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INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED CREDIT

IN THE AMOUNT OF US$25 MILLION

TO THE

REPUBLIC OF LIBERIA

FOR A

SMALLHOLDER AGRICULTURE TRANSFORMATION AND AGRIBUSINESS REVITALIZATION PROJECT

December 14, 2018

Agriculture Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective October 31, 2018)

Currency Unit =	Liberian Dollar (LRD)
LRD 159.4=	US$1

FISCAL YEAR
January 1–December 31

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ABBREVIATIONS AND ACRONYMS

AfT	Agenda for Transformation
BDSP	Business Development Service Providers
C4D	Communication for Development
CDA	Cooperative Development Agency
CPF	Country Partnership Framework
ECOWAS	Economic Community of West African States
EFA	Economic and Financial Analysis
EIRR	Economic Internal Rate of Return
ESMF	Environmental and Social Management Framework
EU	European Union
EX-ACT	Ex-Ante Carbon-Balance Tool
FBO	Farmer-Based Organization
GBV	Gender-Based Violence
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IDA	International Development Association (of the World Bank Group)
IDH	**Iniciativa de Comércio Sustentável** (Sustainable Trade Initiative)
IEG	Independent Evaluation Group
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation (of the World Bank Group)
IFR	Interim Financial Report
LACF	Liberia Agriculture Commercialization Fund
LASIP	Liberia Agriculture Sector Investment Plan
LATA	Liberia Agricultural Transformation Agenda
MIS	Management Information System
MoA	Ministry of Agriculture
MoCI	Ministry of Commerce and Industry
M&E	Monitoring and Evaluation
NGO	Nongovernmental Organization
NPK	Nitrogen, Phosphorus, and Potassium
NPV	Net Present Value
PAD	Project Appraisal Document
PAPD	Pro-Poor Agenda for Prosperity and Development
PDO	Project Development Objectives
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PMU	Program Management Unit
PPSD	Project Procurement Strategy for Development
REDD+	Reducing Emissions from Deforestation and forest Degradation
SCD	Systematic Country Diagnostic

SDR	Special Drawing Rights
SEA	Sexual Exploitation and Abuse
SIDA	Swedish International Development Cooperation Agency
SME	Small and Medium Enterprises
SORT	Systematic Operations Risk-Rating Tool
STAR-P	Smallholder Agriculture Transformation and Agribusiness Revitalization Project
STEP	Systematic Tracking of Exchanges in Procurement
STCRSP	Smallholder Tree Crop Revitalization Support Project
USA	United States of America
WAAPP	West Africa Agriculture Productivity Project
WAATP	West Africa Agricultural Transformation Project
WBG	World Bank Group
WP	With Project
WOP	Without Project

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Liberia	Smallholder Agriculture Transformation and Agribusiness Revitalization Project (STAR-P)	
Project ID	Financing Instrument	Environmental Assessment Category
P160945	Investment Project Financing	B-Partial Assessment

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[√] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[√] Fragile State(s)
[ ] Disbursement-linked Indicators (DLIs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[√] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
10-Jan-2019	30-Nov-2024
Bank/IFC Collaboration	Joint Level
Yes	Complementary or Interdependent project requiring active coordination

Proposed Development Objective(s)

The development objective is to increase agricultural productivity and commercialization of smallholder farmers for selected value chains in selected counties of Liberia.

Components

Component Name	Cost (US$, millions)
Institutional Capacity Building and Strengthening Enabling Environment for Farmers, State, and non-State Actors	5.00
Enhancing Productivity and Competitiveness	16.25
Project Management, Monitoring and Evaluation, Citizens Engagement and Contigency Emergency	3.75

Organizations

Borrower:	Ministry of Finance and Development Planning
Implementing Agency:	Ministry of Agriculture

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	25.00
Total Financing	25.00
of which IBRD/IDA	25.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	25.00
IDA Credit	25.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Total Amount

National PBA	25.00	0.00	25.00
Total	**25.00**	**0.00**	**25.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2019	2020	2021	2022	2023	2024	2025
Annual	1.00	1.30	2.50	4.50	7.50	6.60	1.60
Cumulative	1.00	2.30	4.80	9.30	16.80	23.40	25.00

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture

Contributing Practice Areas

Finance, Competitiveness and Innovation, Macroeconomics, Trade and Investment

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?	
a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF	Yes
b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment	Yes
c. Include Indicators in results framework to monitor outcomes from actions identified in (b)	Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	High
2. Macroeconomic	High
3. Sector Strategies and Policies	Substantial

4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Moderate
9. Other	
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✓	
Performance Standards for Private Sector Activities OP/BP 4.03		✓
Natural Habitats OP/BP 4.04		✓
Forests OP/BP 4.36		✓
Pest Management OP 4.09	✓	
Physical Cultural Resources OP/BP 4.11		✓
Indigenous Peoples OP/BP 4.10		✓
Involuntary Resettlement OP/BP 4.12	✓	
Safety of Dams OP/BP 4.37		✓
Projects on International Waterways OP/BP 7.50		✓
Projects in Disputed Areas OP/BP 7.60		✓

Legal Covenants

Sections and Description
Inter-Ministerial National Project Steering Committee: By no later than one (1) month after the Effective Date, the Recipient shall establish and thereafter maintain, throughout the period of implementation of the Project, an inter-ministerial national Project steering committee with a mandate, composition and resources satisfactory to the Association. (ref. FA Schedule 2, Section I.A.1)
Sections and Description
Project Implementation Unit: By no later than one (1) month after the Effective Date, the Recipient, through MoA, shall establish and thereafter maintain, throughout the period of implementation of the Project, a Project implementation unit, with functions and resources satisfactory to the Association, and with staff in adequate numbers and with qualifications, experience and terms of reference satisfactory to the Association, which shall be responsible for the management and implementation of the Project. (ref. FA Schedule 2, Section I.A.2)
Sections and Description
Project Implementation Manual: The Recipient shall carry out the Project in accordance with a manual in form and substance satisfactory to the Association. In case of any conflict between the provisions of the Project Implementation Manual and those of this Agreement, this Agreement shall prevail. Except as the Association shall otherwise agree, the Recipient shall not amend, abrogate or waive any provision of the Project Implementation Manual if, in the opinion of the Association, such amendment or waiver may materially and adversely affect the implementation of the Project.(ref. FA Schedule 2, Section I.A.3)
Sections and Description
LACF Operational Manual: The Recipient shall carry out Part 2 of the Project in accordance with the LACF Operational Manual. Except as the Association shall otherwise agree in writing, the Recipient shall not assign, amend, abrogate, or waive, or permit to be assigned, amended, abrogated, or waived, the LACF Operational Manual and/or any provision thereof. In the event of a conflict between the provisions of LACF Operational Manual and those of this Agreement, the latter shall govern.(ref. FA Schedule 2, Section I.B.1)
Sections and Description
LACF Advisory Committee: Prior to providing Matching Grants under Part 2 of the Project, the Recipient shall establish and thereafter maintain, throughout the period of implementation of the Project, an advisory committee with a mandate, composition and resources satisfactory to the Association.(ref. FA Schedule 2, Section I.B.2)
Sections and Description
LACF Manager: Prior to providing Matching Grants under Part 2 of the Project, the Recipient shall hire and maintain, throughout the period of implementation of Part 2 of the project, a manager, under terms of reference acceptable to the Association, to be responsible for the management of the Matching Grants..(ref. FA Schedule 2, Section I.B.3)

Sections and Description
Matching Grants: For purposes of implementing Part 2 of the Project, the Recipient shall: (a) review and appraise all the Matching Grants' proposals in accordance with the terms and conditions of the LACF Operational Manual; and (b) make a Matching Grant under a Matching Sub-grant Agreement with the respective selected Beneficiary under terms and conditions acceptable to the Association..(ref. FA Schedule 2, Section I.B.4)
Sections and Description
Contingent Emergency Response: The Recipient shall prepare and furnish to the Association for its review and approval, an annex to the PIM (the "CERC Annex") which shall set forth detailed implementation arrangements for the Contingent Emergency Response Part, promptly adopt the CERC Annex for the Contingent Emergency Response Part, and ensure that the Contingent Emergency Response Part is carried out in accordance with the CERC Annex...(ref. FA Schedule 2, Section I.E.1(a))
Sections and Description
Safeguards: The Recipient shall ensure that the Project is carried out in accordance with the provisions of the ESMF, the PMP, the RPF and the relevant Safeguard Assessments and Plans.(ref. FA Schedule 2, Section I.C.1)
Sections and Description
Safeguards: Whenever an additional or revised Safeguard Assessment and Plan shall be required for any proposed Project activity, in accordance with the provisions of the ESMF and the RPF, as the case may be, the Recipient shall: (a) prior to the commencement of such activity, proceed to have such Safeguard Assessment and Plan: (i) prepared and publicly consulted on in accordance with the provisions of the ESMF and the RPF; (ii) furnished to the Association for review and approval; and (iii) thereafter adopted and disclosed as approved by the Association; (b) thereafter measures to ensure compliance with the requirements of such Safeguard Assessment and Plan; and (c) in the case of any resettlement activity under the Project involving Affected Persons, ensure that no displacement shall occur before necessary resettlement measures consistent with the RAP applicable to such activity have been executed, including, in the case of displacement, full payment to Affected Persons of compensation and of other assistance required for relocation, prior to displacement.(ref. FA Schedule 2, Section I.C.2)
Sections and Description
Safeguards: The Recipient shall establish, prior to the carrying out of any activities under the Project, and thereafter maintain until completion of the Project, an independent Grievance Redress Mechanism, acceptable to the Association, as per the requirements of the ESMF, the PMP and the RPF...(ref. FA Schedule 2, Section I.C.5)

Conditions

Type	Description
Disbursement	No withdrawal shall be made under Category (2) until LACF Operational Manual has been duly adopted by the Recipient under terms and conditions satisfactory to the Association.
Type	Description
Disbursement	For Emergency Expenditures under Category (3), unless and until the Association is satisfied, and has notified the Recipient of its satisfaction, that all of the following conditions have

	been met in respect of said expenditures: (i) (A) the Recipient has determined that an Eligible Crisis or Emergency has occurred, (B) has furnished to the Association a request to include said activities in the Contingent Emergency Response Part in order to respond to said crisis or emergency, and (C) the Association has agreed with such determination, accepted said request and notified the Recipient thereof; (ii) the Recipient has prepared and disclosed all safeguards instruments required for said activities, and the Recipient has ensured that any actions which are required to be taken under said instruments have been implemented, all in accordance with the provisions of Section I.E of this Schedule 2 to this Agreement; (iii) the entities in charge of coordinating and implementing the Contingent Emergency Response Part, has provided sufficient evidence satisfactory to the Association that it has adequate staff and resources for the purposes of said activities. (iv) The Recipient has adopted the CERC Annex, for the Contingent Emergency Response as part of the PIM, in form and substance acceptable to the Association.
Type Effectiveness	Description The Recipient has prepared and adopted the Project Implementation Manual (PIM) in a manner satisfactory to the Association.

I. STRATEGIC CONTEXT

A. Country Context

1. **Liberia is a post conflict state with a rapidly growing population, abundant natural resources, and substantial arable land, but its 14 years of civil war left it with low levels of human capital, dilapidated infrastructure, and hollowed-out institutions.** The country of 111,369 square kilometers is home to about 4.7 million people with a population growth rate of about 2.4 percent per year.[1] Liberia's economy depends heavily on primary commodities from mining and agriculture. Structural transformation has been slow, resulting in limited movement of labor between sectors. Additionally, poor governance and weak institutions inhibit the development of Liberia's private sector. Most investment focuses on the extractive industries, and firms in the other sectors face major obstacles to doing business. Liberia continues to lag in creating an attractive business environment for the private sector and is ranked 172 out of 190 in the 2018 Doing Business Report. Although some important steps have been taken to strengthen public administration, policy reforms have outpaced policy implementation. Furthermore, limited administrative capacity and an entrenched patronage system present major obstacles to reform, even though governance indicators show some improvements.

2. **Liberia experienced a steady per capita gross domestic product (GDP) growth at the end of the civil war from 2003 to 2013, but the economy contracted at an average rate of 0.8 percent per year between 2014 and 2016 because of the twin shocks of the Ebola crisis and the sharp drop in global commodity prices.** The economy began to recover in 2017 with an estimated GDP growth rate of 2.5 percent with increased mining sector output which compensated for other sectors' poor performance. However, the rapid depreciation of the Liberian dollar, sluggish overall export growth, and reduced inflows of aid and remittances have intensified inflationary pressures. At the same time, declining domestic revenues and rising sovereign expenditures—including the cost of the 2017 election cycle and the increase in security spending that accompanied the drawdown of the United Nations peacekeeping forces—have strained fiscal balances.

3. **Despite Liberia's large arable land, a 2015 assessment estimated that at least 15 percent of the population was severely food insecure[2].** The deepening of poverty, due to climate change, is a risk that has been well documented[3, 4]. Low income populations struggle more than others to cope with and adapt to climate change and natural hazards, increasing their risk to fall deeper into poverty. In Liberia, climate change could translate to an increase of 2-6 percent in the number of people considered extremely poor as a percentage of total population by 2030[5]. Liberia's susceptibility to negative climate impacts has significantly increased due to a combination of lower agriculture productivity, climate vulnerability risks,

[1] Liberia Institute of Statistics and Geo-Information Services. 2018. "Handbook on Liberia."
[2] Liberia Institute of Statistics and Geo-Information Services. 2016. "Household Income and Expenditure Survey 2014–2015."
[3] Stern, N. 2006. *Stern Review: The Economics of Climate Change*. Government of the United Kingdom.
[4] World Bank. 2016. *Shockwaves: Managing the Impacts of Climate Change on Poverty*. Climate Change and Development Series.
[5] World Bank. (2016) *Shockwaves: Managing the Impacts of Climate Change on Poverty*. Climate Change and Development Series.

population pressure and unsustainable natural resource management that led to land degradation. Global economic shocks and the country's high dependence on food imports tend to increase food insecurity even further. Food insecurity affects almost 20 percent of households in Liberia. Even if significant differences exist at the county level, food insecure populations are found throughout the country. Child undernutrition in all its form (wasting, stunting and underweight) is a major concern for Liberia, where 30 percent of children under five suffer from stunting and more than 500,000 are underweight.[6]

4. **Poverty remains widespread and underlines the urgent need for structural transformation to promote broad-based growth.** Liberia's poverty rate increased from 51.4 percent in the first half of 2014 to an estimated 61.2 percent in the first half of 2016, as a result of slow economic growth, the lingering impact of the Ebola crisis and the secondary effects of rising cost of food imports. According to the 2016 United Nations Development Programme's Human Development Index report, the country ranked 177 of 188 countries in achievements in key dimensions of human development.

5. **The new government administration, which came into power in January 2018, has signaled its intent to pursue an agenda of pro-poor growth.** The government has developed a five-year National Development Plan referred to as the Pro-Poor Agenda for Prosperity and Development (PAPD). As stated in the PAPD, the government recognizes the need for inclusive and sustainable economic diversification to achieve structural transformation and growth, the urgency of facilitating private sector participation in the economy, and the importance of the agri-food sector as an engine of growth. The government has prioritized the agriculture sector to diversify the economy and has identified eight priority value chains for support under the PAPD 2018–23. These include rice, oil palm, horticulture, cocoa, rubber, cassava, poultry and pig husbandry.

B. Sectoral and Institutional Context

6. **Agriculture continues to have a key role in Liberia's economic growth, trade, and employment**. Agriculture's contribution to total GDP decreased from 58 percent in 2009 to 36 percent in 2017,[7] partly because of the rise of the urban service sector. The agriculture sector's growth rate has declined from a peak of 8.9 percent in 2007 to 6.4 percent in 2009 to 4 percent in 2012.[8] However, the sector still employs about 70 percent of the labor force. Industrial export crops such as rubber, oil palm, and cocoa are a significant source of foreign exchange, but they leave the country severely exposed to commodity market fluctuations. The three commodities together represent 56 percent of export earnings, and account for 87 , 12, and 1 percent of agriculture exports, respectively. Beyond large commercial operations often under concession agreements working with outgrowers, Liberia's family farms also produce rice, cassava, and horticultural crops mostly on a small, near-subsistence scale. Rice is often produced with significant marketable surplus.

7. **Several structural challenges inhibit the agri-food sector's effective development:**

[6] SMART 2016. Liberia Institute of Statistics and Geo-Information Services website. ***https://www.lisgis.net/*. November 12, 2018**

[7] African Development Bank. 2017. "Liberia: Agriculture Commercialization and Agribusiness Development: Sector Scan Draft Report" (March).

[8] Food and Agriculture Organization and World Food Programme Crop and Food Security Assessment, Special Report, December 2017.

- **Policy, regulatory, and coordination failures lead to an uncompetitive business environment for agricultural production and agribusiness.** A wide range of policy, taxation laws, and inconsistent application of incentives inhibit private sector investments in agriculture and agribusiness development. Agricultural inputs, such as seeds and fertilizers, that are free or heavily subsidized by the government or donors distort incentives for investments in input supply and distribution networks. Procedures for import and export of agricultural products are burdensome and costly, including long wait periods for import tariff exemption on agricultural products or inputs.
- **Structural weaknesses within agricultural value chains are reflected in low farm productivity and weak links between farm production and upstream and downstream services.** Farm-level yield of key crops, particularly in the smallholder sector, is very low compared with their potential. Small farmers use very few certified inputs, and the lack of demand—because of the government's subsidized input distribution—does not provide the necessary stimuli for the development of an effective, private input supply system. The entire agribusiness sector, including agro-processing, is highly fragmented. It consists of a few medium and large formal firms, and a vast number of small, low-productivity firms operating with a few commodities, such as oil palm, rice, horticulture, cassava, and cocoa. Agricultural productivity remains low, which combined with low levels of farmer organization and coordination, leads to highly unstable markets for agricultural commodities and unpredictable input supplies for agribusiness small and medium enterprises (SMEs).
- **Agro-processors in rice also have difficulty competing with imports** because they receive lower conversion rates from milled products due to high levels of debris, dirt, and broken grains from produce originating on smallholder farms. Perishable products fail to reach the markets because of the poor condition of rural infrastructure (including roads and accessibility), but also because of the lack of basic warehouse and cold storage facilities.
- **Access to finance, inputs, and other critical services necessary to increase farm productivity and strengthen agribusiness competitiveness is limited.** The small number of financial institutions provide a limited array of products and services to the agri-food sector. Total credit extended to agri-businesses is estimated at only 5.4 percent of total lending in the economy. Financing for agriculture is mainly for export crops such as rubber and cocoa, for which foreign investors provide finance for plantation development and donor-supported projects channel small amounts of financing through financial institutions. Both the credit supply from financial institutions and demand from farmers are very weak, and together they reinforce the lack of agricultural financing. Informal financing for agriculture is also low because there is scant use of purchased inputs, and the level of smallholder commercial agriculture is low. The situation is compounded by the fact that lending is often in U.S. dollars, which exposes borrowers to significant currency risks.
- **A weak level of human and organizational capacity in both private and public sector institutions is a primary cause of the uncompetitive environment.** Many farmers are members of farmer organizations and cooperatives, but these bodies often have weak leadership and management and suffer from governance issues that make business development challenging. Inadequacies in current policies and regulations governing farmer organizations and cooperatives, along with limited institutional capacity to support them, also constrain their capacity to undertake value chain development. Within the public sector, many government agencies are involved with

designing and implementing initiatives on business and the regulatory environment in agriculture, agribusiness, and SME development, but coordination among them is limited. In addition, there is a lack of effective industry associations to discuss common interests and advocate effectively for policy reforms and investment priorities for agribusiness development. A lack of trust and understanding between the public and private sectors prevents effective consultation and prioritization of integrated industry solutions, including a reform agenda.

- **Existing property rights complicate acquisition of land for agricultural investments.** Land acquisition for agricultural investments remains a major challenge, even though foreign and nonresident investors can get access to land through leaseholds. Land ownership in rural areas is complicated because of communal rights, concession leases, and in some instances, land titles that are not easily available. Community land is most common, and clear titles of ownership are rare. This situation hampers long-term investments in plantations or processing mills. Land concessions complicate the situation because of potential legal and other challenges from communities and nongovernmental organizations (NGOs) that suspect community land grab from large commercial agriculture companies.

- **Low climate adaptation and mitigation capacity of the agriculture sector result in suboptimal sector performance.** Liberia's agriculture production system is weather-dependent[9]. Because agricultural production's scale is small, adaptation technologies are not widely used. Implementing adaptation and mitigation measures is a challenge for several reasons: (i) a lack of real time and reliable climatic data, (ii) a small number of empirical studies on the impacts of climate change through a local or sectoral lens, (iii) low knowledge of potential adaptation and mitigation measures at the ministerial level and inclusion in sectoral plans, (iv) no integration of climate business approaches in the private sector, and (v) a lack of available climate finance to implement these measures. The country is beginning to build momentum around climate change and has taken significant climate actions. Specifically, Liberia ratified the Paris Agreement in 2018 and launched the National Policy and Response Strategy on Climate Change (see annex 5 for more details).

- **Women's contribution to agriculture in Liberia is substantial: They represent the majority of the agricultural labor force (80 percent) and are responsible for 93 percent of household food crop production.**[10] A high percentage of women are involved in agro-processing, and 85 percent of those are engaged in marketing and trading. Women are very prominent in the activities that shape agricultural production, processing, distribution and marketing, and consumption. Despite their important contributions, women have weaker influence in the marketplace because of restrictions on their mobility to market, and because of limited business skills, voice, and agency. They also face significant disadvantages accessing land use rights because of cultural norms and an inability to pay membership fees to use cooperative land. Women face more obstacles than men in accessing improved agricultural production technology, finance, and extension services. The lack of productive capital poses additional and considerable barriers to women who would like to engage in commercial agriculture. Because of weaker access to productive assets and extension, women usually have a lower capacity to deal with climate impacts, are more vulnerable, and also have different response and adaptation mechanisms when a climate hazard

[9] Government of Liberia. 2018. *National Policy and Response Strategy on Climate Change*. Environmental Protection Agency.
[10] STAR-P. 2018. "Gender Analysis Report 2018." (Gender assessment study commissioned by STAR-P).

occurs.

8. **Despite these challenges, significant, untapped opportunities exist for value addition in rice, oil palm, and horticulture for food consumption and industrial use in domestic, regional, and international markets.**

- Rice markets offer considerable unexploited opportunities. With an estimated 3 percent annual growth in domestic consumption, imports are now estimated at US$150 million annually, providing significant opportunities for competitive import substitution. Furthermore, the regional rice deficit was about 8 million metric tons—or nearly 80 percent of milled rice production—in 2016–17 and is increasing annually. Niche market opportunities exist, such as red rice produced only in Liberia, which attracts premium prices in domestic and export markets because of its perceived nutritional and health benefits. Rice by-products, such as rice husk, can be used for value addition activities that generate jobs and income opportunities for SMEs. Some rice companies are already using this by-product to produce animal feed, organic charcoal, and organic fertilizers.
- Liberia has the second highest oil palm yield in West Africa, but the country is a net importer of palm oil (estimated at about US$7.4 million annually), and about half of all palm oil retailers regularly run out of stock every week. The global palm oil market is estimated at US$70 billion and is projected to increase to US$93 billion by 2021. The opportunities for competitive import substitution and exports of crude palm oil, both within West Africa and globally, are significant. Although oil palm production has been associated with environmentally unsustainable practices, oil palm can be produced sustainably when not tied to deforestation, and when the land between the tree rows is covered with vegetation to reduce soil erosion. Conforming with Liberia's Intended Nationally Determined Contributions under the Paris Agreement and the Reducing Emissions from Deforestation and forest Degredation (REDD+), oil-palm farms are developed on degraded land and communal forestry lands, and by replanting old farms to discourage deforestation. Palm oil is used primarily for consumption as a cooking oil in Liberia, but it has multiple uses, including cosmetic products, soaps, and margarine. Demand for palm oil is growing from multinational companies. Although domestic demand for industrial products may be limited, the domestic capacity to meet regional and international demand could justify large-scale investments in the subsector. Contract manufacturing opportunities for international branded soap and skin care–product manufacturers can also be attractive for domestic SMEs.[11, 12] The palm kernel oil and its derivatives are also used in feed and biofuels. Red oil (dura) demand in the region and the global diaspora is a market that is largely available to Liberia as one of the few dura-growing countries on a sizeable scale. Even within Liberia, palm oil sellers constantly run out of stock of the dura variety, given strong domestic demand.
- Liberia has significant potential for horticulture products—mainly fruits and vegetables—in the

[11] Proforest. 2011. "Mapping and Understanding the U.K. Palm Oil Supply Chain."
[12] In terms of value addition, a young Liberian entrepreneur is the first in the country to use palm kernel oil to produce a range of skin care products, for which he won the Johnson and Johnson 2017 African Innovation Award. His company, J-Palm Liberia, is working with smallholders—a significant number of whom are young and female—and has successfully tapped into the export market. This is an example of the potential for attracting young people into agribusiness and employment generation.

growing domestic market with access to the regional Economic Community of West African States (ECOWAS) market, where urbanization is driving demand for fruits and vegetables. In addition, there is significant international demand in the European Union (EU) and the United States of America (USA) for tropical fruits, vegetables and fruit juice, and their intermediaries such as pulp, puree, and concentrates. In 2015, the Liberian market for horticulture was estimated at US$103.6 million,[13] of which US$90.4 million was produced locally. In the same year, the country produced an estimated 291,000 tons of fruit and vegetables and imported 14,300 tons. The import substitution potential for fruits and vegetables is estimated at US$10–20 million annually. Liberia also has preferential access to several lucrative markets, including the EU market and the United States through the African Growth and Opportunity Act, because of its proximity to these markets compared with leading exporters like Kenya and South Africa. This value chain is divided into two types of vegetables: domestic and exotic vegetables. The main types of domestic vegetables are peppers, potato leaves, and bitter balls, and exotic vegetables include cabbages, cucumbers, tomatoes, and lettuces. More than 300,000 Liberian households are involved in vegetable production, and in recent years, the demand for vegetables has increased tremendously because of an increase in the urban population, rising income levels, and growth in the retail, hospitality, and catering services industries. The growth in the hospitality industry has translated into a large increase in demand for vegetables, driven by the dietary preferences of these institutions' clientele. Liberia also has opportunities to move into fruit and vegetable processing to tap into the lucrative EU and U.S. markets and because of growing demand for processed foods in regional markets.

9. **A combination of adequate policies and investments are necessary to seize those opportunities and for the agriculture sector to play the development role envisioned in the draft PAPD**. To successfully transform smallholder agriculture in Liberia from subsistence farming to farming as a business, value chain players (farmers and agribusinesses) will need assistance to establish viable commercial relationships. This would require, among other things, creating an enabling environment for commercial agriculture, investing in human capital and institutional development, and increasing productivity. Given the climate change risks and vulnerabilities of the country, these investments will need to be climate smart. Gender gaps will need to be addressed including by providing financial support to women for agriculture, advocating for better access to land for women, enhancing women's skills and usage of improved agricultural technology through training and the provision of female- friendly technologies such as hand operated mechanical weeders, drum seeders for lowland rice cultivation. These are gender sensitive labor saving technologies for operations almost exclusively performed by women.

C. Relevance to Higher-Level Objectives

10. The Smallholder Agriculture Transformation and Agribusiness Revitalization Project (STAR-P) is aligned with the World Bank Group's (WBG) twin goals and the emerging priorities of Liberia's new administration as reflected in the draft five-year National Development Plan (PAPD), launched in October 2018. By focusing on the economic empowerment of rural poor farmers, the project is a direct contributor to increasing shared prosperity and helping Liberia tackle its worsening challenge of poverty. The project

[13] Liberia National Investment Commission Report 2018.

also aligns specifically to pillars One (human capital development and citizen empowerment) and Two (economic growth and job creation) of PAPD. The PAPD builds on earlier national strategies; Agenda for Transformation(AfT), the Liberia Agricultural Transformation Agenda (LATA) and the second-generation Liberia Agriculture Sector Investment Plan (LASIP II), which identified priority value chains for commercializing Liberia's agriculture sector. The project's support for increasing productivity and competitiveness of smallholder farmers in the horticulture, oil palm, and rice value chains is in line with the administration's priorities and its agenda for pro-poor and socially inclusive economic transformation.

11. The Liberia Systematic Country Diagnostic (SCD), May 2018-Report No 113720-LR, identified four priority policy areas for sustainably reducing poverty and achieving middle-income status by 2030. The project activities contribute to two of the priority policy areas and related development interventions identified by the SCD. Productivity-driven growth, diversification, and job creation were highlighted as top priorities to be achieved by, among other things, creating an enabling environment for the development of the agri-food sector and improving access to finance. Human capital development was the second priority policy area identified, and addressing gender gaps was among the development interventions recommended for action.

12. The project will contribute to the three pillars of the Country Partnership Framework FY19–23:

- Pillar 1: "Strengthening institutions and creating an enabling environment for inclusive and sustainable growth," in which one of the objectives is to promote a more conducive environment for commercial agriculture and rural development.
- Pillar 2: "Building human capital to seize new economic opportunities," in which one of the objectives is to improve income generation opportunities for youth.
- Pillar 3: "Narrowing the infrastructure gap to foster more equitable development nationwide," in which one of the objectives is to improve access to utilities, markets, and social services.

II. PROJECT DESCRIPTION

A. Project Development Objective

Project Development Objective Statement

13. The project development objective (PDO) is to increase agricultural productivity and commercialization of smallholder farmers for selected value chains in selected counties of Liberia.

14. STAR-P focuses on addressing critical market failures limiting the development of the rice, oil palm, and horticulture value chains. The project would reach its objectives of increasing agricultural productivity and promoting smallholder commercialization by facilitating private sector investment in selected value chains and by fostering productive links between smallholder farmers and selected agribusiness firms through a business climate lens. Adaptation approaches and mitigation measures will be applied for rice and oil palm production to enhance the climate resiliency of production and to minimize climate risks.

PDO-Level Indicators

15. The following key performance indicators are proposed to measure project outcomes:

(a) Increase in yield per targeted Value Chain, disaggregated by gender (Percentage).
(b) Volume of annual sales (Metric tons) for the target commodities produced by the beneficiary farmers' groups, disaggregated by gender.
(c) Number of direct project beneficiaries (Number), disaggregated by gender (Percentage).

B. Project Components

16. The value chains selected for support under the project are based on a sector scan that prioritized agribusiness subsectors on a range of development impact and investor potential criteria, including job and income opportunities.[14] The analysis shows that the three value chains selected for intervention (rice, oil palm, and horticulture) have the strongest potential for development impact, ease of implementation, and attractiveness for private sector investment (see annex 1.1). Rice provides the largest potential in economic impact, but investors also face some significant challenges in implementation. Horticulture generates strong development impact and is ranked higher than rice for challenges in implementation. Oil palm is ranked the highest of all three sectors in development impact and ease of implementation, making it the top priority subsector for maximizing development impact and private sector investments.

17. The findings from the sector scan are consistent with those from an earlier sector prioritization assessment[15] funded by the International Finance Corporation (IFC) and which included the three value chains in the top-ranking sectors for intervention. The project will target the three value chains in five counties, as shown in table 1. The five counties were selected based on comparative and competitive advantages in smallholder production of the targeted commodities. Further analytical work will be undertaken to determine the commodities of focus for horticulture in Bomi, Margibi, and Nimba counties. Additional value chains and counties will be considered based on viable business cases and fund availability.[16] Additional criteria for the selection of new value chains could include crops with poverty-reduction potential, nutritional value, and ease of implementation for the target group.

[14] World Bank, International Finance Corporation, and the government of Liberia. 2017. "Agricultural Commercialization and Agribusiness Development: Sector Scan Report."
[15] IFC 2013. Liberia Sector Prioritization and Investment Promotion.
[16] By appraisal, the International Fund for Agricultural Development (IFAD) and the government of Liberia informed the association of the intention to jointly cofinance the project through IFAD financing for an estimated US$23 million. Because the closest IFAD board meeting is scheduled for April 2019, the project is presented now to the International Development Association (IDA) board with the estimated total cost of US$25 million. However, if the IFAD financing materializes in 2019, the government is expected to submit a restructuring request to reflect IFAD cofinancing of the total project cost and a revised result framework. Consideration to such a request might be given subject to compliance with IDA's restructuring policies and closure of a cooperation agreement between the World Bank and IFAD. This restructuring would include an expansion of the project area to cover four additional counties, tentatively Gbarpolu, Sinoe, Maryland, and Grand Gedeh. The value chain selection in these counties would be consistent with the government's geographic priorities and business needs.

Table 1: Target Counties and Value Chains

	County	Indicative Selection of Value Chains
1	Bomi	Horticulture
2	Grand Cape Mount	Oil palm
3	Lofa	Rice
4	Nimba	Rice, horticulture
5	Margibi	Horticulture

18. The project design is based on three strategic pillars, which are prerequisites for efficient and competitive value chains: (i) Institutional development to address critical capacity and coordination gaps; (ii) enhancement of productivity, quality, and efficiency along the targeted value chains; and (iii) improvements in the enabling environment.

19. Within the framework of these pillars, the project will intervene at the level of groups of farmers who will take an active role in prioritizing project activities. Farmer-based organizations (FBOs) and cooperative associations will be supported in a demand-driven manner through a participatory process involving their members. With project support, FBOs, in consultation with local administration and agencies, will produce business plans and receive financing for the implementation of those plans. Technical assistance to FBOs will be delivered through business development services. Extensive facilitation, training, and technical assistance will also be provided under the project to ensure that poor rural communities and disadvantaged groups, including women, participate in the collective decision-making process. The market-oriented, capacity-building support will incorporate knowledge and understanding of the risks and impacts on production and yields of rice, horticulture and oil palm associated with climate change. The project will help give voice to those groups and promote the principles of transparency and accountability in planning and management of public investments. The government requested for a Project Preparation Advance (PPA) and sum of US $998,450 was granted to Liberia for initial preparatory studies. This was utilized to carry out basic critical studies and prepare the safeguard instruments of the project.The PPA also supported initial awareness creation and has initiated stakeholder forum of value chain actors in preparation for implementation.

20. The project interventions are expected to generate significant interest from the private sector considering that the targeted commodities have wide appeal to various industries and are in high demand globally. IFC will provide the technical support to SMEs and agribusiness firms[17] to ensure optimal use of the limited financing available under this project, and will also provide any facilitation needed to improve farmers' and SMEs' access to rural credit.

21. Activities that will address gender gaps resulting from cultural norms, lack of access to improved technology, finance, and extension services will be incorporated across project components. This will be carried out as reflected in annexe 6. The project takes a comprehensive approach to facilitating smallholders' efficient participation in competitive value chains through coordination with other projects financed by the World Bank or other development partners, or both. This will ensure consistency and synergies in the development of integrated solutions to address constraints facing the targeted value chains.

[17] IFC 2015. Wienco Liberia Project and Sime Darby's Liberia Oil Palm Project.

22. Project design is based on extensive consultations with the client, private sector, IFC, and development partners to leverage resources from both the public and private sectors. The collaborative working arrangement among the Ministry of Finance and Development Planning, the Ministry of Agriculture (MoA), and the Ministry of Commerce and Industry, which was established during project preparation, will be strengthened during implementation.

23. The project consists of three components: (i) Institutional capacity building and strengthening the enabling environment for farmers, state, and nonstate actors, (ii) enhancing productivity and competitiveness, and (iii) project management, monitoring and evaluation (M&E), citizens engagement, and contingency emergency response.

24. **Component 1: Institutional capacity building and strengthening the enabling environment for farmers, state, and nonstate actors (US$5.0 million).** This component aims to strengthen the capacity of FBOs, the institutional capacity of key public agencies, and that of the private sector to deliver priority services necessary to promote competitive commercial agriculture in Liberia. This component will also address selected regulatory and policy binding constraints in the agri-food sector by financing studies and analyses on a demand basis. The component will be managed directly by the MoA's project implementation unit (PIU).

25. ***Subcomponent 1.1: Strengthening market-oriented smallholder farmer groups for selected commodity value chains (US$1.9 million)***. The subcomponent will finance services for strengthening existing farmer groups and cooperatives and for forming new ones. STAR-P will conduct a participatory assessment for each interested FBO to profile the organization's economic activities, knowledge of climate smart agriculture, financial status, and governance structure and will use an FBO benchmarking tool to establish a baseline to assess subsequent FBO development. Based on the assessment, the project will provide training in FBO cooperative organization, governance, bookkeeping, business development, and marketing. The project will encourage and support individual farmers to create FBOs at the village or community level in a demand -driven manner. Three strategies will be used for social mobilization: (i) Extensive communication and awareness creation of the market opportunities identified by the project, including incentives for agribusiness firms and SMEs to create a business link that will serve as a stimulus for aggregation and consistent supply of high-quality products; and (ii) use of business development service providers (BDSPs) contracted by the project to identify market opportunities for farmers and work with them to prepare business plans; and (iii) organizational strengthening and entrepreneurship training. Visits between cooperatives both within Liberia and in the subregion may be organized to exchange experiences and provide peer-to-peer learning opportunities. Project financing will cover services for farmer mobilization, capacity building, and institutional development based on market and farmer demand. An initial needs assessments and consultations with farmers has helped identify the main needs in capacity building of FBOs. A thematic focus of the capacity building will be to increase knowledge and understanding of the risks and impacts of climate change on production and yields of rice, horticulture and oil palm.

26. Training and capacity development will be delivered by the Cooperative Development Agency (CDA) and through vetted BDSPs and NGOs. The Food and Nutrition Unit from MoA and the Ministry of Health would be responsible for developing nutrition education modules, the content of which will include topics such as sensitization on nutrition-sensitive agriculture, basic knowledge on different food groups,

importance of nutritious food production, and consumption for each priority commodity.

27. ***Subcomponent 1.2: Institutional strengthening for selected government ministries, departments and agencies (US$1.2 million).*** This subcomponent will build the capacity of and/or strengthen coordination among the MoA, CDA, Liberia Agriculture Commodity Regulatory Agency, the Ministry of Commerce and Industry (MoCI), and the Ministry of Finance and Development Planning (see table 2). The subcomponent will promote the use of institutional development plans and performance-based indicators in the delivery of support services. It will also support dialogue with clients on the challenges that climate change poses for agriculture and food security, and the range of solutions available for the application of climate smart agriculture. The subcomponent will be coordinated through the PIU at MoA, with the support to be provided to each institution defined in consultation with the LASIP Secretariat and the concerned beneficiary agency or ministry. This subcomponent will finance technical assistance, studies, goods, and works.

Table 2: Project Support for Institutional Strengthening of Government

Institution	Project Support
Ministry of Agriculture (MoA)	• Strengthen and support an integrated monitoring and evaluation/performance management system • Establish and strengthen the market information system • Support for operationalizing its gender strategy through technical assistance to mainstream the policy into their planning and program activities • Support the capacity of MoA to provide nutrition-sensitive extension advisory services and sensitization programs (in coordination with the Ministry of Health) • Support for mainstreaming climate-smart objectives in its sector strategies and implementation plans.
Cooperative Development Agency	• Strengthen capacity to organize and build capacity of farmer-based organizations (leadership, management, governance)
Liberia Agriculture Commodity Regulatory Agency	• Support regulatory function and setting of product standards
Ministry of Commerce and Industry	• Support for promotion and coordination of agribusiness small and medium enterprises • Support rehabilitation and standardization of National Standard Laboratory[b]
Ministry of Finance and Development Planning	• Support policy coordination role • Support coordination with MoA and MoCI on the ministries' activities and programs, targeted to value chains

Note: MoA = Ministry of Agriculture; MoCI = Ministry of Commerce and Industry.
a. The National Standards Laboratory is a laboratory set up to provide testing for meeting food and basic commodities quality and facilitating trade.

28. ***Subcomponent 1.3: Capacity building for selected private sector and nonstate institutions (US$1.5 million).*** Most of Liberia's agribusiness firms are relatively small and have human resources and

management capacity limitations. In addition, coordination and collaboration among actors in the value chains, including links between firms and farmers, remain weak and there is a lack of trust among actors. This subcomponent will finance technical assistance, training, and studies to build the capacity of selected agribusiness firms and nonstate actors to enhance coordination and collaboration between firms and farmers. The PIU will coordinate this subcomponent, and in collaboration with the various counties' offices will provide the following:

(a) Capacity building to agribusinesses with good business link plans with smallholder farmers focusing on SMEs and large firms providing upstream and downstream services, such as mechanization, logistics, packaging, and distribution in targeted value chains;
(b) Technical assistance and training for umbrella bodies representing the value chain actors, such as the Liberia Business Association, the Farmers' Union Network, and the Agribusiness Investment Network;
(c) Support for establishing and institutionalizing a rice and oil palm value chain stakeholder forum;
(d) Capacity building for agribusiness focusing on investing in farmer resilience. The project will promote a resilient supply chains approach as a means to leverage action through public-private partnerships.

29. **Sub*component 1.4: Strengthening the enabling environment, policy, regulations, and administrative procedures for agribusiness development (US$0.4 million)***. Liberia's business environment provides limited incentives for private investments. This subcomponent's aim is to improve the enabling environment for the development of agribusiness. It will be coordinated by the PIU in MoA in collaboration with the Ministry of Finance and Development Planning (MFDP) and the MoCI. It will finance technical assistance, training, workshops, and studies and include the following activities:

(a) Facilitate the elaboration of a draft mechanization policy and advocate to pass the ECOWAS protocols (seed, fertilizer, and pesticides);
(b) Workshops to raise awareness about and facilitate the ratification of the ECOWAS Trade Liberalization Scheme;
(c) Convening of development partners to facilitate the establishment and development of the Agri-Public-Private Sector Forum to facilitate dialogue and concerted action on policy initiatives.

30. **Component 2: Enhancing productivity and competitiveness (US$16.25 million).** This component aims at improving smallholders' integration in the targeted value chains. Under this component, the project will finance matching grants for smallholder farmers, agribusinesses, BDSPs, and financial institutions through the establishment of the Liberia Agriculture Commercialization Fund (LACF), to contribute to the costs of investment subprojects. The LACF will be created as a special designated account under the PIU and will be managed by an independent fund manager. The government of Liberia and the relevant stakeholders will establish a Fund Advisory Committee to provide appropriate governance and oversight of the use of the LACF. The subprojects to be supported through the LACF will be based on business plans prepared by eligible beneficiaries, who would have undergone an independent screening and evaluation process to determine their technical, socioeconomic, financial, and environmental viability. Proposals that promote one or more of the following in the design will be given

additional weight in the selection scoring process: nutrition, gender equality, and climate-smart agricultural practices (adaptation, mitigation, or both).

31. Eligible expenditure categories under this component include: (i) civil works (for example, lowland rehabilitation; clearing of bushland; construction of post-harvest, storage, and processing facilities; and small-scale, efficient irrigation systems); (ii) productive equipment (for example, farm machinery, processing equipment, and transport vehicles); (iii) incremental working capital (for example, for improved inputs); (iv) technical assistance and business advisory services; and (v) investment proposals by farmers' organizations and agribusinesses that integrate climate-smart approaches throughout the value chain, such as intercropping and conservation agriculture (which will increase crop diversification); use of climate-resilient seeds and varieties; methods to retain soil nutrients and prevent soil erosion; improved water management for extreme warm weather; flood-resilient design of production; and efficient pest and disease management; or in the case of palm oil production, any mitigating approaches that reduce emissions during production. Details of the design features and implementation arrangements will be provided in the LACF Operational Manual that will be a condition of disbursement for this component.

32. The LACF will have four windows: (i) investment support for productive links between smallholder farmers and agribusinesses in an off-taker arrangement, (ii) investment support for outgrower productive links between smallholder farmers and concessionaires, (iii) investment support to agribusinesses and BDSPs; and (iv) support to financial institutions for product innovation and outreach. The matching grants for subprojects will involve different terms covering FBOs and SMEs in different value-chains and in different segments of the value chain, in accordance with the details on ceilings and beneficiary contributions as reflected in table 3.

Table 3: Matrix of Matching Grants Windows

Subcomponent or Window	Targeted Beneficiaries	Matching Grant Amount (US$)	Financial Terms Grant: FBO Contribution[a]
Window 1 Sub Component 2.1	FBOs subprojects in aggregation schemes	Up to 100,000	70:30
Window 2 Sub Component 2.1	FBOs participating in outgrowers alliances	Up to 400,000	70:30
Window 3 Sub Component 2.2	Agribusinesses, input service providers, agro-dealers, aggregators, and so on	Up to 200,000	60:40
Window 4 Sub Component 2.3	Participating financial institutions for agricultural products	Up to 100,000	60:40

Note: FBO = farmer-based organization.
a. Farmer-based organizations' contribution will be in-kind and in-cash, and the remaining balance could be completed through a market-priced loan from a financial institution or equity investments.

33. ***Subcomponent 2.1. Investment support for productive links between smallholder farmers and agribusiness (US$13.75 million).*** The successful inclusion of smallholder farmers into organized and well-structured value chains depends largely on their organization to gain the confidence and trust of agribusinesses and the concessionaires. Aggregating farmers will help smallholder farmers to access more efficiently market inputs, procure supplies, and disseminate information that facilitates improvement in farm productivity and quality. Off-takers that source directly from farmer organizations can expand their supply base, strengthen their supply chain, and increase their processing conversion rates. The project will engage with existing FBOs and cooperative associations while supporting market-driven establishment of new groups. Subcomponent 2.1 will provide matching grants to support project activities from Windows 1 and 2 of LACF.[18]

34. ***Window 1.*** A first window will support rice and horticulture FBOs and off-takers or processors business links. It will provide matching grants to finance FBOs' business plans, including technical assistance, small works, equipment, and goods. It is estimated that about 240 FBOs (with 25 members each on average) and 42 cooperatives (with 250 members each on average) would be supported under this window. All matching grants will be based on approved business plans that will detail the business needs, activities, amount, the targeted market, and the contribution by the beneficiary FBO. Some of these arrangements have been identified during project preparation, including (i) links to processors, (ii) links to importers and traders, (iii) links to institutional programs (for examples, School Feeding Program), and (iv) other agribusiness links (with the hospitality industry, supermarkets, and other firms).

35. **Window 2.** The second window will provide matching grants to FBOs of oil palm value chains and is expected to finance an estimated 30 outgrower schemes in the oil palm value chain. Outgrower schemes in Liberia typically integrate four main elements: (i) a nucleus farm engaged in primary production or business operations (or both) such as processing, storage, transportation, and marketing; (ii) provision of inputs and technical assistance by the agribusiness to participating farmers; (iii) off-take agreements to purchase a predefined quality of farmer output; and (iv) an agreed-on price mechanism or benefit sharing. The outgrower model is included in the government's oil palm concession agreements to make development of the sector more inclusive. This window will invest in or scale up outgrower-concessionaire partnerships based on either of the following: (i) the model piloted under the Smallholder Tree Crop Revitalization Support Project (STCRSP-P113273), in which farmers cultivate individually owned lands and sell their produce to concessionaires, or (ii) the Sustainable Trade Initiative (IDH)[19] model that combines community oil palm farm ownership with technical and management capacity from concessionaires (to ensure high management standards and yields and the use of Production Protection Agreements) as an innovative approach to tie investments in agricultural productivity to forest conservation in the long term.

[18] With IFAD's planned co-financing of the project, additional funds under sub-component 2.1. would be made available to support more project beneficiaries with business plans. The project would also promote adequate food consumption at the household level among project beneficiaries. Focus would be on women groups by promoting and supporting the implementation of vegetable gardens and integrated homestead food production (IHFP). The activity would involve promotion of vegetable gardens to improve diverse food production, primarily vegetables for income and consumption at the household level.

[19] IDH is a Netherlands-based globally oriented nonprofit with experience in enabling investment in sustainable supply chains and landscapes, focusing on developing countries and smallholder inclusion.

36. ***Subcomponent 2.2: Support to agribusiness and business development service enterprises (US$2.1 million)***. This component will operate through Window 3 of LACF to support farmers links to agribusiness and BDSPs.

37. **Window 3:** Under this subcomponent and this window, the LACF will cofinance investment proposals by agribusinesses and BDSP enterprises that contribute to the project's objective of enabling smallholder farmers to be profitably linked to commercial markets. Business plans submitted by these enterprises are expected to have a clear link to smallholder farmers in the form of service provision, sourcing, or co-investment. Such business plans would detail the potential effects of climate risks and relevant adaptation or mitigation measures proposed to minimize the risks, such as: (i) use of climate resilient seeds and varieties, (ii) methods to retain soil nutrients and prevent soil erosion, (iii) improved water management for extreme warm weather, (iv) flood-resilient design of production systems, and (v) efficient pest and disease management.

38. The subprojects can include the following:

(a) Downstream services, such as aggregation, warehousing, packaging, distribution, and logistics. Proposals can also be submitted for processing equipment, such as rice mills and oil palm processing equipment;
(b) Information and communication technology (ICT) services to improve market information dissemination to producers, providing agrometeorological alerts for crop treatments to mitigate risks of pests, and so on.

39. ***Subcomponent 2.3. Support to financial institutions (US$0.4million)***. This is the fourth window of LACF and will facilitate smallholders' and FBOs' access to adapted formal financial services, particularly for tree crop value chains that need longer-term finance. It aims to strengthen the capacity of financial institutions to improve services to Liberia's agriculture sector.

40. **Window 4:** This window under this subcomponent will support the development of suitable financing products and services for the targeted value chains and their rollout in the project districts. Eligible subprojects submitted by financial institutions include the following:

(a) Detailed market research on the specific requirements of actors (particularly smallholder farmers, women, FBOs, and SMEs) in the targeted value chains and the potential market size;
(b) Assessment of market barriers and policy challenges that constrain the development of products for the Liberian market to mitigate climate change risks (for example, insurance in response to extreme climatic events);
(c) Product design and pilot testing, including delivery mechanisms (digital finance, for example) and setting up value chain finance arrangements;
(d) Outreach plans to roll out successful products, services, and delivery mechanisms in the project areas;
(e) This subcomponent will support the scheme of the Liberia Incentives-Based Risk Sharing

Agricultural Lending[20] and also a revolving credit scheme piloted under the Smallholder Tree Crop Revitalization Support Project.

41. Eligible expenditures under the financial institutions subprojects include technical assistance, staff training, ICT equipment, and transport equipment to strengthen rural delivery capacity. Loanable funds will not be eligible for support under the project.

42. ***Component 3. Project management, monitoring and evaluation, citizens engagement, and contingency emergency (US$3.75 million).*** The objectives of this component are to facilitate (i) efficient coordination and M&E of project activities, (ii) stakeholder awareness and participation through timely communication of results and consistent citizen engagement, and (iii) a response to a possible emergency. These objectives will be addressed under three subcomponents.

43. **Subcomponent 3.1. Efficient project management, monitoring and evaluation (US$3.25 million).** To ensure efficient project delivery, financial and technical support will be provided to increase and strengthen the skills sets at the PIU. In addition to the existing staff (the project coordinator, accountant, and M&E officer), the project will support the recruitment of other experts. The project has designed a functional M&E system and is developing a comprehensive management information system (MIS) for the project.

44. **Subcomponent 3.2. Effective communication and citizen engagement (US$0.5 million**). The aim of this subcomponent is to use communication and engagement to maximize the development impact of the project by ensuring that information about project objectives, scope, and activities are communicated to intended beneficiaries accurately and on a timely basis, and by facilitating a wider range of Liberian citizens and other stakeholders, including the government and private sector, to become aware of the agri-food sector's potential and participate in its promotion. Evidence shows positive links between citizen engagement and improved project implementation, and social inclusion and empowerment. The subcomponent will also facilitate public-private sector policy dialogue and private sector engagement.

45. This subcomponent will support the elaboration of a communication strategy aligned to the component's objective and implementation of the strategy. It will identify a wide range of methods and tools for implementation, including ensuring that these would be accessible to citizens with varying literacy skills, language use, and information technology access. As part of the communication strategy, an awareness campaign for sensitization and behavior change communication will be organized to increase the demand for nutritious food and improve nutrition.

46. **Subcomponent 3.3. Contingency emergency response (US$0 million).** In accordance with the World Bank's operational policy (OP8.00, paragraphs 1–8), this window will allow for rapid reallocation of project funds in a natural disaster or crisis that has caused or is likely to cause a major adverse economic impact, social impact, or both. To trigger this subcomponent, the government must declare an emergency or provide a statement of fact justifying the request for activating the use of emergency funding. If the

[20] Liberia Incentive-Based Risk Sharing System for Agricultural Lending is the scheme of GoL that enables the flow of affordable financing to all players along entire agricultural value chains by reducing the risks of financing institutions.

World Bank Group agrees with the emergency assessment, this subcomponent would allow the government to request the World Bank to recategorize and reallocate financing from other project components to cover emergency response and recovery costs.

C. Project Beneficiaries

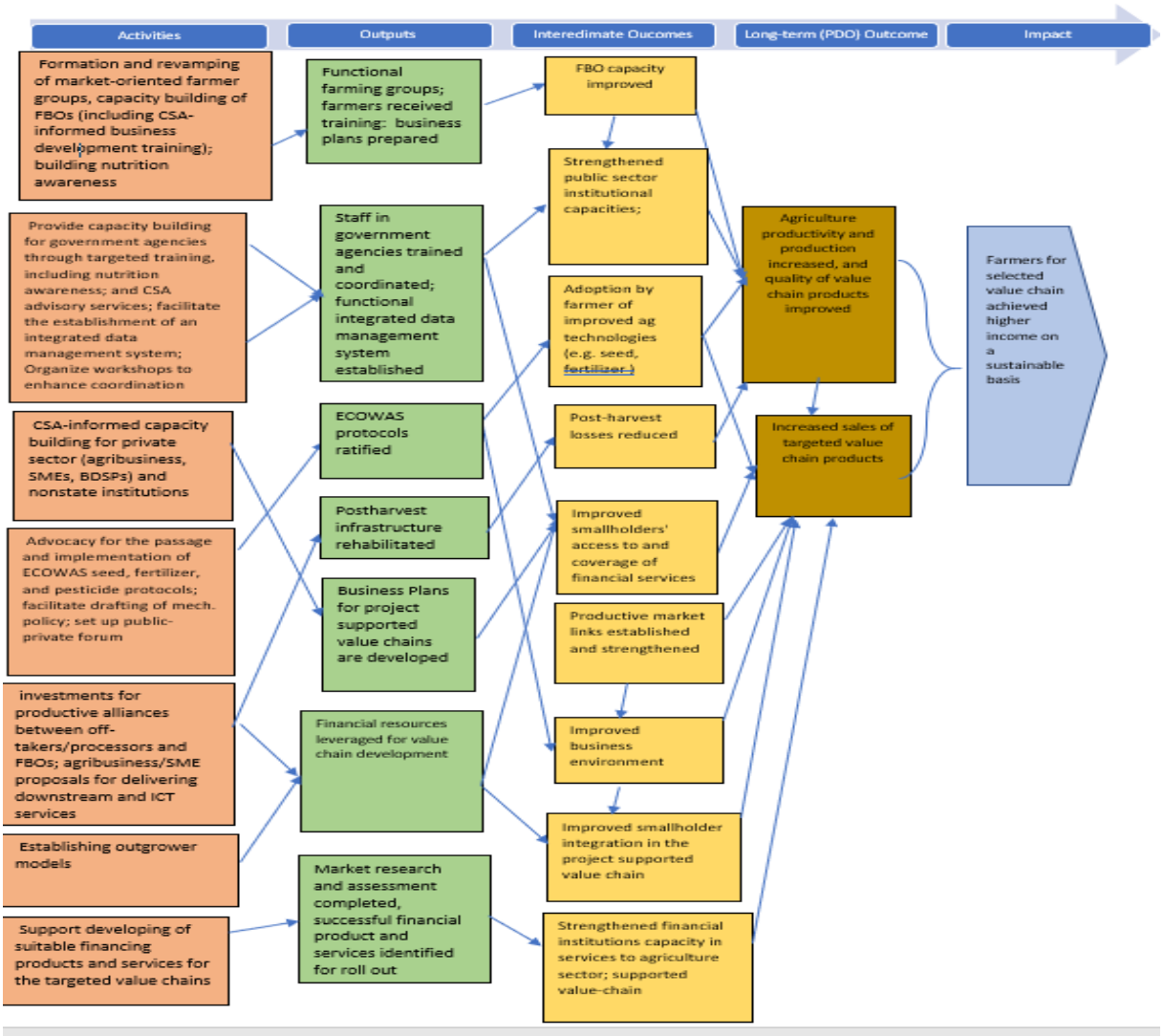
47. The direct beneficiaries of the project are 17,500 smallholder farmers, of which at least 30 percent will be women farmers. To benefit from the project services, farmers must be active, resident smallholder farmers in the project locality who are already engaged in producing one of the target crops, and they must be a member of an FBO (or willing to become a member). These farmers will benefit from increased income accruing from productivity increases and improved access to markets for the sale of their products. Production and market access support to be provided to producers of rice, palm oil, and horticulture will result in productivity gains to all players along these value chains. The project will benefit farmers within the targeted counties. Other beneficiaries will include agribusinesses and business development services enterprises that have good business links to smallholder farmers in the targeted value chains. Indirect beneficiaries include government staff in targeted ministries, agencies, and commissions, and private sector and other nonstate institutions. A detailed targeting strategy will be developed as part of the PIM.

D. Theory of Change

48. The PDO of the STAR-P project is to increase agricultural productivity and commercialization of smallholder farmers for selected value chains in selected counties of Liberia. The project would contribute to the higher-level objectives of making selected value chains more efficient, commercialized, and climate resilient, which will contribute to improving household and national food security and nutrition, reducing rural poverty, and improving shared prosperity. Capacity building and nutrition awareness would contribute to increased demand for a wide variety of nutritious foods.

49. To achieve higher productivity and increased sales of quality and climate resilient products by smallholder farmers, the project will implement activities that lead to outcomes such as (i) improved capacity of FBOs, (ii) the adoption of improved agriculture technologies by beneficiaries, (iii) improving and establishing productive market links, and (iv) improving the business environment, which will improve efficiency and performance for smallholders and other actors along the entire value chain. To achieve these outcomes, the project will improve the capacities of FBOs, institutions, and nonstate organizations; carry out diagnostics and build awareness raising on enabling environment constraints in partnership with other development partners; support commercial partnerships between off-takers or processors and FBOs; support agribusiness and SME proposals for delivering upstream and downstream services such as aggregation, warehousing, packaging, distribution, logistics or ICT services (for example, tools to improve market information dissemination to producers and providing agrometeorological alerts for crop treatments to mitigate risks of pests); and support financial institutions through market research and assessment. Under STAR-P, targeted interventions will be developed to ensure that women and youth are among the key beneficiaries of these activities. Figure 1 illustrates the project's theory of change.

Figure 1: STAR-P Theory of Change



E. Rationale for World Bank Involvement and Role of Partners

50. The World Bank has a strong track record in designing and implementing agriculture and agribusiness projects globally, within West Africa, and within Liberia using approaches such as the public-private partnerships featured in this project. In West Africa alone, these projects have mobilized many smallholder farmers into commercial entities that can partner with the private sector and leverage finance from financial institutions. The STAR-P builds on the previous World Bank–supported project West Africa Agriculture Productivity Project (WAAPP-P122065) and the STCRSP, which supports smallholder FBOs in productivity growth and market links. The project will work with existing FBOs established under the two projects, and will use the tested mobilization approach and strategy of working with outgrowers on oil palm and technology support and the innovation platform established for the rice value chain.

51. The project will contribute to the objective of maximizing finance for development in several

ways. First, by facilitating the exposure and links between formal financial institutions and project beneficiaries, the project will contribute to creating a path toward financial inclusion for the rural farmers and eventually crowding in commercial finance for the FBOs. Second, component 2 was designed to encourage maximum private sector participation in the form of links and partnerships for technical assistance and business development. Third, the project's support on policies to improve the enabling environment will leverage more private sector partnership. The maximizing finance for development cascade approach will be applied in deciding on provision of catalytic support to activities in business plans. Finally, the project will be collaborating with other donors, particularly the International Fund for Agricultural Development (IFAD), which is considering cofinancing the project with US$23 million. IFAD would provide financing in all components, but would emphasize strengthening farmer organizations and investments in smallholder production while promoting nutrition, youth, gender equality, and citizen engagement in particular[21]. Other donors, such as the United States Agency for International Development (USAID), the Swedish International Development Agency (SIDA), and the U.K. Department for International Development (DFID) have also expressed interest in supporting different elements of the project.

52. The World Bank Group's convening power will also facilitate the multistakeholder dialogue required for successful project implementation. Several development partners support interventions in the agriculture sector that can be leveraged for STAR-P activities. Initial discussions have identified some potential areas of synergies, for example, with the United Nations Development Programme's program of support to business development service providers. These service providers may be able to provide services to producers under the STAR-P, or they may benefit from the technical assistance and financing provided under STAR-P. Similarly, the nutrition and school feeding program supported by the World Food Program could be a market outlet for some of the producers under STAR-P. SIDA has offered assistance with project implementation through its GROW Liberia program to provide technical assistance to agribusiness firms, conduct value chain studies as needed during project implementation, or both. Complementarities will be sought with the IFAD-financed Rural Community Finance Project, which is nationwide and will strengthen rural financial institutions.

F. Lessons Learned and Reflected in the Project Design

53. Experience from several agriculture and agribusiness projects, including the Sierra Leone Commercial Agriculture Development Project (P153437), the West Africa Agricultural Productivity Program (P122065, of which Liberia is a beneficiary), and the STCRSP (P113273), has provided the following lessons, which have been factored into the design of the project (annex 7 provides more details).

54. ***Facilitating market links along the value chains***. Although the changing global trade context and the emergence of value chains have benefited large national and multinational agribusiness firms, smallholder farmers can also benefit. However, to participate and obtain higher value or a larger portion of the chain's profits, smallholders' need to meet the demands of other value chain actors, such as traders, processors, retailers, and exporters. This presents challenges related to perishable products, food safety and quality issues, environmental concerns, postharvest problems, and the emergence of a more sophisticated retail system.

[21] IFAD financing is expected to be approved by the IFAD Executive Board in April 2019.

55. ***Use of matching grants***. Lessons outlined in a recent review of past and ongoing World Bank projects using matching grants have guided the project design.[22] These include the following:

(a) Providing a strong economic rationale for including a matching grant component and description of the market failures;
(b) Tailoring the design of the grant to local conditions and targeting specific market failures
(c) Tailoring the size of the grant and level of grant matching to the type of beneficiary;
(d) Assessing the procurement, administrative, disbursement, and financial management; capabilities of the applicants and providing training in the main skills and procedures required under the grant scheme;
(e) Preparing a detailed matching grant manual that sets out the process for grant application, evaluation, disbursement, and monitoring.

56. ***Fund management.*** Efficient management of the matching grant scheme is crucial to the project's success. Measures will be established to ensure that the selected fund manager has the appropriate capacity, that approval and disbursement procedures are agile, and to minimize overhead costs while maintaining transparency and accountability of operations. They will also ensure that a sound M&E system is used.

57. ***Gender targeting***. Addressing the gender dimension of interventions is important to achieve sustainable economic growth and development. Based on a recent gender study presented in annex 6,[23] the project will ensure that it responds to constraints that are gender specific, at least in the following:

(a) Ensuring access to and control of productive assets, and access to credit and skills training;
(b) Outreach and engagement;
(c) Collecting gender-disaggregated data and using them to target project interventions; including a gender lens in policy analysis and recommendations in the policy briefs to be generated by the project.

58. ***Communication for Development (C4D).*** The design of the communication strategy will be guided by the following key lessons:

(a) A successful C4D facilitates four key objectives: (1) accessing information and knowledge; (2) promoting participation; (3) giving voice to the excluded; and (4) influencing public policies;
(b) An isolated C4D activity does not usually have much impact. A successful C4D campaign requires a suitable combination of different tools aimed at different audiences. It also requires time. Impactful campaigns are usually spread over an extended time period;
(c) The costs associated with implementing C4D must be evaluated considering the greater participation, responsiveness, and political buy-in they foster, which is particularly needed in Liberia given its history of civil wars and current weak social fabric.

[22] Varangis P., R. Sberro-Kessler, and M. Bouri. 2017. "Lessons Learned from World Bank Projects Using Matching Grants." World Bank Finance in Focus; and World Bank. 2010. "Designing and Implementing Agricultural Innovation Funds: Lessons from Competitive Research and Matching Grant Projects." 2010. Report No. 54857-GLB.
[23] Wodon, Q., and Benedicte de la Briere. 2018. "The Cost of Gender Inequality. Unrealized potential: The High Cost of Gender Inequality in Earnings." World Bank, Global Partner for Education, Children Investment Fund Foundation, Canada (May).

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

59. **The MoA will be responsible for overall project implementation through its PIU.** The MoA will collaborate closely with other relevant ministries and their respective departments and agencies, including the Ministry of Commerce and Industry for project activities focused on connecting producers to traders and agri-processors and support for rehabilitation and standardization of quality laboratories. The MoA will also work with the Ministry of Finance and Development Planning for project activities focusing on policy coordination among ministries, and with the CDA for project activities designed to strengthen FBOs and cooperatives' capacity to organize and foster links (leadership, management, and governance). The MoA will coordinate with the Liberia Agriculture Commodity Regulatory Agency for project activities to support regulatory function and setting product standards.

60. **An interministerial National Project Steering Committee headed by the MoA will provide project strategic oversight.** The committee will include representatives of all relevant ministries and agencies, and both public and private sector institutions and nonstate actors' representatives, such as the National Chamber of Commerce, and representatives of youth and women engaged in the agri-food sector. It will meet at least twice a year and will be chaired by the MoA or its designated representative. The main responsibilities of the steering committee will include: (i) providing strategic and policy guidance to the PIU in MoA for implementation and coordination of activities; (ii) ensuring overall conformity with government policies and strategies; (iii) reviewing project progress and performance; (iv) approving the annual work plan and budget; (v) resolving implementation problems or conflicts; and (iv) assisting the PIU in obtaining government assistance and contributions to the project when needed.

61. At the national level, the project management and M&E functions will be under the daily management of the PIU, which is supervised by the Program Management Unit (PMU) established under the MoA and which is charged with preparation and management of externally funded programs.[24]The PIUs of all externally funded projects operate under the coordination of the PMU. The STAR-P PIU's main responsibilities include: (i) coordinating the consolidation and review of annual work programs, budgets, and procurement plans; (ii) providing assistance for the preparation of terms of references, procurement, contracts supervision, and the like; (iii) disbursing project funds and ensuring the replenishment of project accounts; (iv) undertaking the necessary reporting, auditing, and M&E activities; and (v) overseeing the implementation of project activities and their management.

62. At the county level, the PIU will coordinate project implementation through county project focal points in cooperation with county-level agricultural offices to implement component 1 and ensure collection of data regularly for M&E under component 3. The project officers at the county unit ensure that the use of project funds is in line with the provisions of the project's eligibility and targeting guidelines

[24] Various donors currently support the Project Management Unit, including the World Bank, the U.S. Agency for International Development, the European Commission, African Development Bank, International Fund for Agricultural Development, and others, with the aim of providing the ministry with the capacity to manage and coordinate all donor-funded projects.

and will coordinate project activities and ensure that work plans are prepared, budgeted, and implemented in a timely manner.

63. The LACF will be managed by an independent party recruited through a competitive process. A LACF operational manual will be developed to set out the process for grant applications, proposal evaluation, disbursement, and M&E of funded subprojects, including forms and templates to be used and dedicated sections for financial management and procurement. This will be a disbursement condition for component 2.

64. A value chain/market specialist will be hired through a competitive process to be housed at the PIU. The specialist's primary role will include market identification, facilitation of market arrangements, facilitation of subsector dialogue and coordination with the aim of engendering industry associations, and ongoing assessment of farmers' and other chain actors' needs. The specialist will be supported by market brokers contracted by the project. The SIDA-supported GROW Liberia program will also provide technical assistance support to the specialist and collaborate with the PIU on the market identification and facilitation objectives.

65. Project implementation arrangements are based on the following principles:

(a) Build synergies with ongoing and planned government and donor-funded programs. It was agreed that the project PIU of the MoA will provide project coordination while incorporating members from the Ministry of Finance and Development Planning, MoCI, the National Investment Commission, the private sector, and other ongoing or planned donor and World Bank–funded operations;
(b) Build on existing institutional structures;
(c) Adapt project implementation mechanisms as needed to accommodate possible changes in institutional structures and additional and related World Bank supported programs;
(d) Apply subsidiarity principles with the responsibility for delivering project activities, considering both the nature of the activity and the available implementation capacity to deliver it efficiently

66. The Project Implementation Manual (PIM) details the implementation modalities and procedures. It includes: (i) description, organization, and functioning of project implementation and management bodies; (ii) eligibility criteria and procedures for implementing the project's support, including the matching grants; (iii) implementation modalities for each component and activity; (iv) M&E arrangements and procedures; (v) financial management procedures; and (v) social and environmental impact mitigation plan implementation, including grievance redress mechanism.

B. Results Monitoring and Evaluation Arrangements

67. The STAR-P has designed its M&E system, based on existing MoA set up under the closed WAAPP project. An initial assessment of the PIU highlighted the need for staff training and the use of software packages, including a project MIS to improve M&E efficiency. The MIS will be developed to provide real-time project monitoring and easy access to information on funds flow, implementation progress, processes, quality, and FBO performance. The various activities related to the project results framework

will be monitored quarterly using MIS information. This information will be made accessible to all key stakeholders through a user-friendly project website. The project will use these and other information sources (such as geographic information system spatial data) to reliably inform stakeholders and project management, and to enable them to undertake evidence-based decision making and take corrective action as needed.

68. Progress toward achieving the specific milestones will be tracked as stipulated in the results framework. The PIU will produce quarterly implementation progress reports. In addition, the project M&E function will include periodic beneficiary assessments to track the project's progress and ensure a systematic approach to citizen engagement. The M&E system will also allow for specific studies to be commissioned to complement data gathered from the regular monitoring if needed. The PIM will detail the organizational and technical setup that will govern the project's M&E procedures that will satisfy both World Bank and IFAD requirements (subject to approval of IFAD financing). A midterm evaluation will be conducted halfway into the project implementation period, and an implementation completion report will be conducted after the closing date. The project will ensure that gender considerations and citizen engagement are fully integrated and that local beneficiaries also take part in the midterm and final project evaluations.

C. Sustainability

69. Considering fragility, conflict, and violence combined with Liberia's low-income status and the challenges of limited capacities and resources, the project's focus on capacity strengthening and facilitating market links increases the sustainability of the project's activities through the following interrelated design features:

(a) ***Building human capital***: The project's focus on capacity building among value chain actors is fundamental to achieving its development objectives, and increased human and institutional capacities will have multiplier effects on the country's overall development objectives;

(b) ***Facilitating market links through collective action***: The project's focus on farmer group formation and market-oriented cooperatives as institutional arrangements to improve market access for the targeted smallholder farmers will improve smallholders' bargaining power and ability to compete and improve their position in the value chains in the long-term;

(c) ***Promoting private sector leadership***: The project focuses on industry associations and umbrella groups to strengthen their advocacy and bargaining power for concerted interventions in the sector;

(d) ***Facilitating links and collaboration within and across ministries and among development partners***: The project would strengthen collaboration between several ministries and with other development partners as an element of sustainability of project outcomes;

(e) ***Maximizing Finance for Development***. Liberia is still recovering from the civil war and the setback resulting from the 2014 Ebola crisis. Consequently, agricultural markets are incipient, value chains are poorly integrated, and access to knowledge and support services by farmers and other value chain actors is very limited. Furthermore, the weak regulatory and policy environment limits the attraction of Liberia's agriculture sector to investors and therefore requires significant up-front support from the public sector to reduce risks. The project's investments, including its support for policy and regulatory reform and strengthening financial institutions to improve lending to the sector, will improve Liberia's agricultural investment climate and have a catalytic effect on attracting private sector financing; and

(f) ***Investing in communication as a development tool***: The project's use of C4D is the catalyst that will engender inclusion, knowledge sharing, changes in mindset, and ownership, which then motivates political and investor commitments during and beyond the life of the project.

STAR-P Action Points on Maximizing Finance for Development

The project aims to maximize finance for development by crowding in additional private investment and optimizing the use of scarce project funds to help achieve broader societal and development goals through the following:

- Actions to improve the policy and regulatory environment for private sector investments in agriculture. This will improve incentives and reduce transaction costs and private sector investment risks, thus making agricultural investments more attractive and increasing private investments in the sector.
- Project activities that support outgrower schemes, farmer aggregation, and agro-processing SMEs and promote responsible food and agriculture investments. Support to organize farmers to produce and aggregate targeted agricultural products that meet quality, quantity, and delivery specifications of specific markets helps reduce scale and coordination failures and leverages private sector investments in upstream activities, such as input supply, and downstream activities such as agro processing.
- Project support for investments in infrastructure, including postharvest storage and small-scale irrigation, can address critical bottlenecks that raise transaction costs for private investors, improving the attractiveness of investments in agricultural value chains.
- Technical assistance to financial institutions to strengthen capacity for agri-finance product innovation and outreach stimulate development of a broad range of agri-financing products and services that crowds in more private investment in different segments of agricultural value chains. The project's catalytic role in broadening access to agricultural finance can also leverage additional investments from commercial banks and domestic and foreign private investors.

D. Climate change and disaster risk screening, climate co-benefits, and greenhouse gas accounting.

70. The project was screened for climate change and disaster risks using the climate and disaster risk screening tool developed by the Climate Change Unit of the World Bank Cross-Cutting Solutions Areas.

71. Annex 5 captures the country's climate vulnerability, climate change impacts on the agriculture sector, and potential adaptation and mitigation approaches broadly and by project component. In summary, unpredictable precipitation and increasing temperatures are the main climate impacts in

Liberia. The sensitivity of rice and oil palm crops to these climate impacts is different and therefore, each crop will require a catered approach. For example, pest management will be necessary for both crops, but it will be critical for rice production, and both crops will be negatively affected by unpredictable precipitation that results in extreme weather events (flash floods and severe flooding) and result in soil erosion and loss of crops. Adapting to these impacts will secure production and reduce the risk of low yields. Mitigation approaches will be applied to all crops, particularly oil palm production, given the high greenhouse gas emissions produced throughout the value chain.

72. In Liberia, implementing adaptation and mitigation measures is a challenge for several reasons: (i) lack of real-time and reliable climatic data, (ii) a small number of empirical studies on the impacts of climate change through a local or sectoral lens, (iii) low knowledge of potential adaptation and mitigation measures at the ministerial level and inclusion in sectoral plans, (iv) no integration of climate business approaches in the private sector, and (v) lack of available climate finance to implement these measures. The STAR-P comes at a time when the country is beginning to build momentum around climate change and has taken significant climate actions. In 2018 specifically, Liberia ratified the Paris Agreement and launched the National Policy and Response Strategy on Climate Change. This project, through its components and activities, aligns with the priorities identified in these national policies and can potentially contribute to this momentum through the agriculture sector. It also aligns with priorities identified in previous national climate change policies, including the 2015 Nationally Determined Contribution, the 2013 Initial National Communication, and the 2008 National Adaptation Plan of Action (see annex 5 for more details),

73. **Greenhouse gas accounting:** The environmental externalities of the project have been estimated using the Ex-Ante Carbon-Balance Tool (EX-ACT) developed by the Food and Agriculture Organization to provide estimations of the impact of agriculture, forestry, and other land use projects and policies on the carbon balance. The carbon balance is defined as the net balance across all greenhouse gases expressed in CO_2 equivalents (CO_2e) that will be emitted or sequestered because of project implementation (with project [WP]) versus a business-as-usual scenario (without project [WOP]). For STAR-P, the greenhouse gas accounting calculations were based on characteristics in the humid tropical ecological zone Agro-Ecological Zone in Liberia with low activity clay soils and the land use and crop management practices for WP and WOP situations. The changes expected to result from the project were included in the tool's different modules—in full alignment with the economic and financial analysis (EFA) assumptions and budget provisions. The carbon balance results are positive and significant, with the project appraisal document's (PAD) activities leading to a total reduction in CO_2e emissions of 1.13 million tons in a 20-year period starting from project implementation. Per year, the mitigation potential is about 206 tons of CO_2 per hectare, or 10.3 tons of CO_2e per hectare and year. The planting of oil palms is the main source of carbon sink, leading to an overall CO_2 emission reduction of approximately 1.58 million tons. This by far overcompensates for the increased emissions of 0.59 million tons resulting from incremental use of agricultural inputs. More details on the changes expected to result from the project and a summary table of results are in annex 4.

IV. PROJECT APPRAISAL SUMMARY

A. Economic and Financial Analysis

74. The rationale for public sector interventions envisioned in the project is strong. Worldwide evidence has shown that investments in agriculture tend to have high multiplier effects, especially if targeted at smallholder farmers. Rice, horticulture, and oil palm are grown mainly by smallholders, and current import levels for these products suggest strong import substitution potential. The key to broad-based agricultural growth is increased productivity across agricultural value chains and a better integration of different segments and actors in these chains. Because Liberia is still recovering from the civil war and the setback resulting from the 2014 Ebola crisis, markets for agricultural inputs are incipient, value chains are poorly integrated, and access to knowledge and support services (extension and finance) by farmers and other value chain actors is very limited. The project addresses these numerous market failures in various ways: (i) Strengthening farmers' organizations helps overcome diseconomies of scale, fostering market integration and service provision while increasing smallholders' bargaining position; (ii) the promotion of farm-agribusiness links supports value chain integration and allows constraints at different levels of the chain to be tackled in a coordinated way; (iii) strengthening of key public and private institutions enhances their capacity to fulfill their mandates more effectively, thus enhancing the provision of public goods to the target value chains; (iv) the use of matching grants for key productivity-enhancing investments is justified in the short term in the context of largely dysfunctional rural financial markets while the technical support to financial institutions contributes to narrowing the rural finance gap in the medium term.

75. The project's EFA follows the standard methodology for cost-benefit analysis of agricultural investment projects and is in line with guidelines published on EFA.[25] The main tangible benefits generated by the project will be (i) increased productivity of production and post-production activities in the three target value chains, (ii) increased income by smallholder farmers and other value chain operators, and (iii) additional productive employment generated. Although the main quantifiable benefits will result from the productive subprojects supported under component 2, components 1 and 3 are also instrumental in achieving these benefits by strengthening the enabling environment for such investments and the project implementation capacity. The financial analysis is based on crop budgets and enterprise models for service provision and first-level processing. Given STAR-P's demand-driven approach, the EFA builds on a representative sample of typical investments that are anticipated to be demanded by beneficiaries and are eligible under the project. The gross margins and efficiency indicators (financial internal rate of return and net present value [NPV]) were calculated with all labor costs included. Yield increases were estimated conservatively, building in a learning curve of three production cycles until full yields are achieved. For the economic analysis, project incremental benefits are estimated for a 20-year period applying a discount rate of 6 percent to reflect the opportunity cost of capital.

76. Under these assumptions, the overall economic internal rate of return (EIRR) is 22 percent. The NPV is US$24.9 million. A sensitivity analysis was conducted to test the robustness of these indicators against changes in key parameters. The analysis shows that EIRR, and especially the NPV, are more vulnerable to decreases in yields and output prices than they are to an increase in overall project costs.

[25] Investment Project Financing Economic Analysis Guidance Note (April 2013), World Bank.

Overall, results are sufficiently robust. The lowest EIRR is 14 percent if yields or prices drop by 20 percent. The benefits resulting from greenhouse gas emission reductions were factored into the economic analysis using different social values of carbon, in line with the recent World Bank guidelines. Assuming carbon prices of US$40 and US$80 per ton in 2020 with an annual increase of 2.25 percent over 20 years results in EIRRs of 37 percent and 55 percent, respectively, and NPVs of US$30 million and US$46 million, respectively.

77. The environmental externalities of the project have been estimated using the EX-ACT tool developed by the Food and Agriculture Organization to provide estimations of the impact of agriculture, forestry, and other land use projects and policies on the carbon balance. The carbon balance is defined as the net balance across all greenhouse gases expressed in CO_2 equivalents (CO_2e) that will be emitted or sequestered because of project implementation (WP) versus a business-as-usual scenario (WOP). The carbon balance results are positive and significant, with activities proposed in the PAD leading to a total reduction in CO_2e emissions of 1.13 million tons in a 20-year period starting from project implementation. Per year, the mitigation potential is about 206 tons of CO_2 per hectare, or 10.3 tons of CO_2e per hectare and year. The planting of oil palms is the main source of carbon sink, leading to an overall CO_2 emission reduction of approximately 1.58 million tons. This by far over compensates for the increased emissions of 0.59 million tons resulting from incremental use of agricultural inputs.

B. Technical

78. The STAR-P design considered alternative technical approaches using experience from other projects in Liberia and from other countries within the region. Extensive consultations were carried out with the government at the national and provincial levels, and with key stakeholders and development partners to improve the technical integrity of the proposed design. Considering the widespread capacity constraints of actors and institutions in a post-conflict and post-Ebola context, the project makes substantial provisions to strengthen human, institutional, and technical capacities at all levels. This includes organizational strengthening, and technical and business training of FBOs, key value chain actors (such as input suppliers and business development service providers), and select public and private institutions at the meso and macro level with important functions for improving the business enabling environment. In addition to training on the preparation of business plans, matching grant recipients will receive technical assistance and extension services during the implementation period of their productive projects (usually two years). The project will build on and disseminate the agricultural technologies introduced by WAAPP and the Central Agricultural Research Institute to increase yields and climate resilience, especially in rice and horticultural value chains, and leverage the capacity of private nucleus farms in the oil palm subsector. Considering the capacity constraints of financial institutions and past experiences with credit lines in Liberia (for example, under the Smallholder Tree Crops Revitalization Support Project), the project uses matching grants as the main financing instrument for productive projects. Best practices will be applied in managing the matching grant fund, including a staged selection process, an independent investment committee, and operational management through a professional fund manager. To support the transitioning of matching grant recipients toward sustainable sources of finance, financial institutions will be supported in improving their agricultural lending capabilities.

79. The Bank has significant experience on how to overcome the barriers affecting smallholder farmers. The experience with projects that have supported the establishment of productive business alliances between agribusinesses and smallholder producer organizations show that such alliances hold

promise especially where access to finance, technical know-how and agribusiness skills are provided as a package. In countries with functional financial markets, it is critical to involve financial institutions such as commercial banks from the beginning of the project and work with anchor agribusinesses as off-takers to sustain and scale up activities when project funding comes to an end. However, in fragile and conflict affected countries, where the financial markets are either thin or risk-averse towards farmers and agri-based enterprises, access to finance has been addressed through specifically tailored funding mechanisms. Experience of the Bank in this context has been incorporated in the design and the implementation focus on technical, financial, organizational, and management capacities of beneficiaries will ensure the success of the project.

C. Fiduciary

(i) Financial Management

80. Based on the current risk and the planned risk mitigation measures applied, the financial management risk is rated as **substantial**. The Financial Management Assessment Questionnaire tool has been completed (see annex 3).

81. The PIU will manage the project funds on behalf of the executing agencies, keep financial records according to international standards, implement internal controls, and ensure annual external audits to be conducted by the Auditor General of Liberia as part of the overall project planning, coordination, and implementation. Regarding the LACF, which will be established under the project, the fund manager (a firm or individual) will be allowed to operate one or more operational accounts to manage the matching grant scheme. The PIU will be responsible for the preparation and submission of the Interim Financial Reports (IFRs) every quarter in compliance with the legal agreement and submitting audited annual reports, and for all the financial management activities of STAR-P.

82. Based on an assessment conducted in 2017 and 2018, the capacity of the PIU for the proposed project was found to be moderately satisfactory. The finance department for the PIU is headed by a project accountant who holds Bachelor of Business Administration and Master of Business Administration degrees. In anticipation of multidonor financing of STAR-P and for new World Bank–financed projects, the finance unit of the PIU will need to be headed by a professional accountant (ACCA/CPA/CA) supported by a program account and an accounting assistant. The additional staff will ensure that there is a robust financial management system with segregation of duties and capable of timely meeting the fiduciary requirements of the different financiers, the government, and other stakeholders. The cost of running the financial management unit (salaries and operational costs) will be shared on pro rata basis between the project financiers.

83. The PIU currently operates only one designated account (denominated in U.S. dollars) for all project activities at a World Bank–approved commercial bank. The project will use report-based disbursements through the submission of quarterly IFRs on the sources and uses of project funds. A forecast of the first six months' expenditures will form the basis for the initial withdrawal of funds from the credit, and subsequent withdrawals will be equally based on the net cash requirements. The project will follow a cash basis of accounting and financial reporting and will submit quarterly IFRs of the project activities within 45 days of each government of Liberia fiscal quarter. At a minimum, the constituents of

the IFRs will be: (i) A statement of sources and uses of funds for the reported quarter and cumulative period from project inception, reconciled to opening and closing bank balances; (ii) a statement of uses of funds (expenditures) by project activity or component, comparing actual expenditures against budget, with explanations for significant variances for both the quarter and cumulative period; and (iii) a Designated Account Reconciliation Statement.

84. The annual audited financial statements of the project will be submitted to the International Development Association (IDA) within six months of the end of the government's fiscal year (by December 31 each year). The external auditors will conduct annual audits of the project financial statements on terms of reference agreed to with the World Bank. The project will be audited by the Government Audit Commission unless cleared by the World Bank.

(ii) Procurement

85. Applicable Guidelines for the STAR-P: The borrower will carry out procurement under the project in accordance with the World Bank's *Procurement Regulations for IPF Borrowers* (Procurement Regulations) dated July 1, 2016 and revised in November 2017 and August 2018 under the "New Procurement Framework" and the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated July 1, 2016, and other provisions stipulated in the financing agreements. The latest versions of the World Bank Standard Procurement Documents will be used.

86. Preparation of the Project Procurement Strategy for Development (PPSD): The MoA (with technical assistance from the World Bank) prepared a PPSD, which describes how procurement activities will support project operations for the achievement of project development objectives and deliver value for money. The PPSD has been finalized, and the World Bank has approved the 18-month project procurement plan. Procurement activities will principally be based on National and International Competitive biddings in line with the New World Bank Procurement Regulations. The project actors- will leverage the use of ICT to improve participation, delivery, monitoring and reporting while utilizing the Bank procurement electronic system (STEP) as the primary platform to submit, review, and clear all procurement plans. The client has general experience in implementing World Bank funded projects but given the broad scope of activities under the project, the MoA will hire a Procurement Assistant to complement the work of the Procurement Officer. In addition, MoA will hire an International Consultant to support the procurement process and build the capacity of the National Procurement Officers through transfer of knowledge.

87. Implementation Arrangements for Procurement: The PIU will implement the project on behalf of the MoA. The current project team (project coordinator, accountant, and M&E officer) that will implement the STAR-P also implemented the regional project, the WAAPP (P094084), a project that ended with a highly satisfactory rating from the Independent Evaluation Group (IEG) of the World Bank. Given that the procurement officer who was part of the team that implemented the WAAPP is no longer with the PIU, the project has recruited a procurement specialist to strengthen its capacity. The client will also require training on the features of the World Bank New Procurement Framework and STEP. The overall procurement risk is **substantial**.

D. Safeguards

(i) Environment

88. STAR-P will be an environmental assessment category B project. It triggered OP4. 01 (Environmental Assessment), OP 4.09 (Pest Management), and OP4.12 (Involuntary Resettlement). Table 4 summarizes the safeguards policies triggered for this project.

Table 4: Safeguard Policies Triggered by the Project

Safeguards Policies Triggered by Project	Yes	No
Piloting the Use of Borrower Systems to Address Environmental and Social Issues in Bank-Supported Projects (OP/BP 4.00)		No
Environmental Assessment (OP/BP 4.01	Yes	
Natural Habitats (OP/BP 4.04)		No
Pest Management (OP 4.09)	Yes	
Indigenous Peoples (OP/BP 4.10)		No
Physical Cultural Resources (OP/BP 4.11)		No
Involuntary Resettlement (OP/BP 4.12)	Yes	
Forests (OP/BP 4.36)		
Safety of Dams (OP/BP 4.37)		No
Projects on International Waterways (OP/BP 7.50)		No
Projects in Disputed Areas (OP/BP 7.60)		No

89. At this stage, it is not feasible to prepare an environmental and social impact assessment for this project. The project will have several subprojects for which their specific nature, specific activities to be undertaken, and location are not yet defined. Therefore, a framework approach has been adopted. The Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework contain a checklist for screening each subproject during implementation. Specifically, the ESMF will outline the safeguards arrangement to put in place before the start of subproject activities. Environmental and Social Management Plans and one or more Resettlement Action Plans will subsequently be developed and submitted to the World Bank for approval before undertaking activities that require these instruments. The project will also be subjected to applicable national environmental impact assessment requirements. The Environmental Protection and Management Law of Liberia will apply to this project. For project activities that fall under the environmental impact assessment mandatory list as defined in Annex I of the Environmental Protection and Management Law, the project will be required to obtain the necessary permit before such activities are undertaken. OP 4.09 was triggered because the project intends to undertake agricultural productivity enhancement activities that might involve the use of pesticides and agrochemicals. To satisfy the requirements of OP 4.09 and ensure that the potential risks and impacts of pesticide use are addressed, the project has developed an integrated pest management plan that emphasizes the use of biological and integrated pest control measures over exclusive use of pesticides. In addition, a safeguards officer will be recruited at the PIU and will cover both the social safeguards and environmental functions. The ESMF and integrated pest management plan have been disclosed in country on October 17, 2018 and through the World Bank website on October 24, 2018. In the interim, the

environmental and social specialist recruited for the Smallholder Tree Crops Revitalization Support Project will work closely with the STAR-P project until the staff will eventually transition fully to the STAR-P.

(ii) Social Safeguards

90. It is anticipated that the project will have positive social impacts at the household and community levels. Project activities will lead to an increase in household incomes for participating farmers, improved agriculture-related capacity (such as knowledge of technology and improved farming methods that would have spillover effects), and it may result in monetary and nonmonetary benefits at the community level (a result of community negotiations with private investors).

91. **Involuntary resettlement.** The project will invest in civil works, including construction of small-scale irrigation facilities, post-harvest, storage, and processing facilities, rehabilitation and maintenance of farm roads, and so on. These activities may lead to land acquisition, increase the vulnerability of existing land users to displacement (especially women), which then might impact livelihoods negatively. However, these risks are expected to extend moderate to substantial social impacts. Based on the risk profile, the World Bank safeguard policy on Involuntary Resettlement (OP 4.12) is triggered to provide guidance for subproject-level environmental and social screening and process for the preparation of follow up Resettlement Action Plans. In line with this policy, the borrower has prepared a Resettlement Policy Framework and disclosed it before appraisal on October 17, 2018 in country and on October 24, 2018 at the World Bank's website. Resettlement Action Plans will be prepared as necessary when works and sites have been identified.

92. **Safeguards capacity and implementation arrangements**. Both smallholder farmers and private investors whose investment is supported by land acquisition are required to apply the Resettlement Policy Framework and comply with the project's safeguards requirement. Safeguards knowledge at these levels is usually insufficient. However, the PIU has ultimate responsibility for ensuring successful project implementation, including adherence to safeguards measures and compliance. It has been agreed that the project will recruit and add two safeguard officers to the PIU level staffing with one officer responsible for environment while the other officer be responsible for the project's citizen engagement, social and gender issues. These specialists will be based at the PIU to provide safeguards support to STAR-P, and other agricultural projects that may emerge. Because project activities will span five counties with multiple subproject locations, there is a need to identify local-level personnel to ensure the day-to-day safeguards implementation and supervision. The project team will discuss and agree on safeguards implementation structure by end January, 2019 before project effectiveness. The project will also include provisions to strengthen the capacity at all levels (from PIU to communities, including smallholder farmers and investors) to ensure improved knowledge of social and environmental safeguards for effective implementation and monitoring.

Gender

93. Addressing gender gaps is an important dimension of the project and it is critical for achieving higher productivity and enhancing the economic potential of both men and women. Empirical evidence shows that equal distribution of inputs within households (such as land, seed, and fertilizer) would increase agricultural productivity by up to 20 percent.[26] A detailed gender assessment was undertaken for the preparation of STAR-P to identify gender gaps along the selected value chains and to set out specific actions to address identified gaps. Based on the findings and recommendations, STAR-P will implement a gender action plan to address some of the gender gaps and to foster women's engagement in project activities (see annex 6 for more details). At a minimum, the project will undertake the following:

(a) Increase women's participation. The project will encourage and facilitate the participation of entrepreneurial women in its interventions. For example, the project will support the formation of women producer organizations on a demand basis. Demonstration of women's involvement in business proposals will be used as an incentive for accessing matching grants under the LACF;
(b) Facilitate access to and control of productive assets. Allocations within the project's financing scheme will be made to promote innovative enterprises by women;
(c) Improve women's technical skills and business acumen by providing tailored technical and business-management trainings, such as branding, marketing, and financial management to access more profitable economic opportunities;
(d) Facilitate awareness among women farmers of the project's matching grant scheme;
(e) Support the design of extension services of MoA in ways that ensure women can access necessary information. This might require using female extension workers or the adoption of other techniques to ensure that women benefit from extension service systems put in place;
(f) Recruit a gender specialist for capacity building and strengthen the capacity of the gender unit at MoA to finalize the gender action plan, develop gender training and monitoring toolkits, and oversee the implementation of the action plan;
(g) Include a gender lens in policy analysis and recommendations in the policy briefs that the project will generate;
(h) Monitor and collect gender-disaggregated data, including (i) volume of annual sales (metric tons) for the target commodities produced by the farmers' group, disaggregated by gender, (ii) number of business development plans developed for women, and (iii) number of farmers adopting improved agricultural technology, disaggregated by gender.

94. **Gender-based violence (GBV)**. The preliminary assessment of project-related sexual exploitation and abuse/gender based violence (SEA/GBV), using the risk assessment tool recommended by the World Bank's GBV task force, is considered low (12.5 percent of Liberian women). However, given the country context of high prevalence of non-partner sexual violence, weak legislation to address sexual harassment and domestic violence, and the limited capacity of the PIU and implementing agency (MoA), it is still advised that the project adopt a mitigation approach to address potential GBV risks. Relevant mitigation measures will entail integrating codes of conduct with SEA/GBV–related protections, and requiring all

[26] STAR-P. 2018. Gender Assessment Study.

contractors, subcontractors, suppliers, and any consultant physically present at the project site to have and sign to a GBV code of conduct. Establishment of grievance redress mechanism with procedures and channels to enable safe, confidential, and ethical reporting of GBV incidents will be articulated in the gender action plan. GBV sensitization and capacity building for the implementing agencies, local communities, contractors, FBOs, agribusiness firms and consultants of the project will be conducted by the PIU. The project will build the skills of the gender specialist to monitor issues related to GBV throughout project implementation. Where necessary a third party will be recruited for periodic assessment.

95. **Citizen engagement.** In line with the World Bank's strategic framework on mainstreaming citizen engagement, effective consultation and engagement have become central in World Bank–funded projects. The purpose of the framework is to capture the diverse experiences, assess lessons learned, and outline methods and entry points to provide a more results-focused approach. The project, under component 3, includes support for a citizen engagement implementation plan as part of the overall C4D intervention to facilitate ownership and buy-in of project objectives and activities. In this regard, it was agreed that the project will conduct a community institutional assessment that will, among other things, shed light on the local community dynamics and inform the design of the implementation plan. The results framework includes a citizen engagement indicator. Stakeholder workshops were held in Monrovia and in the beneficiary counties throughout project preparation, including the preparation of the safeguard instruments and various contextual studies[27, 28]. Given the government's focus on women and youth in its development agenda, the project design reflects the needs of these segments of the population. The Citizens Engagement (CE) will form an integral part of project implementation to enable an effective two-way interaction between citizen and government. Citizen Engagement under Project will include: (i) effective consultations, (ii) establishing a functional grievance redress mechanism (GRM) and explore the way to integrate it with the M&E system, (iii) community participatory monitoring (CPM) through social audits and other tools, and (iv) establishing a real interaction between beneficiaries, NGOs and the government. For (iii) the project will develop several Community Participatory monitoring (CPM) tools and use then frequently. Transparency will be ensured through the revamped MIS and information on funds transfer will be given to all beneficiaries so that there is awareness of funding of Business plans and of what has been transfred and when.

96. **Grievance redress mechanisms:** Communities and individuals who believe they are adversely affected by a World Bank–supported project can submit complaints to existing project-level grievance redress mechanisms or the World Bank's Grievance Redress Service. The service ensures that complaints received are promptly reviewed to address project-related concerns. Project-affected communities and individuals can submit their complaint to the World Bank's independent Inspection Panel, which determines whether harm occurred, or could occur, because of World Bank noncompliance with its policies and procedures. Complaints can be submitted at any time after concerns have been brought directly to the World Bank's attention and World Bank Management has been given an opportunity to respond. Information on how to submit complaints to the World Bank's corporate Grievance Redress

[27] World Bank. 2017. "Liberia: Agriculture Commercialization and Agribusiness Development Sector-Scan Draft Report" (February).
[28] World Bank. 2017. "Preliminary Assessment of Private Sector Investment in Major Agriculture Value Chains in Liberia: Focus on Rice, Horticulture, and Oil Palm Commodity Value Chains."

Service can be accessed at http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. Information on how to submit complaints to the World Bank Inspection Panel can be accessed at http:/ www.inspectionpanel.org**.** One of the key indicators that will be tracked is : percentage of beneficiaries satisfied with services provided by the project, based on project response to their needs.

V. KEY RISKS

97. Based on an assessment using the Systematic Operations Risk-Rating Tool (SORT) (see table 5), the risk rating for achieving the development objective of STAR-P is **substantial**. Table 6 provides a summary of the risks and mitigation measures.

Table 5: Systematic Operations Risk Rating

Risk Category	Rating
Political and governance	High
Macroeconomic	High
Sector strategies and policies	Substantial
Technical design of project or program	Moderate
Institutional capacity for implementation and sustainability	Substantial
Fiduciary	Substantial
Environmental and social	Moderate
Stakeholders	Moderate
Overall	Substantial

Table 6: Summary of Risks and Mitigation Measures

Risk	Rating	Mitigation Measures
Political governance. The security situation in Liberia remains fragile. However, despite the country's security and fragility concerns, in January 2018 it succeeded in its first peaceful political transition from a living incumbent to a new administration headed by the former opposition leader. This is Liberia's first nonviolent transfer of power between political parties. In recent years—particularly under the last administration—policy makers have increased efforts to decentralize governance. However, the demands of political transition, the country's limited fiscal and institutional capacity, and the	High	It is beyond the scope of the project to address the entirety of the political governance issue, but the project's targeting of youth as one of the beneficiary groups and investment on Communication for Development will help facilitate citizen engagement, dialogue, and contribute to changes in behavior and mindset.

difficulty of coordinating a complex administration across a large geographical area with poor infrastructure make the decentralization process challenging. Liberia's main political challenge in the future will be to eliminate entrenched patterns of elite capture and develop more inclusive, participatory governance institutions. The issue of social inclusion is important. With limited economic opportunities for younger workers, there is a major risk to peace and stability.		
Macroeconomic. Liberia faces complex development challenges, including a highly concentrated export structure, a narrow revenue base, heavy reliance on foreign aid and an increasing dependence on it, and a structural fiscal deficit. As outlined in the Systematic Country Diagnostic, transitioning to an economic model in which GDP growth reliably generates broad-based improvements in poverty and social development indicators will require building human capital, boosting productivity, accelerating job creation, strengthening socioeconomic resilience, enhancing the quality of governance, and expanding institutional capacity.	High	A majority of the measures to mitigate these challenges are outside the project's scope, but the project's support to institutional and human capital strengthening, promoting productivity, and value addition in agriculture—a sector that is the cornerstone of the country's development agenda—will contribute to macroeconomic improvements. Additionally, the policy dialogue activities under the project will also contribute to advocacy for required policy reforms for strengthening the current macroeconomic status.
Sector strategies and policies. The new government in Liberia was successfully sworn in with no reversal of policies or serious conflicting sector policies. The STAR-P conforms to the government's new strategy and the Pro-Poor Agenda for Prosperity and Development, and no change in policy reform is envisioned to undermine efforts promoted under the project. However, three key sets of policy issues worth noting for observation: those relating to concessions, land tenure, and rice. Unresolved disputes over natural resources and land contribute to ongoing social and economic tensions. The chronic underdevelopment of the agriculture sector and little attention to smallholder farmers compared with the policy attention given concessionaires directly contributes to the civil conflicts, often between Concessionnaires and farmers. So policies that accelerate productivity and income growth among smallholder farmers can help consolidate peace and security. Additionally, addressing disparities in land tenure security based on	Substantial	The project's support for capacity building and institutional strengthening to improve policy analysis and decision making and its investment in Communication for Development are expected to help mitigate risks in this area. The new administration's policies to improve agriculture have not reversed past efforts and will ensure policy consistency especially, the focus on land tenure and support to build relationship between communities and concessionnaires . Additionally, three key ministries—agriculture, commerce and industry, and finance and development planning—will be part of the project steering committee, which will help with buy-in for necessary policy reforms. The Land Rights Bill was recently approved by Parliament and STAR-P will coordinate its activities with the recently launched World Bank-supported land administration project that will help support the implementation of the Act.

gender is particularly important. Only 10 percent of women in Liberia own the land they cultivate, compared with 44 percent for men. Because insecure land tenure reduces incentives to make productivity-enhancing investments in land, efforts to strengthen tenure security have an especially positive impact on productivity, particularly among female farmers. Lack of policy coherence at both the national and regional levels undermines project activity efforts, particularly regarding rice. Although political speeches acknowledge the importance of a dynamic rice industry to the country's economic growth and food security objectives and endorsement of rice import substitution, policy measures do not match the talk. This extends to regional commitments Liberia has made within the Economic Community of West African States' framework regarding the consistent application of the Common External Tariff for rice imports into the region. Waivers are often given to the importers in Liberia, and four dominant importers control about 90 percent of rice imports (two of which control 70 percent). Additionally, policy reforms and implementation that would realize the regional market space and allow for increased market opportunities for smallholder farmers, economies of scale, and investor interests are lacking.		
Technical design of the project. Given the numerous and multifaceted challenges facing Liberia's agriculture sector, any support intervention risks being over complex (in attempting to address too many issues within a limited framework) or inadequate (not well targeted enough to have a significant impact).	Moderate	The project team engaged in consultations with the public and private sectors to seek input to the project's design. Acknowledging the country's fragility, conflict, and violence status (particularly weak institutional capacities), the team sought to strike a balance between selection and scale of challenges to target and the feasibility of implementation. At the same time, to supplement limitations in scope, the team also sought to identify synergies with the World Bank and other development partners' projects. The project design is also expected to be enhanced based on the feedback provided under the World Bank's formal review process. Additionally, the experience and lessons from the Smallholder Tree crop Revitalization Support project and the WAAPP implementation will be applied in the project's technical design.
Institutional capacity for implementation and	Substantial	The project's focus on institutional

sustainability. Liberia's weak institutional capacities limit the quality of its public service delivery. Its limitations in delivering physical infrastructure and services delivery inhibit both domestic entrepreneurship and foreign investment. Its limitations in designing and implementing adequate policies and regulations slow economy-wide growth.		strengthening and capacity building will help mitigate some of these risks. Recent government policies also emphasize staffing and capacity building.
Environment and social. Initial screening results revealed that the project will trigger several safeguards policies, including OP 4.01 (Environmental Assessment), OP 4.12 (Involuntary Resettlement), and OP 4.09 (Pest Management). Several project activities, including the potential use of pesticides and agrochemicals and the development or improvement of transportation and market access infrastructures, are likely to have adverse impacts on the environment. The potential for land acquisition also exists given the number of civil work activities proposed under the project, though this is not envisaged to create conflicts giving the approval of the Land Rights law by the Government of Liberia. Additionally, overall safeguards implementation capacity is low.	Moderate	The client has developed appropriate instruments, including an Environmental and Social Management Framework, a Pest Management Plan, and a Resettlement Policy Framework to mitigate these potential risks and impacts. Additionally, for various subprojects, site-specific instruments such as an Environmental and Social Management Plan will be developed before commencement of the subprojects as needed. When land acquisition is inevitable, an Abbreviated Resettlement Action Plan or a Resettlement Action Plan will be prepared and implemented before such activities are implemented. Safeguards implementation capacity will need to be improved. The project implementation unit will recruit safeguards specialists to lead the implementation of project safeguards requirements. The existing working arrangement with Environmental Protection Agency (EPA) will ensure compliance and handholding of recruited safeguard officers. Furthermore, the presence of experience Safeguard officers of other donor projects including WB within the Program Management unit set up by MoA will ensure working arrangemnts to fill capacity gaps.
Stakeholders. Many years of conflicts and wars have left a huge proportion of the population below the poverty line. The Ebola crisis was another hindrance to growth and development of the Liberian economy—it conferred many shocks on the economy with the concomitant enhancement of poverty and vulnerability. All of these affected household incomes and caused substantial loss of wage jobs and self-employment. The resultant effect is the lack of trust and frequent conflicts in communities. The public and private sectors need to work together and respect contractual agreements.	Moderate	Consultations and stakeholder workshops were held in Monrovia and in the potential beneficiary counties during preparation to create awareness, elicit support, and ensure good working relationships among the various stakeholders. All land that will be used for project activities will obtain community validation or certification. The Land Authority is actively engaged and committed to working with the team on land validation matters. All project safeguards instruments would have ample consultation and be publicly disclosed in country through various media channels, using local languages extensively to ensure

		community understanding and buy-in. Stakeholder consultation and participation will be maintained throughout the project's lifespan.
Social. Some of the project's civil work activities might increase the vulnerability of existing land users, especially women.	Moderate	The borrower will prepare a Resettlement Policy Framework which was disclosed on October 17, 2018. A Resettlement Action Plan will be prepared when works and sites have been identified. A safeguards capacity assessment of the PIU and county-level project officers will be undertaken, and relevant training will be provided to the staff. Additionally, the PIU will be staffed with a citizen engagement specialist.
Fiduciary: The financial management capacity of the PIU was found to be moderately satisfactory based on a 2018 assessment, while the procurement risk was found to be substantial.There are still some gaps in efficient processing of procurement activities in accordance with the World Bank procurement regulations rules and procedures for Investment Project Financing borrowers, particularly with regard to the new procurement framework. The qualifications of the person heading the accounts unit are not considered adequate for the multi-faceted accounting reports required under the project linking different stakeholders. There is need for proper categorization of expenditure, adequate filling and clear delegation of accounting duties.	Substantial	Another financial management capacity assessment will be undertaken by February 2019 to ensure that the required level of capacity has been maintained or improved. A certified professional accountant will be recruited as a financial management specialist to support the PIU, while efforts will be made to support procurement processes through experienced international procurement consultants throughout the life of the project. The project will also recruit a procurement specialist with international experience to improve capacity. Regular training will also be provided for PIU staff.

Note: GDP = gross domestic product; PIU = project implementation unit; WAAPP = West Africa Agriculture Productivity Proj

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Liberia

Smallholder Agriculture Transformation and Agribusiness Revitalization Project (STAR-P)

Project Development Objectives(s)

The development objective is to increase agricultural productivity and commercialization of smallholder farmers for selected value chains in selected counties of Liberia.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	End Target
Increase agricultural productivity and promote commercialization of smallholder farmers			
Increase in yield per targeted Value-Chain: Rice; disaggregated by gender (Percentage)		0.00	20.00
Increase in yield per targeted Value-Chain: Oil-Palm; disaggregated by gender (Percentage)		0.00	20.00
Increase in yield per targeted Value-Chain: Vegetables; disaggregated by gender (Percentage)		0.00	20.00
Volume of annual sales (Mt) for the target commodities		0.00	0.75

Indicator Name	DLI	Baseline	End Target
produced by the beneficiary farmers' group disaggregated by gender - Rice (Metric tons/year)			
Volume of annual sales (Mt) for the target commodities produced by the beneficiary farmers' group disaggregated by gender - oil palm (Metric tons/year)		0.28	4.10
Volume of annual sales (Mt) for the target commodities produced by the farmers' group disaggregated by gender - vegetables (Metric tons/year)		0.20	1.60
Number of direct project beneficiaries (Number) disaggregated by gender. (Number)		0.00	17,500.00
of which women beneficiaries (percentage) (Percentage)		0.00	30.00

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	End Target
Institutional Capacity Building and Strengthening Enabling environment for farmers/state/non state			
Number of beneficiaries receiving capacity building training (disaggregated by gender) (Number)		80.00	17,481.00
Number of beneficiaries receiving capacity building of which women are 35% (Percentage)		0.00	35.00
Number of agribusiness capacity strengthened (SMEs and large) during matching grant implementation (Number)		30.00	220.00
Number of Business Development Plans (BDPs) developed (Number)		0.00	670.00

Indicator Name	DLI	Baseline	End Target
Number of Business Development Plans developed for women and youth (Number)		0.00	201.00
Client days of training provided (disaggregated by gender) (Number)		400.00	40,000.00
Financial and Technical Assistance for Enhancing Productivity and Competitiveness			
Farmers reached with agricultural assets or services (CRI, Number)		0.00	10,000.00
Farmers reached with agricultural assets or services - Female (CRI, Number)		0.00	3,500.00
Farmers reached with agricultural assets or services-Female (CRI, Percentage) (Percentage)		0.00	35.00
Number of Matching Grants approved (Number)		0.00	585.00
of which the number disbursed (disaggregated by gender) (Number)		0.00	585.00
Capacity utilization rate of post-harvest processing facilities (Percentage)		10.00	50.00
Number of off-take arrangements delivered and sustained between FBOs and Buyers (by value chain) (Number)		0.00	100.00
of which the number of productive market linkages sustained after one year of approval (Number)		0.00	80.00
Number of Agrifinance products and services (credit lines, risk guarantees) developed by Financial Institutions (Number)		0.00	9.00
Farmers adopting improved agricultural technology (CRI, Number)		0.00	15,000.00
Farmers adopting improved agricultural technology - Female (CRI, Number)		0.00	5,250.00
Farmers adopting improved agricultural technology - male (CRI, Number)		0.00	9,750.00

Indicator Name	DLI	Baseline	End Target
Farmers adopting improved agricultural technology-Female (Percentage) (Percentage)		0.00	35.00
Percentage of farmers using market information (Percentage)		0.00	50.00
Project Management, Monitoring and Evaluation and Engagement			
Number of reports produced through MIS system (Number)		0.00	20.00
of which the number of reports used by stakeholders (farmers, FBOs, Agribusiness, NGO, Government) (Number)		0.00	20.00
Smallholders/farmers/beneficiaries (farmers or businesses) satisfied with services provided by the project (Percentage)		0.00	75.00
Female farmers satisfied with services provided by the project, % (Percentage)		0.00	75.00

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Increase in yield per targeted Value-Chain: Rice; disaggregated by gender	This indicator tracks the increase in production of commodities produced by the members of the farmers supported by outgrower model and aggregation model. The yield data is collected in MT/Ha for rice, where the baseline in	Annual	PIU	MIS Data System	PIU

	absolute term is 1.3 MT/Ha				
Increase in yield per targeted Value-Chain: Oil-Palm; disaggregated by gender					
Increase in yield per targeted Value-Chain: Vegetables; disaggregated by gender	This indicator tracks the increase in production of commodities produced by the members of the farmers supported by outgrower model and aggregation model. The yield data is collected in MT/Ha for vegetable, where the baseline in absolute term is 2 MT/Ha	Annual	PIU	MIS System	MIS System
Volume of annual sales (Mt) for the target commodities produced by the beneficiary farmers' group disaggregated by gender - Rice	This indicator tracks the gross sales from Producer Organization supported by the Project. The data suggests the volume of lowland rice sold after consumption. This is the volume of marketable surplus.	Annual	The data is based on production models for rice used in the EFA.	MIS Data System	PIU
Volume of annual sales (Mt) for the target commodities produced by the beneficiary farmers' group disaggregated by gender - oil palm	This indicator tracks the gross sales from Producer Organization supported in the PAs as a well as sales	Annual	PIU	PIU	PIU

	from other value chain actors supported by the Project. Oil Palm represents fresh fruit branches.				
Volume of annual sales (Mt) for the target commodities produced by the farmers' group disaggregated by gender - vegetables	Volume of annual sales (Mt) for the vegetables produced by the beneficiary farmers' group disaggregated by gender. The vegetable refers to one of the most important vegetables consumed and produced in Liberia: hot pepper (chilly). Hot pepper is an integral part of the Liberian diet and demand for this vegetable spreads all around the country.	Annual	The data is based on production models for vegetable used in the EFA.	MIS System	PIU
Number of direct project beneficiaries (Number) disaggregated by gender.	The indicator measures the total number of people part of the farmer organization groups, cooperatives, agro-processors, and SMEs.	Annual	Progress reports and surveys	MIS System	PIU
of which women beneficiaries (percentage)					

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Number of beneficiaries receiving capacity building training (disaggregated by gender)	This indicator will track the number of beneficiaries reached by capacity building services, including members of the farmers organization, cooperatives, processors, and SMEs accessing financial, value addition and/or marketing services and other services offered by the project.	Biannual	PIU	MIS System	PIU
Number of beneficiaries receiving capacity building of which women are 35%					
Number of agribusiness capacity strengthened (SMEs and large) during matching grant implementation	This indicator will track the number of agribusinesses and other SMEs with good business linkage plans with smallholder farmers reached by capacity building services	Biannual	PIU	MIS	PIU
Number of Business Development Plans (BDPs) developed	This indicator will track the investment proposals by agribusinesses and BDS enterprises supported to be developed that will contribute to the Project's	Biannual	PIU	MIS System	PIU

	objective of enabling smallholder farmers to be profitably linked to commercial markets.				
Number of Business Development Plans developed for women and youth	This indicator will measure number of women and youth that have successfully produced business plans	Biannual	PIU	MIS System	PIU
Client days of training provided (disaggregated by gender)	This indicator measures the number of client days of training provided i.e. the number of clients who completed training multiplied by the duration of training expressed in days.	Annual	PIU	MIS System	PIU
Farmers reached with agricultural assets or services		PIU	PIU	MIS System	PIU
Farmers reached with agricultural assets or services - Female					
Farmers reached with agricultural assets or services-Female (CRI, Percentage)	The indicator is a corporate indicator and measures the number of women reached with agricultural assets through their business plan and linkage with an off taker or agribusiness.				
Number of Matching Grants approved	This indicator tracks number of business plans of FBOs, Agribusiness and SMIEs financed through matching	Biannual	PIU	MIS System	PIU

	grants				
of which the number disbursed (disaggregated by gender)	This indicator tracks number of matching grants disbursing upon approval	Biannual	PIU	MIS System	PIU
Capacity utilization rate of post-harvest processing facilities	This indicator will track the extent to which the post-harvest facilities supported by the project uses its installed productive capacity during the implementation period	Biannual	PIU	MIS System	PIU
Number of off-take arrangements delivered and sustained between FBOs and Buyers (by value chain)	This indicator will measure the agreements between a farmer groups and offtakers supported by the project	Biannual	PIU	MIS System	PIU
of which the number of productive market linkages sustained after one year of approval		Biannual	PIU	MIS system	PIU
Number of Agrifinance products and services (credit lines, risk guarantees) developed by Financial Institutions	This indicator will track new credit lines, risk guarantees, processed supported by Financial Institutions to various value chain actors	Biannual	PIU	MIS System	PIU
Farmers adopting improved agricultural technology	The household irrigation systems will be used for supplementary irrigation of rained agriculture, for diversification of production or for the transformation from a primarily subsidence	Biannual	MIS System		

	agriculture towards the production of one or two marketable products, depending on the regional conditions and depending on the farmers' interests. Technical assistance will introduce good agricultural practices adjusted to each situation. These are, among other, the use of organic fertilizer, certified seeds, diversification and shifting cultivation and will be identified during project implementation. The indicator evaluates if at least one good agricultural practice transferred during technical assistance is being adopted by the farmer. Municipal staff using their site visits will evaluate use of agricultural practices or improved agricultural technology. One year after the completion of the first systems, an independent evaluation will confirm monitoring results of the municipal staff. If needed,				

	an additional independent evaluation will be realized during mid-term review.				
Farmers adopting improved agricultural technology - Female		Biannual	PIU	MIS System	PIU
Farmers adopting improved agricultural technology - male		Biannual	PIU	MIS System	
Farmers adopting improved agricultural technology-Female (Percentage)					
Percentage of farmers using market information	This indicator will track the percentage of farmers with access to market information system, including e-extension system	Biannual	PIU	MIS System	PIU
Number of reports produced through MIS system	This indicator will track the number of reports produced through the MIS system that will underpin various stages of implementation (e.g. mid-term review assessment) and evaluation	Biannual	PIU	MIS System	PIU
of which the number of reports used by stakeholders (farmers, FBOs, Agribusiness, NGO, Government)		Annual	PIU	MIS/Secondary survey	PIU
Smallholders/farmers/beneficiaries (farmers or businesses) satisfied with services provided by the project	This indicator tracks level of satisfaction farmer organizations, agribusinesses and SME beneficiaries with regard to	Biannual	PIU	MIS Data system	PIU

	responsiveness of the project in reflecting their views and need to the project implementation. Representatives of FBOs, SMEs, Civil society and government officials will regularly participate public-private and inter-ministerial dialogue on key issues around agriculture. The result will be sex-disaggregated.				
Female farmers satisfied with services provided by the project, %		Biannual	PIU	MIS Data system	PIU

ANNEX 1: Detailed Project Description

Conceptual Framework for STAR-P

1. Liberia holds significant opportunities for agriculture to drive growth and economic transformation. However, analytical work and feedback from stakeholder consultations indicate that several market failures are holding back the development of competitive value chains and agricultural transformation.

2. Policy**, regulatory, and coordination failures** led to an uncompetitive business environment for agricultural production and agribusiness. A wide range of policy, taxation laws, and inconsistent application of incentives inhibit private sector investments in the agri-food sector. Agricultural inputs, such as seeds and fertilizers, that are free or heavily subsidized by the government or donors distort incentives for investments in input supply and distribution networks. Procedures for import and export of agricultural products are burdensome and costly, including long wait periods for import tariff exemption on agricultural products or inputs. The inconsistent application of policies, regulations, and fiscal incentives significantly increase the cost (time and money) of doing business compared with alternative investment destinations. Even though imported agricultural products have no or low tariffs, the weak state of physical and logistical infrastructure and capacity inhibit productivity and efficiency in the agricultural sector. These internal costs have the effect of an internal tariff when compared with imported substitutes, resulting in an increased cost of doing agribusiness and barriers to overall agriculture and agribusiness development, despite the high level of public interventions. Weaknesses in the legal and regulatory framework for banking diminish incentives to invest in agricultural lending and risk management products and services, such as warehouse receipt systems, financial leasing, and greater use of the collateral registry. Limited investments in critical infrastructure, such as roads and energy, raise the cost of doing business in agriculture and agribusiness.

3. Structural **weaknesses within agricultural value chains** reflect in low farm productivity and weak links between farm production and upstream and downstream services. Farm-level yield of key crops, particularly in the smallholder sector, is very low compared with their potential. For example, in lowland rice production systems, estimated average farm paddy yield is 1.7 tons per hectare, while on-farm research with farmers produces up to 5 tons per hectare using improved variety and good production practices.[29] Low farm productivity is due mainly to very low use of agricultural inputs, such as improved seeds, fertilizer, and other agri-chemicals. About one percent of all smallholder farmers are estimated to use fertilizers, with consumption of about 4 kilograms per hectare (significantly lower than the global average) for those using fertilizers at all.[30] The miniscule scale of demand, which is largely for subsistence cultivation, is not sufficient to justify commercial investment in the network. Smallholder farmers who dominate the agriculture sector in Liberia are not practicing commercial agriculture, which explains the low usage of improved farm inputs and management practices. This leads to a limited demand for agricultural inputs and a lack of agri-input dealers, which is accentuated because of a lack of finance for purchasing inputs. Downstream value chain actors in Liberia generally lack access to stable, viable markets for their products. Outside of plantations, the entire agribusiness sector—including agro-processing—is highly fragmented, consisting of a few medium and large formal firms and a vast number of small, low-productivity firms operating in few commodities, such as oil palm, rice, horticulture, cassava, and cocoa. Agricultural productivity remains low, which combined with low levels of farmer

[29] Africa Rice 2018 field Research work in Liberia.
[30] IFDC (International Fertilizer Development Center). 2017. “Liberia Fertilizer Assessment.”

organization and coordination leads to highly unstable markets for agricultural commodities and unpredictable input supplies for agribusiness small and medium enterprises (SMEs). Agro-processors also find it difficult to compete with imported substitutes because they receive lower conversion rates from milled products because of high levels of debris, dirt, and broken grains from smallholder farms.

4. Access **to finance, inputs, and other critical services necessary to increase farm productivity and strengthen agribusiness competitiveness is limited.** The small number of financial institutions provide a limited array of products and services to the agricultural sector.[31] Total credit extended to agriculture is estimated at US$23.0 million, comprising 5.4 percent of total lending in the economy, which is very low. This is partly due to the limited use of agricultural inputs, low use of improved technology and equipment, limited knowledge of climate change and its impacts on sector productivity, and weak infrastructure in the agricultural sector beyond plantations, which are largely funded by foreign investments. Liberian farmers cite lack of seeds, tools, financial capital, and labor as major cultivation constraints. However, underlying these constraints are the fundamental constraints of lack of capacity, weak organization, uncompetitive levels of productivity, and limited market access. Overall, there is little financing for agriculture except for export crops such as rubber and cocoa, for which foreign investors provide funding for plantation development, and donor-supported projects channel a small amount of financing through financial institutions. Both the supply and demand are very weak, and together they reinforce the lack of agricultural financing. Agribusiness firms lack investment capital, working capital, risk-sharing instruments, and capacity development. They may also be unaware of the potential for incorporating climate-smart business approaches to protect production. The high up-front cost of setting up or upgrading for developing competitive businesses pushes the financing needs of agribusinesses beyond what is available from financial institutions. In addition, the generation of cash flow is insufficient, and many agribusinesses or farmers do not have the collateral that the financial sector requires. Informal financing for agriculture is also low because of scant use of purchased inputs, and the level of smallholder commercial agriculture is low. The cost of financing in Liberia is high considering that most lending is provided in U.S. dollars. Agricultural loans from banks attract a lending rate of 14.5 percent per year and up to 25 percent or more per year on SME and microfinance loans by microfinance institutions. The low levels of productivity, high logistical costs, and import competition combined with the financing costs and use of hard currency translate into very low levels of agricultural lending.

5. **A weak level of human and organization capacity** at the farmer organization and agribusiness levels and in public and private sector institutions are the leading causes of the uncompetitive environment facing farmers and other value chain actors. At the farm level, many farmers are members of farmer organizations and cooperatives that can help improve farm productivity and market access through collective action. However, many farmer-based organizations have weak capacity that translates into significant leadership, management, governance, and business development challenges. Inadequacies in current policies and regulations governing farmer organizations and cooperatives, along with limited institutional capacity to support them, also pose challenges for value chain development. Within the public sector, many government agencies are involved with designing and implementing initiatives on business and the regulatory environment in agriculture, agribusiness, and SME development, but coordination among them is limited. In addition, agribusinesses and private service providers are not well organized into industry associations to discuss their industry interests or to advocate effectively for policy reforms and investment priorities for agribusiness development. Trust and understanding between the public and private sectors is also lacking mainly because there are no systematic mechanisms for dialogue that can provide a platform for the

[31] There are nine commercial banks, one development finance company, 16 registered microfinance institutions, and 12 licensed rural community finance institutions.

government and private sector to discuss and prioritize integrated industry solutions, including a reform agenda.

6. Existing **property rights complicate land acquisition for agricultural investments**. Land acquisition for agricultural investments remains a major challenge, even though foreign and nonresident investors can get access to land through leaseholds. Land ownership in rural areas is complicated because of communal rights, concession leases, and in some instances, land titles. Community land is most common, and clear titles of ownership are rare, which makes is difficult for investors to make long-term investments in plantations or processing mills. Land concessions complicate the situation because of potential legal and other challenges from communities and nongovernmental organizations (NGOs) that fear the large companies are taking over community lands. Such potential risks relating to land access issues increases investment risks, especially for long-term investments.

STAR-P Design

7. **STAR-P focuses on addressing critical market failures that hold back the development of the rice, oil palm, and horticulture value chains.** The project development objective is to increase agricultural productivity and promote commercialization of smallholder farmers for selected value chains in selected counties of Liberia.

8. The project design is built on three strategic pillars relating to specific market failures in the rice, oil palm, and horticulture value chains. Project interventions focus on integrated solutions that address structural weaknesses within these value chains to unlock the potential for achieving the objectives of income growth and inclusive private sector development. The World Bank commissioned a study, "Agribusiness Value Chain Analysis,"[32] in 2017-18 to identify options to unlock the potential of the oil palm and rice value chains for private investment and value addition, and this study has also informed the STAR-P design (see annexes 1.1).

9. The findings from this study and feedback from stakeholders identified three pillars for successful value chain development: (i) development of institutional capacity for value chains to function effectively; (ii) enhancement of productivity, quality, and efficiency along the value chains; and (iii) improvement in the enabling environment to support the development of stronger, competitive value chains and to attract investors. Within the framework of these pillars, the proposed STAR-P will use financing and technical assistance (delivered primarily through business development service providers) for direct project intervention. In addition, the project will proactively foster collaboration and coordination with other World Bank Group projects, development partners, and other government programs to ensure consistency and to develop synergies in the development of integrated solutions to tackle structural weaknesses within targeted value chains.

Table 1A.1 shows the market failures the project will address and the proposed interventions.

Market Failure	Component (C)	Project Activities
Policy, regulatory, and coordination failures	C 1 C. 3.2	• Institutional strengthening of targeted public institutions, policy and program coordination, leadership, management, and governance • Policy diagnostics and support for targeted policy reform • Facilitation of public-private sector forum

[32] Agribusiness Value Chain Analysis Report—Rice and Oil Palm. World Bank, June 2018

		• Support for strengthening or establishing umbrella bodies and industry associations • C4D: Communication and awareness building, policy dialogue
Structural weaknesses in value chains	C.2 C.1.3 C. 3.2	• Improve farm productivity • Upstream and downstream market links • SME links: input supply; service delivery • Addressing coordination or organization gaps within value chains • C4D: Value chain stakeholder engagement or dialogue, trust building
Access to markets; weak market links	C.2 C.3.2	• Market identification • Strategic links between producer organization and off-takers or processors • Links between farmers group and concessionaires • SME and agribusiness market links • Value chain stakeholder engagement or dialogue, trust building
Information asymmetries; limited knowledge of market opportunities	C.1.2 C. 2.2 C. 3.2	• Strengthening and developing market information systems • Competitive business proposals • C4D: Communication and awareness
Infrastructure bottlenecks: energy, roads, water	n.a.	• Coordination with World Bank projects on roads and energy. Some of the targeted project counties overlap with counties targeted by the road and energy projects.
Lack of access to finance and technology	C.2 C.3.2	• Access to finance interventions through matching grants for smallholder farmers and other actors in the targeted value chains and for related business development service providers supporting farmers and agribusinesses • Technical assistance, including capacity development in few financial institutions to develop and/or scale up appropriate financial services and products for farmers and agribusinesses • C4D: Communication and awareness
Skills gap at farm and firm or SME level Weak institutional capacity	C.1 C.3.2	• Skills interventions, institutional on leadership, management, governance targets • Farmers, farmer producer organizations, and cooperatives • Agribusiness • Business development services providers • Nongovernmental organizations • C4D: Communication and awareness
Difficult access to land for commercial agriculture	C. 3.2	• Coordinate with the World Bank's Land Administration project • C4D: Communication and awareness

Note: C4D = Communication for Development; SME = small and medium enterprises.

10. The **interventions in components 1 and 2 are based on extensive consultations with relevant government agencies, the private sector, and development partners and will form the basis for strategic partnership.** During project preparation, a collaborative working arrangement was established between the Ministry of Finance and Development Planning, the Ministry of Agriculture (MoA), and the Ministry of Commerce and Industry, and it will be strengthened during project implementation. Farmer organizations, SMEs, and financial institutions also provided input to the project's final design. The change expected through the project will be through building strategic partnership among all these actors, which will help to leverage the resources of partners, government agencies, and the private sector. Therefore, the project will forge partnerships in developing collaboration through synchronizing lending and matching grant conditions, reducing overlaps, dialogue, and operation in the same counties. Strategic partnerships will be developed with rice and palm oil importers so that they can be off-takers for local rice and palm oil, with a goal to gradually substitute imports with local products. The project will also facilitate partnerships between agro-dealers, agribusiness firms, and farmer-based organizations (FBOs) to provide reliable sources of inputs and services.

Project Components

11. Component **1: Institutional capacity building and strengthening the enabling environment for farmers, state, and nonstate actors (US$5 million)**. The limited institutional capacity to deliver effective services to actors within value chains is a key factor explaining structural weaknesses in agricultural value chains in Liberia. Limited technical skills and financial literacy, along with weaknesses in management experience and organizational capacity in the public and private sectors, increase risks to all value chain actors. Furthermore, the environment in which these business enablers operate is inadequate and unfriendly to business. These inadequate market arrangements limit the incentives for private sector investment.

12. This component aims to strengthen institutional capacity of FBOs, key public agencies, and private sector service providers to enhance the delivery of priority services necessary to promote competitive commercial agriculture in Liberia. This component will also address selected regulatory and policy binding constraints in the agriculture sector by providing studies and analyses as needed. The component targets three issues identified as critical in moving Liberia from subsistence to commercial agriculture: (i) facilitating market-oriented farmer group consolidation, (ii) facilitating value chain coordination, and (iii) improving the agricultural policy and regulatory environment.

The project implementation unit (PIU) of the MoA will manage the component.

13. Subcomponent **1.1: Strengthening market-oriented smallholder farmer groups for selected commodity value chains (US$1.9 million).** Well-functioning producer organizations are critical for the development of productive interactions between smallholder farmers and agribusiness. At the farm level, this component will support bottom-up, market-driven formation or consolidation of farmer groups. The farmers will be targeted at both the individual and group levels using the village or community as the unit of aggregation, and working with existing groups and supporting the farmers' proposals for new groups. The project will use three mechanisms for social mobilization and for sustainable, market-driven farmers' organizations:

(i). Extensive communication and awareness creation of the market opportunities and incentive support for agribusiness firms and SMEs to create a business link that will be a stimulus for aggregation and consistent supply of high quality products ;(ii) Use of business development service providers (BDSPs) that the project will contract to work on the demand side to identify market opportunities for farmers and work

with them to prepare business plans,
(iii) Technical assistance for organizational strengthening and entrepreneurship development.

14. The project will support smallholder farmers' capacity building and organizational development to help them become commercial farmers with links to markets, inputs, information, and finance. The project will contract with local NGOs and BDSPs working on agricultural market systems development in Liberia to provide this support. Furthermore, this subcomponent will collaborate with business-oriented NGOs, such as the Bangladesh Rehabilitation Assistance Committee, GROW Liberia, and the Sustainable Trade Initiative for technical assistance or joint financing in key areas, including matching grants, business development, and value chain development to support farmers.

15. The subcomponent will support the organization of organically formed smallholder farmers groups through capacity building and institution strengthening to enhance their influence along their respective supply chains, increase their ability to create stronger market links, and position them to negotiate better with agribusinesses. The project is targeting existing and newly established FBOs. The FBOs, cooperative associations, and producer associations will be supported to prepare acceptable business plans, negotiate supply contracts with agro-service dealers and processing firms, and forge financial links with financial institutions.

16. Given the project's target of 17,500 farmer beneficiaries, it is envisioned that the project will support 240 FBOs and 42 cooperative associations in the five counties—650 groups total. The focus of the institutional strengthening is to provide the farmers' groups and their members with information and technical assistance support required to make informed business choices and links. The groups will make their own investment choices through the socially inclusive and participatory process of preparing business plans. For oil palm, the technical assistance and capacity-building interventions will be carried out for both improved traditional oil palm production and plantation-driven outgrower schemes. The project will scale up the models of the World Bank–supported Smallholder Tree Crop Revitalization Support Project (STCRSP), which is about to close, and support concessionaire outgrower models with the local communities' consent. The project will support existing models piloted by NGOs, farmer-owned plantations, the government, and IDH.

17. Project financing will cover services for farmer mobilization, capacity building, and institutional development based on market and farmer demand. The Cooperative Development Agency, vetted BDSPs, and NGOs will deliver training and capacity development. An initial needs assessment and consultations with farmers have identified the following broad needs to support them in forming FBOs:

    i. Training for leadership, management, and governance; and development of statutes for FBOs, the definition and qualification of officers elected to the board of the FBO, and reporting to the General Assembly;
    ii. Business development training, including assessment of market demand, evaluation of project proposals' costs and benefits to members, and financial management and integration of climate-related risks to project proposals;
    iii. Specific awareness and gender training to incorporate women and youth as officers of FBOs and to include some of their specific priorities in the FBOs' business planning process ;
    iv. Nutrition education modules that will include topics such as sensitization on nutrition-sensitive agriculture, basic knowledge on different food groups, and the importance of nutritious food production and consumption for each priority commodity ;
    v. Advisory services to assist FBOs in developing competitive business proposals for consideration under

component 2;

vi. Extension services and technology demonstration;
vii. Aggregation, primary processing;
viii. Business strategy development;
ix. Capacity building focused on increasing knowledge and understanding the risks and impacts on production and yields of rice, horticulture, and oil palm associated with climate change from a climate business lens.

18. Subcomponent **1.2: Institutional strengthening for selected government ministries, departments and agencies (US$1.2 million).** This subcomponent will build capacity and strengthen coordination among selected ministries and departments and related agencies to deliver efficient service to smallholder farmers and other actors in the selected value chains (see table 1A.2). It will explore the use of institutional development plans and disbursement-linked or performance-based indicators in the delivery of support. It will also support dialogue with clients on the challenges that climate change poses for agriculture and food security, and the range of solutions available for climate smart agriculture. The subcomponent will be coordinated through the PIU at MoA, with the specific agreement and support to be provided to the concerned beneficiary institution defined in consultation with the Liberia Agricultural Sector Investment Plan Secretariat and the concerned beneficiary agency or ministry.[33] The subcomponent will finance technical assistance, studies, equipment, and civil works in line with the items listed in table 1A.2.

Table 1A.2: Project Support for Institutional Strengthening of Government Ministries, Agencies, and Commissions

Institution	Project Support
Ministry of Agriculture	• Strengthen and support an integrated monitoring and evaluation and performance management system • Coordination on extension, including e-extension service (collaborate with the West Africa Agricultural Transformation Project (WAATP) • Establish and strengthen MoA's market information system • Support for operationalizing its gender strategy through training on mainstreaming the policy into its planning and program activities • Support MoA's capacity to provide nutrition-sensitive extension advisory services and sensitization programs (in coordination with the Ministry of Health) • Support for mainstreaming climate-smart objectives in its sector strategies and implementation plans
Cooperative Development Agency	• Strengthen capacity to organize and build capacity in FBOs and cooperatives (leadership, management, and governance)
Liberia Agriculture Commodity Regulatory Agency	• Strengthen regulatory function and setting product standards
Ministry of Commerce and Industry	• Support for promotion and coordination of agribusiness SMEs • Support rehabilitation/standardization of National Standards Laboratory[34]
Ministry of Finance and Development Planning	• Support policy coordination role • Support coordination with MoA and MoCI on the ministries activities/programs, which are targeted to value chains

[33] The Liberia Agricultural Sector Investment Plan is a mandatory investment plan expected to be prepared by countries under the Comprehensive Africa Agriculture Development Program initiative.
[34] The National Standards Laboratory of Liberia is established to provide quality services in product testing and calibration to improve Liberia's sanitary phyto-sanitary system, meeting food and basic commodities quality and control and facilitating trade.

Note: FBO = farmer-based organization; MoA = Ministry of Agriculture; MoCI = Ministry of Commerce and Industry; SME = small and medium enterprise.

19. The project will also provide technical assistance to MoA, the Ministry of Commerce and Industry, and Ministry of Finance and Development Planning to improve coordination within and across targeted value chains. The Project will also explore the use by those ministries of institutional development plan; disbursement linked indicators or performance-based indicators.

20. **Subcomponent 1.3: Capacity building for selected private sector and non-state institutions (US$1.5 million).** The number of agribusiness firms with links to farmers and markets (including SMEs, processors, and large-scale plantations) is small, and significant support from public agencies is required to stimulate the entrance of new agribusiness firms. The project will finance the following technical assistance and capacity building:

- Capacity building of agribusinesses, selected SMEs, and BDSPs with good links with smallholder farmers, to be undertaken by contracted service specialists. Capacity-building activities would be demand-driven and may include, among other things, equipment maintenance, stock management, product standards and certification, accounting, business plan development, and tax and regulatory compliance
- Technical assistance and training for umbrella bodies of value chain actors to make them more efficient. For example, agencies such as the Liberia Business Association, Farmers' Union Network, and the Agribusiness Investment Network will be supported. Potential areas for technical assistance and training are policy studies and other relevant research for umbrella body constituents, association management, bookkeeping and computer skills, exchange visits, and participation in international forums.
- Support for the establishment or institutionalization of rice, horticulture, and oil palm value chain stakeholder forums (learning from the cassava value chain forum[35]). Periodic value chain stakeholder forums can be a valuable mechanism for discussing issues of common concern. At the county level, regular meetings among key stakeholders can present an effective way to improve coordination, collaboration, and knowledge sharing among value chain actors, and can create commercial links between buyers and sellers. At the national level, they present an effective modality of bringing key policy issues to the government's attention.
- Capacity building for agribusiness focused on investing in farmer resilience are increasingly good for business because most of the vulnerability and emissions in the agricultural value chains emanate from production. The project will promote a resilient supply chains approach to leverage action through public-private partnerships. This would implement equitable long-term supply contracts and use company balance sheets to create term liquidity in the medium term.

21. Subcomponent **1.4: Strengthening the enabling environment, policy, regulations, and administrative procedures for agribusiness growth (US$0.4 million).** The current business environment in Liberia provides limited incentives for investments in agri-food value chains. This subcomponent will support efforts to improve the enabling environment for the development of the agri-food sector through interventions in the following areas:

- Policy and regulatory diagnostics to identify areas for priority reforms and project support, such as tariff

[35] The Cassava stakeholders forum provided a platform where value chain actors meet regularly to share information on new technologies,address constraints and make business deals on a regular basis. It has established several business linkages.

reform, and the development of the Liberia Incentive-Based Risk Sharing System for Agricultural Lending;[36] and support for an improved business environment for agricultural inputs—namely for seeds, fertilizers, pesticides, and mechanization

- Workshop for awareness creation and ratification of the Economic Community of West African States Trade Liberalization Scheme
- Convening development partners to facilitate the establishment and development of an agri-food sector public-private forum to facilitate dialogue and coordination on policies and programs

22. **Component 2: Enhancing productivity and competitiveness (US$16.25 million).** This component's objective is to address key bottlenecks to smallholder farmers' commercialization and their integration into competitive value chains by facilitating access to finance and to input and output markets. The STAR-P project will provide matching grants as both an incentive and a stimulus for investment in the agri-food sector for smallholder producers organized in FBOs, agribusiness firms, service providers, and financial institutions. A total of 670 business plans is envisaged to be funded under this components with matching grants. Those matching grants would be used as seed financing or provide an equity base to attract additional financing from banks or other financial institutions, such as impact or private equity investors. The matching grant facility will operate through the following four windows:

- **Window 1. Matching grant to FBOs:** The project will provide matching grants to 240 FBOs and Cooperatives participating in rice, oil palm, and horticulture value chains for different forms of business linkages. Smallholder farmers who form part of an organized farmer organization or cooperative operating in the targeted value chains will be eligible to compete for matching grants based on a business plan. Grants could be used for specified working capital to improve productivity, capital investment (such as processing mills and equipment to improve product quality), business development services, or technical assistance to improve the organization and human capacity of the group or their members. The matching grant will be a maximum of 70 percent of the total funds requested, with the group providing the remaining 30 percent, of which at least 10 percent must be individual or group cash contributions.
- **Window 2. Matching grant to agribusiness and outgrowers:** The project will support matching grants for the development and expansion of outgrower schemes, particularly in the oil palm value chain. Project financing support would be carefully structured because it involves long-term finance for the benefit of outgrowers who are committed through contractual arrangements with oil palm concessions that will be providing technical support. The oil palm concessions and agribusiness companies, acting as market outlets for the outgrower schemes, will be expected to offer fair and transparent pricing for the outgrowers' production. Key areas for financing may include, but not be limited to, the establishment of nurseries by the palm concessions to produce improved planting materials that can be distributed with tailored technical extension services to outgrowers at a cost-recovery fee, and the provision of small-scale oil palm processing equipment. The matching grant would be provided through the agribusiness based on a business plan that will define how inputs, technology, markets, and other services will be provided to outgrower groups. The

[36] The government of Liberia is designing the Liberia Incentive-Based Risk Sharing System forAgricultural Lending is being designed by the government of Liberia with support from African Development Bank with the objective of enabling the flow of affordable financing to all players along entire agricultural value chains. It reduces the risks of financing institutions while granting agricultural loans by building the capacities of both banks and value chain actors on good practices in agricultural financing, loans utilization, and repayment.

matching grant will finance 70 percent of the total investment, with the project beneficiaries and concessionaire or agribusiness providing the remaining 30 percent, of which at least 20 percent must be cash contributions.

- **Window 3. Matching grant to agricultural SMEs service providers, including BDSPs and NGOs.** To create an ecosystem for the provision of agricultural services that may be demanded by agribusinesses, outgrowers, and farmers organized in FBOs, the project will provide competitive matching grants to agricultural SMEs based on business plans. Eligible SMEs, BDSPs, and service providers would be those that offer services along the agricultural value chains (such as agro-input dealers and commodity aggregators), and those that provide leasing or renting of facilities and agricultural machinery. The matching grant will be used partly for working capital to stock the necessary inputs (including the provision of basic market infrastructure required for safe and quality inputs), and capital investment, such as acquisition of equipment, processing plants, and warehousing facilities for upgrading quality and improving productivity. Matching grants could also be used for technical assistance to help the SME with technical and organizational skills required to offer quality services, hire experts or services for training, or to obtain certification for access to specific markets. Selection will be based on a service delivery plan and cost, experience in agriculture and the region, and technical capacity in financing and agribusiness. The project matching grant will be 60 percent of the total funds requested, with the SME providing the remaining 40 percent, of which at least 20 percent must be cash contributions.
- **Window 4. Matching grant to financial institutions:** The project will support selected financing institutions in Liberia to develop suitable financing products (including savings products) and services for the targeted value chains and to roll them out in project counties. This is expected to address major challenges of access to finance from both the demand and supply sides. The matching grant will finance 60 percent of the total proposal developed, with the financing institutions providing the remaining 40 percent, of which at least 20 percent must be cash contributions.

23. **Matching grant arrangements**. Table 1A.3 provides a summary description of the matching grants plan. The detailed arrangements regarding the provision of matching grants to the various beneficiary groups includes key categories of support, eligibility criteria, selection criteria, the positive and negative list of specific activities eligible for support under the project, matching grant ceiling limits for each category of support, indicative financing parameters, and post-grant requirements to which the beneficiary groups must adhere. These arrangements will be presented in the Liberia Agriculture Sector Investment Plan (LACF) Operation Manual, which the MoA will prepare and submit to the World Bank for approval as a disbursement condition for this component. Indicative ceilings and financing parameters under each window are shown in table 1A.3.

Table 1A.3: Matrix of Matching Grants

Subcomponent or Window	Targeted Beneficiaries	Matching Grant Amount (US$)	Financial Terms Grant: FBO Contribution[a]
Window 1 Subcomponent 2.1	FBOs subprojects in aggregation schemes	Up to 100,000	70:30
Window 2 Subcomponent 2.1	FBOs participating in outgrowers alliances	Up to 400,000	70:30
Window 3	Agribusinesses, input service	Up to 200,000	60:40

Subcomponent 2.2	providers, agro-dealers, aggregators, and so on		
Window 4 Subcomponent 2.3	Participating financial institutions for agricultural products	Up to 100,000	60:40

Note: The matching will be split into cash and in-kind components, but great care will be taken when defining the in-kind component of the matching. Additionally, the business plans will be required to state the proportion or amount of the technical assistance. required for each of the categories of matching grant support. Technical assistance will be provided as a straight grant. FBO = farmer-based organization.

a. Farmer-based organizations' contribution will be in-kind and in-cash, and the remaining balance could be completed through a market-priced loan from a financial institution or through equity investments.

24. Matching **grants implementation arrangements**. The project will provide matching grants on a competitive basis by soliciting subproject proposals based on business plans from potential beneficiaries and assessing them based on set criteria. Proposals that promote one or more of the following in the design will be given additional weight in the selection scoring process: nutrition, gender equality, and climate-smart agri-practices. The vehicle for providing matching grant support under this component is the LACF, which the MoA will establish to provide competitive matching grants to cofinance eligible activities identified by project beneficiaries. The fund will be created as a special designated account under the PIU and will be managed by an independent fund manager. The MoA will hire the fund manager on a competitive basis to manage the LACF, and the fund manager will be expected to have relevant experience in managing investment funds to enhance competition, efficiency, and transparency. The government of Liberia and relevant stakeholders will establish a fund advisory committee to provide appropriate governance and oversight of the fund's use in accordance with the project objectives. This committee would comprise representatives of key stakeholders, including government, the fund manager, a financial institution (not eligible for financing under component 2), the Chamber of Commerce, and an NGO or relevant civil society organization (not eligible for financing under the project). The LACF will have four windows, as described above. The subprojects to be supported through the LACF matching grants will be based on business plans prepared by eligible beneficiaries who will have undergone an independent screening and evaluation process to determine their technical, socioeconomic, financial, and environmental viability. Advisory services will be available to eligible beneficiaries under component 1 for preparing investment proposals and implementing them if they are approved. Eligible expenditure categories under the matching grant include (i) civil works (for example, lowland rehabilitation, clearing of bushland, construction of postharvest, storage, and processing facilities, and small-scale irrigation); (ii) productive equipment (for example, farm machinery, processing equipment, and transport vehicles); (iii) incremental working capital (for improved inputs, for example); (iv) technical assistance and business advisory services; and (v) investment proposals by farmers' organizations and agribusinesses that integrate climate-smart approaches throughout the value chain. The project will emphasize support for business plans with intercropping and conservation agriculture that will increase crop diversification, improve efficiency of soil and water use, improve productivity, and lower carbon emissions. Details of the design features and implementation arrangements will be provided in the LACF Operational Manual.

25. **Subcomponent 2.1: Investment support for productive linkages between smallholder farmers and agribusiness (US$ 13.75 million).** This subcomponent will provide matching grants to FBOs for subprojects involving two inclusive farmer-agribusiness links models: farmer aggregation model, and an outgrower model, as appropriate for each of the value chains. Under the aggregation model, the project will facilitate more interactions that are more productive between smallholder farmers and agribusiness, such as processors and traders, who can be off-takers to FBOs.

Aggregating farmers into groups presents many opportunities for improving the structure and building productive relationships in value chains. Well-run FBOs help smallholder farmers to market inputs efficiently and procure supplies, and they disseminate information that facilitates improvement in farm productivity and quality. Off-takers, such as processors, that source directly from farmer organizations can expand their supply base, strengthen their supply chain, and increase their processing conversion rates. The successful inclusion of smallholder farmers into organized and well-structured value chains depends largely on them being an organized entity capable of earning the confidence and trust of agribusinesses. Therefore, the project will strengthen links between agribusiness firms and smallholder farmers by promoting productive links between producer associations, agribusinesses, and SMEs in selected agricultural value chains. The farmer aggregation model will leverage the gains achieved during previous World Bank–supported projects and other donors' projects in Liberia by engaging with existing FBOs and cooperative associations, while supporting market-driven establishment of new groups. Off-take agreements will provide a guaranteed market and cash income for smallholder farmers and generate jobs and income opportunities for other value chain actors that provide upstream and downstream services to farmers.

26. The outgrower model will build on existing business relationships between agribusinesses and smallholder farmers in the selected value chains. A number of concessions and agribusinesses in Liberia have established outgrower schemes, some of which involve a nucleus farm, a central processing unit, or both. These schemes typically integrate four main elements: (i) a nucleus farm engaged in primary production and/or business operations such as processing, storage, transportation, and marketing; (ii) the agribusiness providing inputs and technical assistance to participating farmers; (iii) off-take agreements to purchase a predefined quality of farmer output; and (iv) an agreed-upon price mechanism, which is typically a percentage of the final product's sales price. Some outgrower schemes also implement benefit-sharing initiatives to reduce the risk of side selling by farmers.

27. Subcomponent 2.1 will operate through the following two windows of matching grants:

28. **Window 1:** The first matching grant window of US$7.75 million will support productivity enhancement and market integration of producer groups and cooperatives in the rice and horticulture value chains in five counties. It is estimated that 240 FBOs with 25 members each (of which 100 are in rice, 60 in oil palm, and 80 and horticulture) and 42 cooperatives with 250 members each will receive support through this window. The types of activities supported will be demand-driven and based on business plans. Current feasible options for strengthening value chain links in Liberia include a variety of off-taker arrangements with larger farmers and processors. However, the nature of the commercial link between FBOs and off-takers depends on the value chain characteristics and can range from a formal contract to a written intent to purchase.

29. The project will facilitate strategic partnerships between off-takers and FBOs. Such partnerships will build on stakeholder consultations during project preparation, including:

    (a) Links to processors
    (b) Links to importers and traders
    (c) Links to institutional programs
    (d) Other agribusiness links (hospitality industry, supermarkets, and other lead firms)

30. In each value chain, the project will help broker productive market relationships between off-takers and producer organizations using a combination of the following options (i) hire a value chain development specialist to be a focal point for market systems development, (ii) contract private service providers as brokers between off-takers and

FBOs, (iii) contract private service provide that combine extension and brokerage functions, and (iv) contract business-oriented NGOs, such as GROW Liberia to be brokers.

31. At the farm level, the matching grants will provide support to smallholder farmers through their FBOs to improve farm productivity and quality in response to available market and investment opportunity. Project support will encompass, among other things, links to agro-dealers for input supply, such as improved seeds and fertilizer, technical assistance for extension services, and technology demonstrations involving government extension services, staff training through pluralistic extension systems and Integrating Gender and Nutrition within Agricultural Extension Services; private extension services, agro-input dealers, NGOs, and collaboration between private and public extension services. Additionally, the project will develop links with the Central Agricultural Research Institute; the West Africa Agricultural Transformation project network (including Africa Rice for access to seed varieties and other farm technologies for the rice value chain), and with agro-dealers, concessionaires, large farms for technical support, and inputs in oil palm. Business plans will include adaptation measures that will be implemented, such as: (i) use of climate-resilient seeds and varieties, (ii) methods to retain soil nutrients and prevent soil erosion, (iii) improved water management for extreme warm weather, (iv) flood-resilient design of production systems, and (v) efficient pest and disease management.

32. ***Window 2:*** **This second matching grant window of US$6.0 million** will be dedicated to supporting about 30 outgrower schemes that were identified during project preparation. Some development partners have supported pilot business models for outgrower schemes with concessionaires and agribusiness companies. In one model currently in use under the World Bank–supported STCRSP, farmers cultivate communal lands and sell their produce to concessionaires. The concessionaire provides technical assistance to the farmers, supported by grants from the project. Other development initiatives are exploring other options—for example, in which individual farmers, as part of an outgrower scheme, allow their lands to be managed by the concessionaire for a specified time, during which the farmers cultivate the land and the concessionaire provides hands-on management and technical training to the farmers and financial support. After the specified time, the management of the land returns to the individual farmers. This scheme leverages finances from investors, development partners, and the government and is highly formalized. The project will facilitate the replanting of smallholder oil palm plantations near the concessions and support the establishment of outgrower schemes between the smallholder producers and the concessionaires and large farmers. The concessionaires will provide seedlings for replanting the smallholder plantations, fertilizer, extension services, and oversight, embedded in an off-take agreement when the smallholder plantations are mature. The window will not support the replanting of oil palm plantations on the land of the concessions. This subcomponent will competitively support proposals from concessionaires and FBOs, a consortium of investors, concessionaires, and FBOs interested in responding to these market opportunities. Successful proposals would need to show that that the proposed model is economically feasible, socially acceptable in communities, environmentally sustainable, and attractive to agribusinesses, smallholder outgrowers, and the interest of government.

33. Additionally, with the International Fund for Agricultural Development's (IFAD) planned cofinancing of the project, funds under subcomponent 2.1. will be made available to facilitate targeted households (beneficiaries of approved project-financed business plans) establish home gardens to ensure adequate food consumption at household level. The promotion of vegetable gardens to improve diverse food production, primarily vegetables for income and consumption at household level, will be encouraged. The integrated homestead food production will integrate nutrition sensitization to ensure that the increased food production and income rise is complemented with the actions for adequate consumption. This activity will be supported by extension workers in collaboration with the MoA and other relevant stakeholders.

34. **Nutrition-sensitive agriculture and value chains**. Nutrition plays an important role in addressing poverty reduction. Good nutrition is a vital input into economic and social development. Investment in agriculture and food systems has been globally recognized for playing a unique role in improving nutrition by ensuring that nutritious food and diverse food are available and affordable for all people. By applying a nutrition lens to its investments, the project aims at optimizing the contribution that agriculture makes to improving nutrition. At minimum, the project will undertake the following:

    (a) Increase farmers awareness on the importance of an adequate and diversified diet
    (b) Build capacities on nutrition sensitive agriculture among key stakeholders at the national and decentralized levels
    (c) Promote the reinvestment of additional income into household food security
    (d) Strengthen national awareness on the importance of improved nutrition in Liberia through holding government accountable and policy implementation

35. **Subcomponent 2.2. Support to agribusiness and business development service enterprises (US$2.1 million). Window 3:** This subcomponent will operate through Window 3 of LACF and will cofinance investment proposals by agribusinesses and BDSP enterprises that contribute to the project's objective of enabling smallholder farmers to be profitably linked to commercial markets. The objective will be to unlock the key bottlenecks they face upstream (input supply and services) and downstream (aggregation, storage, processing, logistics, and marketing) to achieve value chain competitiveness and inclusiveness. Business plans prepared by private agribusiness will be expected to have a clear link to smallholder farmers in the form of service provision, sourcing, or co-investment. Such business plans would detail the potential effects of climate risks and relevant adaptation and mitigation measures proposed to minimize the risks, such as: (i) the use of climate-resilient seeds and varieties, (ii) methods to retain soil nutrients and prevent soil erosion, (iii) improved water management for extreme warm weather, (iv) flood-resilient design of production systems, and (v) efficient pest and disease management. The rollout for the project will include three value chains, and financing under this subcomponent will include matching grants for the following:

    - Upstream services (including inputs delivery), mechanization services, and the like
    - Downstream services such as aggregation, warehousing, packaging, distribution, and logistics. Support will also include processing equipment (such as rice mills and palm oil processors) and logistics to procure from smallholder farmers, supported under subcomponent 2.1
    - Postharvest and storage equipment, drip irrigation systems, and provision of extension services and improved inputs

36. The LACF Operations Manual will provide details of the approximate number of business plans for agribusiness companies and SMEs to be supported under this window. The operations manual is being developed and will be reviewed to conform with similar standard operation manuals while recognizing the Liberia context.

37. **Subcomponent 2.3. Support to financial institutions (US$0.4 million).** This subcomponent will operate through Window 4 of LACF and will provide support to financial institutions to develop suitable financing products (including savings products) and other financial services for the targeted value chains and to roll them out in project counties. The banking sector in Liberia mainly comprises the Central Bank of Liberia, eight commercial banks, and two non-banking financial institutions that are still developing. Only five financial institutions are providing limited financing

to the agricultural sector through short-term credit and mobile banking facilities. The few microfinance institutions are located mainly in urban and peri-urban areas. Only the Afriland and Liberia Bank for Development and Investment banks are promoting rural microfinance institutions. There is a strong need to facilitate smallholders' and FBOs' access to adapted formal financial services, particularly for tree crop value chains. This subcomponent aims to strengthen the capacity of financial institutions to improve services to Liberia's agriculture sector. Eligible subprojects submitted by financial institutions would include the following:

(a) Detailed market research on the specific requirements of actors (particularly the smallholder farmers, women-based FBOs, and SME market segments) in the three targeted value chains and the potential market size, and an assessment of market barriers and policy challenges that constrain the development of products for the Liberian market to mitigate climate change risks
(b) Assessment of market barriers and policy challenges that constrain the development of products for the Liberian market to mitigate climate change risks
(c) Product design and pilot testing, including delivery mechanisms (digital finance, for example) and setting up value chain finance arrangements
(d) Outreach plans to roll out successful products, services, and delivery mechanisms in the project areas

38. **Eligible** expenditures under these matching grants include technical assistance, staff training, some information and communication technology (ICT) equipment, and transport equipment for mobile banking such as mobile safes to strengthen rural delivery capacity. Loanable funds will not be eligible for support under the matching grants. The LACF Operations Manual will provide the approximate number of business plans for financial institutions to be supported under this window.

39. **Component 3. Project management, monitoring and evaluation, citizens engagement and contingency emergency (US$3.75 million).** This component will support the management of project activities and ensure (i) efficient coordination and M&E of project activities to ensure that they are implemented in line with project documents, (ii) stakeholder awareness and participation through timely communication of results and consistent citizen engagement, and (iii) a mechanism is in place to quickly respond to eligible emergencies.

40. **Subcomponent 3.1 Efficient project management, monitoring and evaluation (US$3.25 million).** To ensure efficient project implementation, financial and technical support will be provided to increase and strengthen the PIU's. In addition to the existing staff (the project coordinator, accountant, and M&E officer), the project will support the recruitment of other expertise, including, but not limited to a procurement specialist, a value chain development specialist, a social safeguards and citizen engagement specialist, an environmental safeguards specialist, a communication and knowledge management specialist, country focal points (five), and drivers (four).

41. These additional staff will be recruited on a competitive basis using the World Bank's procurement procedures. The PIU and Program Management Unit will also benefit from capacity building interventions supported under subcomponent 1.2, particularly in M&E, procurement, and financial management.

42. **Subcomponent 3.2. Effective communication and citizen engagement (US$0.5 million**). The aim of this subcomponent is to use communication and engagement to maximize the project's development impact by ensuring that information about project objectives, scope, and activities are communicated to intended beneficiaries accurately and in a timely way and by facilitating a wider range of Liberian citizens and other stakeholders to become aware of the sector's potential and participate in its promotion.

43. This subcomponent will support the elaboration of a detailed communication strategy aligned to the component's objective and the implementation of that strategy. It will identify a wide range of methods and tools for implementation, including ensuring that these would be accessible to citizens with varying literacy skills, language use, and information technology access. This subcomponent will also finance the acquisition of a small number of ICT equipment and software to facilitate data capture and dissemination, particularly at the community level. Key outputs of this subcomponent will include the following:

    (a) A communication strategy, including citizen engagement and implementation action plans
    (b) A series of multimedia information and promotional materials and products, including information brochures and videos, visibility materials, policy briefs, and radio and television discussions
    (c) Updated and active social media platforms (building on existing MoA and World Bank platforms)
    (d) Community-level meetings
    (e) Public-private sector policy dialogue
    (f) Private sector dialogue and value chain stakeholder engagement
    (g) An annual project progress report and newsletter

44. This subcomponent will include awareness campaigns for sensitization and behavior change communication, which will be organized to improve nutrition among the targeted groups. Several channels could be explored for the campaign, including radio and TV programs, social marketing, a newsletter, magazines, songs in local languages, and the gender tool on household methodologies.

45. **Subcomponent 3.3. Contingency emergency response (US$0 million**). In accordance with the World Bank's operational policy (OP8.00, paragraphs 1–8), this subcomponent will allow for rapid reallocation of project funds in a natural or constructed disaster or crisis that has caused or is likely to cause a major adverse economic or social impact. To trigger this subcomponent, the government must declare an emergency or provide a statement of fact justifying the request for activating the use of emergency funding. If the World Bank Group agrees with the emergency assessment, this subcomponent would allow the government to request the World Bank to recategorize and reallocate financing from other project components to cover emergency response and recovery costs.

46. **Collaboration and coordination with other projects to increase impact and sustainability.** The project will collaborate and coordinate with projects from the World Bank and other development partners to leverage additional investments (see table 1A.4), which are needed to stimulate greater productivity and to capture a higher value, including transport infrastructure; energy for processing, chilling, drying, and packaging commodities; research and extension services in new storage, processing, and packaging technologies; and education and training in product marketing. Regarding energy, STAR-P will collaborate with World Bank–financed projects on renewable energy: Liberia Accelerated Electricity Expansion Project (P133445) and Liberia Renewable Energy Access (P149683). The objective of those projects is to provide access to electricity to households and businesses in three counties (Bomi, Grand Cape Mount, and Lofa). The distribution network and the proposed beneficiary townships cover most parts of the STAR-P targeted area, including the Kakata Project that also extends to Weala. The productive uses of the electricity in these counties (connecting small agro-businesses) was one of the justifications for the projects. Nimba County also has electrification from the cross-border project West Africa Power Pool (P068875), and STAR-P will collaborate with this project to support agribusiness energy needs. The World Bank–supported road project, Liberia Road Asset Management Project (LIBRAMP-P125574), provides paved roads from Monrovia to Ganta and the

Guinea border (256 kilometers). The road traverses Montserrado, Bong, and Nimba Counties. Another transport project currently under appraisal is the South-Eastern Corridor Road Asset Management Project (SECRAMP-P165412). Road infrastructure targeted under this project is the rehabilitation of the Ganta-Tappita-Harper section of the South-Eastern Corridor, which traverses Nimba and Grand Gedeh Counties. These are STAR-P areas of operation, and extensive consultation with the project team indicates connection of major crop-producing areas. The ongoing road project funded by the African Development Bank, the Mano River Union Road Development and Transport Facilitation Program, also offer opportunity to address farmers' infrastructure constraints, and initial consultation has brought areas of synergy with farm access roads in the targeted areas. The IFAD-financed Tree Crop Extension Project and Tree Crop Extension Project phase II, which are being implemented in Nimba and Lofa County, respectively, will also support rural road rehabilitation, which will benefit STAR-P. Synergies will be sought with these projects, including in the planning of rehabilitating roads for improved market access. Additionally, synergies and complementarities will be sought with the IFAD-financed Rural Community Finance Project, with the objective of strengthening rural financial institutions. Table 1A.4 provides a summary of potential areas for collaboration and coordination between STAR-P and other projects.

Table 1A.4: Matrix of STAR-P's Activities and Collaboration and Coordination with Other Projects

STAR-P Intervention, Collaboration, and Coordination			
Market Failure	**STAR-P Intervention Components**	**Other World Bank Project**	**Development Partner Projects**
Policy, regulatory, and coordination failures	C1	World Bank DPO World Bank Land Administration Project	DFID
Structural weaknesses in Value Chains	C2	Tree Crops Project	AfDB IFAD
Weak market access or links	C 2		SIDA-GROW USAID-LADA UNDP-BDSP Project
Information asymmetries	C 2, 3		
Infrastructure bottlenecks: road, energy, water	None	World Bank Transport Project World Bank Energy Project	AfDB-SAPEC IFAD-Tree Crop
Lack of access to finance and technology	C 2	World Bank MSME project World Bank increasing financial inclusion	IFAD-Microfinance project USAID-LADA SIDA-GROW
Skill gap at farm or firm level	C1		SIDA-GROW Liberia INGENAES
Access to land for commercial agriculture	None	World Bank Land Administration Project	

Note: AfDB = African Development Bank; BDSP = business development service provider; DFID = U.K. Department for International Development; DPO = development policy operation; IFAD = International Fund for Agricultural Development; INGENAES = Integrating Gender and Nutrition within Agricultural Extension Services; LADA = Liberian Agribusiness Development Activity; MSME = micro, small, and medium enterprise; SAPEC = Smallholder Agricultural Productivity Enhancement and Commercialization Project; SIDA = Swedish International Development Cooperation Agency; UNDP = United Nations Development Programme; USAID = U.S. Agency for International Development.

47. IFAD is considering a cofinancing of US$23 million to support the rice and oil palm value chains. STAR-P will also benefit from support from SIDA through its GROW Liberia Initiative. Resources from the GROW Liberia project, including technical expertise on market identification, value chain coordination, and preparing businesses to be investment ready, will contribute to the implementation of activities elaborated under this project.

48. The project will also explore potential opportunities to collaborate with financial institutions, regional and international private companies, and other development partners such as:

- The International Finance Corporation, which has signaled the option of tapping into the Local Currency Facility–denominated loans to private sector clients who operate in markets with limited currency-hedging capabilities
- The Liberia Bank for Development and Investment, which has expressed interest in partnering with the World Bank to implement the project, in line with its objectives of expanding its agriculture portfolio
- SIDA, which has expressed interest in providing additional financing in line with its next cycle of funding for Liberia

ANNEX 1.1: Summary of the Agriculture Commercialization and Agribusiness Sector Scan

1. Liberia has been on a path of reconstruction for the last 14 years after the devastating wars of the late 20th century. The 2017 elections and peaceful transition of power to a new government demonstrate the resolve of the nation as a whole to continue on the path toward accelerated development that can enable its emergence from one of the poorest countries in the world to a middle-income country by 2030.[37]

2. Though endowed with vast natural and human resources,[38] Liberia's capacity to transform these resources into productive outputs that translate into improved domestic incomes continues to be limited. Domestic capacity for exploiting natural resources has not developed because large, multinational corporations were provided exclusive access to these resources and have traditionally exported them without much value addition. At the same time, human resource capacity has been constrained because of the massive disruption of the social and economic infrastructure caused by two long wars—one between 1989 and 1996 and another between 1999 and 2003—during the formative years of much of the country's currently young population. Although agriculture employs a larger share of the population compared to other sectors, its contribution to GDP has been declining over the years due to low productivity and limited use of modern technology. (see figure 1A.1)

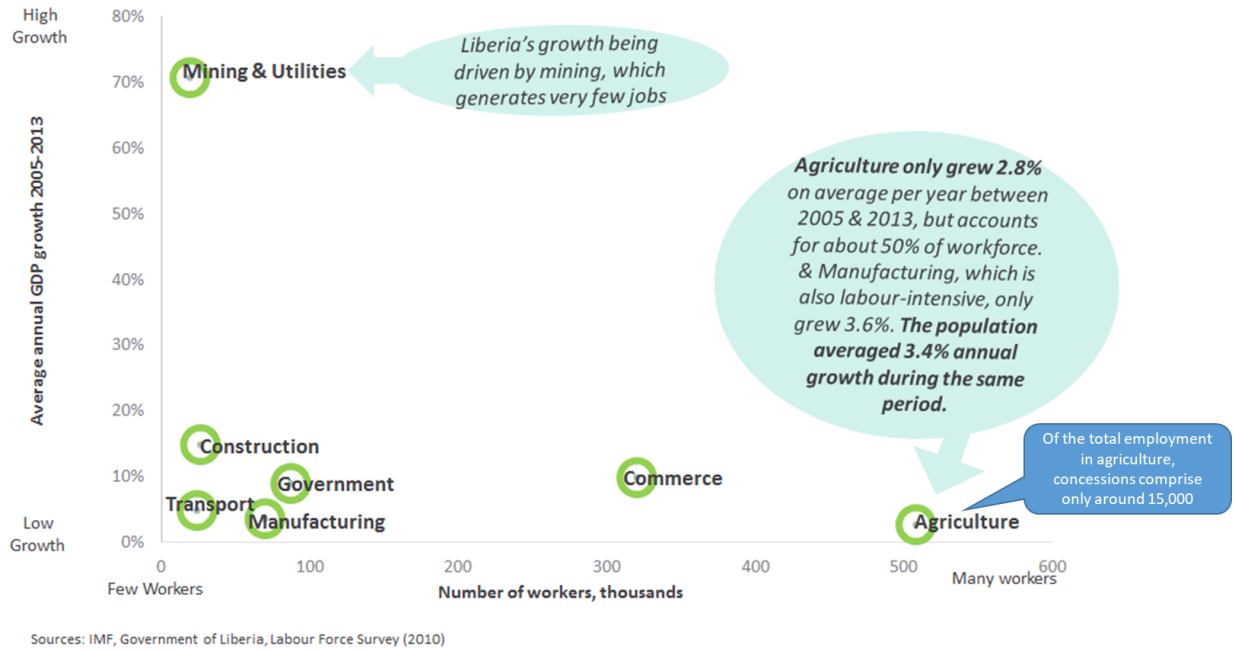
3. Therefore, although the postwar years have shown growth, it has not trickled down or converted into the welfare of the larger population. Instead, it has been limited primarily to the small share of workers on large plantations or mines.[39]

[37] World Bank. 2017. "From Growth to Development for Sustainable Poverty Reduction and Achieving Middle-Income Status by 2030." Strategic Country Diagnostic.

[38] Liberia has a disproportionately high share of youth population (up to age 15) at 46 percent compared with a world average of 26 percent.

[39] Between 2007 and 2014, even while Liberia's poverty incidence dropped from 67 to 54 percent, the total number of poor Liberians rose by 8 percent, according to the World Bank 2017 Strategic Country Diagnostic.

Figure 1A.1: Annual Average GDP Growth Measured against Employment Generation by Sector (2005–13)



Sources: IMF, Government of Liberia, Labour Force Survey (2010)

Note: GDP = gross domestic product.

1.1.1 Agribusiness as a Key Lever

4. Delivering inclusive growth requires concerted action on several fronts, including improving governance and building institutions, increasing productivity, diversification and job creation, human capital development, and addressing immediate risks and building resilience in the economy.[40]

5. A prioritized impetus on development of agriculture and, more specifically agribusiness, can accelerate the delivery of inclusive growth. This hypothesis has a sound basis in what is summarized as follows:

- Agriculture currently accounts for the largest share of the poor population[41]
- Agriculture produce is more amenable to value addition by SMEs[42] than extractive industries
- Agriculture production and agricultural SMEs have a high capacity to absorb unskilled and semiskilled manpower, even while creating demand for skilled manpower
- Suitable supply and demand context
  - Supply: availability of suitable agro-climatic conditions and abundance of land, making available many of the inputs domestically

[40] Ibid.

[41] As of 2007, 80 percent of the poor were located in rural areas. Source: World Bank. 2007. "Comprehensive Assessment of the Agriculture Sector."

[42] Several key off-farm activities lend themselves well to the engagement of small and medium enterprises—for example, among others, grading, sorting, cleaning, primary processing, trading, consolidation, logistics, and warehousing.

- Demand: Global and regional demand for food and non-food crops continues to rise even as domestic demand will grow as incomes rise over the next few years.

6. **1.1.2. Challenges and Imperatives in Key Agriculture Value Chains** With more than 200,000 smallholders involved with the oil palm value chain and, at a fully developed level, a potential for annual production of more than 1.2 million metric tons of crude palm oil, the importance of this sector for Liberia is evident. However, West Africa in general and Liberia, in particular, has failed to capitalize on the potential from oil palm, a crop indigenous to the region. In Liberia, the concessions-led approach to catch up on the production of crude palm oil production is faltering, even as the country's palm oil market remains neglected. A course correction is needed to ramp up production and retain value domestically. This would require de-bottlenecking development and planting at concessions by proactively facilitating conditions for amicable expansion of nucleus estates of the concessionaires, accelerating implementation of existing outgrower mandates, and considering renegotiation with concessionaires to enhance the share of cultivation under outgrowers.

7. In addition, capacity for domestic processing of tenera crude palm oil needs to be developed not only to substitute palm oil imports, but to identify and execute on addressable domestic and export demand for oil palm–based, value-added products while exploring links with poultry and livestock value chains for palm kernel cake as animal feed. Facilitating and organizing the country palm oil (dura) value chain is further needed to leverage development potential on the back of local and regional niche demand for country palm oil.

8. Unmatched economic and developmental opportunity exists in cocoa. A sizeable number of Liberian farmers (about 35,000) grow this crop that is touted as potentially the most profitable in the region, and Liberia's neighbor, Côte d'Ivoire, occupies the global leader position in its production. However, the quantity and quality of current Liberian production is abysmal, with little incentive for improvement in either quality or scale. Therefore, the primary focus of interventions in this sector must be on and near the farm. There is a need to aggressively push new planting and rehabilitation, revive regulatory institutions, and revamp regulatory setup, and to develop a differentiated proposition for certified and organic cocoa. This can be achieved by incentivizing large global and local buyers to create outgrower and contract farming networks as donors continue to build cooperatives and support their commercialization. Targeted incentives for near-farm infrastructure and services is needed while building the government's capacity for extension and regulation.

9. Rice in Liberia is important because it has the largest development footprint of 230,000 farmers and a high economic potential of at least US$150 million annually through import substitution alone. Presently, however, it is grown primarily for subsistence to feed a higher-than-average per capita consumption with rock-bottom productivity levels. Even with untapped local potential, import dependency is high and rising. Dependence exists not only on imports, but also on importers who, while being subjected to seemingly strict compliance requirements, still appear to make high mark-ups. There is merit in developing rice as a commercial crop, building on the inherent competitiveness that various pilots have demonstrated. Encouraging large investors to develop integrated, mechanized lowland farming would be needed to provide a base and create a demonstration of what is possible. At the same time, existing initiatives across the supply chain that are not coordinated need to be tied together to ensure that rice produced for commercial purposes gets the conduit to market. To do this, it would make

sense to build on the existing importers distribution network in collaboration with them. It is imperative for the government to demonstrate high commitment toward the development of rice, given that multiple failures in the past would create natural barriers to private investment.

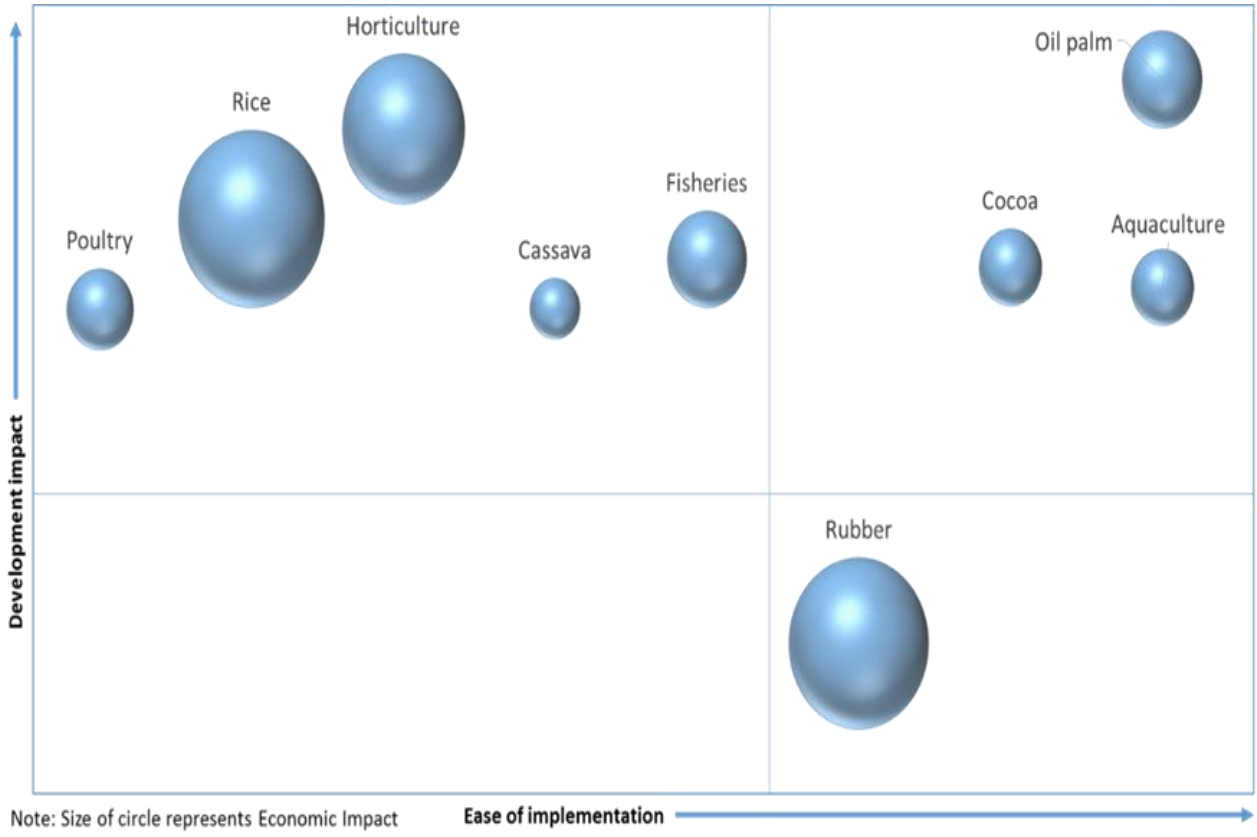
10. Liberia has had a thriving but invisible and unsustainable fisheries sector with very high levels of illegal fishing, even as a thriving market for fish exists in the region amounting to about US$2 billion among the Economic Community of West African States countries. Recent regularization creates opportunity for sustainable and inclusive development. However, a host of policy and institutional improvements and investments are needed. The domestic supply capacity needs to be developed by supporting artisans in tapping into the greater available catch and, more important, finding a conduit for the growing volume of produce that they will catch with the near-shore waters returning to sustainability after years of overexploitation. There is also scope to develop a domestic small and medium enterprise fishing industry, especially with several experienced fishers—once part of illegal fishing crews—who are now available in the regularized sector. Although the inland supply chain exists in bits and pieces, it is not sufficient in capacity or complete in its end-to-end link to develop the domestic market, and it needs to be developed in partnership with the private sector. Rising regional demand provides the headroom to create sustained commercial business models as enablers (landing sites and other port infrastructure) are put in place.

11. The rubber sector in Liberia has had a rocky past. The sector performance lags its peers in production and value addition, and a suboptimal structure exposes the industry to severe risks. Aggressive horizontal and vertical growth is needed to accelerate and derisk the sector. It is important to accelerate facilitation of replanting to catch possible better prices by the time of maturity as global prices improve in the next few years. Reducing the impact of international raw and semi-processed rubber price shocks has to be achieved through the development of processing capacity and markets for intermediate rubber products (ribbed smoked sheets and concentrated latex) that are relatively less resource intensive and less subject to price volatility. In addition, the rubberwood industry presents sizable opportunity.

12. The horticulture sector has perhaps the greatest headroom for development (see figure 1A.2), but at the same time, it also presents the greatest challenge in achieving the same without an up-front spend of significant public resources.

13. The concentration and dependence in the overall economy, which the government's diversification agenda seeks to address, pervades just as much through its key agriculture value chains. With missing basic enablers and disabling procedures, private investment is limited, and entrepreneurship is risky. Although donor agencies have done phenomenal work in delivering development outcomes, it is never too early to start bringing a razor-sharp focus on sustainability that is driven by the motivation to ramp down pure aid flow for serving these objectives and replacing it with return-generating investments and loans—something that can come only from the private sector.

Figure 1A.2: Development Impact and Ease of Implementation of Priority Value Chains, Liberia



Box A1.1: Concessionaire-Outgrower Schemes in Liberia's Oil Palm Subsector

Background: Four oil palm concession agreements were signed in 2011. The agreements specified that 20 percent of the oil palm developed by concessionaires should be owned by outgrowers. The outgrower model was included in the agreements to help improve inclusive development in the subsector. As part of the agreement, the government of Liberia is responsible for cofinancing.

Smallholder Tree Crops Revitalization Support Project: The project tested an outgrower model linked to Equatorial Palm Oil's plantation, which rehabilitated or replanted (or both) 34 smallholder farmers' old oil palm farms. The project provided support for high-input planting materials, including high-quality seedlings produced on the concessionaire's nursery and fertilizers procured from the concessionaire. The project also hired two technical officers to set up a technical unit at the concessionaire's plantation. They received training from the concessionaire and were responsible for providing technical advice and supervising planting and farm maintenance. In the outgrower model, input cost would be charged to each participating oil palm smallholder account and financed under a long-term credit arrangement. The outgrower model was designed to ensure that smallholder farmers develop their oil palm farms using similar inputs that the plantation uses. The expectation is that the plantation will be a market outlet for the smallholder farmers' produce.

IDH Sustainable Trade Initiative: The IDH outgrower model combines community oil palm farm ownership with the concessionaire's technical and management capacity to ensure high management standards and yields. It also pioneers production protection agreements as an innovative approach to tying investments in agricultural productivity to ensuring sustainable forest protection. In addition to the formal production protection agreements, this outgrower scheme differs from traditional smallholder systems in the oil palm subsector in the length of time funding and technical assistance will be provided, and it leverages finance from investors to run the scheme. The model allows the concessionaire to manage the farms for 12 years, after which the responsibility is turned over to the smallholders. Key features of the investment model include:

- Managing the new plantings through their development while building the smallholder farmers' agronomic and management capacity
- Guaranteeing harvesting, processing, transport, and markets for the oil palm crop, and returning investors' funds from the sale of proceeds
- Linking commitment to forest protection to access of financing (production protection agreements)

ANNEX 2: Implementation Arrangements and Support Plan

Implementation Arrangements

1. **The Ministry of Agriculture (MoA) will be responsible for overall project implementation.** It will collaborate closely with other relevant ministries and their respective departments and agencies, including the Ministry of Commerce and Industry for project activities focused on connecting producers to traders and agri-processors and support for the rehabilitation and standardization of quality laboratories. The MoA will also work with the Ministry of Finance and Development Planning for project activities focused on policy coordination among ministries, and the Cooperative Development Agency for project activities designed to strengthen farmer-based organizations and cooperatives' capacity (leadership, management, and governance). The MoA will coordinate with the Liberia Agriculture Commodity Regulatory Agency for project activities to strengthen regulatory functions and setting product standards.

2. **An interministerial National Project Steering Committee headed by the MoA will provide project strategic oversight.** The committee will include representatives of all relevant ministries and agencies, both public and private sector institutions and nonstate actors' representatives (such as the National Chamber of Commerce), and representatives of youth and women's organizations. It will meet at least twice a year and will be chaired by the MoA or its designated representative. The main responsibilities of the steering committee will include: (i) providing strategic and policy guidance to the project implementation unit (PIU) for the implementation and coordination of activities, (ii) ensuring overall conformity with government policies and strategies, (iii) reviewing project progress and performance, (iv) approving the annual work plan and budget, (v) resolving implementation issues, and (iv) assisting the Program Management Unit (PMU) in obtaining government assistance and contributions to the project when needed.

3. At the national level, the project management and monitoring and evaluation (M&E) functions will be under the daily management of the PIU, which is supervised by the PMU established under the MoA and charged with preparation and management of externally funded programs.[43] The PIUs of all externally funded projects operate under the coordination of the PMU, and the latter will also provide oversight and coordination for activities of STAR-P's PIU. It will ensure that the PIU complies with all the legal and mandatory procedures stipulated in the STAR-P project financing agreement, including regular reports, audits, and safeguards compliance. The STAR-P PIU's main responsibilities include: (i) coordinating the consolidation and review of annual work programs, budgets, and procurement plans; (ii) management and coordination of all project activities; (iii) providing assistance for the preparation of terms of reference, procurement, contract supervision, and other procurement functions; (iv) project financial management, including, among other things, disbursing project funds and ensuring the replenishment of project accounts; (v) ensuring subprojects' compliance with safeguards policies and

[43] Various donors currently support the Project Management Unit, including the World Bank, the U.S. Agency for International Development, the European Commission, African Development Bank, International Fund for Agricultural Development, and others, with the aim of providing the ministry with the capacity to manage and coordinate all donor-funded projects.

procedures; and (vi) undertaking the necessary reporting, auditing, and M&E activities.

4. At the county level, the PIU will coordinate project implementation through county project focal points in cooperation with county-level agricultural offices of the MoA. The project officers at the county unit will coordinate project activities and ensure that work plans are prepared, budgeted, and implemented in a timely manner and that use of project funds is in line with the provisions of the project's guidelines.

5. The Liberia Agriculture Commercialization Fund (LACF) will be established by the MoA under component 2 of the project. The LACF will be managed by an independent fund manager recruited through a competitive process. The LACF operational manual will describe the process for grant application, proposal evaluation, disbursement, and M&E of funded subprojects, including forms and templates to be used and dedicated sections for financial management and procurement.

6. The PIU will include the following staff: project coordinator, M&E officer, project accountant, procurement officer, safeguard officer, operations officer, agribusiness and business development officer, communications officer, information and communication technology specialist, agronomist, irrigation engineer and support staff. In addition, a value chain/market specialist will be hired by the PIU through a competitive process. The specialist's primary role will include market identification, facilitation of market arrangements, facilitation of subsector dialogue and coordination with the aim of engendering industry associations, ongoing assessment of farmers' and other value chain actors' needs, and elaboration of solutions for the PIU. The specialist will be supported by market brokers contracted by the project. The SIDA-supported GROW Liberia program will also provide support to the specialist. Additonal implementation support at the county level will be provided by the county focal officers and district officers.

7. The project implementation arrangements are based on the following principles:

(a) Build synergies with ongoing and planned government and donor-funded programs. It was agreed that the STAR-P PIU of the MoA will provide project coordination while incorporating members from the Ministry of Finance and Development Planning, the Ministry of Commerce and Industry, the National Investment Commission, the private sector, and other ongoing or planned donor and World Bank–funded operations;
(b) Build on existing institutional structures. To the extent possible, mainstream implementation arrangements into relevant national and county-level institutions to contribute to strengthening capacities for improved public service delivery;
(c) Maintain flexible implementation structures. The project implementation arrangements will be adapted to accommodate possible changes in institutional structures and additional and related programs, such as the WAATP; and
(d) Apply subsidiarity principles with the responsibility for delivering project activities, considering both the nature of the activity and the available implementation capacity to deliver it efficiently

Project Monitoring and Evaluation

8. The results framework, including the annual work plan and budget, financial management plan, and overall procurement plan, are designed during project preparation to form part of the project implementation manual. Thus, the manual will include all periodic reporting and M&E arrangements throughout the project cycle. The PIU will be responsible for results M&E and will prepare monthly monitoring tables and quarterly progress reports. In collecting the outcome indicators relating to indicators in the results framework, the PIU will coordinate with relevant institutions, such as the Liberia Institute of Statistics and Geo-Information Services, the Central Bank of Liberia, and the relevant divisions responsible for policy, M&E, and statistics in the MoA and the other sector ministries. The PIU will coordinate periodic data collection on outcome and intermediate outcome, output, and input data as will be described in the results framework.

9. The PIU's M&E will establish a simple, project-specific management information system. The M&E section within the PIU will prepare the system and procedures for data collection and reporting that will be approved by the Word Bank. The project management information system will include an activity-specific database aligned with the annual activity plans and the M&E plan for all outcome and intermediate performance indicators. It will use existing data sources supplemented by regular, routine data collection, and contracted specialists would conduct special survey and assessment updates. The M&E officer will be responsible for updating the management information system regularly and producing quarterly progress reports. Two evaluations of project outputs and impact will be commissioned at midterm and at completion. The project will finance M&E costs, including the impact evaluations (midterm and completion) and the Implementation Completion and Results Report. Both quantitative and participatory M&E methods will be used to assess the project participants' social and gender inclusion.

10. The MoA will provide a Project Completion Report to the World Bank by three months after the credit closing date. The report will include original or revised project targets and actual achievements, project impact assessments focusing on results, and project management performance.

Implementation Support Plan

11. Semiannual implementation support missions will set priorities and direction for program implementation. These missions will focus specifically on reviewing quality of implementation, capacity of implementing agencies, and disbursement projections, and on finding solutions to implementation challenges. Additionally, the project's fiduciary aspects (for example, financial management arrangements and procurement assignment undertaken) will be reviewed along with project activities' compliance with the environmental and social safeguard policies. The World Bank financial management, procurement staff, and social and environment safeguards person will also join regular STAR-P implementation support missions to build the client's capacity and to ensure compliance. Results achievements against the set targets and goals mentioned in the results framework will be presented in the Implementation Status And Results Report at the end of every mission. Joint World Bank and International Fund for Agricultural Development (IFAD) supervision will be conducted with the approval of IFAD cofinancing for the project.

12. A project midterm review will be conducted after two and one-half years of project implementation, which will cover a comprehensive assessment of the progress achieved at the project implementation midpoint and will provide an opportunity to reflect on the project design issues and make any appropriate adjustments.

ANNEX 3: Fiduciary Arrangements

3.1 Financial Management

1. A Financial Management Assessment was conducted in 2018 for the Liberia Smallholder Agriculture Transformation and Agribusiness Revitalization Project (STAR-P) in accordance with the World Bank Directive: *Financial Management Manual for World Bank Investment Project Financing Operations* (Catalog Number OPCS5.05-DIR.01) Issued (Retrofitted): February 4, 2015 and effective from March 1, 2010 and; World Bank Guidance: Reference material—*Financial Management in World Bank Investment Project Financing Operations* (Catalog Number OPCS5.05-ID.02) issued and effective February 24, 2015**.** Given that the project implementation unit (PIU) of the Ministry of Agriculture is currently managing the fiduciary functions for World Bank–financed projects, the project will build on existing financial management arrangements, which are assessed as adequate for ensuring: (i) the funds are used only for the intended purposes in an efficient and economical way; (ii) the preparation of accurate, reliable, and timely periodic financial reports; (iii) the safeguarding of the entity's assets; and (iv) that adequate fiduciary assurances are provided through an independent audit of the project. The control risk is assessed as **moderate,** and the overall residual financial management risk for the project is assessed **high**, but reduced to **substantial** because of the articulated risk-mitigating measures, including hiring a professional accountant as the head of the finance unit in the PIU, and external auditing by the Government Audit Commission.

Overview of Project and Institutional Arrangements

2. The project development objective is to increase agricultural productivity and promote commercialization of smallholder farmers for selected value chains in selected counties of Liberia. The project will work with selected private nucleus farms, agribusiness firms, and micro, small, and medium enterprises that incorporate productive link arrangements with smallholder farmers as part of their overall long-term business plans. The project will assess the capacity building and finance needs of these enterprises and the agribusiness firms to make them productive and competitive in their business activities because most of the agribusiness owners have weak business management capacity coupled with a low level of education. Matching grants will be provided for agribusiness firms that have business links with smallholder farmers. The project will support selected agricultural commodity value chains with significant potential for enhancing competitiveness and creating jobs. The project will focus on constraints affecting the overall value chain performance, such as high aggregation costs, high processing and marketing costs, and quality issues. Furthermore, the project will support public investment types of activities aimed at building the capacity of smallholder farmers to meet the volumes and quality targets specified by agribusiness firms.

3. The project's financial management and accounting functions will be undertaken using the new financial management arrangements under the PIU, by which the current financial managers under the PIU will be strengthened and will be headed by a professional accountant. The PIU will be responsible for preparation and submission of the Interim Financial Reports (IFRs) every quarter in compliance with the legal agreement for submitting audited annual reports and for all

the other financial management activities of STAR-P. The project will be implemented under three components including: (i) Capacity building and strengthening the enabling environment for farmer groups, government, and private sector institutions; (ii) financial and technical assistance for enhancing productivity and competitiveness; and (iii) project management and monitoring and evaluation.

Detailed Financial Management Arrangements

4. **Budgeting.** The PIU will submit an annual work plan and budget to the World Bank for no objection by two months before the beginning of each government of Liberia fiscal year. The PIU will prepare the annual work planning and budgeting in collaboration with the director of the PMU. The PIU will monitor the project's implementation progress against the work plan and budget for the planned project expenditures under each disbursement category or component.

5. **Internal controls and audit.** The PIU financial management manual and the provisions of the Public Financial Management Law of Liberia will govern the project's internal controls. The internal auditors will undertake internal audit activities on a risks basis, and they will submit the internal audit reports 45 days after the end of the months of March and September of each calendar year. The project will maintain fixed assets for all material assets that will be acquired or created using the project funds. The World Bank financial management specialist will provide capacity-building training to the internal auditors on reporting.

6. **Accounting and maintenance of accounting records.** The PIU currently uses QuickBooks Accounting (with limited modules) for recording its transactions. It was recommended that the PIU acquire financial software with modules for project description, nominal ledger, cash book, purchases and procurement ledger, stock control, asset register, security, set up, and so on, with a report generator capable of generating customized reports such as withdrawal applications, bank reconciliation statements, interim financial statements, annual project financial statements, and the like.

7. The World Bank and International Fund for Agricultural Development (IFAD), (if the co-financing gets approved) financial management specialists will closely monitor progress in using the system that the PIU acquires to maximize the benefits of a computerized accounting system. The financial management specialists will identify and provide mitigating measures for any challenges that might arise with the accounting system during implementation. The system is expected to be adequate for project accounting purposes.

Periodic Financial Reporting

8. **The project accountant in the PIU will be responsible for preparing the quarterly interim unaudited financial reports**. The IFRs will be submitted to the World Bank 45 days after the end of each fiscal calendar quarter. The existing IFR format currently used by the Smallholder Tree Crop Revitalization Support Project will be customized for the STAR-P and use to forcast expenditure. The project will also prepare annual financial statements in accordance with International Public Sector Accounting Standards (cash basis). The financial statements will

comprise, at a minimum: (i) Sources and uses of funds (summary of expenditures shown under the main program headings and by main categories of expenditures for the period), and (ii) notes to the financial statements, including background information on the project, the accounting policies, detailed analysis, relevant explanation of the main accounts and major balances, and so on. In addition, the project will provide, as an annex to the financial statements, an inventory of fixed assets acquired according to asset classes, dates of purchase, location, and cost.

9. **Government of Liberia and beneficiaries contributions**. The finance team will be responsible for identifying, tracking, and reporting on the government's contributions to the project and those of the beneficiaries.

10. **External audit arrangements.** Annual audits will be conducted for the project at the end of each government of Liberia fiscal year. The Government Audit Commission will conduct the external audit as required by law or, alternatively, some other independent and qualified audit firms, acceptable to the World Bank, would be selected to carry out the audit of the project. The selection of auditors other than the Government Audit Commission will be on competitive basis and in accordance with the World Bank's procurement guidelines and would be completed within six months of project effectiveness. The World Bank will clear the terms of reference of the auditors. The project financial statements, including movements in the designated accounts, will be audited in accordance with International Standards on Auditing, and a single opinion will be issued to cover the project financial statements in accordance with the World Bank's audit policy. The auditors' report and opinion on the financial statements, including the management letter, will be furnished to the World Bank within six months after the end of each fiscal year.

11. **Funds flow and disbursement arrangements.** The funds will flow into a designated account in a commercial bank in Liberia acceptable to the World Bank. Regarding the Liberia Agricultural Commercialization Fund, the fund's manager may be allowed to operate one or more operational accounts to manage the matching grant scheme. The statement of expenditure method of disbursement will apply for the project. Other methods of disbursement will include advances, direct payments, special commitments, and reimbursements. Payments made against advances would be secured against bank guarantees by a commercial bank and or bonds acceptable to the World Bank.

12. **Staffing.** Based on an assessment conducted in 2017 and 2018, the capacity of the PIU for the proposed project was found to be **moderately satisfactory**. The finance department for the PIU is headed by a project accountant who holds Bachelor of Business Administration and Master of Business Administration degrees. In anticipation of multidonor financing of STAR-P and for new World Bank–financed projects, the finance unit of the PIU will need to be headed by a financial controller who is a professional accountant (ACCA/CPA/CA), supported by a program accountant and an accounting assistant. The additional staff will ensure that there is a robust financial management system with segregation of duties and capable of timely meeting the fiduciary requirements of the different financiers, the government, and other stakeholders. The cost of running the financial management unit (salaries and operational costs) will be shared on pro rata basis between the project financiers.

13. **Conclusion.** The overall financial management risk is assessed as **high**, but reduced to a residual risk rating of **substantial** considering the risk mitigation measures to be put in place. These include the use of the financial management system in the PIU of the PMU, the managing of finance by a professional accountant, the management of the financial management functions of STAR-P by the existing project accountant who has experience with World Bank–financed projects, and strengthening the on-the-job training to be provided for the internal auditors at the PMU and the project finance officers in the PMU. The project will maintain financial records and will submit quarterly, unaudited IFRs to the International Development Association, the World Bank, and IFAD 45 days after the end of each quarter. Additionally, the project management will submit the project-audited accounts six months after the end of each fiscal year, in accordance with the legal covenants to be agreed upon for the project.

14. **Supervision Plan.** Financial management supervision will be conducted consistent with the project's risk rating. The financial management supervision missions' objectives will include reviewing the expenditure of project activities for eligibility, availability of supporting documentation, and adequacy for documentation.

3.2 **Procurement**

15. The borrower will carry out procurement under the proposed project in accordance with the World Bank's *Procurement Regulations for IPF Borrowers* (Procurement Regulations) dated July 1, 2016, revised November 2017 and August 2018, under the New Procurement Framework and the *Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants*, dated October 15, 2006 and revised in January 2011 and July 1, 2016, and other provisions stipulated in the financing agreements.

Procurement Arrangements

16. Procurement under this project will be carried out by the PIU of MoA. The institutional arrangements for procurement build on the institution arrangements used for the previous West Africa Agricultural Productivity Program. The capacity assessment of the MoA was conducted by the World Bank team during the project preparation process on April 12, 2018. MoA is already implementing World Bank–funded projects, including the ongoing Liberia Small Tree Crop Revitalization Project (STCRP) and the WAAPP-P094084, a project that ended with a highly satisfactory rating from the Independent Evaluation Group (IEG) of the World Bank, through its Project Management Unit (PMU), which is based at the Fendell Campus of the University of Liberia. Each project is supervised by an individual PIU headed by a project coordinator who reports to the director of the PMU. The assessment findings revealed the following weaknesses that could adversely influence the project implementation if not mitigated:

    a. Gaps concerning knowledge and experience of carrying out procurement activities in accordance with the World Bank Procurement Regulations for IPF Borrowers, rules, and procedures (particularly regarding the new possibilities afforded by the New Procurement Framework), despite having some experience with World Bank–funded projects

b. Limited procurement capacity, for the PIU that will be implementing STAR-P. This may cause implementation challenges because one procurement officer may not be able to efficiently handle the workload for two projects.

c. Inadequate contract management capacity causing implementation delays or leading to contractual disputes

d. Inadequate experience in procurement of works and consulting services

The proposed mitigation measures will include the following:

a. Providing procurement training for PIU staff during project preparation and immediately after effectiveness, with constant support to the PIU to ensure the proper use of the World Bank Procurement Regulations for IPF Borrowers

b. Recruiting a qualified procurement assistant to complement the procurement officer's work to ensure the procurement plans developed are implemented, monitored, and updated in a proper and timely manner

c. Recruiting a senior procurement specialist when additional funding is received from IFAD to scale up procurement activities

d. Preparing and adopting a project operation manual (POM), including a detailed chapter on procurement

e. Providing appropriate training on contract management to PIU staff during the initial 18 months of project implementation

f. Carrying out regular implementation support missions and conducting annual procurement post review by the World Bank

17. The assessment rated the overall procurement risk as **substantial**, given the procurement scope and associated risks identified.

18. **Filing and record keeping.** The Procurement Procedures Manual will be finalized along with PIM in February 2019. It will set out the detailed procedures for maintaining and providing readily available access to project procurement records, in compliance with the grant agreement.

19. The signed contracts as in the logbook will be reflected in the commitment control system of the PIU's accounting system or books of accounts as commitments whose payments should be updated with reference made to the payment voucher. This will put a complete record system in place whereby the contracts and related payments can be corroborated.

20. **Project procurement strategy for development.** As part of project preparation, the PIU (with support from the World Bank) has prepared its PPSD, using inputs taken from a market survey

and analysis of potential contractors and suppliers available for the proposed procurement scopes, the assessment of operational context, their institutional capacity, and procurement-related risk analysis. Through these analytical assessments, the PPSD made recommendations on procurement arrangements under the proposed project and the associated procurement plan and addresses how procurement activities would support the achievement of the PDO and deliver the best value for money under a risk-managed approach. Details of procurement scope for IDA financing, which will support the achievement of the PDO, are included in the PPSD.

21. The market assessment in the PPSD reveals that there are limited number of suppliers of heavy equipment and complex professional services in Liberia. However, the client has sound knowledge of the market and had approached the market adequately in the previous and ongoing projects. Procurement activities will be based principally on international competition. The PIU will enhance its contract management capacity through training.

22. **Summary of procurement arrangements.** The World Bank reviewed the outputs of the procurement strategy developed by the borrower and agrees with the proposed procurement arrangements under the project. The procurement method and review thresholds may be subject to the World Bank's review and modification throughout the project period based on the procurement performance and risk rating of the project. The World Bank will make official notice about such changes in a timely manner to ensure smooth implementation.

23. **Procurement thresholds.** The World Bank's *Guidance on Thresholds for Procurement Approaches and Methods by Country*, dated August 25, 2016, will be used. These thresholds apply to all procurement activities regardless of their procurement or selection methods. There is no automatic requirement to undertake prior review for direct selection for value less than these thresholds. These thresholds are for the purposes of the initial procurement plan for the first 18 months. The thresholds will be revised periodically. Request for quotation thresholds for the purchase of vehicles and fuel may be increased up to US$500,000.

24. **Procurement plan.** PIU has prepared a procurement plan for the project based on the findings and recommendations of the PPSD. The procurement plan is subject to public disclosure and will be updated regularly or as needed by including contracts previously awarded and to be procured. The updates or modifications of the procurement plan will be subject to the World Bank's prior review and "no objection." For international competitive procurement, the World Bank will arrange for publication of the procurement plan and updates on the World Bank's external website and UNDB online directly from STEP, and the PIU will publish on the e-mansion and local newspapers.

25. **Monitoring by STEP.** Through mandatory use of STEP by the borrowing agencies, the World Bank will be able to consolidate procurement and contract data for monitoring and tracking of all procurement transactions. Using STEP, comprehensive information of all prior and post review contracts for goods, works, technical services, and consultants' services awarded under the whole project will be available automatically and systematically on a real-time basis whenever required, including, but not limited to, the following: (i) the reference number as indicated in the procurement plan and a brief description of the contract, (ii) the estimated cost (iii) the

procurement method; (iv) timelines of the bidding process, (v) the number of participated bidders, (vi) names of rejected bidders and reasons for rejection, (vii) the date of contract award, (viii) the name of the awarded supplier, contractor, or consultant, (ix) the final contract value, and (x) the contractual implementation period.

26. **Publication of procurement information.** The project will follow the World Bank's policies on publication of procurement information that are set forth in the World Bank's Procurement Regulations.

27. **Procurement post review.** Contracts below the prior review thresholds previously stated wil be subject to post review according to procedures set forth in the procurement regulations annually by the World Bank team. The rate of post review is initially set at 20 percent. This rate may be adjusted periodically based on the performance of the PIU.

28. **Training, workshops, study tours, and conferences.** Training activities would comprise workshops and training based on individual needs, and group requirements, on-the-job training, and hiring of consultants for developing training materials and conducting trainings. Selection of consultants for training services follows the requirements for selection of consultants previously stated. All training and workshop activities (other than consulting services) would be carried out on the basis of approved annual work plans or training plans that would identify the general framework of training activities for the year, including: (i) the type of training or workshop; (ii) the personnel to be trained; (iii) the institutions which would conduct the training and reason for selection of this particular institution; (iv) the justification for the training, focusing on how it would lead to effective performance and implementation of the project; (v) the duration of the proposed training; and (vi) the cost estimate of the training. Reports by the trainees, including a completion certificate or diploma on completion of training, will be provided to the project coordinator to be kept as part of the records, and will be shared with the World Bank if required.
29. A detailed plan of the training or workshop describing the nature of the training or workshop, number of trainees or participants, duration, staff months, timing, and estimated cost will be submitted to IDA for review and approval before initiating the process. The selection methods will derive from the activity requirement, schedule, and circumstance. After the training, the beneficiaries will be asked to submit a brief report indicating the skills acquired and how these skills will contribute to enhancing their performance and attaining the project objective.

30. **Operational costs.** Operational costs financed by the project would be incremental expenses, including office supplies, operation and maintenance of vehicles, maintenance of equipment, communication, rental expenses, utilities, consumables, transport and accommodation, per diem, supervision, and salaries of locally contracted support staff. Such services' needs will be procured using the procurement procedures specified in the PIM accepted and approved by the World Bank.

31. **Procurement manual.** Procurement arrangements, roles and responsibilities, and methods and requirements for carrying out procurement will be elaborated in detail in the Procurement Manual, which will be a section of the PIM. The PIM will be prepared by the borrower and agreed with the World Bank by the time of project effectiveness.

ANNEX 4: Economic and Financial Analysis

1. Methodology

1. The approach used for the project's economic and financial analysis (EFA) follows the standard methodology for cost-benefit analysis of agricultural investment projects,[44] and is in line with guidelines published on the EFA.[45] However, several challenges were encountered in conducting the analysis. Given STAR-P's demand-driven approach, the exact type, costs, and frequency of eligible subprojects cannot be known ex ante. For this reason, the exact incremental benefits cannot be quantified at project appraisal. Therefore, the EFA builds on a representative sample of typical investments that are anticipated to be demanded by beneficiaries and are eligible under the project. Additional challenges resulted from the limited availability of reliable data, which allowed only the preparation of a smaller number of financial models than originally envisioned. Concrete and scalable investment opportunities for larger downstream investments of medium and large private investors could not be identified at this stage. Therefore, the analysis is mainly based on investments at the farm level and in first-level processing and service provision at small scale.

2. Financial Analysis

2. The financial analysis is based on five crop budgets and three enterprise models for service provision and first-level processing. The financial models value all inputs and outputs at current market prices. The costs of hired labor varies by county depending on competing demand from other sectors such as mining. An average cost of US$2.5 per day has been used for the financial analysis for unskilled labor, and US$5 per day for skilled labor. Family labor is valued at US$2.5 per day, in line with the average market rate for unskilled labor in rural areas. The gross margins and efficiency indicators (financial internal rate of return and net present value [NPV]) were calculated including all labor costs. With project (WP) yields were estimated conservatively, building in a learning curve of three production cycles until full yields are achieved. A discount rate of 6 percent was applied for the financial analysis.

2.1 Rice

3. **Production models:** Increasing rice productivity is critical to improving the competitiveness of the rice value chain and the incomes of rice farmers and other value chain actors. Recently, several modern, medium-size rice mills were set up with donor support, and these mills need to be supplied with consistent volumes of paddy throughout the year. This requires a shift of rice production from upland to lowlands, where higher yields and several cropping cycles can be achieved because of better water availability. Lowland rice farming is clustered in small to medium-size lowland irrigation schemes, with farmers producing on 0.2 hectares each on average.

[44] Gittinger 1982; Economic Analysis of Agricultural Project.

[45] World Bank 2013. **"Investment Project Financing Economic Analysis Guidance Note"**

Table 4A.1 provides an overview on the main financial results of the crop budgets. Further explanations on rationale, key assumptions, and results are provided in the next section.

Table 4A.1: Overview on Crop Budgets

Crop budgets (1 ha)	Yields (in kg/ha)			FIRR (%)	NPV (US$, thousands)	Incremental Family Income (US$)[a]	Return to Labor (%)[b]	No. of Hectares	No. of Beneficiaries
	WOP	WP rainy	WP dry						
Rice rehab	1,500	3,100	3,500	19	4,183	1,025	5.14	1,200	6,000
Rice non-rehab	1,500	2,900	n.a.	n.a.	987	196	3.32	1,000	5,000
Hot pepper, 2 seasons	2,000	3,000	4,000	116	13,767	3,278	9.37	800	4,000
Oil palm medium input	n.a.	8,000	n.a.	16	2,187	632	7.21	1,000	1,500
Oil palm high input	n.a.	13,000	n.a.	13	2,132	835	8.22	1,000	1,000
Subtotal								5,000	17,500

Note: FIRR = financial internal rate of return; ha = hectare; kg = kilogram; n.a. = not applicable; NPV = net present value; WP = with project; WOP = without project.
a. Per hectare at full production.
b. At full production.

4. Against this background, two models for improved lowland rice production were prepared.[46] In the without project scenario, lowland rice farmers continue using traditional production methods (for example, broadcasting recycled seeds and keeping pinnacles in the field) and do not use agro-chemicals. Production is limited to one cycle per year during the rainy seasons, with average paddy yields of about 1.5 tons per hectare. Both improved production models feature the adoption of improved agronomic practices (line planting, for example) and the use of hybrid seeds, mineral fertilizer, and pesticides to control pests and rodents. The first model also includes the rehabilitation of swamp irrigations schemes, which enable production during the dry season (two cycles per year). It also factors in the mechanization of land preparation and threshing through service provision by farmer organizations or private service providers (see the enterprise models section). The combined effect of improved water management (especially during the dry season), improved agronomic practices, and timely planting and postharvest operations are expected to increase the yield to 3.1 tons of paddy per hectare during the rainy season and 3.5 tons of paddy during the dry season.

5. The costs of rehabilitation are site-specific depending on the scheme's age and its level of operation and maintenance, among other factors. No data on the total irrigated lowland rice area and its level

[46] The underlying assumption is that the project will focus on promoting the shift from upland rice production, which uses shifting cultivation, toward lowland rice production.

of operations were available for the analysis. An average cost of US$4,000 per hectare was used based on various empirical rehabilitation cost data, assuming that most of the schemes need major rehabilitation work. The incremental farmer income at full production is US$1,025 per year and hectare, including incremental return to family labor. Incremental family income net of all labor costs (using the market wage for unskilled labor as opportunity costs for family labor) reaches US$724 at full productivity (year 3 onward). The NPV is US$4,183 per hectare, and the financial internal rate of return (FIRR) is 19 percent.

6. The second model involves the same package of improved inputs and agronomic practices without rehabilitation of irrigation systems. The yield is estimated at 2.9 tons of paddy per hectare from year 3 onward, resulting in an incremental farmer income (including family labor) of US$196 per year and hectare (US$161 net of all labor costs), an NPV of US$987, and an IRR of 15 percent.

7. Both models assume cost sharing of improved inputs on a declining basis over two years and intense extension services over a two-year period. Given that lowland farmers cultivate 0.2 hectares of rice on average in irrigation schemes, the area per farmer group with 25 members would be 5 hectares, and 50 hectares for a cooperative with 250 members. Assuming the rehabilitation of 1,200 hectares total (model 1) and the introduction of improved agronomic practices on another 1,000 hectares (model 2), the project would benefit 11,000 rice farmers directly.

8. **Enterprise models.** Two mechanization technologies were modeled to be operated as independent enterprises providing services to farmers. The first model portrays a power tiller that can be used for land preparation, but also for other tasks, including transport, with the necessary attachments. The financial model considers only the use for plowing lowland rice. Assuming that 1.2 hectares can be ploughed per day and 108 hectares per year (during two seasons), total operating costs would be US$17.7 per hectare. Rental fees currently range from US$35 to $50 per hectare. At a service fee of US$35 per hectare, the gross margin is US$17.3 per hectare and US$1,558 per year. In turn, the labor costs of plowing by hand would be US$75 per hectare, making the use of ploughing services attractive for farmers. Over an economic life of 10 years, the initial investment of US$4,000 would generate an NPV of US$6,754 and an IRR of 63 percent. The number of indirect beneficiaries (users of plowing services) would be 270 per power tiller, assuming that half of these would not benefit from other subproject investments to avoid double counting.

9. The second model portrays a medium-size thresher with a threshing capacity of 2.5 tons per hour and an investment cost of US$4,000. A thresher reduces both the labor requirements after harvest and the postharvest losses and improves the quality of paddy for milling purposes. Assuming an average throughput of 10 tons per day and 60 operating days per year per season results in a total volume of 600 metric tons per year. At this level of operation, operating costs are US$2.5 per ton, less than 1 percent of the farm gate price of paddy. A service fee of 2 percent (US$6 per ton) would generate a gross margin of US$2,105 per year. Over a 10-year economic life, the IRR would be 72 percent and the NPV US$9,496. For an economic life of 5 years, the IRR would be 62 percent and the NPV would be US$3,776. If each farmer would thresh 1 ton per year, the total number of indirect beneficiaries would be 300, using the same assumption as above.

10. Given the very low level of mechanization in Liberia, investments in mechanization technologies are

fully incremental. The main financial results and outreach assumptions are depicted in table 4A.2.

Table 4A.2: Enterprise Models

Enterprise Model	Investment Costs (US$)	GM (US$)	FIRR (%)	NPV (fin) (US$)	No. of Units	No. of Operators
Power tiller	4,000	1,559	63	6,754	200	200
Thresher	5,000	2,105	72	9,496	150	150
Oil press	870	468	116	2,331	100	350

Note: FIRR = financial internal rate of return; GM = gross margin; NPV = net present value.

2.2 Horticulture

11. The demand for horticulture products, especially vegetables, is growing quickly, and large numbers of farmers are engaged in vegetable production, though at a very small and often noncommercial scale. Moreover, production is concentrated in the rainy season, though demand in the dry season is met mainly by imports from neighboring countries. As a result, there are important price fluctuations between the rainy and dry seasons, reportedly more than 100 percent in many cases. Therefore, one key entry point for developing the horticultural value chain is to expand production into the dry season, combined with improved agronomic practices and inputs to increase productivity.

12. Against this background, a financial model was developed for one of the most important vegetables consumed and produced in Liberia: hot pepper (chilly). Hot pepper is an integral part of the Liberian diet, and demand for this vegetable is countrywide. The model is based on a 1 hectare crop budget and includes the investment in a simple irrigation system to allow the expansion of production into the dry season. It further includes the introduction of improved (hybrid) seeds, the use of mineral fertilizers and chemicals, and the adoption of improved agronomic practices. The model is highly profitable because it combines three revenue drivers: increased yields, two harvest cycles (with higher yields during the dry season), and significantly higher prices during the dry season. Yields increase from 2 tons per hectare (without project [WOP]) to 3 tons in the rainy season and 4 tons in the dry season (with project [WP]). Farm gate prices increase from US$90 per kilogram (rainy season) to US$150 during the dry season. As a result, the incremental income for farmers amounts to US$3,278 per hectare and year. Consequently, the NPV of the investment is high at US$12,227 per hectare, and the FIRR is 164 percent, both calculated over a 10-year period.

2.3 Oil Palm

13. Oil palm is a traditional smallholder crop in Liberia, but most plantations are beyond their productive life or are planted with substandard planting material. Domestic demand for palm oil is growing strongly and is met only partially by domestic production. Several large-scale concessions have been granted during the first decade of this century, but the development of plantations and outgrower schemes has been slow. Currently, there are two marketing outlets for fresh fruit bunches: two industrial oil mills operated by two of the concessionaires, and traditional or small-scale mechanized

extraction technologies for the local market.

14. Liberia has suitable agroecological conditions for oil palm production, and high-yielding varieties have been introduced successfully from Ghana and Malaysia. The main challenge for farmers with planting such varieties is the three-year gestation period during which the farmer has to invest labor and inputs. Earlier projects have tried to develop smallholder oil palm outgrower schemes with concessionaires in which a part of the improved inputs during the immature period would be financed through long-term credit. Unfortunately, these attempts have not been successful so far. Therefore, STAR-P might support smallholders to plant high-yielding varieties through a matching grant for seedlings and fertilizers during the immature period, combined with extension services. Two financial models have been prepared: A medium-input model that introduces improved seedlings and agronomic practices, but no fertilizer; and a high-input model that includes fertilizer application during the immature period.

15. Although the medium-input model is deemed suitable for independent smallholder farmers, the high-input model is more appropriate for smallholders within outgrower schemes. The main reason is related to the fertilizer costs. At current retail prices of smaller quantities, the high-input model would result in a similar gross margin as the medium-input model at full production. Nucleus companies, in turn, can import large quantities of fertilizer, resulting in much lower costs to farmers. They may also be interested in prefinancing fertilizer when the plantation is mature and high yields can be achieved.

Table 4A.3: Financial Internal Rate of Return and Net Present Value for Medium and High-Input Oil Palm Planting before and after Financing (per hectare)

Enterprise Model	FIRR (BF) (%)	FIRR (AF) (%)	NPV (BF) (US$)	NPV (AF) (US$)
Oil palm medium	16	29	2,187	2,886
Oil palm high	13	32	2,132	3,526

Note: AF = after financing; BF = before financing; FIRR = financial internal rate of return; NPV = net present value.

16. Given the dilapidated state of current smallholder oil palm plantings, both models are fully incremental. The yields at production (year 8 after planting) are estimated at 8 tons per hectare for the medium-input model versus 13 tons for the high-input model. The incremental income to labor at full production is US$632 per hectare for the medium-input model versus US$835 per hectare for the high-input model. The IRR is relatively modest for both models (13 percent and 16 percent, respectively). However, if the financial support through the project during the immature period is factored in (80 percent of the material inputs during the immature period), the FIRR ncreases to 32 percent (high-input model) and 29 percent (medium-input model), and NPVs of US$2,886 and US$3,526 per hectare, respectively (see table 4A.3).

3. Greenhouse Gas Accounting

17. The environmental externalities of the project were estimated using the Ex-Ante Carbon-Balance Tool (EX-ACT) developed by Food and Agriculture Organization to provide estimations of the impact

of agriculture, forestry, and other land use projects and policies on the carbon balance. The carbon balance is defined as the net balance across all greenhouse gases expressed in CO_2 equivalents (CO_2e) that will be emitted or sequestered because of project implementation (WP) versus a business-as-usual scenario (WOP). EX-ACT is a land-based accounting system, estimating CO_2e stock changes (that is, emissions or sinks of CO_2) expressed in equivalent tons of CO_2 per hectare and year.[47].

18. For STAR-P, the greenhouse gas accounting calculations were based on characteristics in the humid tropical ecological zone Agro-Ecological Zone in Liberia with low activity clay soils and the land use and crop management practices for WP and WOP situations. The changes expected to result from the project were included in the tool's different modules (in full alignment with the EFA assumptions and budget provisions) and include the following:

    - Intensification of horticultural production (hot pepper) through adoption of improved agronomic practices and use of mineral fertilizer, fungicides, and insecticides, and the expansion of production into the dry season (second crop cycle) on 800 hectares. The improved model assumes the incremental application of 175 kilograms of nitrogen, phosphorus, and potassium (NPK), 175 kilograms of phosphorus, 33 kilograms of urea, 0.35 kilograms of fungicides, 2 kilograms of insecticides, and 2 kilograms of herbicides per hectare and year.

    - Intensification of lowland rice production through (i) improved agronomic practices and use of improved seeds, mineral fertilizer, and pesticides on a total of 1,000 hectares (model 1), and (ii) in addition to these, rehabilitation of 1,200 hectares of lowland rice irrigation systems, allowing for two cropping cycles per year (model 2). The improved models assume incremental application of 50 kilograms (model 1) or 100 kilograms (model 2) of urea; 100 kilograms (model 1) or 200 kilograms (model 2) of NPK; and 23 kilograms (model 1) or 46 kilograms (model 2) of insecticides (including rodicides) per hectare and year.

    - Planting of oil palm on idle bushland using (i) improved seedlings on 1,500 hectares (model 1), and (ii) improved seedlings combined with mineral fertilizers (model 2) on 1,000 hectares. The high-input model assumes an incremental use of 350 kilograms of NPK per year and year.

    - Introduction of 100 power tillers and 50 rice threshers, resulting in an incremental fuel consumption of 36 and 18 cubic meters, respectively, over an estimated 10 years of economic life.

19. The carbon balance results are positive and significant, with the proposed activities of the project appraisal document leading to a total reduction in CO_2e emissions of 1.13 million tons over a 20-year period starting from project implementation. Per year, the mitigation potential is about 206 tons of CO_2-per hectare, or 10.3 tons of CO_2e per hectare and year. The planting of oil palms is the main source of carbon sink, leading to an overall CO_2 emission reduction of approximately 1.58 million

[47] The tool was designed using mostly data from the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories (NGGI-IPCC 2006), which furnishes EX-ACT with recognized default values for emission factors and carbon values in soils and biomass (the so-called Tier 1 level of precision).

tons. This by far overcompensates the increased emissions of 0.59 million tons resulting from incremental use of agricultural inputs.

4. Economic Analysis

20. For the economic analysis, financial prices were converted to economic prices to calculate the opportunity costs of the resources the project used and the benefits it generated. Most rice consumed in Liberia is imported from outside the region, and no taxes or import duties apply. Moreover, the rice import supply chain is very competitive. Pepper and other vegetables are imported mainly from neighboring countries during the dry season, by which no tariffs apply. Moreover, most trade and retail of vegetables is informal. The same applies to palm oil, which is widely traded through informal networks with neighboring countries.

21. The following adjustments were made: Taxes and import duties were removed from all goods that the project purchased or used in the crop and enterprise budgets. Labor costs were adjusted to reflect the opportunity costs of labor to the economy. No recent and reliable statistics on rural unemployment rates are available. Earlier projects (the Smallholder Tree Crop Revitalization Support Project, for example) have used a conversion factor of 0.7 applied to the market rate of unskilled labor, including family labor. In recent years, the demand for labor in mining has reportedly increased in mining in some areas, and there is a perceived scarcity of labor during certain periods. Hence, the conversion factor used in this analysis is 0.8. This factor considers that the opportunity cost of family labor is well below the market wage outside the peak planting and harvesting period during the rainy season, and in more remote areas and where no mining opportunities exist.

22. The crop and enterprise budgets were adjusted accordingly, applying shadow wage rates and removing taxes and other duties from inputs and equipment. The number of beneficiaries was calculated based on the assumption that rice and vegetable farmers produce 0.2 hectares on average. The area for pepper production is used as a proxy for horticultural production as part of the area might be devoted to other vegetables. Oil palm planting will be supported on 1 hectare per farmer. It is assumed that 1,500 hectares will be planted on independent smallholdings using the medium-input model, and another 1,000 hectares through outgrower schemes applying the high-input model. For threshers and power tillers, only the operators are counted as direct beneficiaries. In addition, the users of mechanization services can be considered indirect beneficiaries (Table 4A.4).

Table 4A.4: Aggregation of Models and Total Number of Beneficiaries

Enterprise Model	No. of Hectares/Units	No. of Direct Beneficiaries
Rice rehabilitation	1,200	6,000
Rice non-rehabilitation	1,000	5,000
Pepper	800	4,000
Oil palm medium	1,500	1,500
Oil palm high	1,000	1,000
Power tiller	100	200
Thresher	50	150
Oil press	100	500
Total		18,350

23. Project incremental benefits are estimated over a 20-year period applying a discount rate of 6 percent to reflect the opportunity cost of capital. Only the costs of components 1 and 3 and the costs of the fund manager in component 2 were used (totaling US$13.6 million) because the costs of matching grants and extension under component 2 is already represented in the incremental costs of the crop and enterprise budgets.

24. Under these assumptions, the overall economic internal rate of return (EIRR) is 22 percent. The NPV is US$24.9 million. A sensitivity analysis was conducted to test the robustness of these indicators against changes in key parameters (Table 4A.5). The analysis shows that EIRR, and especially the NPV, are more vulnerable to decreases in yields and output prices than they are to an increase in overall project costs. Overall, results are sufficiently robust. The lowest EIRR is 14 percent if yields or prices drop by 20 percent.

Table 4A.5: Sensitivity Analysis

Scenarios	NPV (US$)	EIRR (%)
Base scenario	24,954,535	22
Output prices 10% lower	18,255,446	18
Output prices 20% lower	11,556,356	14
Costs increase by 10%	23,752,791	20
Cost increase by 20%	22,551,047	19
Current costs (overrun comp 3)	23,752,791	17
Yield increase 10% lower	18,634,046	18
Yield increase 20% lower	12,313,557	14
Discount NPV 8% (Economic analysis)	18,350,176	22
Discount NPV 10% (Economic analysis)	13,341,576	22

Note: EIRR = economic internal rate of return; NPV = net present value.

25. Assigning an economic value to greenhouse gas mitigation potential is a complex task. According to the 2014 World Bank guidance note on the social value of carbon, the value of carbon can be derived from three different measures: (i) the social cost of carbon, (ii) the marginal abatement costs, and (iii) the carbon market prices. The social cost of carbon attempts to capture the marginal global damage (cost) of an additional unit of CO_2e emitted. The recent (September 2017) draft guidance note on the shadow price of carbon in economic analysis recommends, "Projects' economic analysis use a low and high estimate of the carbon price starting at US$40 and 80, respectively, in 2020 and increasing to US$50 and 100 by 2030." Marginal abatement costs are designed to reflect the carbon price necessary to achieve various climate change targets. Carbon market prices are the market value of CO_2e emission reductions or sequestration (offsets) that are registered and sold through various market structures. Carbon market prices currently average US$8 per ton. Following the World Bank guidelines, this analysis presents three scenarios (in addition to the baseline without the environmental benefits): using the low and high range social cost of carbon (applying a compounding factor of 2.25 percent per year over a 20-year period) and at market prices (see table 4A.6).

Table 4A.6: Economic Internal Rate of Return and Net Present Value, Including the Social Benefits of Carbon Sequestration

Scenario	Carbon Price (US$/ton)	NPV (US$)	EIRR (%)
1	8 (current market price)	16,204,767	25
2	40 (2020) increasing to 50 by 2030)	30,062,287	37
3	80 (increasing to 80 by 2030)	46,782,998	55

Note: EIRR = economic internal rate of return; NPV = net present value; USD = U.S. dollar.

Table 4A.7: Estimated Greenhouse Gas Balance (Using the EX-ACT Tool)

Components	Gross Fluxes[a]			Share Per GHG of the Balance[b]					Result Per Year		
				CO_2			N_2O	CH_4			
	Without	With	Balance	Biomass	Soil	Other			Without	With	Balance
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	−132,458	−132,458	−45,833	−86,625		0	0	0	−6,623	−6,623
Agriculture											
Annual	7,016	−50,438	−57,455	0	−54,460		1,696	−4,690	351	−2,522	−2,873
Perennial	0	−1,588,958	−1,588,958	−1,558,333	−30,625		0	0	0	−79,448	−79,448
Rice	30,391	83,198	52,807	0	0		−1,927	54,734	1, 520	4,160	2,640
Grassland and livestock											
Grassland	0	0	0	0	0		0	0			
Livestock	0	0	0				0	0			
Degradation and management	0	0	0	0	0		0	0			
Coastal wetlands	0	0	0	0	0		0	0			
Inputs and investments	149,851	740,217	590,366		50,374		539,991	0	7,493	37,011	29,518
Fishery and aquaculture	0	0	0		0		0	0	0	0	0
Total	187,259	−948,440	−1,135,699	−1,604,167	−171,710	50,374	539,760	50,044	9,363	−47,422	−56,785
Per hectare	34	−172	−206	−282.5	−31.2	9.2	98.1	9.1			
Per hectare per year	1.7	−8.6	−10.3	−14.1	−1.6	0.5	4.9	0.5	1.7	−8.6	−10.3

Note: CH_4 = methane; CO_2 = carbon dioxide; GHG = greenhouse gas; N = nitrogen; O = oxygen.
a. All GHG in tC02eq. Positive = source; negative = sink.
b. All GHG in tC02eq.

Technical Analysis

1. The analysis dealt with the following technical aspects during the process of designing the STAR-P.

2. **Commercialization and modernization of the agriculture sector.** The design incorporates critical lessons about technical aspects from past projects, such as the West Africa Agriculture Productivity Project and the Smallholder Tree Crop Revitalization Support Project, and also adds new activities that are critical for promoting the transformation of the agriculture sector. Positive experiences from other countries in Africa involved in modernizing the agriculture sector were also considered. These experiences have shown that a package of institutional capacity building, service delivery, and investment in market links can be important to achieve commercialization at the level of smallholder farmers. The project's design promotes the transition from subsistence agriculture to commercial agriculture through enhanced market links, post-harvest management, and value addition on the basis of business plans prepared by beneficiaries.

3. **Institutional capacity building.** Experience with past projects in Liberia clearly indicates that weak institutional capacity was the main hindrance in accelerating implementation. The STAR-P was designed to strengthen institutional capacity at the national, district, and county levels for promoting agricultural development. Capacity building and institutional development will focus on three critical areas that have direct impact on agriculture: (i) formation and strengthening of farmers' organizations for smallholder agriculture, (ii) institutional strengthening of the ministry and relevant government agencies for creating an enabling policy environment, and (c) strengthening private sector capacity and mobilizing global knowledge to improve agricultural productivity. Capacity development will deal with several critical areas, including irrigation, data and statistics, market information systems, policy analysis, and managerial and organizational skills.

4. **Use of matching grants to leverage finance in the sector.** The STAR-P is designed to use a cost-sharing mechanism to support investment subprojects on agricultural productivity, marketing, and value addition. This matching grant mechanism has been used in similar projects in other countries in Africa. This approach will promote competition and be demand-driven, thus promoting local ownership and sustainability. Furthermore, it leverages more value chain financing from the private sector.

ANNEX 5: Climate Change Co-Benefits Analysis and Proposed Mitigation and Adaptation Approaches

Climate Change Co-Benefits Analysis

1. Climate vulnerability. Liberia is vulnerable to the impacts of climate change, specifically unpredictable precipitation and increasing temperatures. Liberia has experienced an increase in the average annual temperature by 0.8°C in a 40-year period (1960 to 2006) and with an average rate of 0.18°C per decade. However, although average annual precipitation has declined since the 1960s, inconsistent rain patterns have persisted. For example, the 1960s and late 1970s were particularly wet, and the early 1970s and 1980s were very dry. Liberia has also experienced an increase in the frequency and unpredictability of intense rainfall events (considered an extreme climatic event). Consequently, floods are a recurrent natural disaster in Liberia and are projected to worsen, particularly along the coasts because of the unpredictability of rain, the rising sea level, deforestation, soil erosion, and the government of Liberia's lack of implementation of appropriate adaptation and climate-resilience measures. Furthermore, the country has a rainfall gradient from inland Liberia to the coast, with rainfall increasing toward the coast. Average annual rainfall generally exceeds 1,800 millimeters in interior Liberia, and coastal Liberia experiences average annual rainfall above 2,800 millimeters.[48]

2. These climatic impacts are projected to continue during the project lifespan. The average annual temperature is projected to increase on average by 0.6°C in the 2020s and by 1.3°C by 2050. The average annual precipitation is projected to increase by 3 percent in the 2020s and show high variability without a strong increasing or decreasing trend into 2050. In West Africa, it is expected that precipitation will increase during the rainy season and that the season will experience a short delay.[49]

3. Records from a three-year period assessment (2009 to 2012) confirmed that temperature in Liberia varies from 23°C to 33°C and is rarely below 21°C or above 34°C during a year. The warm season is from January to May, with an average daily hot temperature greater than 31°C, and the cold season is from mid-July to mid-September, with an average daily hot temperature of 28°C.[50]

4. The government of Liberia has made slow progress in the development of national climate change policies, and implementation of these policies is limited, especially at the sectoral level. However, Liberia ratified the Paris Agreement in 2018 and launched the National Policy and Response Strategy on Climate Change. The strategy aims to reduce the vulnerability of agricultural systems to risks related to climate change through direct and indirect support to farmers. This project, through its components and activities, aligns with the priorities identified in the current national policies and strategies and can contribute to this momentum through the

[48] World Bank Climate Change Knowledge Portal (database), World Bank, Washington, DC (accessed August 2018), http://sdwebx.worldbank.org/climateportal/.
[49] World Bank Climate Change Knowledge Portal (database), World Bank, Washington, DC (accessed August 2018), http://sdwebx.worldbank.org/climateportal/
[50] USDA (U.S. Department of Agriculture). 2013. *Liberia Climate Change Assessment*.

agriculture sector. The project also aligns with priorities identified in previous national climate change policies, including the 2015 Nationally Determined Contribution, the 2008 National Adaptation Plan of Action. and the 2013 Initial National Communication. The Nationally Determined Contribution restates the National Adaptation Plan of Action's priorities. The National Adaptation Plan of Action identified urgent, priority interventions to enhance resilience to increasing rainfall variability. These include diversification of crop cultivation, modifying the timing of cultivation in response to changing rainfall patterns, and irrigation and optimization of lowland and swamp farming practices. The 2013 National Communication summarizes data from the 1990s and early 2000s, and it is clear that a robust data system is needed at the national level for climate analysis and to inform adaptation and mitigation policies in the country.

5. Climate impacts on the agriculture sector. Liberia's agriculture production system is weather-dependent, meaning it involves direct use of weather inputs (precipitation, temperature, and solar radiation available to the plant).[51] Because agricultural production's scale is small, adaptation technologies are not widely used. Implementing adaptation and mitigation measures is a challenge for several reasons: (i) a lack of real-time and reliable climatic data, (ii) a small number of empirical studies on the impacts of climate change through a local or sectoral lens, (iii) low knowledge of potential adaptation and mitigation measures at the ministerial level and inclusion in sectoral plans, (iv) no integration of climate business approaches in the private sector, and (v) a lack of available climate finance to implement these measures.

6. Specifically related to rice and oil palm (the agricultural crops that this project will support), the impact of climate change could be significant. Adaptation approaches are needed for rice and oil palm production, and mitigation measures would be needed for oil palm, given that oil palm production could contribute to climate change. Adaptation measures that will be implemented are: (i) use of climate-resilient seeds and varieties, (ii) methods to retain soil nutrients and prevent soil erosion, (iii) improved water management for extreme warm weather, (iv) flood-resilient design of production systems, and (v) efficient pest and disease management.

7. There is well-documented empirical evidence of palm oil production's impact on the atmosphere that contributes to increasing climate change. As such, mitigation approaches in oil palm production would be incorporated to reduce greenhouse gas emissions. Nitrous oxide is emitted from the use of nitrogenous fertilizers, and methane (a strong climate forcer) is emitted from the anaerobic ponds of the palm oil mills. Carbon dioxide is the most dominant greenhouse gas emitted, resulting mainly from cultivation, processing of the oil palm fruits into crude palm oil, and transportation. During the production of palm oil, 57 percent of the greenhouse gas is emitted at the mills, mainly as methane. The cultivation of oil palm contributes another 34 percent, and 9 percent of emissions is attributed to transportation.[52] However, scaling up agroforestry would reduce fertilizer use and capture carbon in trees and soils.

[51] Government of Liberia. 2018. *National Policy and Response Strategy on Climate Change*. Environmental Protection Agency.
[52] Yew et al. 2009. *Mitigating Climate Change through Oil Palm Cultivation: The Malaysian Experience*. IOP Conference Series: Earth and Environmental Science. 6:242042.

8. Temperature impacts:
    - Rice yield is sensitive to high temperatures and humidity, and to pests that thrive in these environments.[53] Rice plants require an optimum temperature at different growth stages (see table 1). During the warm season in Liberia, if the recorded daily temperature is between 31°C and 34°C, then an increase of 0.6°C in the 2020s would put five of the nine growth stages at risk. As such, it may require farmers to adapt to the changing climate to ensure high yields. By 2050, an increase of 1.3°C would require advanced adaptation methods so that rice production can continue to be viable.
    - Oil Palm. Oil palms are not sensitive to temperature changes and are well adapted to the West African tropical environment. However, large seasonal variations on oil palm yield are expected in West Africa, where regular and severe dry periods are common.[54] With high predicted temperatures, fewer oil palm crops and yields are projected in regions that are hot (tropical) compared with those that are warm (subtropical).[55]

Table 5A.1: Optimum Temperature at Different Rice Growth Stages

Germination	Seedling Emergence	Rooting	Leaf Elongation	Tillering	Initiation of Panicle Primordia	Panicle Differentiation	Anthesis	Ripening
18–40	25–30	25–28	31	25–31	-	-	30–33	20–29

Source: Government of Liberia. 2013. Liberia Initial National Communication.

9. Precipitation impacts:
    - Rice. In West Africa, without adaptation measures, irrigated rice yields are projected to reduce by −21 percent and −45 percent in the wet and dry seasons, respectively, which results from reduced photosynthesis.[56] As such, potential yields would be higher in irrigated systems where production can control for the interannually variability of precipitation. In Liberia, rain-fed upland rice production is approximately 15 times more in hectares compared with rain-fed lowland rice production (2008).[57] Climate model simulations predict that rice production in rain-fed systems is substantially lower in rain fed upland than in rain-fed lowland areas because of the lower water availability of upland soils.[58] Heavy rains and consequent flooding also contribute to the loss of soil nutrients. Excess rain during sudden storms with very heavy rainfall and high winds can result in a loss of rice production because of lodging, that is, rice plants bending over and collapsing.[59]

[53] USAID (U.S. Agency for International Development). 2017. *Climate Change Risk Profile: Liberia*. Climate Links.
[54] IFC (International Finance Corporation). 2011. *Ghana Oil Palm Development Company*. Climate Risk and Business Agribusiness.
[55] Paterson et al. 2017. "Climate Change Affecting Oil Palm Agronomy and Oil Palm Cultivation Increasing Climate Change, Require Amelioration. *Ecology and Evolution* 8 (1): 452–461. doi: 10.1002/ece3.3610.
[56] Oort et al. 2018. *Impacts of Climate Change on Rice Production in Africa and Causes of Simulated Yield Changes*. *Global Change Biology* 24 (3): 1029–1045. doi: 10.111/gcb.13967.
[57] Government of Liberia. 2013. Liberia Initial National Communication.
[58] Oort et al. 2018. *Impacts of Climate Change on Rice Production in Africa and Causes of Simulated Yield Changes*. *Global Change Biology* 24 (3): 1029–1045. doi: 10.111/gcb.13967.
[59] Government of Liberia. 2013. Liberia Initial National Communication.

- Oil Palm. High precipitation and flooding decrease the production and quality of crude palm oil and is attributed to affecting the fruit ripening stage and overall yields.[60] Ideal precipitation conditions for palm oil growth require a total annual rainfall of 2,000–2,500 millimeters evenly distributed without a marked dry season, and preferably with 100 millimeters each month.[61] In Liberia, coastal areas receive an average annual rainfall of more than 2,800 millimeters, and an increase of 3 percent in the 2020s would present risks to overall yields.

Proposed Mitigation and Adaptation Approaches

10. **Adaptation approaches, subcomponent 1.1. Strengthening market-oriented smallholder farmer groups for selected commodity value chains:** The market-oriented, capacity-building support will incorporate knowledge and understanding of the risks and impacts of climate change on production and yields of rice and oil palm from a climate business lens. This information will be presented to farmer groups, cooperative associations, and later to the producer organizations in various forms (using different media and local languages) as part of the technical assistance package. Adaptation and mitigation investments will be financed under component 2. Similar information will be made available to government entities to encourage them to incorporate climate smart agriculture approaches and climate business for agriculture into their sectoral plans.

11. **Adaptation approaches, subcomponent 2.1. and subcomponent 2.2:** STAR-P will promote and finance investments by farmers' organizations and agribusinesses that integrate climate smart approaches throughout the value chain. The project will support the procurement and use of climate-resilient seeds at the planting stage. For example, planting varieties of rice that are resistant to hot temperatures, flooding, and major pests and diseases is important to minimize loss at the farm level. The project will also support the application of climate-resilient measures from the farm to postharvest facilities, which protect against high temperatures and unpredicted rain events. This support will include structures that protect the rice farms against heavy rainfall and high winds to reduce losses in production,[62] use of empty fruit bunches and palm fronds for mulching and compost to help preserve soil moisture during high temperatures, and planting cover crops and sub-soiling across slopes to help reduce soil erosion during periods of heavy rain.[63] Given that this component is demand driven, the number of organizations that could be supported through this approach will depend on the applicant base.

12. **Mitigation approaches, subcomponent 2.1. and subcomponent 2.2:** These subcomponents will also promote and invest in organizations and agribusinesses that integrate the reduction of greenhouse gas emissions. Regarding mitigation, priority will be given to oil palm production versus rice production because of strong evidence from around the world of the high impact of

[60] Paterson et al. 2017. "Climate Change Affecting Oil Palm Agronomy and Oil Palm Cultivation Increasing Climate Change, Require Amelioration. *Ecology and Evolution* 8 (1): 452–461. doi: 10.1002/ece3.3610.
[61] IFC. 2011. *Ghana Oil Palm Development Company*. Climate Risk and Business Agribusiness.
[62] Government of Liberia. 2013. Liberia Initial National Communication.
[63] IFC (International Finance Corporation). 2011. *Ghana Oil Palm Development Company*. Climate Risk and Business Agribusiness.

oil palm production on climate change. Improved water management in irrigated rice fields will also be supported to reduce greenhouse gases.[64] To ensure that appropriate mitigation measures and technologies are used, the project will undertake an assessment to increase understanding of the baseline practices of the rice ecosystems and the socioculture of the farmers that might hinder the adoption of new technologies.[65]

13. **Adaptation approaches, subcomponent 2.3. Support to financial institutions:** A growing number of financial products are catered to mitigate climate change risks. These products provide financial assistance in response to disasters, that is, flooding, drought, or loss of crops for other climate-related risks. Typically, these products are a form of insurance. The financial sector in Liberia is not at a stage where it can support specialized products such as these. However, within this component, STAR-P will assess the market barriers and policy challenges that prevent the development of these types of products in the Liberian market.

[64] Government of Liberia. 2013. Liberia Initial National Communication.
[65] Government of Liberia. 2013. Liberia Initial National Communication.

ANNEX 6: Summary of Gender Assessment and Implications for STAR-P

1. A gender assessment was conducted during project preparation, and the findings show that women's contribution to agriculture in Liberia is substantial. Women represent the majority of the agricultural labor force (80 percent) and are responsible for 93 percent of food crop production. A high share of women engages in agri-processing, and 85 percent of those are engaged in marketing and trading. Women's contribution fundamentally shapes the totality of agricultural production, processing, distribution and marketing, and consumption, but there are structural bottlenecks that restrict women to operating at subsistence levels and limit their upward mobility along agri-food value chains. Women have weaker influence in the marketplace because of restrictions in their mobility to market produce too far from their homes, and because of limited business skills, voice, and agency. They also face significant disadvantages accessing land use rights because of cultural norms and the inability to pay cooperative membership fees to use cooperative land. Women face more obstacles than men do in accessing improved agricultural production technology, finance, and extension services. The lack of productive capital poses additional and considerable barriers to women who would like to engage in commercial agriculture. Evidence has shown that the productivity gap between male and female farmers disappears when access to land and productive inputs are addressed for both males and females. The following is a summary of general and specific actions recommended to address these gender gaps, based on the findings of the gender analysis.

2. **General Actions**

   (a) Gender strategy: Update the Ministry of Agriculture (MoA) Gender Mainstreaming Strategy and develop a gender action plan, including STAR-P–specific gender mainstreaming and monitoring indicators from the overarching MoA strategy that is informed by the gender analysis results. This analysis identified gaps that the strategy will need to address. The strategy and tools developed should be communicated and disseminated throughout the project life cycle.
   (b) Capacity strengthening: There was a gender capacity gap across all key units in MoA and its agencies. Therefore, an ongoing gender mainstreamingtraining, including developing basic gender tools, is needed for government officials. The project should develop a holistic gender training toolkit to enhance capacity training for all project stakeholders to systematically mainstream gender and develop a common approach to tackling gender inequality and women empowerment issues in STAR-P.
   (c) Strengthen the monitoring and evaluation (M&E) system: There is need to strengthen the M&E system to enable it to capture gender aspects and women empowerment indicators. The M&E system should go beyond gender-disaggregated figures and capture qualitative outcomes of gender mainstreaming. The project needs to develop a common reporting template and should have adequate space for capturing qualitative gender-disaggregated indicators. Adequate time and resources should be allocated to strengthening the M&E system.
   (d) Male and youth engagement: Establish male and youth engagement platforms through dialogue and awareness campaigns to ensure that men and youth participate in STAR-P, especially in the areas of asset ownership and control and use of household income, highlighting the advantages of joint decision making in the household and emphasizing farming as a family business to address intergenerational norms. Male engagement should also aim at sensitizing men so that they can speak

out against and discourage harmful cultural and religious practices that perpetuate gender inequality.

(e) Traditional and religious leaders as entry points: Use more traditional, religious, and community leaders as entry points for the gender mainstreaming processes. Community members take leaders as role models. If leaders are empowered through gender training and awareness programs, the impact will trickle down slowly to the communities. Role models among the traditional leaders should be identified and molded into gender champions who will speak out against socially constructed norms in agriculture that perpetuate gender inequality in the value chains.

Table 6A.1: Specific Recommendations for STAR-P

1	**Gender Issues in Agriculture Value Chains**	Potential Areas of Intervention
	Production • Women continue to face a double burden of domestic and production responsibilities • Men make major income and household decisions • Distinct roles of men and women in the farms (women perform 80 percent of the work of weeding, harvesting, cleaning, and storage; men do land clearing) • Communal land ownership is restricted to men and limits registration • Access to credit is limited for women • Extension and information services are male dominated • Access to inputs are urban-based and male dominated • There are male- and female-dominated crops, for example, women dominate horticulture, and men dominate rice and oil palm	• **Sensitization about gender norms and women's high workloads*** • **Training and capacity building for men about gender norms*** • **Introduce labor saving technology in women-dominated work especially in weeding, harvesting,etc*** • **Involve male, religious, and chiefs as champions of gender equality*** • **Sensitize and support youth in agriculture to address gender roles at an early age** • **Support land registration and ownership for women and families and conduct land rights campaign** • **Form, strengthen, and formalize village savings and loans association groups for women's financial security and access to credit** • **Business training and registration for women's SMEs*** • **Support agri-input distribution channels to reach rural women*** • **Include women in rural extension training and activities*** • **Use telephone and media to raise awareness***
	Processing • Food processing enterprises are male dominated • Processing has socially constructed roles • Raw materials are mostly sourced or sold by men	• **Gender training for processors*** • **Gender guidelines for processors** • **Support gender-friendly packaging** • **Support branding and packaging of vegetables to benefit more women*** • **Support women processors with capital, business registration, and so on to engage in processing businesses*** • **Mobilize women outgrowers***
	Marketing • Horticulture is female dominated, and prices are dictated by buyers "Gobashop	• **Establish gender-friendly market infrastructure** • **Develop market links for women***

	women" • Women sell oil palm in the local market • Both men and women engage in selling • Men make major decisions	• **Support roadside and cross-border women traders** • **Encourage women in male-dominated crops** **Established storage and value addition for women's vegetables***
2	**Women's Participation and Decision Making**	
	• Farmers and community structures are led by men except for cosmetic positions created for women (chair lady) • Patriarchy, social construct, and religion deny women's participation space • Lack of confidence, assertiveness, and knowledge limits women	• **Create space, for example, women groups** • **Adult literacy** • **Provide seed capital, business registration, and credit to support women-led SMEs** • **Leadership and self-esteem training and activities** • **Advocate and encourage women to participate in farmers and community leadership*** • **Use role models and champions of women's leadership*** • **Exchange and exposure visits to learn and build self-esteem***
3	**National Programs and Resource Allocation**	
	• Gender-blind projects (except for WAAPP) • Limited capacity of ministries, agencies, and commissions, and a general lack of gender awareness • Limited collaboration and capacity of the gender unit • Limited budget allocation • Minimal targeting of women in agriculture • Low political and donor will	• **Engender all new project proposals** • **Enhance leaders and development partners to commit to gender equality** • **Allocate gender-specific budgets** • **Gender training and awareness for all agriculture departments*** • **Strengthen and collaborate with MoA gender unit to mainstream gender***
4	**STAR-P Implementation Unit**	
	• Project appraisal document is gender sensitive • Outdated MoA gender strategy • Lack of a gender-specific budget • General lack of gender awareness and capacity of implementing partners • Lack of gender mainstreaming tools	• **Working on gender at MoA*** • **Update MoA gender strategy and develop action plan*** • **Develop gender training toolkit*** • **Allocate gender budget** • **Recruit a gender specialist to collaborate with the gender unit*** • **Conduct gender training for all staff and partners** • **Develop gender indicators*** • **Conduct joint monitoring with the gender team** • **Develop gender-sensitive data collection tools*** • **Write gender-sensitive reports and communication materials***

Note: The asterisk (*) indicates activities supported by STAR-P. MoA = Ministry of Agriculture; SME = small and medium enterprises; WAAPP = West Africa Agriculture Productivity Project.

ANNEX 7: Summary of Lessons Learned and Reflected in the Project Design

Lessons Learned and Reflected in the Project Design

Experience from several agriculture and agribusiness projects, including the Sierra Leone Commercial Agriculture Development Project (P153437), the West Africa Agricultural Productivity Program (P122065), of which Liberia is a beneficiary, and the Liberia Smallholder Tree Crop Revitalization Project (P113273), has provided the following lessons, which have been factored into the project design.

1. Facilitating market links along the value chains

- The changing global trade context and the emergence of value chains have benefited large national and multinational agribusiness firms, but smallholder farmers can also benefit. However, to participate and obtain higher value or a larger portion of the chain's profits, smallholders will need to meet the demands of other value chain actors, such as traders, processors, retailers, and exporters. This presents challenges related to perishable products, safety and quality issues, environmental concerns, post harvest problems, and the emergence of a more sophisticated retail system.

- Smallholder farmers can be supported to enter and benefit from agriculture value chains through improved targeting and a phased approach that builds the skills and assets necessary to meet market requirements, and improves access to the necessary information to move into new markets.

- Outgrower schemes (contract farming) is one option for linking farmers to value chains, but performance to date has been mixed. In addition to providing support to smallholder farmers to meet market demand, support must also be provided in negotiating contract terms to ensure a more transparent and reliable marketing agreement that would address (i) the good to be produced (quality, quantity, and delivery) and the price determination mechanism, (ii) prompt and transparent payment arrangements, and (iii) the roles and contributions of the parties to the agreement. Additionally, building farmers' business management skills is key to enhancing understanding of institutions' rules of the game and how markets function.

- A comprehensive approach is needed in value chain promotion to identify key constraints and the necessary links among the key criteria for value chain development. For example, transportation, markets, and other infrastructure need to be linked to production and market information to achieve better results. One project cannot address all the challenges, therefore it is important to establish synergies with other development projects and push for comprehensive policy and regulatory reforms.

2**. Use of matching grants**. The project team considers design lessons outlined in a recent review of past and ongoing World Bank projects using matching grants and will apply these lessons when finalizing the project.

- A strong economic rationale must be established for including a matching grant component, and market failures must be properly described (such as a lack of demand for or supply of business development services, or a limited supply of or demand for financial services).

- The design of the grant needs to be tailored to local conditions and target specific market failures to be successful.

- The size of the grant and the level of grant matching should vary by type of beneficiary (microenterprises and farmer groups, small enterprises, or medium enterprises) and by type of investment (training, technical assistance, or assets) to ensure take-up and additionality.
- Matching grants should aim to finance longer-term investments, particularly with sufficient environmental and social externalities, and capacity building and advisory services for farmers and agricultural small and medium enterprises that require longer-term funds.
- A good practice is to assess the procurement, administrative, disbursement, and financial management capabilities of the applicants and provide training in the main skills and procedures required under the grant scheme. Capacity building may be required to help applicants prepare business plans and proposals or expand the pool of competitive applicants to help ensure that the matching grant is executed successfully.
- There is no clear evidence of the best way to select projects and investments for matching grants, but a competitive mechanism with specific time-bound windows for applications is useful for limiting availability and for enabling choice among several competing projects.
- A detailed matching grant manual should be developed that sets out the process for grant application, evaluation, disbursement, and monitoring, including the forms and templates to be used and with dedicated sections for financial management and procurement. Criteria for selecting grant recipients should reflect the scheme's development objectives and emphasize relevance, quality, diversity, partnerships, and economic considerations.
- Explicit mechanisms could be included in the project implementation design that would facilitate links between financial institutions and project beneficiaries, even when matching grants are used.

3**. Fund management.** Managing the matching grant scheme efficiently is crucial to the project's success. In some cases, the time between a call for proposals and when funds are finally disbursed to the successful applicant is so long that the delay poses serious risks for the applicant's business activities. Ensuring that the selected fund manager has the appropriate capacity and streamlining procedures can help mitigate this risk. However, procedures to make approvals and disbursements more agile and minimize overhead costs must be balanced with the need to make operations transparent and accountable. In this regard, a sound monitoring and evaluation (M&E) system is central for tracking and documenting the fund's outcome. A good practice is to hire specialized M&E staff in the grant secretariat, outsource the M&E to experts, or both. Many grant recipients are not adept at M&E requirements and will benefit from specific M&E training and hands-on support. Other good practices include ensuring that subprojects are designed with clear and appropriate indicators and milestones, conducting early and close monitoring through regular progress reports and field visits, using a management information system to capture and review monitoring data, and evaluating the fund's impact.

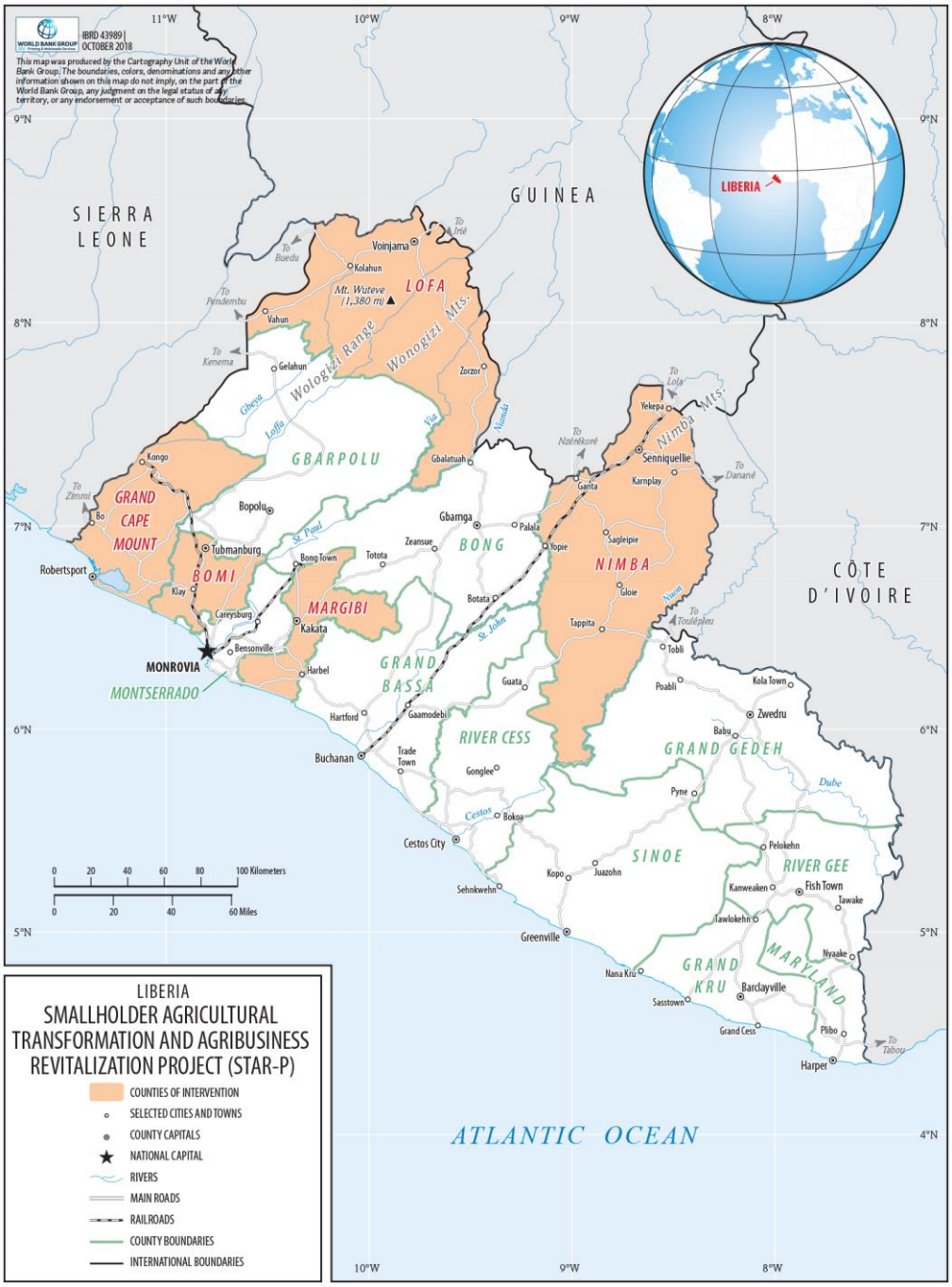
4**. Gender targeting**. Addressing the gender dimension of interventions is important to achieving sustainable economic growth and development. Based on the recent gender study undertaken as part of the project preparation, the project will ensure that it responds to constraints that are gender specific, at least in terms of the following:

- Ensuring access to and control of productive assets, namely credit and skills training
- Outreach and engagement
- Collecting gender-disaggregated data and using them to target project interventions
- Including a gender lens in policy analysis and recommendations in the policy briefs that the project will generate

5. **Communication for Development (C4D).** Several key lessons emerged for implementing successful C4D, which the team will factor into the communication strategy design.

- A successful C4D facilitates four key objectives: (i) accessing information and knowledge, (ii) promoting participation, (iii) giving voice to the excluded, and (iv) influencing public policies.
- An isolated C4D activity does not usually have much impact. A successful C4D campaign requires a suitable combination of different tools aimed at different audiences. It also requires time. Impactful campaigns are usually spread over an extended time period.
- The costs associated with implementing C4D must be evaluated in light of the greater participation, responsiveness, and political buy-in they foster, which is particularly needed in Liberia given its history of civil wars and current weak social fabric.

ANNEX 8: Map of Liberia



Source: World Bank 2018