is the overall coordinator of all LASIP II investment activities and hence serves as a portfolio resource manager (Macro level coordinator), the 5 **Program Managers** (Meta level coordinators) will primarily be engaged in effectively coordinating and managing all projects under their ambit and serve as channels between the LPC and the **Project Managers** (Micro level coordinators), who will attend to the day-to-day execution or implementation of the projects. These three (3) groups of experts will be nominated from the MOA and implementing partners to deliver tangible results.

6.2. M&E and supervision

Consistent monitoring and evaluation accompanied by regular supervision of projects ensures efficient resource allocation and project success enhanced. The present M&E design for LASIP I will be improved by introducing a centralized M&E system that will be centrally situated at and implemented by the M&E Unit of the MOA. A comprehensive M&E framework/system known as the Liberia Agriculture Monitoring and Information System (LAGMIS) has been developed

with funding from the USAID/FED Project. LAGMIS contains data collection sheets, appropriate indicators for measurement, means of verifications, project timelines, responsible individuals or teams for various activities that can be accessed for real time data. , and equipment and facilities for effective M&E delivery put in place. M&E units will be created and equipped and training will be provided to users at all levels to support in data collection and reporting. The M&E Directorate of the MOA will be responsible for ensuring consistent LASIP projects monitoring and evaluation, data analysis, and dissemination of progress reports. Thus, the Division of M&E shall implement the M&E framework and ensure the consistent supervision of LASIP II Programs nationwide.

Through the centralized M&E system, all LASIP II projects and programs will be assessed/evaluated periodically by identifying objective performance indicators that are SMART to track performance. The indicators identified in the Results Framework (RF) and any additional ones will serve as addendum indicators for the M&E framework. These performance measurements will be undertaken on a regular basis per agreed time frame.

6.3. The Communication strategy

An effective communication strategy is paramount to the effective implementation and successful delivery of project results. It is known that one of out five projects become unsuccessful due to ineffective communication. The purpose of LASIP II communication plan and strategy is mainly to:

- Help achieve LASIP II outputs, outcomes, and project impacts
- Ensure stakeholders fully appreciate and understand the tasks ahead
- Fully get stakeholders engaged and committed to project goals and objectives
- Highlight project successes as a result of concerted efforts by project teams

Proposed communication plan and strategy over the 5 years of project implementation will be as follows:

- The Project Management Unit (PMU) shall be responsible for initiating or calling for all program related meetings as well as disseminating all LASIP programs -related information to stakeholders and the general public. It shall circulate what must be communicated (i.e., minutes of previous, reports, summarised or details, etc.) prior to any scheduled meetings and shall keep records (hard and soft copies) of all communications made.
- Keep all project teams in constant communication just to ensure all stakeholders are informed. The preferred means of communication, such as face-to-face meetings, telephone calls, internet or appropriate communications tools will be agreed upon during project kick-off meeting.

- Ensure communication is inclusive by not deliberately leaving other stakeholders out. An option will be to acquire a project software with a portal that will serve as a central hub for communication. Cloud-based project management tools could be employed. Through this approach, the probability that stakeholders will be excluded from communications will be dramatically reduced.
- The CAADP coordinator shall work with NSAs/CSOs to advocate and disseminate LASIP programs.
- Internal conflicts among individuals or group of individuals participating in any meeting will be managed using agreed upon conflict resolution mechanisms.

In general, the PMU will ensure that information provided is delivered to the right stakeholders at the right time and in the right format that will generate the intended impacts.

6.4. Mutual Accountability Principles

One of the CAADP principles is to ensure collective responsibility and inclusive participation. The Malabo Commitment VI requires countries to be mutually accountable to their actions and results achieved. In general, mutual accountability is seen as a process whereby two or more parties hold each other accountable for the commitments they have both voluntarily agreed to. In order to track how well the financial and technical commitments of stakeholders have translated into tangible Program and project results, all mutual accountability principles will be respected and duly followed. Timelines for the Agricultural Joint Sector Reviews (AJSRs) and the Biennial Review Processes will be fully followed as prescribed in the CAADP guidelines. Using the agreed-upon indicators for performance tracking, the AJSRs will therefore be results-based. To enhance success, additional AJSR meetings will be organised.

7. ASSUMPTIONS AND RISKS

The effective delivery of the needed LASIP II investment results/impacts will largely depend on assumptions that underpin the investment plan and the risks that it presents, both of which are outside the scope of project implementers.

7.1. Assumptions

As indicated earlier, the following explicit assumptions are deemed to hold true for LASIP II implementation to deliver the needed results:

- Political stability
- Sound macroeconomic fundamentals
- Financial commitment of the Government of Liberia (GoL) to the renewed CAADP agenda by allocating at least 6% of its public expenditure to the agricultural sector;
- Financial commitment of development partners (both donor and technical) to supplement national resources in supporting the transformational agenda;

7.2. Risks and Risk Management

LASIP II is subject to a number of risks factors that must be identified and mitigation measures rolled out. Some of the risk factors include the following:

- Untimely release of funds (by GoL and development partners) for project implementation.
- Unresponsiveness of the private sector actors and/or Non State Actors (NSAs) to available investment opportunities across the commodity value chains
- Limited human resource and institutional capacity (systems, skills and expertise) to support project implementation
- Negative impact of climate variability on expected project results.

Table 7. 1 presents the levels of these risks, likely consequences of the risks happening and the mitigation measures proposed to overcome the risks.

Table 7. 1: Risk Factors and Mitigation measures

Potential risk	Level of Risk	Probable Consequences	Mitigation measures
Untimely release of funds	Medium	• Delays in project implementation and desired results	• Disseminate timelines for disbursement of project funds and ensure timely releases
Unresponsiveness of private sector	Medium	• Low production,	• Sensitise actors

Potential risk	Level of Risk	Probable Consequences	Mitigation measures
and/NSAs to available investment opportunities		productivity, incomes, employment. • Increased poverty and food and nutrition insecurity • Continues dominance of government in agricultural and agribusiness activities	through workshops on business opportunities • Understand and address their challenges (e.g., incentives, etc.) • Create a conducive environment for business development
Limited human resource and institutional capacity	Medium	• Weak ability to formulate sound policies, design, implement, monitor, evaluate, coordinate, and supervise projects	• Provide appropriate and targeted capacity building courses for MACs and private sector • Utilize consultants in critical situations • Undertake Organizational Capacity Assessment (OCA) and build systems
Negative impacts of climate variability	Medium	• High food insecurity • High poverty rates	• Adopt climate smart agricultural practices • Provide technical support to smallholder farmers • Strengthen emergency and disaster management system

8. ECONOMIC AND FINANCIAL PROFITABILITY OF LASIP II

The Liberian Agricultural Sector Investment Plan (LASIP II) is an investment document to transform the sector. Will investment in this sector be justified on economic and financial grounds? How profitability are these investments and what are the impacts? Will the annual allocation of at least 10% of Liberia's national budget translate into a minimum 6% annual growth rate in the sector? These questions raised are difficult to answer. However, this section briefly highlights the benefits or impacts expected from investing in the agricultural sector, which generate huge financial and economic benefits in the medium to long term.

8.1. Economic profitability of LASIP II

The agricultural sector in Liberia presents huge economic and business potentials for the economy. Investments, from both public and private sectors, are required to transform the sector and generate the needed results (i.e., outputs, outcomes, and impacts). With the huge capital injection into the LASIP II, it would be expedient to consider the economic viability of these investments, with the Net Present Value (NPV) being a criteria to consider. This kind of assessment is beyond the scope of this document. However, based on the real identified needs of the Liberian people, these investments would be quite justified, knowing the economic role that agriculture plays in the economy: a major source of foreign exchange; major source of government revenue; avenue for employment for the youth and women; significantly contributing to food and nutrition security, and poverty alleviation. It is also important to mention that a study by Benin (2016) reveals that the impact of CAADP implementation by African countries on agricultural value-added is generally positive, with the extent of impact linked to the level/stage of CAADP implementation reached by the country. The impact on land and labour productivities are mixed, depending on the stage reached whilst the impact on income and nutrition is generally insignificant. The study further noted that the extent of impact of CAADP on other indicators were generally insignificant, suggesting the inability of the achieved positive impacts, such as agricultural value addition, translating to favourably impact the entire economy.

8.2. Financial profitability of the plan

The identified potential of agriculture and agribusinesses in Africa compelled the African Union (AU) to commit their governments to allocate at least 10% of their national budgets to the agricultural sector with the expectation of achieving a minimum 6% growth rate annually. However, the slow growth of the sector is unacceptable and needs to be changed by injecting financial resources into key investment priority areas. It is also known that investments in agriculture takes longer periods to show results and recover costs. However, empirical evidence, as noted by the Organization for Economic Co-operation and Development (OECD), suggests that rural incomes in African countries increase from US$1.5 to US$2.5 when farm

incomes increase by US$ 1 (ANSAF, 2012). This evidence highlights the potential impacts of agricultural investments on the livelihoods of agricultural households.

9. LASIP II RESULTS FRAMEWORK

The LASIP II Results Framework (LRF) is a major framework designed to monitor and track the LASIP II implementation process. In a logical flow, the desired LASIP II results in terms of project impacts, outcomes, and outputs resulting from activities implemented are indicated. Objective performance indicators are provided, likewise the set targets from which performance in the agricultural sector will be measured. Table 9. 1 presents this Results framework, which comprises 5 strategic policy objectives and 20 outcomes. The distribution are as follows:

- Strategic Objectives 1: 4 outcomes
- Strategic Objectives 2: 5 outcomes
- Strategic Objectives 3: 4 outcomes
- Strategic Objectives 4: 5 outcomes
- Strategic Objectives 5: 2 outcomes

Table 9. 1: Results Framework for LASIP II

10.LASIP II RESULTS FRAMEWORK

Results Area	Indicators	Methods of verification	Data Sources	Contribution to Malabo Targets
1. IMPACT				
SO1: To sustainably and reliably access adequate, nutritious, and needed food for utilization for healthy lives	Rate of malnutrition, stunting, hunger	Surveys/assessments, reviews of secondary sources	MOA, FAO, MOH, LISGIS, WFP, WHO	III and VI,
SO2: To develop and support competitive value chains and market linkages (CVCML)	Ratio of agriculture GDP	Studies/surveys, reports, administrative records,	MOCI, MOA, LISGIS, agri-business, LIBA, MFDP	II, III, IV, V
SO3: : To strengthen agricultural	Rate of feedback from farms to research centers	Administrative records, research reports	Research centers, farmers groups, MOA, partners	III, IV, VI,

extension, research and development for enhancing sustained productivity growth	and vice versa on improved technologies and innovations			
SO4: To increase sustainable production and adopt agricultural practices that maintain the ecological and biological integrity of natural resources	Rate of environmentally destructive practices of natural resources Rate of recovered degraded natural resources	Studies, reviews (reports/administrative records)	Natural Resources entities (i.e. EPA, FDA, MLME), MOA	III, IV, VI
To improve governance and institutional capacity to implement programs	Quality of performance of CAADP/ LASIP Country Management Team	Assessment/performance appraisal/ evaluation, Administrative records	Staff/institutional performance records of institutions implementing LASIP programs	I and VII

and projects				
2. OUTCOMES				
2.1.1: Reliable and functioning food and nutrition security information and monitoring system in place	Rate of report of food and nutrition security information and monitoring system	Administrative records, information and monitoring system reports	MOA, MOH, LISGIS, WFP, WHO	III (c & d) and VI (b & c)
2.1.2: Effective chronic and acute food insecurity and malnutrition prevention and management system in place and functional	Rate of stunting, underweight, and wasting % of child	Surveys/assessments, reviews of secondary sources	MOA, MOH, LISGIS, WFP, WHO	III (c & d) and VI (b & c)
Results Area	Indicators	Methods of verification	Data Sources	Contribution to Malabo Targets
2.1.3:	Level of	Studies/surveys,	MOCI, MOA, LISGIS,	II (a & b) III

Productive capacity, productivity and incomes of poor and vulnerable farmers increased	agricultural productivity Level of farmers' income % of agriculture GDP	reports, administrative records,	agri-business, LIBA, MFDP, CBL	(a, b, c), IV (a, b, c), and V (a and b)
2.1.4: Nutrition and food access improved	% of people food secured % overweight, wasting underweight & overweight	Studies/surveys, reports, administrative records	MOA, LISGIS, MOH, WFP, FAO,	III (a, d) and V (c, d)
2.2.1: Conducive business environment improved	Rate of agri-business establishment	Administrative records, reports	LACRA, MOA, MOCI, MFDP, CBL, LIBA,	I (c), II (b), IV (d), and V (b)
2.2.2: – Agro-industry development promoted	Rate of private sector participation in competitive value chains Value of agricultural sales including exports in $ % of GDP from agricultural value addition	Administrative records	LACRA, MOA, MOCI, MFDP, CBL, LIBA	III (b), IV (a and c)

2.2.3: Agriculture infrastructure developed	% of investment in agricultural infrastructure Types of developed agriculture infrastructure	Field visits, Administrative records	MPW, MFDP, MOA, Partners, private sector	I (d), II (a), IV (b and c) and V (b)
2.2.4: Competitive value chains and market linkages developed	Types of existing value chains % of post-harvest lost Rate of market information exchange/dissemination	Field visits, administrative records	LACRA, MOA, MOCI, MFDP, private sector/LIBA,	II (a) III (b) IV and V (b)
Results Area	Indicators	Methods of verification	Data Sources	Contribution to Malabo Targets
2.2.5: Inclusive and innovative agro-financing promoted	Types of innovative agro-financing % of farmers accessing innovative agro-financing	Administrative records, field visits	MOA, implementing partners, financial institutions, farmers groups	I (d), II (b), IV (c & d) and VI (b)
2.3.1: Agricultural	# of new technologies	Research reports, field reports, farmers	Research centers, MOA, farmers	II (b & c) and VI (b)

research strengthened	released % of agricultural land under improved farm practices	groups' records/administrative records	groups	
2.3.2: Extension and technical services delivery system strengthened	Ratio of extension agents to farmers % of farmers receiving technical services/assistance	Field visits, reports, administrative records	MOA, partners, farmers groups	III (c) and IV (c)
2.3.3: Science, technology, and innovations applied to the agricultural sector	Rate of adoption of new technologies/innovations # of feedback from farmers to research centers	Reports, field visitations, administrative records	Implementing partners, MOA, farmers groups	III (a & b), IV (a, b) and VI (a)
2.3.4: Funding for agricultural research increased	% of funding into agricultural research	Budgets/allotment, reports, administrative records	MFDP, Research Centers, Donors/Implementing partners	II (a & c) and III (c)
2.4.1: Natural Resource Institutions strengthened	# of harmonized natural resource policies % of people engaged in	Administrative records, reports, studies/surveys	EPA, FDA, MLME, MOA, partners,	I (e), III (a) and IV (b)

	environmentally destructive practices of natural resource management Ha of restored degraded land/forest			
2.4.2: Production and productivity of priority value chains increased	Ha of land under cultivation by priority value chain Volume of yield by priority value chain % of income of priority value chain	Administrative records, surveys, reports, field visits	MOA, implementing partners, farmers groups, BNF	III (c), IV (b) , VI (a)
Results Area	Indicators	Methods of verification	Data Sources	Contribution to Malabo Targets
2.4.3 : Climate smart agricultural production techniques enhanced	# of new technologies % of farmers applying climate smart techniques	field visits Administrative records, reports	MOA, implementing partners, farmers groups, BNF	III, IV (), VI (a, b, c)
2.4.4: Use of gender and	Types of released gender sensitive	Reports, administrative records, field visits	Farmers groups, MOA,	III (a) and IV (d)

environment sensitive technologies and Practices enhanced	technologies % of women adopting/using gender sensitive practices /technologies		implementing partners, BNF	
2.4.5: Sustainable use and management of natural resources improved	% of natural resources' users applying improved methods	Reports, administrative records, field visits	FDA, EPA, BNF, MAO	III (a), VI (a & c)
2.5.1: Coordination mechanism for mutual accountability strengthened	Rate of stakeholders collaboration % of implementing partners reporting # of reports produced	Minutes, reports, administrative records	MOA, partners	I (e), IV (a & b)
2.5.2: Capacity of institutions strengthened	Rate of implementation of LASIP programs	Reports, administrative records	Implementing partners, MOA	III (a) and VII (b & c)

11.GENERAL CONCLUSION

The Liberian Agricultural sector Investment Plan (LASIP II) to be implemented from 2018 to 2022 focuses both on the smallholder farmer and the medium to relatively large scale agribusinesses. The plan highlights an ambitious transformational agenda through agricultural value addition that intends to restore hope and confidence in the Liberian smallholder farmer and agribusinesses over the 5 years implementation period.

Lessons learnt from the implementation of LASIP I (2011-2015) has adequately informed the preparation of this investment plan. The strategic vision and objectives contained in this "business plan" are achievable only on two (2) condition. First, key assumptions must hold: the availability of budgeted amounts for each investment Program, commitment on the part of the Government of Liberia, Development and Donor partners, and key stakeholders, recruitment of the right calibre of experts for specified tasks, good macroeconomic fundamentals, attitudinal change on the part of implementers, and general economic and political stability in the Liberia. Second, risk factors will be evaluated as they emerge and timely and adequate mitigation measures put in place to minimize or completely eliminate those risks.

The agenda is to create jobs, increase food and nutrition security, improve the health, livelihoods, and resilience of farmers to shocks, support the growth and sustainability of agribusiness through the creation of an enabling business and economic environment that will attract the needed domestic and foreign investments into the agricultural sector.

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13.APPENDICE

Table A1: Projections of indicators for selected value chain commodities

Value Chain	Product	Indicators	Base year	Baseline	Target 2020	Target 2030
Oil Palm	Palm fruit	Hectarage, ha	2016	54,500	100,000	210,000
	Crude Palm Oil	Yield (tons per ha) Production (tons) Value of production/sales (domestic & export)	2014 2014 2014	2.5 43,600 $35m	3.1 310,000 $248m	3.8 797,000 637m
	Refined Palm Oil	Crude palm oil refined (tons) Value of production/sales (domestic & export)	2016 2016	0 $0m	159,300 $255m	478,000 $760m
	Soaps	Crude palm oil processed to soaps (tons) Value of production/sales (domestic & export)	2016 2016	3,800 $9m	15,100 $36m	57,000 $135m
Rubber	Natural Rubber	Crop hectarage (ha) Yield (tons/ha) Production (tons)	2014 2014 2014	96,000 0.8 76,800	130,000 1.1 143,000	200,000 1.4 280,000
	Processing – RSS & Local Manufacturing	Natural rubber processed (tons) Value of production/sales (domestic & exports)	2014 2014	0 $0m	3,650 $6m	137,000 $219m
	Processing – Technically Specified	Natural rubber processed (tons) Export Value	2014 2014	76,800 $115m	139,000 $209m	143,000 $215m
Cocoa	Cocoa bean	Crop hectarage, (ha) Yield (tons per ha) Production (tons)	2014 2014 2014	52,900 0.2 10,600	100,000 0.4 40,000	240,000 0.6 144,000
	Low grades	Exports	2016	$17m	$32m	$35m
	Premium Cocoa	Exports	2016	$1.4m	$64m	$392m
Fish	Aquaculture	Production (tons) Value of production/sales (domestic & export)	2014 2014	30 $0.1m	5,000 $18m	333,000 $1,160m
	Marine & River	Production (tons) Value of production/sales (domestic & export)	2014 2014	9,500 $14m	20,000 $30m	30,500 $46m
Rice	Lowland rice	Crop hectarage (ha) Yield (tons/ha) Production (tons)	2014 2013 2014	44,750 1.7 76,075	127,000 2.3 287,000	265,750 2.8 744,100
	Upland rice	Crop hectarage (ha) Yield (tons/ha) Production, (tons)	2014 2013 2014	134,250 1.1 147,565	134,000 1.4 188,000	134,000 1.7 228,225
	Total	Value of production/sales (domestic & exports)	2014	$157m	$333m	$681m
Cassava	Raw Cassava	Hectarage (ha) Yield, tons per ha Production (tons)	2014 2014 2014	66,000 8 534,000	90,000 10 900,000	158,000 12 1,893,000
	Processed Cassava	Raw cassava processed into gari, super cari, HQCF etc Value of production/sales (domestic & export), $m	2010 2010	140,000 $129m	360,000 $331m	1,136,000 $1,044m
Horticulture	Onions	Production (tons)	2016			
	Cabbage	Production (tons)	2016			

Value Chain	Product	Indicators	Base year	Baseline	Target 2020	Target 2030
	Tomatoes	Production (tons)	2016			
	Cucumbers	Production (tons	2016			
	Carrots	Production (tons)	2016			
Poultry	Eggs	Production (tons)	2013	5,000	10,000	15,000
	Chickens	Production (No) Processing into meat for consumption	2013	1,270,875		
Livestock	Sheep	Production (No) Processing into meat for consumption	2013	48,660		
	Goats	Production (No) Processing into meat for consumption (tons) Dairy	2013	120,114		
	Ducks	Production (No) Processing into meat for consumption (tons) Eggs	2013	60,760		
	Cattle	Production (No) Processing into meat for consumption (tons) Dairy	2013 2013	8,275 0		
	Pigs	Production (No) Processing into meat for consumption (tons)	2013	70,520		