



## **GOVERNMENT OF THE REPUBLIC OF LIBERIA**

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

### **Environmental and Social Management Framework-ESMF**

**October 2018**

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## ACRONYMS

ADA	Association of Agro-input Dealers
AfricaRice	Africa Rice Centre
ARCC	African and Latin American Resilience to Climate Change
AWP/B	Annual Workplans and Budgets
BOD	Biological Oxygen Demand
CAO	County Agricultural Officer(s)
CBL	Central Bank of Liberia
CARI	Central Agricultural Research Institute
CDA	Cooperative Development Agency
CEO	County Environment Officer
CERC	Contingency Emergency Response Component
CGAIR	Consultative Group on International Agriculture Research
COD	Chemical Oxygen Demand
CORAF/WECARD	West and Central African Council for Agricultural Research
CSA	Climate Smart Agriculture
CSTC	STAR-P Technical Committee
ESMU	Environmental and Social Management Unit
ECOWAS	Economic Community of West African States
EHS	Environment, Health and Safety
EPA	Environment Protection Agency
EPML	Environmental Protection Management Law of Liberia
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMPs	Environmental and Social Management Plans
ESMT	Environmental and Social Management Team
FFB	Fresh Fruit Bunches
FBOs	Faith Based Organizations
FM	Finance Management
FONSI	Finding of No Significant Impact
GoL	Government of Liberia
GRM	Grievance Redress Mechanism
HIV/AIDS	Human Immuno Virus/Acquired Immuno Deficiency Syndrome
IDA	International Development Association
IFC	International Finance Corporation
IFI	International Financial Institution
ILO	International Labor Organization
IPM	Integrated Pest Management
IRM/OM	Immediate Response Mechanism/Operational Manual
ISDB	Islamic Development Bank
IITA	International Institute for Tropical Agriculture
ITCZ	Intertropical Convergence Zone
LLA	Liberia Land Authority
LACRA	Liberia Agriculture Commodity Regulatory Authority
LATA	Liberia Agricultural Transformation Agenda

LLAP	Liberia Land Administration Project
LASOP	Laboratory Standard Operating Procedures
LIBA	Liberia Business Association
LIRSAL	Liberian Incentive Based Risk Sharing System for Agricultural Lending
LGRM	Local Grievance Redress Mechanism
LPMC	Liberia Produce and Marketing Corporation.
MDA	Ministries, Departments and Agencies
M&E	Monitoring and Evaluation
MoA	Ministry of Agriculture
MoCI	Ministry of Commerce and Industry
MoFDP	Ministry of Finance and Development Planning
MoGCSP	Ministry of Gender, Children and Social Protection
MoU	Memorandum of Understanding
MSME	Medium and Small Enterprises
NAIDAL	National Agro-Inputs Dealers Association, Liberia
NPC	National Project Coordinator
NPSC	National Project Steering Committee
OHS	Occupational Health and Safety
PAD	Project Appraisal Document
PCN	Project Concept Note
PCRs	Physical Cultural Resources
PCU	Project Coordination Unit
PDO	Project Development Objective
PPA	Project Preparation Advance
PEA	Preliminary Environment Assessment
PPD	Public Private Dialogue
PPMP	Pest and Pesticides Management Plan
PMU	Project Management Unit
RAP	Resettlement Action Plan
RCFIs	Rural Community Finance Institutions
RCoE	Regional Centers of Excellence
RPF	Resettlement Policy Framework
RSPO	Roundtable on Sustainable Palm Oil
SIDA	Swedish International Development Agency
SFGs	STAR-P Farmer Groups
STAR-P	Smallholder Agricultural Transformation and Agribusiness Revitalization Project
STAR-P WG	Smallholder Agricultural Transformation and Agribusiness Revitalization Project- Working Group
STCRSP	Smallholder Tree Crops Revitalization Project.
ToRs	Terms of Reference
UNDP	United Nations Development Program
UNMIL	United Nations Mission in Liberia
USAID	United States Agency for International Development
VCF	Value Chain Financing
VMGF	Vulnerable and Marginalized Group Framework
VSLs	Village Savings and Loans System
WAAPP	West Africa Agricultural Productivity Program
WAATP	West Africa Agricultural Transformation Project
WBG-EHS	World Bank Group Environment, Health and Safety





# 1 EXECUTIVE SUMMARY

## INTRODUCTION

The proposed Smallholder Agricultural Transformation and Agribusiness Revitalization Project (STAR-P) aims at promoting smallholder agriculture commercialization and improving access to markets through facilitating linkages with private sector firms in selected commodity value chains of Liberia. Efforts at commercialization of agriculture in Liberia have been constrained by lack of organization capacity of the producers, inadequate access to productive assets and modern technology and market access issues. The inputs market is not well organized and farmers lack the capacity and information to respond appropriately. The access of these farmers to assets and credit is limited and therefore constrains their ability to expand production, increase yield or engage in partnership with major players within value chains.

## PROJECT DEVELOPMENT OBJECTIVE

The project development objective is to increase agricultural investments and productivity and promote commercialization of smallholder farmers for selected value chains in selected counties of Liberia. STAR-P focuses on addressing critical market failures limiting the development of rice, oil palm, and horticulture value chains. The project aims at promoting competitive smallholder commercialization and facilitating private sector investment in agribusiness by fostering productive linkages between smallholder farmers and selected agribusiness firms. The project will be operational in the Lofa, Nimba, Margibi, Bomi and Cape Mount counties.

## PROJECT COMPONENTS

To achieve the aforementioned Project Development Objective (PDO), the project is structured around three (3) components:

### **Component 1: Institutional Capacity Building and Strengthening Enabling Environment for Farmers, State, and non-State Actors.**

This component has four sub-components:

#### **Subcomponent 1.1: Strengthening market-oriented smallholder farmer-groups for selected commodity value chains.**

This sub-component will finance services for strengthening of existing and formation of new farmer groups. Two strategies will be used for social mobilization: (i) extensive communication and awareness creation of the market opportunities identified by the project and incentive support for agribusiness firms and SMEs to create a business linkage 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 their groups.

#### **Subcomponent 1.2: Institutional Strengthening for selected Government Ministries, Departments, and Agencies- MDAs.**

This sub-component will use technical assistance to build capacity and/or strengthen coordination among the following ministries and departments and related agencies. As to strengthen their capacity to deliver efficient service to smallholder farmers and other actors in the value chains and will explore the

use of institutional development plans, disbursement linked or performance-based indicators in the delivery of support.

### **Subcomponent 1.3: Institutional Strengthening for selected Private Sector and non-State Institutions**

This sub-component will fund technical assistance (TA) and capacity building of carefully selected agribusiness firms and non-state actors. The financing under this sub-component will focus on services involving TA, training and studies and will be coordinated by the PCU and regional PIUs for:

- (i) Capacity building to agribusinesses and other SMEs with good business linkage plans with smallholder farmers
- (ii) Technical assistance and training support to umbrella bodies of the value chain actors such as the Liberia Business Association (LIBA), Farmers Union Network, Agribusiness Investment Network
- (iii) Support for establishing and/or institutionalizing rice and oil palm value chain stakeholder forum (learning from the cassava value chain forum).
- (iv) Support for developing “Innovation Enterprises” in Liberia, focusing on women, youth, and technology.

Advisory services will be provided to assist institutions in developing competitive business proposals for consideration under component 2.

### **Subcomponent 1.4: Strengthening the Enabling Environment- Policy, Regulations, and Administrative procedures for Agri-Business Growth**

The financing under this sub-component will focus on services involving TA, training and studies and will be coordinated by the PCU and regional PIUs through interventions in the following areas:

- (i) Policy/business regulatory diagnostics to identify priority areas for reform and to select among those areas that the project will support, such as tariff reform, LIRSAL
- (ii) Workshop/s for awareness creation/ratification of ECOWAS Trade Liberalization Scheme;
- (iii) Convening of Development Partners to facilitate establishment and development of the Agri-Public-Private Sector Forum to facilitate dialogue and action on policy and program initiatives.

## **Component 2: Financial and Technical Assistance for Enhancing Productivity and Competitiveness.**

This component supports access to finance improve smallholders’ integration into competitive value chains and will support smallholder farmers, agribusinesses, BDSPs and financial service providers. The component will support activities through the Liberia Agriculture Commercialization Fund (LACF); that will finance matching investment grants for goods and works and technical assistance grants for beneficiaries to acquire TA services from vetted BDSPs. LACF will have three windows: : (i) investment support for productive linkages between smallholder farmers and agribusinesses, (ii) investment support to agribusinesses and business development service providers; (iii) support to financial institutions for product innovation and outreach.

### **Subcomponent 2.1: Investment support for productive linkages between smallholder farmers and agribusinesses.**

The successful inclusion of smallholder farmers into organized and well-structured value-chains largely depends on their organization to gain the confidence and trust of agribusinesses. Aggregating farmers will help smallholder farmers to access more efficiently market inputs, procure supplies, and disseminate information that facilitate 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 also help to strengthen the capacity of other public and private sector actors within each value chain to reduce risks and/or reduce transaction costs in the targeted value chains. This sub-component will support linkages between farmer-based organizations and off-takers and facilitation of out-grower schemes.

### **Subcomponent 2.2: Support to agribusinesses and business development service enterprises.**

This sub-component will co-finance investment proposals by agribusinesses and BDS 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 linkage to smallholder farmers in the form of service provision, sourcing, or co-investment and can include:

- (i) Upstream services, including agro-inputs, mechanization, irrigation, and extension services. Proposals can also be submitted for small scale farm equipment, such as drip irrigation and tools or materials
- (ii) Downstream services, such as aggregation, warehousing, packaging, distribution, logistics. Proposals can also be submitted for processing equipment, such as rice mills and oil palm processing equipment
- (iii) ICT services to improve market information dissemination to producers, providing agrometeorological alerts for crop treatments to mitigate risks of pests.

### **Subcomponent 2.3: Support to financial institutions**

This subcomponent will facilitate smallholders' and FBOs' access to adapted formal financial services, particularly for tree crop value chains that need longer term finance. This sub-component aims to strengthen the capacity of financial institutions to improve services to Liberia's agriculture sector. It will therefore support developing of suitable financing products and services for the targeted value chains and rolling them out in the project districts

## **Component 3: Project Management, Monitoring and Evaluation**

The MoA is responsible for the overall coordination of the STAR-P in Liberia. In continuity with WAAPP, the MoA entrusts the overall coordination of project implementation to the Project Management Unit (PMU) through the Project Implementation Unit (PIU).

## **OVERVIEW OF PROJECT ENVIRONMENTAL AND SOCIAL RISKS AND POTENTIAL IMPACTS**

### **Negative Impacts of smallholder oil palm rehabilitation and revitalization developments**

The proposed Smallholder Agriculture Transformation and Agribusiness Revitalization with respect to oil palm will trigger the following:

- a. **Land clearing and replanting:** The primary negative environmental impact of the transformation and revitalization of smallholder oil palm under STAR-P will likely arise from clearing and replanting of the oil palm plantations. *However, given that, OP 4.04 and in particular, OP 4.36 make it clear that, the World Bank's strong preference for new plantations is not to site them on land that has pristine/good quality natural forests, but such areas of expansion ought to be previously farmed areas (i.e. in former fields which are then lying fallow Given that, the project will mainly focus on existing smallholder farmers, environmental screening of potential subprojects will ensure that, any sub-projects with potential adverse impacts will not be considered/included in the financing under STAR-P. ). In order to reduce potential conflict on the boundaries of customary fallow fields where plantations could be extended to, such land boundaries will be determined through active participation of the community members and neighbours, including: elders, chiefs, and the local authorities;*
- b. **Risks of soil erosion:** Where clearing is done in dry season, any disturbance of the land surface will leave the land exposed to the early rains of the wet season and thus to soil erosion and consequent run-off to local waterways;
- c. **Palm oil processing impacts:** Oil palm processing has the potential for environmental impacts whose magnitude will depend on the type and quantity of emissions and solid waste produced, and whether or not these impacts are managed. The oil palm plantation sector will be supported through small farmer out-growers, including processing their production as such, no major negative impacts are anticipated from processing of palm oil;
- d. **Pest Management:** Oil palm interventions under STAR-P will require use of a range of agro-chemicals to control pest and diseases as well as enhance soil fertility. Potential adverse impacts on the handling and storage of these chemicals and can be minimized, if not avoided by good management, training and support equipment (PPE);
- e. **Nurseries:** Potential environmental impacts from tree crop nurseries will be similar to farm/plantation impacts (i.e. land clearing, pest and disease control) with the possible exception that irrigation will be required should large scale nurseries be established;
- f. **Crop handling and storage:** With the Oil Palm sector handling the majority of the processing, farmers will deliver their fruit bunches and to the factories and thus, there will be little requirement for village/district level storage;
- g. **Health and Safety issues:** Within any plantation there is always the possibility of accidents (i.e. exposure to pesticides, cuts from sharp harvesting and maintenance equipment, falling trees or fresh fruit branches), though with training and experience, accidents can be minimized;
- h. **Fire risks:** Probably the most serious risk within the smallholder oil palm rehabilitation is likely to be fire risks, particularly when it is used in the land clearing process, either by the farmer him/herself or neighbours. Hunters also use fire and may be less careful than farmers in its use. Rural communities have very little resources in terms of fighting fire. Fire is more lethal during the dry season when the winds tend to be stronger;
- i. **Gender Issues:** Liberia faces major gender disparities in terms of women's access to productive assets. Many women are unable to fully benefit and enjoy access to economic opportunities. The tree crop sector (such as oil palm) in Liberia is dominated by men. Women are major players in the agricultural sector, constitute the majority of smallholder producers and agricultural labour force. In view of these inherent gender disparities, STAR-P has taken deliberate measures to mainstream gender into its plans and activities to ensure meaningful participation of both women and men. A Gender Analysis Report has been prepared as part of its safeguards documents detailing all processes of engendering STAR-P.

## Environmental and social risks of Rehabilitation of Laboratories in CARI

- a. ***Improper construction waste management:*** Solid waste will be generated at the site during site preparation and rehabilitation phases. The waste may consist of timber or metal cuttings, excavated materials, paper/cement bags, empty paint and solvent containers, broken glass among others. Construction waste will be managed through proper site clearance and restoration;
- b. ***Generation of noise:*** noise will be one of the most undesirable consequences of the rehabilitation phase. Considerable levels of noise and vibrations will mainly result from use of equipment during breakages for modification of spaces inside the laboratories facilities. Though the level of discomfort caused by noise is likely to be subjective, the most commonly reported impacts of noise levels will be interference in oral communication in the vicinity of the institute;
- c. ***Occupational Health Safety (OHS) Risks for the project workers:*** Construction activities have potential to pose occupational risks such as fatal falls if workers do not use safety latches when working at heights. Working with high voltage and hot works (welding) pose a risk of electrocution. In addition, falling debris could injure workers if Personal Protective Equipment (PPE) are not provided or properly used;
- d. ***HIV/AIDS concerns:*** Implementation of works will likely attract laborers to the project areas which can trigger HIV/AIDS concerns and it is proposed that, the project will work with nearby HIV/AIDS service providers to provide counselling and supply of condoms to the workers at agreed terms with the project contractors. The influx can be mitigated by mainly recruiting local labor from within the project sites to minimize relocation related impacts. In addition, the works will be minimal and of short-term nature lasting periods of rehabilitation of laboratories as such, labor requirements will equally be low;
- e. ***Gender Based Violence:*** this can take various dimensions for instance, on a number of project sites, contractors reportedly commit a number of gender-based violence against workers in various forms such as physical assault, use of vulgar language, denial of meals, as well as sexual advances. Such instances can be addressed by sensitizing the workers on their rights as well as the contractors to know their obligations. The use of Grievance Redress Mechanism will equally serve to address such social vices;
- f. ***Generation an accumulation of construction waste:*** Demolition works will likely generate construction-based wastes and some of the re-usable and re-cyclable materials can be redeemed and used for construction to ensure environmental sustainability;
- g. ***Disposal of excess construction waste:*** Excess construction waste material which will not be re-usable will be disposed into areas and in a manner acceptable to CEO in respective areas, EPA and the PMU;
- h. ***Vegetation loss:*** The contractor will bring to the site all equipment necessary for carrying out the works and ensure proper safeguards to prevent excess and un-wanted loss of vegetation and soil erosion. In addition, the pathways/access routes have to be managed in accordance with sound environmental practices and such sites;
- i. ***Interruption of utility service lines:*** Measures will be taken to minimize any potential damage to utility public infrastructures on sites where such works are to be undertaken i.e. electricity, water supply, drainage and sewer lines should be mapped out and excavations will be managed on such sections to avoid risks of cutting and breaking those lines;
- j. ***Non-payment of workers:*** Payment of salaries and wages is sometimes of concern on sites and it is proposed that, workers be issued with contracts before commencement of work; and
- k. ***Issues of child labour:*** There should be no engagement of children below 18 years on the sites supported by the project. Any contractor with such practice will have his/her contract terminated. This is because such a practice compromises and contradicts both the ILO Employment Convention as well as the Liberian Education and children Act;
- l. ***Incineration:*** All other laboratory waste that are deemed unsuitable to be put in the normal waste bins in the laboratories, will be placed in a special waste-bin supplied in each of the laboratories and such items include: broken laboratory glassware; sharp objects of metal or glass, dirty sample

- tubes or other items lightly contaminated with chemicals and such will all be incinerated. STAR-P needs to support construct an incinerator for CARI as part of the support;
- m. **Risks of fires:** Risks of fires in laboratories can be occasioned through spillages, irresponsible storage, handling and application of inflammable reagents, irresponsibly carrying around naked flames, smoking cigarettes and faulty electricity connections. There should be fully functional fire extinguishers laboratory staff be trained on their operations alongside rescue drills;
  - n. **Management of reagents spills:** laboratories to adopt strategies for managing reagents spills as part of their Standard Operating Procedures (SOPs). When a spill occurs, the area is cleared of any users, and the spill cleaned up immediately. Waste from spill clean-up is then disposed of appropriately depending on the kind of chemical;
  - o. **Concerns over handling of agro-pesticides:** Scaling up of soil fertility management including soil mapping, soil testing, and fertilizer blending will call for application of agro-pesticides hence need for PPMP in the project safeguards agenda which is a stand-alone document in this project;
  - p. **General procedure for disposal expired reagents:** CARI should put in place, a standard protocol in place for the management and disposal of expired and obsolete reagents and should be applicable to all laboratories and screen houses operations:
    - ❖ Routinely checking and prepare list of materials which have are near expiry;
    - ❖ A chemical Disposal Form should be filled with all key information which could include: name of the chemical(s), date at which the chemical is to expire and information be filled on a label and attached to the chemical intended for disposal;
    - ❖ Such chemicals/reagents are placed in designated rooms i.e. rooms designated for waste storage, with the label facing outwards and clearly visible; and
    - ❖ Laboratory Manager(s) will be informed of such chemicals intended for disposal.

## Environmental and social risks of access roads improvements

These will include:

- a. **Land-uptake impacts,** in which rehabilitation of the roads will likely involve loss of roadside crops and trees along the roads. It is expected that, the rehabilitation works will be undertaken within the existing alignments and incase of uptake, an RPF has been prepared to address any land uptake related issues if they arose;
- b. **Noise and vibration impacts,** is likely to result from construction activities and from equipment. Workers will be provided with PPEs, restricting roadworks to day time hours to minimize disturbance to the neighborhoods;
- c. **Soil erosion concerns,** the roads topography once subjected to roadworks will likely trigger erosion from lose ends and can result in sedimentation of water courses. This is to be addressed through watering the road surfaces and compaction;
- d. **Disruption of roadside livelihoods means,** small scale roadside activities where communities sell food items for the women who earn some independent income for themselves will likely be disrupted by the project. To be mitigated through undertaking works within contract schedule to reduce disruptions over a period time. Where issues of lose arise, provisions in the RPF will be utilized to mitigate such concerns;
- e. **Issues of borrow pits,** opening of access routes and borrow pits all represent likely negative impacts of the project. The following measures are proposed: securing the consent of the land owners for borrow areas; over-burden materials shall be stockpiled to be used during the restoration process of the borrow pits; leveling borrow pits to attain free drainage of ponding waters and sequential restoration of borrow pits when they are exhausted of materials;
- f. **Waste management concerns,** a labor force on the road is likely to generate some volume of associated slid wastes such as polyethylene bags, plastic water bottles amongst others. Ensuring clean-up of the areas in terms of cleaning up at the end of road project rehabilitation works;

- g. **Risks of road accidents:** the roads to be rehabilitated are existing and will be operational, as such, there can be risks to the road users. The contractors will put in place road signs warning road users about such works for the safety of the workers.

### Environmental and social risks of Agro-processing and Storage Facilities

These will include:

- a. **Child labor issues:** ensure children below 18 years are employed on any construction-based works;
- b. **Vegetation loss:** this can arise through clearance and site preparation works which can lead to loss of vegetation on the areas where storage facilities are to be located. These impacts can be mitigated by delineating areas for construction of such facilities and such areas be restored after works;
- c. **Management of excess cut to soil material** excavation works and general works for foundations can be dumped in approved sites while some can be used to backfill foundations for such buildings;
- d. **Erosion control concerns**, likely to arise through site clearances and excavations, run-offs from roofs of constructed storage and agro-processing facilities. Site restoration, re-grassing and installing water harvesting measures will address this concern;
- e. **Site preparatory works** such as pre-construction activities relating to site preparation works, removal of waste and site levelling works, setting out new structures and removal of waste will result in erosion which will be mitigated by landscaping and levelling the site;
- f. **Impacts relating to sourcing of construction materials** (stones, sand) will have impact on the environment at their points of extraction which emphasizes the need for the contractors to obtain construction materials from suppliers who will be responsible for restoring the extraction sites;
- g. **Occupational health safety (OHS) risks** on the construction workers to be mitigated by providing PPEs to the workers, having modestly stocked First Aid kits with some basic medical supplies such as iodine, bandages to help on some cases of accidents and injuries;
- h. **Management of construction waste**, the construction works will generate some amounts of construction waste such as cement bags, some and brick debris, off-cuts from roofing and timber works, solid waste mainly paper, plastic bags and paper have to be all cleared at the end of works;
- i. **Fears of collapse of infrastructure**, the country has witnessed a number of collapsed buildings in construction sites and this is attributed to a host of factors including poor workmanship, issues with construction materials and design related issues. In the project, a supervising engineer will play oversight to ensure the infrastructures will be of standards for storage and agro-processing;
- j. **Risks of lightning strikes:** of recent there are increasing risks of lightning in the region damaging buildings and power supply lines. To mitigate this, the buildings should be equipped with lightning conductors/arrestors preferably, of aluminium type which are not so much sought out by thugs as compared to copper rods; and
- k. **Non-payment of wages and salaries for the worker**, the contractors have to provide the workers with contracts for their employment and ensure all those employed on the project are fully paid at the end of the project.

### Environmental and social risks from value addition investments

- a. **Generation of crop-based wastes:** Rice wastes especially its husks from hulling in the project ought to STAR-P are all planned to be turned to animal feeds. Rice husks can be used to make briquettes for fuel which is already underway by CHAP a local NGO;
- b. **Risks of food insecurity at household levels:** Industrialization and commercialization of the commodity crops will have economic benefits at household and national levels and no doubt, increase income at household levels. However, this must be balanced in such a way that, households don't focus on industrial market at expense of household food security and can be achieved through awareness and sensitization of households on matters of food security; and

- c. *Preparation of Environmental Assessments-EAs:* Once value addition plans for the STAR-P commodities are fully finalized, it is proposed that, upon screening, independent Environmental Assessments for such sub-project be commissioned in accordance with the EPA EIA procedures.

## **POTENTIAL POSITIVE IMPACTS OF THE PROJECT**

The potential positive impacts of STAR-P can be summarized as follows:

- a. The planned STAR-P support towards physical infrastructure rehabilitation, re-modelling and equipping of CARI to enable it assume and discharge and deliver agricultural research services in its mandate areas of research especially in rice, horticulture and oil palm and irrigation will provide much needed input and support to sustainable agricultural production in the country;
- b. The project interventions with a focus on value addition which will earnings for farmers and improved livelihoods at households and poverty reduction;
- c. The Project will finance productivity enhancing assets, new production technologies and small-scale infrastructures (access roads, storage facilities) which will improve market access and reduce on middlemen in the trade making farmers earn better returns from their farming;
- d. The production technologies at smallholder levels especially cottage palm oil processing will go along-way to improving the processing and handling of the product (packaging etc) thereby improving marketability of the products;
- e. Most important, the cottage processing of palm oil is done mainly by women hence, improved technology will relieve the women from committing most of their time to this activity enabling them have time for other family responsibilities;
- f. In addition, the project provides an avenue to explore public private partnership (PPP) in smallholder agriculture development by building on some of the existing interventions already in place such as rice production in Lofa, Bomi, Nimba, and Sinoe counties; for vegetables production in Grand Bassa and Grand Gedeh Counties; while Grand Cape Mount and Bomi Counties have presence of private sector investment in oil palm production and processing. These ventures ought to natured and will provide case studies in government effort to expand and enhance such ventures to boost production and profitability of farming for the small-scale farmers
- g. One of the challenges to agricultural development is lack of extension support for the farmers. However, under the project, there will be provision to finance technical assistance, and business development services. Technical assistance will support the delivery of services to producer organizations, such as extension services, technology demonstration and transfer which will bring about improved production at farm level. At the moment, lack of extension services is one of the limiting factor to production in the areas of the project.
- h. The project in partnership with WAATP is envisaged to strengthen the Innovation Platforms where all value chain actors will be meeting to address challenges in their entrepreneurships and such developments will provide avenues for sharing ideas and skills;
- i. It is important to note that, STAR-P project will target poor STAR-P farmers and disadvantaged groups (such as the handicap, widows, the sick, and economically-inactive members of the community) who do not currently have access to either subsidized or market rate credit. As such, it is a deliberate and bold move by GoL to empower such groups by providing a one-time grant equivalent to the full cost of their asset subproject, to assist the targeted vulnerable groups to constitute an asset base for their income-generating activities;
- j. Project resources will also be allocated as grants to qualified SFGs for rehabilitation of existing and/ or construction of new productive physical infrastructure projects that will facilitate the process of smallholder farmer commercialization by promoting increased productivity, value addition and access to agricultural markets. The focus will be to facilitate repairs and sustenance of selected production infrastructure, such as farm service centres and rehabilitation of low land areas. The project will earmark investments for minor irrigation infrastructure creation and management on lowland (such as lift irrigation and tube-wells);



- k. The project will partner with Energy and Extractives Global Practice (E&E GP) of the Bank for supply of solar driven pumps, provision of farm light and link to existing hydro facilities. Limited tube-wells with pumping facilities will be provided in critical areas for high value produce such as rice and horticultural crops which will enhance production and efficient usage of water;
- l. STAR-P is earmarking resources towards organization of smallholder farmers into viable farmer groups and cooperative associations that will optimize capacity building and institution strengthening, so as to enhance their influence along their respective supply chains, increase their ability to create stronger market linkages, and better position them to influence government policy on agriculture;
- m. The project interventions of value addition will imply, the farmers will get good earnings from their farming which will improve livelihood at household levels;
- n. Horticultural interventions will improve supply of fresh and leafy vegetables which will have a double pronged advantage in terms of incomes to mainly women and youth but also improve nutrition at household with sources of vitamins;
- o. The project will provide employment opportunities through engaging labour in civil and infrastructure works which will translate to economic empowerment at household levels and improvement in livelihoods though it will on short-terms basis;
- p. Investments to support irrigation will enhance both water availability and efficiency usage in farming making farmers to be able to have more crop seasons in a year thereby guaranteeing household food security and income which translates to better livelihoods and poverty reduction in the communities. Irrigation aspects will not involve construction of dams but focus on water holding ponds and use of basic irrigation equipment to avail water to the fields;
- q. Furthermore, the project has plans to create enabling policy environment to accelerate agricultural transformation, connect production to markets and strengthen regional integration institutions. This is to be achieved through removal of barriers to cross-border trade in technologies and inputs, identifying products for which regional demand is growing, and strengthening the institutions at the regional level to provide backstopping for the reform process. These are all to be realized through strategic and deliberate re-orientation of policies, markets and institutional strengthening geared towards revitalization of agriculture; and
- r. The project will support the construction of satellite storage facilities to feed into the warehouse receipt system which is envisaged to address lack of post-harvest and storage equipment as well as in-appropriate marketing systems making agricultural smallholder producers vulnerable to middlemen especially during bumper harvests periods.

## **POLICY, AND LEGAL FRAMEWORK**

Regarding these, the applicable policies and laws are summarized below:

- a. ***National Environment Policy of Liberia (2002)***: whose goal is to ensure long-term economic prosperity of Liberia through sustainable social and economic development which enhances sustainable environmental quality and resource productivity;
- b. ***Land Administration Policy, 2015***: presents a framework for land administration in Liberia with a focus on the main features of good land administration and those pertaining to the identification, ownership, use, and valuation of land, as well as the identification of land and the determination of rights to the land;
- c. ***Land Rights Policy (2013)***: The Policy provides a framework for the management of land in Liberia. Covering public lands, government, customary lands; and
- d. ***The National Rice Development Strategy of Liberia (Republic of Liberia 2012a)***: Aims to improve food security and achieve self-sufficiency through the doubling domestic rice production by 2018.

## Liberian legal framework

- a. ***The Constitution of Liberia 1986:*** provides that, the Republic shall, consistent with the principles of individual freedom and social justice enshrined in the Constitution, manage the national economy and the natural resources of Liberia;
- b. ***Environmental Protection Agency (EPA) Act, 2003:*** creates EPA as the principal authority in Liberia for the management of the environment and shall co-ordinate, monitor, supervise all activities in the protection of the environment and sustainable use of natural resources;
- c. ***Environmental Protection and Management Law, 2003:*** forms the legal framework for the sustainable development, management and protection of the environment and natural resources by EPA in partnership with its stakeholders in Liberia; and
- d. ***EPA Regulations and Procedures:*** these Regulations combine both the assessment and environmental management systems and prohibit commencing an undertaking/activity without prior registration and Environmental Permit (EP) by the EPA.

## World Bank Safeguard Policies

The Project is rated as a category B type and triggers the following safeguard policies:

- a. ***OP 4.01 Environmental Assessment:*** STAR-P will support infrastructure development for storage of horticulture and rice storage facilities, rehabilitation of some laboratories in CARI as well as rehabilitation of farms/market roads which triggers this safeguard policy;
- b. ***OP 4.09 Pest Management:*** Smallholder agricultural transformation and revitalization activities will likely trigger this safeguard. Growing of horticultural crops as well as rice are increasingly becoming susceptible to pests and diseases attacks which will necessitate use of agro-chemicals;
- c. ***OP 4.12 Involuntary Resettlement:*** Though infrastructures to be improved in the project are existing (laboratories, farm roads), and much more, such as counties and local communities are offering lands for agro-processing and storage facilities, during implementation, such sites could have crops, or some roadside private trees could be affected. While exact locations of these interventions are yet to be identified, a separate Resettlement Policy Framework has been prepared as part of the project environmental and social safeguards preparation process for STARP.

## ESMF IMPLEMENTATION STRUCTURE

The Ministry of Agriculture (MoA) will have overall responsibility for execution of the Project. However, this role will be played in consultation with the other relevant stakeholders (ministries, departments and agencies) of the GoL. This is to ensure that project activities are consistent with national policies. The MoA will delegate responsibility for day-to-day implementation coordination at the national level to the existing Project Implementation Unit (PIU). The PIU is the STAR-P Management Team, which will be looking after the day-to-day STAR-P implementation. The small core team consisting of the Project Coordinator, M&E Officer, Accountant and Procurement Officer are already on board in the project preparation. This Team will be strengthened with the recruitment of additional technical staff (Environmental and Social Development Specialists) to give support to the project implementation. The PIU will be responsible for overall project planning, coordination, and technical implementation of the project. It is noted that, the Safeguards will equally support WAATP as well as such, the PIU in consultations with the Bank will agree on the recruitment of such staff and the sources of funds i.e. from which project will funds be accessed. Indicative roles and responsibilities with focus on the project implementation entity are provided in the table below.

**Table 1 Role and Responsibilities**

No	Steps/Activities	Responsible	Collaboration	Service Provider
1.	Identification and/or siting of the sub-project	Env. Specialist	<ul style="list-style-type: none"> <li>• local authority</li> <li>Project Beneficiaries</li> </ul>	CBOs
2.	Screening, categorization and identification of the required instrument (use the national EIA procedure)	Env. safeguards specialist (ESS) in the PCU	<ul style="list-style-type: none"> <li>• beneficiary;</li> <li>• local authority</li> <li>• Social Safeguards Specialist (SSS) on the PCU</li> </ul>	
3.	Approval of the classification and the selected instrument by the Public EA Agency	PCU Coordinator	<ul style="list-style-type: none"> <li>• ESS-PCU</li> <li>• SSS-PCU</li> </ul>	<ul style="list-style-type: none"> <li>• Public EA Agency (PEA)</li> <li>• The World Bank</li> </ul>
4.	Preparation of the safeguard document/instrument (ESIA, Env. Audit, simple ESMP, etc.) in accordance with the national legislation/procedure (considering the Bank policies' requirements)			
	Preparation and approval of the ToRs	ESS-PCU		• The World Bank
	Preparation of the report		<ul style="list-style-type: none"> <li>• Procurement specialist (PS-PCU)</li> <li>• SSS-PCU</li> <li>• Local authority</li> </ul>	• Consultant
	Report validation and issuance of the permit (when required)		<ul style="list-style-type: none"> <li>• Procurement specialist (PS-PCU)</li> <li>• SSS-PCU</li> <li>• Local authority</li> </ul>	<ul style="list-style-type: none"> <li>• Public EA Agency (PEA)</li> <li>• The World Bank</li> </ul>
	Disclosure of the document		Project Coordinator	<ul style="list-style-type: none"> <li>• Media;</li> <li>• The World Bank</li> </ul>
5.	(i) Integrating the construction phase mitigation measures and E&S clauses in the bidding document prior they're advertised; (ii) ensuring that the constructor prepares his ESMP (C-ESMP), gets it approved and integrates the relevant measures in the works breakdown structure	Technical staff in charge of the sub-project (TS-PCU)	<ul style="list-style-type: none"> <li>• ESS-PCU</li> <li>• PS-PCU</li> </ul>	<ul style="list-style-type: none"> <li>• Control Firm (Supervisor) PEA</li> </ul>

	(WBS) or execution plan.			
6.	Implementation of the other safeguards measures, including environmental monitoring (when relevant) and sensitization activities	ESS-PCU	<ul style="list-style-type: none"> <li>• SSS-PCU</li> <li>• PS-PCU</li> <li>• TS-PCU</li> <li>• Financial Staff (FS-PCU)</li> <li>• Local authority</li> </ul>	<ul style="list-style-type: none"> <li>• Consultant</li> <li>• National specialized laboratories</li> <li>• NGOs</li> </ul>
7.	Oversight of safeguards implementation (internal)	SSES	<ul style="list-style-type: none"> <li>• Monitoring and Evaluation specialist (M&amp;E-PCU)</li> <li>• FS-PCU)</li> <li>• Local authority</li> </ul>	• Control Firm (Supervisor)
	Reporting on project safeguards performance and disclosure	Coordinator	<ul style="list-style-type: none"> <li>• M&amp;E-PCU</li> <li>• ESS-PCU</li> <li>• SSS-PCU</li> </ul>	
	External oversight of the project safeguards compliance/performance	PEA	<ul style="list-style-type: none"> <li>• M&amp;E-PCU</li> <li>• ESS-PCU</li> <li>• SSS-PCU</li> <li>• PS-PCU</li> <li>• Supervisor</li> </ul>	
8.	Building stakeholders' capacity in safeguards management	ESS-PCU	<ul style="list-style-type: none"> <li>• SSS-PCU</li> <li>• PS-PCU</li> </ul>	<ul style="list-style-type: none"> <li>• Consultant</li> <li>• Other qualified public institutions</li> </ul>
9.	Independent evaluation of the safeguards performance (Audit)	ESS-PCU	<ul style="list-style-type: none"> <li>• SSS-PCU</li> <li>• PS-PCU</li> </ul>	• Consultant

The PCU, and any institution participating in the implementation, will not issue a Request for Proposal (RFP) of any activity subject to Environmental and Social Impact Assessment (ESIA), without the construction phase's Environmental and Social Management Plan (ESMP) inserted in, and will not authorize the works to commence before the contractor's ESMP (C-ESMP) has been approved and integrated into the overall planning of the works.

This entire section above, on the roles and responsibilities for the implementation of the Framework ESMP, will be insert in the E&S safeguards management section of the project implementation manual (PIM).

### Capacity Building for ESMF

For effective implementation of the ESMF for STAR-P there will be need for deliberate measures to ensure responsible agencies have the requisite capacity to effectively accomplish the roles assigned. There will be a need to build capacity of the National Steering Committee in terms of basic concepts of environmental mainstreaming covering issues such as:

- a. environmental screening;

- b. Introduction to World Bank on Environmental and Social Safeguards;
- c. EIA and ESMF requirements in Development Projects; and
- d. Environmental reporting.

This training can be delivered in form of half-day seminar basis.

On the other hand, there will be a need to support the capacity of County Environmental Inspectors and County Agricultural Officers. These categories will be trained in areas such as Environmental inspection and reporting as well as reporting formats. Climate Change and Climate Smart Agriculture concepts would be ideal to be introduced these levels since they are working closely with the communities and there is need to equip them with skills and expertise to assist the farmers on adaptations to climatic variability. Under the ESMF for WAATP it is proposed that, CARI be supported to put in place a state of art incinerator for management of hazardous chemical/laboratory wastes amongst other interventions. It is equally proposed that under WAATP, NAIDAL be supported to in its effort to champion registration of agro-dealers in the country. Likewise, PIU/PCU is to be supported through employment of two Specialists i.e. Environmental and Social Safeguards Specialist.

### **ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK-ESMF**

Locations and other details of the subprojects are yet to be defined at the time the project is being prepared for presentation to the Bank. In view of this, though the policy requires project impacts (environmental and social) to be assessed, given the nature of certain projects where site-and activity-specific impacts cannot be determined prior to the Decision Meeting, as required, the framework approach has become an acceptable way of satisfying EIA requirements for project preparation and approval, and subsequently EIA/ESMP may have to be prepared prior to project implementation. The ESMF sets out a mechanism for the assessment of the environmental and social impacts of all program sub-projects, and identifies in general the mitigation, monitoring and institutional measures to be taken during implementation and operation of the program to avoid, minimize or offset adverse environmental and social impacts. It also defines the procedures for conducting/preparing Environmental and Social Impact Assessments (ESIAs) and/or Environmental and Social Management Plans (ESMPs) for STAR Project as and when required.

### **Stakeholder consultations**

The consultant through the PIU prepared and agreed on a consultation plan and placed appointments with the stakeholders in Monrovia and around the counties where the project activities are to be implemented in the areas of Lofa, Nimba, Margibi, Bomi and Cape Mount areas. While at the counties, it provided opportunities for the consultant to meet farmers and also the settings in which value addition is to be undertaken. Stakeholders consulted included farmers of both oil palm, rice and vegetable, smallholder oil palm growers, women processors of palm oil, the youth, county council representatives. In Monrovia the meetings were held with the World Bank Senior Social Development Specialist, the Environmental Protection Agency (EPA), Ministry of Gender, Children and Social Protection (MoGCSP), Ministry of Agriculture (MoA), World Bank, Director General KARI, IITA Scientists, National Association of Agro-inputs Dealers (NAIDAL), Ministry of Lands and Ministry of Commerce and Industry (MoCI).

### **GRIEVANCE REDRESS MECHANISM**

The Grievance Redress Mechanism (GRM) will provide a way to provide an effective avenue for expressing concerns and achieving remedies for communities. The goal is to promote a mutually constructive relationship and enhance the achievement of project development objectives. The GRM is to ensure that complaints are directed and expeditiously addressed by the relevant agencies which is to enhance responsiveness and accountability. While a project-specific feedback and complaints mechanism is set up, the STAR-P will incorporate the existing grievance mechanism that uses the

chiefdom-based approach in areas of the project. The GRM will operate at several levels including at community/village level, district and county level, and at the level of the PIU. At the community, district and county levels, the GRM will strive to make use of existing and locally recognise grievance redress systems.

## PERFORMANCE INDICATORS FOR ESMF IMPLEMENTATION

ESMP implementation will be tracked by the following performance indicators:

- Evidence of screening at sub-project level as reflected by screening forms
- Records of existence of approved site-specific instruments (ESMP, ARAP, etc.), where necessary, prior to the commencement of activities requiring them such instruments
- Records of safeguards trainings/workshop on relevant safeguards topics, including pest and pesticide management and health and safety
- Evidence of the provision and use of required PPEs

## ESMF Budget<sup>1</sup>

A summary of the ESMF implementation budget is provided below in Table 2. The main activities to be undertaken have been itemized and costed.

Table 2 ESMF Budget

N <sup>o</sup> .	Item/Activity	Cost in USD
01.	Awareness and sensitization campaigns for farmers and communities	85,000
02.	Capacity building for County Agricultural and Environmental Officers (5N <sup>o</sup> . i.e. Bomi, Lofa, Nimba, Cape Mount and Margibi).	75,000
03.	Environmental Audits (2N <sup>o</sup> .) <sup>2</sup>	65,000
04.	Equipment and Facilitation of Environmental and Social Unit (vehicles, desks, computers) <sup>3</sup>	205,000
05.	Mitigation of environmental and social impacts in the projects (including subsequent Environmental Assessments for sub-projects)	350,000
	Environmental monitoring and follow up	25,000
<b>Total Budget Estimate for ESMF Implementation</b>		<b>805,000</b>

## ESMF DISCLOSURE

The disclosure is a requirement from the World Bank safeguard policies as well as from national environmental assessment procedures, and therefore the report will be available to project affected groups, local NGOs, and the public at large. The PMU will make copies of the ESMF available in selected public places as required by law for information and comments as well as in the media. The ESMF will be announced and published on an official Government website. EPA and PMU/MoA will upload the ESMF and other safeguards for STAR-P onto its website <https://www.MoA.go.ug/> and invite the public to access and review the documents. The PMU will also provide copies of the ESMF and the RPF and other safeguards documents in the project to the public in CARI from where the public can access it for any comments. The ESMF and RPF alongside other safeguards documents will be disclosed in the World Bank’s website and equally made accessible to the public.

## CONCLUSIONS

<sup>1</sup> Suggested that, most of the costs will be met through the IDA Credit facility for STARP.

<sup>2</sup> Two Environmental Audits are proposed i.e. one mid-way implementation and at the end of the project

<sup>3</sup> The 2 Specialists should receive salaries under WAATP while office facilitation could come from STARP

- a. Smallholder oil palm rehabilitation and rehabilitation is strongly to be undertaken on existing plantations and where expansion is deemed necessary, that should involve use of previous cultivated lands or fallow fields not, closed pristine natural forests;
- b. The effective implementation of the ESMF hinges on having in place, institutions that are staffed, equipped and facilitated. However, with reference to the PIU/PCU a number of related projects are being implemented and others in the pipeline and funded by either AfDB or World Bank. For instance, WAATP which being prepared shares a number of capacity building requirements with the STAR-P. It is suggested that, the PIU/PCU in consultations with MoA and the Bank will harmonize on how funds can be committed towards certain costs such as the hire of two Safeguards staff and related aspects which criss-cross without duplication of effort and resources;
- c. Smallholder agricultural enterprises to a large extent have a big involvement of the women in terms of cropping, harvesting, transportation and processing though at the end, it is clear, they in many cases do not fully benefit. The deliberate effort in STAR-P to mainstream gender dimension into all aspects of the project offers a window of opportunity for gender empowerment which should be keenly implemented; and
- d. The revitalization of smallholders' agriculture with a focus on rice, horticulture and oil palm amidst current weather variability implies there will be issues of pests and diseases on these crops which will be a challenge to their envisaged production and productivity, a situation already echoed by a cross-section of stakeholders. In addition, continued use of rudimentary technologies such as use of children to scare birds calls for alternate measures to address such production challenges, to enable the children enjoy their education rights as enshrined in the national laws, IFC Performance Standards and the ILO. All these implies amongst others, inevitable need for a Pest and Pesticides Management Plan as part of STAR-P safeguards documents with measures and alternate technologies of controlling pests and diseases in the target project commodities.

## 2 INTRODUCTION

### 2.1 BACKGROUND

The proposed project aims at promoting smallholder agriculture commercialization and improving access to markets through facilitating linkages with private sector firms in selected commodity value chains of Liberia. Efforts at commercialization of agriculture in Liberia have been constrained by lack of organization capacity of the producers, inadequate access to productive assets and modern technology and market access issues. The inputs market is not well organized and farmers lack the capacity and information to respond appropriately. The access of these farmers to assets and credit is limited and therefore constrains their ability to expand production, increase yield or engage in partnership with major players within value chains.

This project will promote productivity by strengthening existing farmers' organizations to enable productive business linkages between organized groups of smallholder farmers and selected agribusiness firms. This will be done across targeted value chains with focus on improving production system, the extension services, and enhanced opportunities for value addition and access to markets. The project will establish partnership with the private sector and entrepreneurs for effective forward and backward linkages with producers. New marketing channels will be explored including commodity off-take arrangements, contract farming, out-grower schemes etc. Agribusiness firms, Nucleus farms and MSME groups will be selected based on their innovative plans and experience working with organized farmers' groups or cooperatives.

### 2.2 PROJECT DEVELOPMENT OBJECTIVE-PDO

The Project Development Objective (PDO) is to increase agricultural productivity and promote commercialization of smallholder farmers through productive linkages between the farmers and the private agribusiness firms in selected value chains of Liberia. This objective will be achieved through support for interventions aimed at commercialization of smallholder agriculture and facilitating private sector investment in agribusiness by fostering productive business linkages between smallholder farmers and selected agribusiness firms, with capacity strengthened by private business service providers. Agribusiness firms, Nucleus farms and medium-and small-enterprises (MSME) groups will be selected on the basis of their innovative plans and experience working with organized farmers' groups or cooperatives. The project will aim at supporting a few commodity value-chains with significant potential for enhancing competitiveness and creating jobs through value addition and compliance to standards.

### 2.3 PROJECT BENEFICIARIES

This project will directly benefit a predetermined number of rural farmers<sup>4,5</sup> in production Counties for the targeted value chains, especially the rural poor and the disadvantaged groups who engaged in agriculture-related economic activities along the selected value chains out of which 40 percent will be women, youth and other marginalized groups. The project will by so doing specifically follow through the following interventions:

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<sup>4</sup> Number to be determined from the pending Baseline Survey

<sup>5</sup> The overall objective of the socio-economic baseline study is to obtain a set of benchmark measures for the most critical areas of intervention. The analysis will also capture the benefits that have been delivered to women by using gender-disaggregated indicators. The baseline survey will provide initial measurements of outcome/impact indicators. The survey will set targets per crop from the overall target that has already been set by the project. The study will also collect information in four communities in each district in the target counties including one project and non-project community



- a. Ensuring that the inclusion of up to 40% of the targeted women, youth and other marginalized groups are among the key criteria for selection of beneficiaries for the fund and matching grants;
- b. Ensuring that there is gender disaggregation in the key performance indicators so that women, youth and other marginalized groups are mainstreamed into the project activities during implementation; and
- c. Inclusion of a Gender Specialist, which will be cost shared with the WAATP in the PMU to champion gender mainstreaming in project activities.

Criteria for choice of farmer beneficiaries remain mainly smallholder farmers already in farmer cooperatives along selected value chains. Other beneficiaries include government agencies, agribusiness firms, MSMEs, other private operators and professional/semi-professional association operating in the project areas and willing to work with smallholder farmers to provide services necessary for the commercialisation of smallholder agriculture in Liberia. The counties with footprints of existing private sector participation in the selected commodity value chains will form the criteria for selection of Counties for the proposed project.

### 2.3.1 PDO LEVEL RESULTS INDICATORS

The project seeks to lay the basis for the transformation of the agricultural sector of Liberia with a long-term objective of improving food security, gaining access to markets and boosting incomes of smallholder farmers in selected value chains. It is anticipated that the interventions of the project would lead to the achievement of the following key results, namely increased yield, increased volume of sales, increased value addition, reduced postharvest losses and increased access to markets.

The key results expected from the proposed project are:

- a. Increase in the average yield of targeted commodities cultivated by direct project beneficiaries (Mt/Ha), disaggregated by gender;
- b. Increase in the quantity of output produced disaggregated by gender;
- c. Increase in the marketed volumes of production and values of commodities by producer organizations to agribusinesses, as percentage compared to baseline, disaggregated by gender;
- d. Increase in average real income of households of direct beneficiaries from project support activities;
- e. Total direct project beneficiaries (number), of which women and youth constituting its 40 percent (%).

In addition to these five (5) key PDO results indicators, the results framework will also measure selected related intermediate level results indicators for each of the components e.g. direct beneficiaries as farmers reached with agricultural assets or services; adoption of new technologies shown by farmers adopting improved agricultural technology; improved access to markets indicated by volume/ value of annual sales volume (Mt & US\$) for the targeted commodities, produced by the farmers' groups disaggregated by gender and sales to agribusiness firms and the open market; and percentage of the replacement value of the common assets used for income-generating activities of the farmer groups saved annually. The project will track gender sensitive indicators in order to determine the overall impact of the interventions on female farming households. One of such gender-focused indicators is a direct project beneficiary, 40% of which is female and youth population. A separate indicator will also cover citizen engagement on the project.

## 2.4 PROJECT DESCRIPTION

The proposed project aims at promoting smallholder agriculture commercialization and improving access to markets through facilitating linkages with private sector firms in selected commodity value chains of Liberia. Efforts at commercialization of agriculture in Liberia have been constrained by lack of organization capacity of the producers, inadequate access to productive assets and modern technology and market access issues. The inputs market is not well organized and farmers lack the capacity and information to respond appropriately. The access of these farmers to assets and credit is limited and therefore constrains their ability to expand production, increase yield or engage in partnership with major players within value chains.

This project will promote productivity by strengthening existing farmers' organizations to enable productive business linkages between organized groups of smallholder farmers and selected agribusiness firms. This will be done across targeted value chains with focus on improving production system, the extension services, and enhanced opportunities for value addition and access to markets. The project will establish partnership with the private sector and entrepreneurs for effective forward and backward linkages with producers. New marketing channels will be explored including commodity off-take arrangements, contract farming, out-grower schemes etc. Agribusiness firms, Nucleus farms and MSME groups will be selected based on their innovative plans and experience working with organized farmers' groups or cooperatives.

The project will work with selected private nucleus farms, agribusiness firms and MSME groups that are willing to incorporate productive linkage arrangements with smallholder farmers, as part of their overall long-term business plan. The project will assess the capacity building and finance needs of the agribusiness firms and MSME groups, to make them productive and competitive in their business activities since most of the agribusiness owners have weak business management capacity, coupled with low level of education. Matching grants will be provided for Agribusiness firms that have business linkages with smallholder farmers through market orientation, input facilitation or processing. The project will aim at supporting a few agricultural commodity value-chains with significant potential for enhancing competitiveness and creating jobs. While the project will aim at addressing production constraints, it will focus primarily on constraints affecting the overall value-chain performance, such as high aggregation costs, high processing and marketing costs, as well as quality issues. It will support skill development and financing modalities to facilitate jobs and entrepreneurship for rural farmers/youths with a focus on value chain segments.

Furthermore, the project will support public-investment type of activities aimed at building the capacity of smallholder farmers to meet the volumes and quality targets specified by agribusiness firms. This support will also include strengthening the policy and institutional capacity of government institutions responsible for providing public sector services and policy environments conducive for agribusiness development.

The project will target up to 3 value chains which were selected from the Diagnostic study supported by the World Bank and the Government of Liberia and the results from the Liberia Sector Scan study conducted jointly with IFC, and the T&C Unit of the World Bank. Coverage will be limited to Counties where the selected commodity value chains can be produced competitively and where there are existing and potential agribusiness and investors.

Based on their relative expected economic and development impact, including the ease (or lack thereof) of project implementation, oil palm, rice, cocoa, fisheries/ aquaculture, and horticulture, in that order,

ought to be prioritized for the proposed project<sup>6</sup>. The immediate consultation with the policy makers produced the position that the value chains of oil palm, rice and horticulture would certainly be incorporated into the project while a decision on one more value chain to be incorporated would be taken between fisheries/ aquaculture, rubber and cocoa<sup>7</sup>. In addition, the available data revealed strong private sector participation: for rice production in Lofa, Bomi, Grand Cape Mount, Grand Bassa, Monsterrado, Grand Gedeh, Nimba, and Sinoe counties, and for the downstream rice processing in Lofa, Monsterrado, Margibi and Grand Bassa Counties; for vegetables production in Grand Bassa and Grand Gedeh Counties; while Grand Cape Mount and Bomi Counties have presence of private sector investment in oil palm production and processing<sup>8</sup>. The outcome of the pending baseline survey will provide further information on further prune down of the commodity value chains to work with, if unavoidable, and which Counties to implement the project.

To achieve the aforementioned PDO, the project is structured around three (3) components: (i) Institutional Capacity Building for farmers, state and non-state organizations; (ii) Financial and Technical assistance for the enhancement of productivity and competitiveness; and (iii) Project Management, Monitoring and Evaluation

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## 2.4.1 PROJECT COMPONENTS

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### 2.4.1.1 COMPONENT 1: INSTITUTIONAL CAPACITY BUILDING FOR FARMERS, STATE AND NON-STATE ORGANIZATIONS

This component is designed to build the capacity of community institution, enhance capacities of the supply chains of selected agricultural commodities, and improve agricultural policy environment. It has two sub components:

#### 2.4.1.1.1 SUBCOMPONENT 1.1: STRENGTHENING EXISTING SMALLHOLDER FARMER-GROUPS FOR SELECTED COMMODITY VALUE-CHAINS

This sub-component will support the existing organization of smallholder farmers into viable farmer groups and cooperative associations that will optimize capacity building and institution strengthening, so as to enhance their influence along their respective supply chains, increase their ability to create stronger market linkages, and better position them to influence government policy on agriculture.

The targets are the existing farmers' groups and cooperatives from WAAPP and previous projects in Liberia that are partly functional but not well coordinated. Efforts will be made to strengthen these groups into STAR-P farmer groups (SFGs) and subsequently federated at a later stage into STAR-P Cooperative Associations SCAs) at the County level. The SFGs will be supported to prepare acceptable business plans, negotiate supply contracts with agro-service dealers and processing firms, and forge financial linkages with financial institutions. Project funds will also provide training for SFGs and SCAs on how to develop good and quality products for niche markets. SCAs will be empowered to identify, design and share infrastructure investment costs, use and maintain productive assets, formulate demand for advisory services.

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<sup>6</sup> See LIBERIA: Agriculture Commercialization & Agribusiness Development Sector-Scan Draft Report, WBG (Feb 2017)

<sup>7</sup> See AIDE-MÉMOIRE Republic of Liberia Follow-up Mission for the STAR-P June 26-29, 2017 (paragraph 3.3)

<sup>8</sup> See Preliminary Assessment of Private Sector Investment in major Agriculture Value Chains in Liberia: Focus on Rice, Horticulture and Oil Palm Commodity Value Chains (July 2017)

This component will also provide communication and information support within STAR-P and MoA as forms of institutional strengthening of producer groups/ its networks; market orientation; and institutionalization of market information system among others. The project will finance the design and implementation of the MoA communication programs and will also create opportunities to disseminate information about the project and its guidelines to potential beneficiary SFGs and private sector actors to enhance comprehension of the content of the project implementation manual by all key stakeholders – SFGs and agribusiness investors. The system will introduce the use of information technology by producer groups, cooperative associations and districts to increase transparency. Internet services will also be provided to connect communities to markets.

#### 2.4.1.2 SUBCOMPONENT 1.2: CAPACITY BUILDING/ INSTITUTIONAL SUPPORT FOR GOVERNMENT MDAS AND SELECTED NON-STATE INSTITUTIONS

This subcomponent will support capacity development for appropriate arms/agencies of government and selected non-state institutions mandated to support agricultural development. This will take forms of technical assistance, training, and equipment supplies, among others for participating Counties. The Counties will also be made to extend, built capacities and management support to SFGs through the SCAs on continual basis so as to enhance the sustainability of the project investments. There will also be capacity development for government ministries and agencies responsible for the promotion of agribusiness development in Liberia. Such support will be provided to the following institutions: MoA, Central Agriculture Research Institute (CARI), Liberia Business Association (LIBA), Cooperative Development Agency, Liberia Produce and Marketing Corporation (LPMC)/ Liberia Agriculture Commodity Regulatory Authority (LACRA), Ministry of Finance and Development Planning (Aid Management Unit) and the Ministry of Commerce and Industry (MoCI), etc.

The project will selectively support activities and services of these MDAs that are relevant to developing agribusiness in Liberia. In addition, the project will provide some funding for periodic policy dialogue between government, SFGs/SCAs, MSMEs and other important actors along the agricultural value chain.

The LATA delivery mechanism will also be strengthened including the extension services and the CDA County units. It will support capacity development and establishment of special delivery unit for LATA that will drive the policy and activities of LATA and provide the coordination mechanism of activities of MoA, MoCI and MFDP. This sub component will also strengthen county units of CDA to provide hand-holding for farmer-groups in formation of cooperatives, capacity building and effective link to the District administration. The project will provide for the role a Value Chain Coordinator for the selected value chains at the MoA.

#### 2.4.2 COMPONENT 2: FINANCIAL AND TECHNICAL ASSISTANCE FOR ENHANCEMENT OF PRODUCTIVITY AND COMPETITIVENESS<sup>9</sup>

The objective of this component is to sustainably increase agricultural productivity and competitiveness through matching grant support to farmers and agribusiness for increased investment in value chain segments and farmers linkage activities. This component will also finance productivity enhancing assets, new production technologies and small-scale infrastructure.

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<sup>9</sup> to differentiate between value chain financing in 2.1 & matching grants in 2.2

#### 2.4.2.1 SUBCOMPONENT 2.1: VALUE CHAIN FINANCING (VCF) AND TECHNICAL ASSISTANCE (TA) FOR PRODUCTIVITY ENHANCEMENT

This sub-component aims to improve smallholder farmer productivity, market access, and farm income by strengthening market linkages between smallholder farmers, organized in producer organizations, and agribusiness firms, and the public sector in targeted value chains. Stronger farmer-agribusiness linkages are important in addressing key inefficiencies along value chains, providing incentives and helping to manage risks that are essential in promoting inclusive growth. Project interventions will help to address critical market failures that persist in agricultural value chains including limited market access for farm produce; weak farm agribusiness linkages; irregular and inconsistent supply of farm produce to agribusinesses; limited access to affordable finance; inadequate skills and limited access to technology; and policy, institutional, and coordination failures. Strengthening linkages between farmers and agribusinesses will therefore create incentives for farmers to adopt new technologies and farm practices that can increase productivity as well as create market opportunities that contribute to boosting incomes of targeted beneficiaries and improving competitiveness of the agriculture sector.

The project will facilitate market linkages for existing farmer producer organizations by actively brokering offtake agreements among farmer producer organizations, MSMEs, and buyers of agricultural produce. Eligible producer organizations will be supported to develop business plans that will describe their capital needs, farm and value-added productive investments, and services to increase productivity, improve efficiency, and enhance market access. Eligible producer organizations will receive project support based on a competitive evaluation of business plans submitted in response to a call for proposals. Project financing for productivity and quality improvements will be designed to meet product specification determined by buyers. Project support for Technical Assistance and Business Development Services will aim to enhance the capacity of beneficiaries to improve their business operations, formulate, and implement business plans. Private Service providers, NGOs, and public-sector agencies will competitively bid to provide technical assistance and Business Development Services.

Project support will involve provision of financing for productive investments, technical assistance, and business development services. The productive investments here include support for production inputs, processing equipment, and other assets that can increase productive capacity, value addition, and marketing opportunities of the producer organization. Technical assistance will be used to deliver services to producer organizations, such as extension services, technology demonstration and transfer. Business development services will include support for managing farming as business, accounting, and financial services. Agribusiness MSMEs will also be able to participate in off-take agreements, value addition and market opportunities.

In addition, the project will provide technical assistance to build the capacity of producer organizations, including upgrading their governance, management, and negotiation skills to deal with buyers and agribusiness firms. A competitive matching grant scheme will be established to provide financing to eligible producer groups, cooperatives and agribusiness MSMEs. The matching grant will finance investments in productivity enhancing activities, such as farm inputs, technology acquisition and upgrade, infrastructure, implementation of innovative business practices and acquisition of technical, business, and managerial skills. The matching grant facility will be implemented by the PIU with additional support from consulting firm or NGO with grant management experiences.

#### 2.4.2.2 SUBCOMPONENT 2.2: MATCHING GRANTS FOR FBO ASSETS AND RELATED MARKET INFRASTRUCTURE

The objective of this subcomponent is to facilitate the enhancement of competitiveness of the selected commodity value chains in the market. Matching grants will be utilized to support investment in a package of inputs, advisory services, assets and market infrastructure from the business plans of the farmers' organization. STAR-P Farmer Groups (SFGs) and Processor Groups (SPGs), will be empowered to undertake initiatives that will assist them to increase value added products and reduce post-harvest losses. For the economically active producer groups (SFGs and SPGs), who constitute the majority of beneficiaries, the Project will contribute 70% of the total cost of the desired subproject, while the beneficiaries will make a 30% contribution to be paid up front. This sub-component will also place substantial emphasis on supporting the expansion of economic opportunities for women and youths. Advisory services will also be supported to increase the adoption of new technologies by beneficiaries of the STAR-P.

This sub-component will finance the acquisition of advisory services and new improved production inputs through matching grants as a means of partly addressing the failures of the financial and credit markets in the Liberian agriculture sector. Firstly, this subcomponent will co-finance the procurement of advisory services from certified and registered service provider by SCAs, to transfer technical know-how on proper use of production inputs. Beneficiary SFGs are expected to make 10 percent of the cost of procuring advisory services counterpart contribution. Secondly, the facility will be used to enhance the financial capacity of STAR-P farmers/ SFGs to purchase improved production inputs (such as seeds, fertilizers, and agro-chemicals).

Under this sub-component, STAR-P farmer/ SFGs will receive matching grants equivalent to 50% of the purchase price of new technologies for a maximum period of two years. Confirmation by the Project of the deposit of the counterpart contribution of 50% by the beneficiaries into the Project Account is required before actual procurement of advisory service or improved input.

This sub-component will partner with WAATP to strengthen the "Innovation Platforms" where all value chain actors meet to address challenges and initiate contractual arrangements. The beneficiaries will be linked to these Platforms and skill training schemes will be developed and provided. In addition, this project will target poor STAR-P farmers and disadvantaged groups (such as the handicap, widows, the sick, and economically-inactive members of the community) who do not currently have access to either subsidized or market rate credit. At least 50 percent of funds provided under this subcomponent will be given to targeted vulnerable groups. Furthermore, the project will provide a one-time grant equivalent to the full cost of their asset subproject, to assist the targeted vulnerable groups to constitute an asset base for their income-generating activities.

Project resources will also be allocated as grants to qualified SFGs for rehabilitation of existing and/ or construction of new productive physical infrastructure projects that will facilitate the process of smallholder farmer commercialization by promoting increased productivity, value addition and access to agricultural markets. This sub-component will facilitate repairs and sustenance of selected production infrastructure, such as farm service centers and rehabilitation of low land areas. The project will earmark investments for minor irrigation infrastructure creation and management on lowland (such as lift irrigation and tube-wells). The project will partner with Energy and Extractives Global Practice (E&E GP) of the Bank for supply of solar driven pumps, provision of farm light and link to existing hydro facilities. Limited tube-wells with pumping facilities will be provided in critical areas for high value produce such as rice and horticultural crops.

Under this sub-component, funding will also be provided for the restoration of selected postharvest infrastructure (aggregation centers, ware houses, storage silos, etc.); provision of postharvest equipment

( Rice Planters, seeders, harvesters, tractors, par boilers, etc); construction and maintenance of transportation infrastructure (feeder and access roads, culverts, and small bridges); and repairs and improvising of necessary processing infrastructure (seed processor, crop processing facilities, etc.). Funding principles will be 90% grants and up to 10% of the investment costs (in cash or in materials and labor) as counterpart contributions by producer associations in the community.

#### 2.4.2.3 SUBCOMPONENT 2.3: SUPPORT TO MSMES

This subcomponent aims at providing matching grants and technical assistance to competitively support MSMEs to mitigate risks of adoption of new technologies on production lines with substantial benefits to the smallholder farmers. Technical Assistance and Business Development Services will be provided to enhance the capacity of beneficiaries to improve their business operations, formulate, and implement business plans. The competitive matching grant scheme will be established to provide financing for investment in productivity enhancing activities. These will include technology acquisition and upgrade, infrastructure, implementation of innovative business practices and acquisition of technical and business skills. It is also anticipated that the matching grant will be used by the MSMEs to leverage financing from commercial bank lending. The combination of Technical Assistance and financing will be used to boost their productivity and increase market access.

#### 2.4.3 COMPONENT 3: PROJECT MANAGEMENT, MONITORING AND EVALUATION

**Overall Institutional set-up.** The MoA is responsible for the overall coordination of the STAR-P in Liberia. In continuity with WAAPP, the MoA entrusts the overall coordination of project implementation to the PMU through the Project Implementation Unit (PIU). The five-key staff (Project Coordinator, Accountant, M&E Officer, Communication Officer and Procurement Officer) will be recruited under the PPA to enable the project to accelerate its start-up. Other positions that would be needed within the project will be filled at project implementation start.

**The Ministry of Finance and Development Planning** will transfer the proceeds of the grant necessary for Project execution to the PIU: the STAR-P Implementation Unit (PIU) will be responsible for the day-to-day coordination and management, procurement, M&E, reporting, assessment of impacts, and systematic analysis of lessons learned of the project.

**Programmatic harmonization:** Coordination within agricultural sectoral programme (Programme Management Unit - PMU). The PMU houses all agriculture donor projects and serves as the supervisory structure for all projects in the sector. It coordinates and hosts National Steering Committee Meetings, project coordination meetings and reports to the Minister of Agriculture. The PMU facilitates and oversees the implementation of agriculture projects in line with approved agriculture policies and procedures of the GoL, the IFIs and other partners. As the facilitator for project implementation in the MoA, the functions of the PMU include: (i) Aid Coordination, (ii) Program Management, (iii) Investments and Procurement Coordination, and (iv) Sector Management Capacity Building.

#### 2.4.4 PROJECT ACTIVITIES THAT ARE LIKELY TO TRIGGER SAFEGUARDS POLICIES

- a. Rehabilitation of existing and/or construction of new productive physical infrastructure projects that will facilitate the process of smallholder farmer commercialization by promoting increased productivity, value addition and access to agricultural markets;
- b. Repairs and sustenance of selected production infrastructure, such as farm service centres and rehabilitation of low land areas;
- c. Investments in minor irrigation infrastructure creation and management on lowland (such as lift irrigation and tube-wells);

- d. Limited tube-wells with pumping facilities to be provided in critical areas for high value produce such as rice and horticultural crops;
- e. Restoration of selected post-harvest infrastructure (aggregation centres, ware houses, storage silos, etc.);
- f. Provision of post-harvest equipment (rice planters, seeders, harvesters, tractors, par boilers, etc.);
- g. Construction and maintenance of transportation infrastructure (feeder and access roads, culverts, and small bridges); and
- h. Repairs and improvising of necessary processing infrastructure (seed processor, crop processing facilities, etc.).

## 2.5 PREPARATION OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

### 2.5.1 NEED FOR AN ESMF

Locations and other details of the subprojects are yet to be defined at the time the project is being prepared for presentation to the Bank. In view of this, the policy requires project impacts (environmental and social) to be assessed. However, given the nature of certain projects where site-and activity-specific impacts cannot be determined prior to the Decision Meeting, as required, the framework approach has become an acceptable way of meeting EIA requirements for project preparation and approval, and subsequently, Environmental Impact Assessment (EIA)/ESMP may have to be prepared prior to project implementation. The ESMF sets out a mechanism for the assessment of the environmental and social impacts of all program sub-projects, and identifies in general the mitigation, monitoring and institutional measures to be taken during implementation and operation of the program to avoid, minimize or offset adverse environmental and social impacts. It also defines the procedures for conducting/preparing Environmental and Social Impact Assessments (ESIAs) and/or Environmental and Social Management Plans (ESMPs) for STAR Project as and when required.

### 2.5.2 PURPOSE OF ESMF

Because specific projects to be prepared using STAR-P funds will only be fully identified after completion of the Project Appraisal Document (PAD), an ESMF is deemed necessary to give an overall guide on how potential environmental and social issues in the project are to be addressed. The purpose of this ESMF is to ensure that, anticipated environmental and social impacts of the project are flagged such that, subsequent preparatory studies in this project take cognizance of them and mainstream them as part of the thematic preparation requirements and obligations.

It also identifies measures to avoid and minimize environmental and social impacts, as much as possible, and where they cannot be avoided, the impacts are adequately identified/assessed and necessary mitigation measures designed and implemented following relevant EPA's environmental legislations and the World Bank's safeguards policies.

During implementation of the project, project activities with potential safeguard issues will be screened to determine the scope and types of safeguards instruments that would be required. Depending on the activities, appropriate environmental assessments will be undertaken in consultations with EPA and World Bank. It is important to note that, there will be no need for a full environmental assessment taking into account, the current scope of proposed project activities which make STAR-P to be a category B type (i.e. projects whose impacts are largely small-scale, localized and of short-term nature).



This ESMF identifies the responsibilities of project stakeholders, procedures for environmental and social safeguards screening, review and approval, monitoring and reporting requirements, as well as plans to enhance institutional capacity. It also offers sample terms of reference for carrying out EIAs amongst others. It also serves as an environmental and social safeguards instrument to provide the framework to both the relevant government agencies and private partners for preparing and implementing infrastructure projects.

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### 2.5.3 ESMF PREPARATION METHODOLOGIES

This report was prepared on the basis of a comprehensive assessment of potential environmental and social impacts related to, or as a consequence of the proposed project.

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#### 2.5.3.1 INCEPTION REPORT PREPARATION

The Inception Report was the first deliverable in terms of the contractual arrangement for the assignment. In that regard, the Inception Report outlined:

- a. the methodology and modalities for carrying out the assignment including undertaking initial consultations with the client;
- b. work plan;
- c. organization; and
- d. schedules and logical framework for executing the assignment among others.

It also indicated the tentative schedule of planned activities, the milestones of the study, and the assignation of roles and responsibilities. It is therefore important for the client to review it carefully and provide feedback so as to complete the assignment within the desired timeframe. Once the Inception Report was approved by the Client, it served as the working guide on agreed road map for the actual execution of the assignment.

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### 2.5.3.2 REVIEW OF SECONDARY DATA

The study involved conducting a review of studies and reports on a range of secondary data as follows amongst others:

- a. Draft ToRs for a consultancy for preparation of ESMF for the STAR-P;
- b. Liberia: Agriculture Commercialization & Agribusiness Development Sector-Scan Draft Report, WBG (February, 2017);
- c. Environmental & Social Management Framework (ESMF) for Liberia Land Administration Project (LLAP), June 2017 under Liberia Land Authority;
- d. Draft STAR-P Project Concept Note (PCN) of January, 2017;
- e. Liberia Environmental Policy Requirements and Environmental Protection Agency Act;
- f. EPA EIA Regulations and Procedures; and
- g. The World Bank Operational Safeguards Policies were reviewed to understand those that will be triggered by the project and their requirements incorporated into the ESMF.

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### 2.5.3.3 STAKEHOLDER CONSULTATIONS

The Consultant conducted stakeholder consultations and details are provided under Section 6 of this ESMF.

### 3 BASELINE DESCRIPTION

#### 3.1 BIO-PHYSICAL ENVIRONMENT

##### 3.1.1 COUNTRY PROFILE

The Republic of Liberia is located at latitudes 4°21' N and 8°33' N of the equator and longitudes 11°28'W and 7°32'W. Liberia covers a surface area of 111,369 km<sup>2</sup>, and is located entirely within the humid Upper Guinean Forest Ecosystem in West Africa on the Atlantic Coast. Liberia is divided into a hierarchical arrangement of political jurisdictions consisting of 15 counties, 136 districts arrayed within counties, and numerous clans arrayed within districts (Figure 1). Individual counties comprise from 4-18 districts and varying numbers of clans. The six largest counties (7,770 km<sup>2</sup>) are: Nimba County-11,551 km<sup>2</sup>; Lofa County, 9,982 km<sup>2</sup>; Gbarpolu County-9,953 km<sup>2</sup>; Sinoe County 9,764 km<sup>2</sup>; Bong County-8,754.0 km<sup>2</sup>; and Grand Bassa County-7,813.7 km<sup>2</sup>. Other counties range in surface area from 1,880 km<sup>2</sup> (Montserrado County) to 5,663 km<sup>2</sup> (Rivercess County).



Figure 1: Map of Liberia showing counties and administrative set up<sup>10</sup>

##### 3.1.2 SOILS

Large areas of Liberia (75%) are Ferralsols that are highly weathered soils with low fertility and low capacity to retain nutrients. They are suitable for surface farming techniques and provide valuable materials for road construction. They are well-drained with good physical structure; their deep rooting

<sup>10</sup> Draft ESMF for WAATP MoA, Liberia 2018

depth makes up for their relatively low water-holding capacity. Acrisols are less weathered than Ferralsols but still low in mineral nutrient reserves. The presence of a subsurface layer of clay accumulation may impede internal drainage and makes them more susceptible to erosion. These soils have high humus content and suitable for cultivation of swamp rice, with proper water management.

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### 3.1.3 CLIMATE

Liberia's climate consists of two separate climate regimes: the equatorial climate regime restricted to the southernmost part of Liberia, where rainfall occurs throughout the year, and the tropical regime dominated by the interaction of the Inter-tropical convergence zone (ITCZ) and the West African Monsoon. The tropical climate of Liberia is hot and humid throughout the year with little variation in temperature (mean daytime temperatures 27<sup>0</sup>-32<sup>0</sup>C; mean nighttime temperatures 21<sup>0</sup>-24<sup>0</sup>C). There are two distinct seasons in Liberia, dry (Nov.-May) and wet (May-Oct.). Annual rainfall amounts are 4000-5000 mm along the coastal belt, declining to 1300 mm at the forest-savanna boundary in the north. The seasonal variation in rainfall has a critical influence on the vegetation. Liberia exhibits a fairly high average relative humidity throughout most of the year ranging from above 80% along the coastal belt with lower humidity in the interior portion of the country.

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### 3.1.4 LAND COVER AND VEGETATION

Liberia is situated within the Upper Guinean Forest that extends from Guinea at the northwestern extreme to the eastern limit in Cameroon. The Upper Guinean Forest is fragmented and Liberia is estimated to account for more than half of West Africa 's remaining Upper Guinean tropical forest. The climax vegetation over most of Liberia is forest, which covers about 4.39 million hectares or 45% of Liberia's land area. The most recent forest classification included 2.42 million hectares of closed dense forest, 1.02 million hectares of open dense forest and 0.95 million hectares of degraded forest.

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## 3.2 SOCIO-ECONOMIC ENVIRONMENT

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### 3.2.1 POPULATION

The estimated population of Liberia is 3.440 million people (36 individuals/km<sup>2</sup>), a 65% increase since 1984. Liberia's population growth rate in 2008 was estimated to be 5.3% and is expected to decline to 2.1% by 2025. Net migration is positive as a result of immigration from surrounding countries that have also experienced political unrest. The major coastal cities, which also include major population centers are: Monrovia, the capital and largest city in the country. An estimated 58% of the population of Liberia lives along the coast.

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### 3.2.2 POPULATION DENSITY

According to USAID 2013<sup>11</sup>, the highest concentration of population occurs in and around coastally located Monrovia, the capital of the country, including Montserrado and nearby counties. Montserrado County has 595 individuals/km<sup>2</sup>, and nearby Margibi County has 78-individuals/ km<sup>2</sup>, Bomi County, 44 individuals/ km<sup>2</sup>, Bong County, 38 individuals/ km<sup>2</sup>, and Grand Bassa County, 28-individuals/ km<sup>2</sup>, which includes the seaport Buchanan. Other counties with moderate to high relative population densities include: Maryland County (59 individuals/km<sup>2</sup>) which includes the coastal city of Harper in the extreme southeast, bordering Côte d'Ivoire; north central Nimba County (40 individuals/km<sup>2</sup>), bordering Guinea and Côte d'Ivoire; Lofa County (72 individuals/km<sup>2</sup>) in the west, bordering Sierra Leone; and Grand Cape Mount County (27 individuals/km<sup>2</sup>) in the northwest, which includes the coastal city of

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<sup>11</sup> USAID 2014: *Liberia Climate Change Assessment Report*

Robertsport and borders Sierra Leone and Guinea. The remaining 6 counties have densities  $\leq 15$  individuals/km<sup>2</sup>.

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### 3.2.3 FOOD SECURITY STATUS

In Liberia, most rural households are food insecure, meaning that they lack access at all times of the year to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life. Nationally, 80% of the rural population was either moderately vulnerable (41%) or highly vulnerable (40%) to food insecurity (GoL 2007). Different rural livelihood profiles provide differing degrees of food security; the most food insecure groups were those involved in palm oil production and trade followed by hunters and contract laborers.

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### 3.2.4 LIFE EXPECTANCY

Other health indicators are also poor: average life expectancy at birth is 58 years (2013); infant mortality is 70 deaths per 1,000 live births (2013); and, maternal mortality rate is 770 deaths per 100,000 live births (2010). HIV prevalence among adults aged 15-49 years is 1.5% (2009). Adult literacy rates average 61% (2010). Poverty and underdevelopment are not the only challenges. Liberia emerged from its protracted civil war as a deeply divided country, its social fabric torn by ethnicity, religion, geography, and history. There are 16 ethnic groups, and Christianity (85%), Islam (12%), and indigenous religions (3%) are practiced.

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### 3.2.5 SIZE OF HOUSEHOLD POPULATION

On average, household size is 5.6 persons, with the proportion of female-headed households varying from 5% in Bomi County to 21% in Lofa County, the area most heavily and continually affected by violence during the conflict (USAID, 2014). The effects of the conflict are evident as well in the spatial distribution of disabled people as a percentage of the population.

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### 3.2.6 AGRICULTURE

Liberia's agriculture sector is forest based. Dominated by traditional subsistence farming systems mainly in the uplands, the farming is characterized by labor intensive, shifting cultivation, low technologies and low productivity. Rice and vegetables occupy about 87% of the cultivated land. Small acreages of tree crops are maintained for generating cash income. Commercial agricultural activities are almost exclusively carried out on plantation estates of rubber, oil palm, coffee and cocoa, the latter two are produced exclusively for export, with little value addition done for rubber and oil palm. Besides the plantation estates, very little private sector investment has been made in the agriculture sector, except for limited commodities trading which has persisted over the years.

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#### 3.2.6.1 RICE PRODUCTION IN LIBERIA

Rice is the primary staple food of most of Liberia's 4.3 million people. It is produced by 71% of the estimated 404,000 farm families predominantly on the uplands where traditional technology of slash and burn shifting cultivation remains largely unchanged. Annual per capita consumption of rice in Liberia is estimated to be 133kg, one of the highest in Africa. In 2016, rice was cultivated over a land area of 251,230ha. With an average yield of 1.1 t/ha, the total domestic rice production was estimated to be about 296,090 metric tons. The demand for rice in Liberia is however far higher than the domestic production. The import bill for rice has steadily grown from US\$25 million in 1990 to US\$58.4 million in 2006, US\$70.9 million in 2007 and approximately US\$200 million in 2008. Interventions to increase rice production in Liberia therefore could have multiple socio-economic effects both within rural livelihood and between various livelihoods.



**Figure 2: Rice production in Liberia<sup>12</sup>**

### 3.2.6.2 DEMAND OF RICE PROJECTIONS

In Liberia, a majority of the locally produced rice is pounded and/or milled by farmers and consumed by the smallholder farm families<sup>13</sup>. The reliance of consumer markets on imported rice constantly strains the overall trade balance of the country. In Liberia, rice is presently produced over a period of about 6 months in the upland environments. By cultivating a single crop per annum in lowland rain-fed and lowland irrigated rice farming areas, Liberia will be able to achieve rice self-sufficiency by 2018. However, by intensifying production Liberia can reach rice self-sufficiency with a projected annual surplus of 172,000 metric tons being obtained by 2018 (Figure 3 and Table 1). This clearly shows that, if rice demand is to be met through local production, both the productivity level and area under rice cultivation needs to be raised significantly.

<sup>12</sup> Ministry of Agriculture Monrovia 2012: *National Rice Development Strategy of Liberia Doubling Rice Production by 2018*

<sup>13</sup> U SAID (August 2009) *Global Food Security Response Liberia Rice Study, REPORT N°.157*

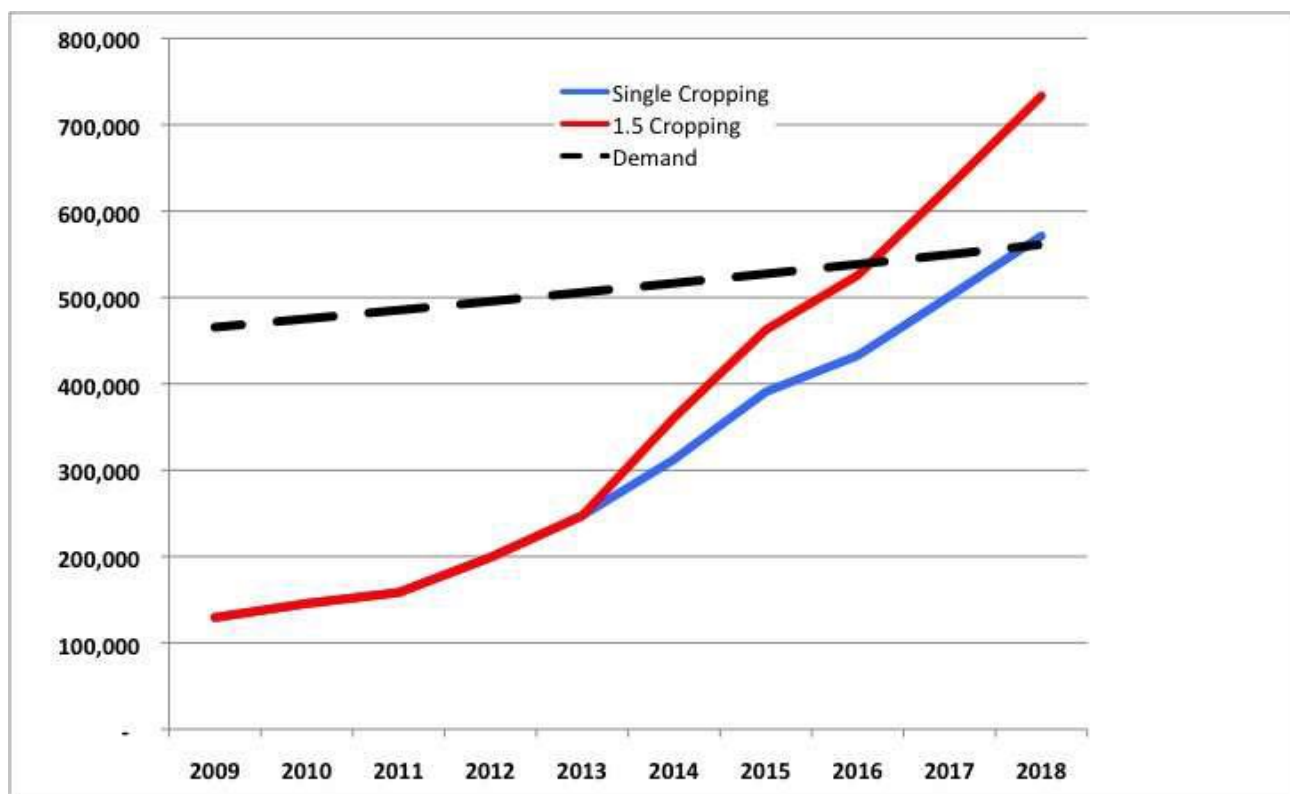


Figure 3: Rice production and demand (MT) projections 2009–2018, showing two production scenarios

Table 3: Rice Production Based on Area and Yield on area and Yield in 2008/2009 and 2018 Targets in Future by Production Systems <sup>14</sup>

Year	Upland			Lowland Rain-fed			Irrigated Lowland			Total Production	Milled Equivalent (MT)	Demand Milled (MT)
	Area (Ha)	Yield (MT/Ha)	Production (MT)	Area (Ha)	Yield (MT/Ha)	Production (MT)	Area (Ha)	Yield (MT/Ha)	Production (MT)			
2009	190,000	0.90	171,000	20,000	1.2	24,000	2,000	2.0	4,000	199,000	129,350	465,500
2010	190,000	0.95	180,500	22,000	1.5	33,000	5,000	2.1	10,500	224,000	145,600	475,276
2011	190,000	0.95	180,500	24,000	2.0	48,000	6,000	2.5	15,000	243,500	158,275	485,256
2012	190,000	1.20	228,000	26,000	2.2	57,200	7,000	3.0	21,000	306,200	199,030	495,447
2013	190,000	1.50	285,000	27,000	2.5	67,500	8,000	3.5	28,000	380,500	247,325	505,851
2014	190,000	1.75	332,500	34,500	2.5	86,250	15,500	4.0	62,000	480,750	312,488	516,474
2015	190,000	2.00	380,000	42,000	2.8	117,600	23,000	4.5	103,500	601,100	390,715	527,320
2016	190,000	2.00	380,000	49,500	3.0	148,500	30,500	4.5	137,250	665,750	432,738	538,394
2017	190,000	2.00	380,000	57,000	3.2	182,400	38,000	5.5	209,000	771,400	501,410	549,700
2018	190,000	2.00	380,000	64,500	3.5	225,750	45,500	6.0	273,000	878,750	571,188	561,244

### 3.2.6.3 GENDER DIMENSION OF LIBERIA'S AGRICULTURE SECTOR

As in most African countries, there is a clear division of labor between men and women in agriculture in Liberia. It is estimated that almost 43% of the labor for food crops production is supplied by women. Whereas men represent 35% of general agriculture labor force. However, women contribute 36% of the total labor in rice and cassava production. While women do most of the weeding and harvesting of rice crop, the men provide most of the labor for clearing and preparing the land.

<sup>14</sup> Ministry of Agriculture Monrovia 2012: National Rice Development Strategy of Liberia Doubling Rice Production by 2018

Men and women also have clearly defined socio-economic roles. On an average, 33% of household income is jointly generated by men and women. About 33% and 16% of the household incomes are generated exclusively by men and women respectively. An additional 5% is generated by women with the support of children, and 10% jointly by all household members. About 6% of food crops are produced only by men, whereas 8% of the food crops are produced only by women. About 57% of the food crops are produced jointly by women and men.

In contrast however, about 22% of cash crops income is produced by men only, and only 5% by women only. Women and men jointly produce 49% of cash income. Besides in production, women are the dominant actors in processing and marketing of farm produce. About 50% of rural women in Liberia are actively engaged in agro-processing, compared to only 25% of rural men. In addition to agro-processing, women are clearly the dominant actors in marketing and trading of agricultural produce in the country, comprising 80% of all actors in this area and accounting for the majority of micro creditors in rural and urban areas. Given the important role of women in agricultural and rural development in Liberia, it is not surprising that current policies on gender harmonization place emphasis on removing barriers to women's participation in development efforts.

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#### 3.2.6.4 WOMEN ACCESS TO LAND

Despite their significant role in the agricultural sector, women face numerous constraints in the agriculture value chain, especially their lack of access to land. This represents one of the key constraints in rural areas that undermines women's contribution to agricultural growth and rural development, making them more vulnerable to poverty. Men have more access than women to cultivable lands (33% men versus 16% women) on an individual basis. In general, only about 56% of female headed households have access to land. Other constraints for women include less access to almost all forms of agricultural inputs and technologies, limited access to farm tools, limited access to agricultural extension services. Since extension workers generally tend to exclusively focus on male farmers for crop support services, women have limited access to new technologies. Extension services provided to women have focused mostly on nutrition and food security issues and, thereby, neglected the commercial aspect of agriculture. Given the strategic importance of women in national development, especially agricultural development, the GoL places greater importance on equitable access to resources and opportunities.



## 4 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

This section reviews the national policies, regulations, procedures and legal provisions relating to the environment and social issues in development interventions. The reviews have been made against the World Bank safeguards policies' requirements as well as Liberian applicable laws/policies as summarized below:

### 4.1 LIBERIA ENVIRONMENTAL POLICY REQUIREMENTS

#### 4.1.1 NATIONAL ENVIRONMENT POLICY OF LIBERIA (2002)

The policy goal is to ensure long-term economic prosperity of Liberia through sustainable social and economic development, which enhances environmental quality and resource productivity on a long-term basis, that meets the requirements of the present generation without endangering the potential of future generations to meet their own needs.

#### 4.1.2 LAND ADMINISTRATION POLICY, 2015

The Land Administration policy presents a framework for land administration in Liberia. It focuses on the main features of good land administration and those pertaining to the identification, ownership, use, and valuation of land, including information on all lands, as well as the identification of land and the determination of rights to the land, recording of those rights, valuation of land and the management of government and public land, coordination of land use planning, the establishment of the institutional framework at central and local government levels to carry out this mandate.

#### 4.1.3 LAND RIGHTS POLICY (2013)

The Policy provides a framework for the management of land in Liberia as follows:

- a. Public Lands – lands designated for future use; managed in the public interest; and owned by a community and used/managed in accordance with customary practices of an area;
- b. Government Lands: land owned by the Government and used for the buildings, projects, or activities of the Government;
- c. Customary Lands: land owned by a community and used or managed in accordance with customary practices and norms. Customary Land rights, including the rights of ownership, use or management, are equally protected as Private Land rights, whether or not the community has self-identified, established a legal entity, or been issued a deed; and
- d. Private Lands: land owned by an individual or private entity, in which management and use decisions are based solely on formal law, where the owner enjoys the full land rights, which include; use and possession, own natural resources on the land, and to transfer all or some of the rights through sale, lease, concession, gift, donation, will, or any other lawful means.

#### 4.1.4 THE NATIONAL RICE DEVELOPMENT STRATEGY OF LIBERIA (REPUBLIC OF LIBERIA 2012A)

Aims to improve food security and achieve self-sufficiency through the doubling domestic rice production by 2018. Rice is a staple cereal crop in Liberia with great social and political significance. Demand far exceeds local production, however, which requires high imports and affects the country's trade balance and foreign exchange.

#### 4.1.5 NATIONAL ENVIRONMENTAL AND OCCUPATIONAL HEALTH POLICY, 2010

In relation to the STAR-P, the main objectives of the National Environmental and Occupational Health Policy is to assess the working conditions in major work places, establish data base, plan and implement workers’ wellness programs, for the purpose of protecting and promoting health in the workplace for all workers in Liberia, to provide guidelines and standards for the effective implementation and rendering of occupational health services.

## 4.2 LIBERIAN LEGAL FRAMEWORK

### 4.2.1 THE CURRENT CONSTITUTION OF LIBERIA 1986

The Constitution provides that, The Republic shall, consistent with the principles of individual freedom and social justice enshrined in the Constitution, manage the national economy and the natural resources of Liberia in such manner as shall ensure the maximum feasible participation of Liberian citizens under conditions of equality as to advance the general welfare of the Liberian people and economic development of Liberia.

### 4.2.2 ENVIRONMENTAL PROTECTION AGENCY (EPA) ACT, 2003

The Act creates the EPA as the principal authority in Liberia for the management of the environment and shall co-ordinate, monitor, supervise and consult with relevant stakeholders on all activities in the protection of the environment and sustainable use of natural resources. Part III of the 2003 Law establishes a fairly comprehensive framework for EIA, including procedures and substantive standards for the approval and rejection of projects. It also provides for public participation and procedures for appeals against EPA decisions.

### 4.2.3 ENVIRONMENTAL PROTECTION AND MANAGEMENT LAW, 2003

The law forms the legal framework for the sustainable development, management and protection of the environment and natural resources by the EPA in partnership with relevant ministries, autonomous agencies and organizations as well as in a close and responsive relationship with the people of Liberia. It addresses a wide range of environmental issues including EIAs amongst others in development projects.

## 4.3 EPA REGULATIONS AND PROCEDURES

The EPA Regulations combine both assessment and environmental management systems. The regulations prohibit commencing an undertaking/activity without prior registration and Environmental Permit (EP). Undertakings are grouped into schedules for ease of screening and registration and for the EP. The schedules include undertakings requiring registration and, EIA mandatory undertakings (Schedule 2), as well as Schedule 5-relevant undertakings. The Regulations also define the relevant stages and actions, including: registration, screening, Preliminary Environmental Assessment (PEA), Scoping and Terms of Reference (ToRs), EIA, review of EA reports, public notices and hearings, environmental permitting and certification, fees payment, ESMP, suspension/revocation of permit, complaints/appeals etc.

## 4.4 WORLD BANK SAFEGUARD POLICIES

The Project is rated as a category B type and triggers the policies as summarized on Table 2.

**Table 4: Summary of WB safeguards policies in relation to the STAR-P project**

Safeguard Policies	Triggered?	Remarks
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	Yes	No	
OP 4.01 Environmental Assessment	√		STAR-P will support infrastructure development for storage of horticulture and rice storage facilities. Some laboratories in CARI will be rehabilitated as well as rehabilitation of farms/market roads. These activities will trigger some levels of environmental assessments thereby triggering this safeguards policy.
OP 4.04 Natural Habitats		X	No significant conversion or degradation of critical natural habitats or other habitats is envisaged therefore this safeguard policy is not triggered.
OP 4.09 Pest Management	√		Smallholder agricultural transformation and revitalization activities will likely trigger this safeguard. Growing of horticultural crops as well as rice are increasingly becoming susceptible to pests and diseases attacks which will necessitate use of agro-chemical. Farmers in Bong County report of rampant African armyworm ( <i>Spodoptera exempta</i> ), attacks on rice fields as well as increasing problems of Grass Cutter Rats which attack rice at its various stages of growth (also Refer to Section E of STAR-P Draft PAD of 8 <sup>th</sup> February, 2018).
OP 4.10 Indigenous People		X	No records of Indigenous groups will be impacted by the projects as such this safeguards policy is not triggered.
OP 4.11 Physical Cultural Resources		X	This safeguard is not triggered because the project will not target areas with physical cultural resources.
OP 4.12 Involuntary Resettlement	√		Though infrastructures to be improved in the project are existing (laboratories, farm roads), and much more, such as Counties and local communities are offering lands for agro-processing and storage facilities, during implementation, such sites could have crops, or some roadside private trees could be affected. As such, this policy is triggered. While exact locations of these interventions are yet to be identified, a separate Resettlement Policy Framework has been prepared as part of the project environmental and social safeguards preparation process for STAR-P.
OP 7.50 Projects on international waters		X	This policy is not likely to be triggered because the project activities are not likely to use shared/transboundary or international waters.
OP 4.36 Forests		X	The Bank prefers that new or expansion of oil palm be on previously cultivated/fallow lands without expansion into pristine forest ecosystems.
OP 4.37 Safety of Dams		X	The project has aspects addressing irrigation <b>BUT</b> the focus is fabrication of basic irrigation equipment for small-scale/handheld irrigation not elaborate dams etc. This policy is not triggered therefore.

## 4.5 INSTITUTIONAL FRAMEWORK

### 4.5.1 MINISTRY OF AGRICULTURE (MoA)

The Ministry also implements agricultural programs, protects farming interests, encourages investment in the agricultural sector, and monitors overall activities including the movement of agricultural commodities into and out of the country. The Ministry also regulates the harvesting of botanical species by herbalists and other farmers as a part of shifting cultivation practices. The MoA includes four departments: Administration; Planning and Development; Technical Services; and, Research and Extension. The Quarantine Service within the Technical Service Department will have a direct role in STARP on matters of regulating agro-chemicals importation and application in the project in consultation with the EPA.

### 4.5.2 ENVIRONMENTAL PROTECTION AGENCY-EPA

In support of the establishment of the EPA, the EPA Act (GoL, 2003a) also established County and District

Level environmental committees, responsible for the local delivery of national environmental policy and priorities. In a move towards a more bottom up approach, a key function of the committees is to articulate local level environmental issues to the EPA who in turn are charged with formulating and passing on a relevant response for local level implementation.

In addition, under Section 20 and 21 of the EPA Act (GoL, 2003a), the EPA is mandated to appoint environmental inspectors within the counties to monitor the implementation of environmental standards as established under the EPML (GoL, 2003b). The power of these inspectors is wide ranging but with specific reference to STARP, they are well placed to play oversight role on matters of compliance of project activities with EPA and GoL environmental and social requirements.

### 4.5.3 TRADITIONAL MANAGEMENT PRACTICES

Local level resource management is implemented through traditional systems and practices. At the lowest level of local administration, power and decision-making is in the hands of traditional tribal authorities. The highest rank is that of Paramount Chief who is responsible for the actions of a number of Clan Chiefs. The Paramount Chief is elected by the chiefs and elders but serves at the discretion of the President, who may veto the election.

The Council of Elders (elderly, respected community members) must be consulted on important matters. The Paramount Chief has responsibility for enforcement of tribal customs, aspects of law and order, collection of taxes by lower rank chiefs, and promotion of agriculture, industries, trade and welfare. It is difficult to judge the power of the chiefs, who remain strongly influenced by the secret societies (*Poro/Sande*) in relation to observance of tribal customs. Chiefs are not government employees but retain a portion of taxes for their services and for local projects. Traditionally, their power is largely determined by their control (not ownership) of land. The interactions between the State and its institutions with the traditional tribal institutions and practices are regulated by the Hinterland Laws 1949. These institutions will be key on matters of possible land disputes during project implementation i.e. opening up new cultivations will likely trigger conflict in the participating communities.

### 4.5.4 CENTRAL AGRICULTURAL RESEARCH INSTITUTE (CARI)

CARI is an agricultural research facility that is slowly recovering from the civil conflict. CARI was amongst the GoL institutions hardest hit by the protracted civil conflict, because it served as the base for

three successive warring factions, then was home to over 10,000 displaced persons for five years, and finally became an UNMIL sector base. Current emphases include rice, cassava, and yam improvement; maize, fruits and vegetable screening and evaluation; animal husbandry; and, aquaculture. The commodity crops under STAR-P will be part of the research agenda of CARI on a number of aspects such as varieties development and experimentation, pests and diseases and post-harvest.

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#### 4.5.5 NGOS

Action for Greater Harvest (AGRHA) and Community of Hope Agriculture Project (CHAP) whose missions is to ***“Ensure Sustainable Food Security for Rural Liberian Households”*** will be well placed to implement some components of STAR-P in rural areas. This is because their vision and mission is all geared to ensuring Liberians in rural Liberia households create sustainable food security for themselves.

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#### 4.5.6 WORLD BANK

Projects financed by the WB are required to comply with its safeguard policies. Table 2 outlines the broad objectives of the Bank’s safeguards policies that are potentially relevant to implementation of the Liberian STAR-P. The general conditions under which they may apply is also presented. However, the Bank will be key to ensure that, the project compliance with the safeguards requirements detailed under the PAD. The Bank will, during its supervision missions assess compliance of activities with agreed measures as in the ESMP and EPA certificate.

## 5 PROCEDURES FOR ENVIRONMENTAL SCREENING AND ASSESSMENT

### 5.1 ENVIRONMENTAL SCREENING UNDER OP 4.01 ENVIRONMENTAL ASSESSMENT

#### 5.1.1 PROJECT CATEGORIZATION

This project has been categorized as Category B. While its sub projects will be screened to determine the appropriate instrument to be developed, subprojects do not have category on their own. It is therefore envisaged that, subsequent environmental and social screening of each of its sub-projects will result in their classification and placement under category B as well. This is based on the consideration that, the location, sensitivity and scale of its sub-projects, anticipated activities and the overall nature and the magnitude of potential environmental and social impacts will largely be small-scale, localized and of short-term in terms of duration.

##### 5.1.1.1 ENVIRONMENTAL ASSESSMENT (EA) CATEGORY A

An ESIA is always required for projects that are in this category. Impacts are expected to be ‘adverse, sensitive, irreversible and diverse with attributes such as pollutant discharges large enough to cause degradation of air, water, or soil; large-scale physical disturbance of the site or surroundings; extraction, consumption or conversion of substantial amounts of forests and other natural resources; measurable modification of hydrological cycles; use of hazardous materials in more than incidental quantities; and involuntary displacement of people and other significant social disturbances. The impacts under this category affect broader area than the sites or facilities subject to physical works. Such subprojects would require a full ESIA and detailed ESMP. Given the nature of the activities proposed under STAR-P project, there will be no project activities qualifying for this categorization.

##### 5.1.1.2 CATEGORY B PROJECTS

Any project which is likely to have potential environmental and social impacts, which are less adverse than those of EA Category A projects, on human populations or environmentally important areas including wetlands, forests, grasslands and any other natural habitat. The impacts are usually site specific, few or none of them are irreversible, and most of them are mitigated more readily than impacts from EA Category-A sub projects. Although an ESIA is not always required, some environmental analysis is necessary. Such subprojects would require an ESMP. Given the nature of project components under STAR-P, most of the activities fall under this EA Category B and will require preparation of an ESMP.

##### 5.1.1.3 CATEGORY C PROJECTS

Any project which is likely to have minimal or no adverse environmental and social impacts. Beyond screening no further ESA action is required. No assessment would be required under World Bank requirements. The STAR-P Project has been assigned Environmental Category B based on the above considerations.

### 5.2 APPLICATION OF THE ESMF IN STAR-P

Principally, STAR-P proposes interventions during its implementation and while many of the interventions will take the form of formalized projects (rehabilitation of CARI laboratories), local rice production fields (irrigation systems), rice processing facilities in project countries and storage facilities

for rice and vegetables some will not have such a formal project structure. Other than details and specifics of STAR-P in terms of the nature and locations of the projects that will be financed under the World Bank have not yet been fully defined, and so cannot be evaluated in terms of their environmental and social performance. Therefore, under such circumstances, it is crucial to have a process in place so the STAR-P implementing agencies can identify, evaluate, and manage any environmental and social performance risks that may arise once details of the projects are established. This process also ensures the project complies with the relevant environmental and social performance while safeguarding requirement of the Liberian EPA and WB.

The process description includes the World Bank Environmental Assessment process and the Liberian ESIA requirements, and the procedures that must be followed in the event World Bank financed project triggers safeguard policies. General clauses that can be included in Contractor's Agreements to ensure compliance with these procedures are also provided. Once the project and its locations have been identified, the PMU should use this section of the ESMF as a guide to progress through the various stages of implementation.

### 5.3 STEPS FOR IDENTIFYING, ASSESSING, AND MANAGING ENVIRONMENTAL AND SOCIAL IMPACTS

These steps are:

#### 5.3.1 STEP 1: ENVIRONMENTAL SCREENING AND CLASSIFICATION

A screening of each proposed intervention or project should be undertaken. The PMU with assistance from the EPA will:

- a. Classify the intervention in accordance with OP4. 01 into one of three categories A, B, or C depending on type, location, and scale of the interventions, and the nature and extent of its potential environment impacts. This will give particular attention to any activities that are likely to have potential to result in non-compliance with WB OPs and will consider the mitigation measures identified through the Environmental Assessment process;
- b. Ensure compliance with the national EIA screening process with both the EPA and World Bank safeguards processes;
- c. Determine and formally agree with the EPA on the level of assessment required (e.g Project Brief or ESMP, full scale ESIA will be required) or whether a FONSI can be granted.

To facilitate this process, the PMU will develop a standard screening checklist form that incorporates:

- a. The Liberian National EIA Screening Form;
- b. Criteria that reflects the WB, including whether the site and proposed intervention presents risks to natural habitats, water quality and water resource availability and use, natural hazards, cultural property, involuntary resettlement, and pesticide use;
- c. Process for checking whether the mitigation measures identified through the STAR-P ESMF process apply; and
- d. Identification of stakeholders, including groups that may be affected by the project (to be appended to the checklist).

Information to complete the checklist may require field visits and key informant interviews. Following this screening, the PMU through its Environmental and Social Management Specialists who are to have oversight on STAR-P operations will prepare and submit a Notice of Intent and Project Brief consistent with requirement set out in the EPML to the EPA. In certain instances, and

subject to EPA confirmation, completion of an EPA screening form may replace the Project Brief. If so, the screening form must be prepared by an EPA registered evaluator.

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### 5.3.2 STEP 2: ENVIRONMENTAL AND SOCIAL ASSESSMENT STUDIES

If the screening process identifies the project as both Category A (under WB requirements) and one that requires an ESIA under Liberian law, a harmonized EIA approach will be undertaken (Annex 4). This harmonized approach addresses WB safeguards that may be triggered and Liberian EIA requirements in a single process that is documented in one report. This harmonized EIA should be relatively straightforward, as the criteria that determine the three risk categories adopted by the WB and EPA (under the EPML) are similar.

As such, Category A projects under the WB criteria generally meet the same criteria that would require a full ESIA under the EPML; Category B projects generally meet the same criteria that would require an ER; and Category C projects generally meet the criteria for a FONSI. However, this may not always be the case: in some instances, the processes required and criteria applied may vary. For example, the requirement to consider natural habitats within WB OP4.01 is not reflected in Liberian legislation, and the requirement to implement management plans for projects in receipt of a FONSI is not reflected in requirement for Category C projects. In such cases, the ESIA safeguard process should adopt the higher of the two standards.

Step 2A: As per the process outlined above, the PCU (Environmental and Social Safeguards Specialists) will prepare the ToRs for the ESIA or any level of required Environmental Assessment study/deliverables that may be required (e.g., preparation of a RAP, a Pesticide Management Plan, etc.). Recruitment or engagement of such service providers should follow EPA procedures for selecting consultants for Environmental Assessments and the selected consultant must be a registered environmental evaluator. The ToRs should include issues identified in the screening exercise, including any requirement specified by the EPA as a result of that process.

The development of comprehensive ToRs is a key step in safeguard process which will define the tasks required to undertake the ESIA and define the scope of outputs required.

Step 2B: As part of the EA/EIA process, the necessary safeguard documents should be produced. Depending on the WB and EPA classifications, these may include:

- a. An ESMP, a set of contract/partnering/financing agreement clauses, and a summary of public consultation carried out for Category A/ESIA interventions;
- b. Simplified ESMP outlining measures identified during the EA study for Category A; and
- c. A RAP for interventions that may result in involuntary resettlement or displacement.

The ESMP should comply with requirements specified in OP4.01 and identify:

- a. Potential environmental and social impacts related to siting, construction, and operation of the interventions;
- b. Mitigation and monitoring measures to address potential impacts;
- c. Responsibilities for monitoring ESMP requirements;
- d. Training and capacity-building requirements for project officers and communities;
- e. Estimated budget for mitigation monitoring and training; and
- f. Measures to integrate the ESMP into the intervention's overall planning design budget and implementation.

The Developer (MoA/PMU) should submit copies of the ESIA or as appropriate to the EPA.



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### 5.3.3 STEP 3: APPROVAL

In compliance with WB guidelines and Liberian EIA requirements, the applicable documents (ESIA, ESMP, and/or RAP) must be made available for public review before a project can be approved. Public review must be at a place accessible to local people (e.g. at county/district council office, EPA offices) and in a form, manner, and language they can be easily understood.

For those developments that require mandatory ESIA's under the Liberian legislation, the EPA must provide environmental permit. If the WB is not satisfied that adequate capacity exists for carrying out the EA or for approval of the EA by implementing agencies, all Category A subprojects, and as appropriate, Category B subprojects including any EA reports will be subject to prior review and approval by the WB. As emphasized in the WB's guidelines, a subproject of a project (STAR-P) should not be approved and funded until such reports are received, approved, and disclosed.

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### 5.3.4 STEP 4: MONITORING

Before projects are finalized and signed, and prior to project implementation, a review of contracts/partnering or financing agreements should be undertaken by the PMU to verify that measures identified in the ESMP, ESMF and/or RAP are included in the clauses for successful contractors, NGOs or the agencies that will be implementing STAR-P sub-project activities. Therefore, during the project implementation phase, project management should undertake monitoring in accordance with the management measures as set out in the ESMPs and ESMF or other safeguards documents prepared under the STAR-P. Results of the monitoring should be regularly included in regular reports to the financing agency (World Bank). It is important that, the PMU ensures that such reports are received in a timely manner so that any potential non-compliance with the standards is rapidly identified and rectified, and that data and indicators required for program monitoring are generated. Annex 3 provides templates for such monitoring reports.

## 6 STAKEHOLDER CONSULTATIONS

There are a number of stakeholders with an interest in the STAR-P project whose input into its safeguards aspects will be key and they include:

- a. Local people (as individuals and communities): Interaction and dialogue is essential for maintaining the good will of local people and a secured and productive environment for the proposed project. Initiatives such as capacity building and employment generation are examples of such interaction;
- b. Government of Liberia ministries and line agencies: Those which, directly or indirectly, have responsibility for initiating, regulating or monitoring one or more of the components of the proposed project;
- c. Non-government organizations: Many of these work in the local communities and may be able to assist in the delivery of mitigation and complementary measures; and
- d. Private sector: These include businesses as well as individuals who may be potential vendors of support services.

Involvement of the stakeholders at key stages in the development and operation will be a key factor in avoiding challenges and conflicts. There is a requirement to be accountable which necessitates appropriate dissemination of information and transparent policies. The table below summarizes some of the key project stakeholders, their tasks and responsibilities.

### 6.1 KEY STAKEHOLDERS CONSULTED

The consultant through the PIU prepared and agreed on a consultations plan and placed appointments with the stakeholders in Monrovia and at the counties where the project activities are to be implemented in the areas of Lofa, Nimba, Margibi, Bomi and Cape Mount areas. While at the counties, it provided opportunities for the consultant to meet farmers and also the settings in which value addition is to be undertaken. Stakeholders consulted included: farmers of oil palm, rice and vegetable, smallholder oil palms growers, women processors of palm oil, the youth, county council representatives. In Monrovia the meetings were held with the World Bank Senior Social Development Specialist, the EPA, Ministry of Gender, Children and Social Protection (MoGCSP), Ministry of Agriculture (MoA), World Bank, Director General KARI, IITA Scientists, National Association of Agro-inputs Dealers (NAIDAL), Ministry of Lands and Ministry of Commerce and Industry (MoCI). A summary of proceedings from these meetings is in Annexes 1&2 as well as photographic documentations as highlighted in Figures 4-7.



**Figure 4: Consultations with Margibi County officials during the ESMF preparations**



**Figure 5: Consultative meeting with stakeholders farmer groups in Nimba County**



**Figure 6: Meetings in the field with small-scale farmers for oil palm in Bomi**



**Figure 7: Some farmers met in Margibi County**



**Figure 8: Meeting with farmers of oil oil palm in Cape Mount County**



**Figure 9: : Meeting some youth in Margibi**



**Figure 10: Meeting with President of NAIDAL**

## 7 PROJECT ACTIVITIES, IMPACTS AND MITIGATION MEASURES

### 7.1 PROJECT ACTIVITIES

#### 7.1.1 ESTABLISHMENT OF SMALLHOLDER OIL PALM PLANTATIONS

The oil palm tree is native to large parts of Liberia, where the climate provides the hot and tropical conditions under which the palm tree flourishes. The interior is heavily forested and has hills and mountains reaching 1,380 m of elevation. These hilly areas are very suitable for some economic trees and tree crops, as well as for agro-forestry practices. In fact, the interior areas have a long tradition of cultivating oil palm. Half of Liberia's palm oil is produced by 220,000 women and men on small farms, harvested from forests where it grows abundantly. However, it is mostly the women who carry out the task of processing the oil palm fruit into red palm oil, using traditional methods.

##### 7.1.1.1 A FOCUS ON SMALLHOLDER FARMERS

It is noted that, smallholders produce 40% of the world's palm oil (Winrock<sup>15</sup>). However, inefficient and economically-disadvantaged smallholder practices result in disproportionate environmental impacts and missed livelihood opportunities. The palm oil industry has provided economic opportunity to small farmers in the West African nation of Liberia. To build on the progress and benefit even more smallholders, STAR-P works to open up new markets and expand the products that can be made from oil palms. The project also emphasizes the importance of sustainable practices that reduce deforestation and other harmful environmental impacts.

It is important to note that, Liberian women are the key drivers of oil palm industry at cottage levels producing it for household consumption and income source, in terms of palm wine and palm oil extraction using crude technologies. Hence, STAR-P plans to address these challenges by working with smallholders' oil palm growers to support in terms of increasing the productivity and profitability of Liberia's smallholder oil palm sector; improve the marketing and trade capacity of this sector; and improve the enabling environment and support functions.

Smallholder oil palm cultivation and production of palm oil will principally involve the following sets of activities herein summarized:

##### 7.1.1.2 LAND CLEARING

Once modalities of involvement of smallholders is finalized, the farmers will embark on land clearances and it is envisaged that, the process will involve use of hand tools with few using equipment. The initial process will start with the harvesting of mature timber trees, by the farmers after which, other vegetation will be cut down. Once the sites are cleared the smallholders will embark on digging/ploughing the areas in preparation for planting seedlings.

##### 7.1.1.3 ESTABLISHMENT OF NURSERY BEDS

Planting materials for the strip will be from the existing nurseries or some farmers can establish their own nurseries or they can form themselves into groups and raise their own seedlings (Figure 11). If seedlings are secured from existing nurseries, there will be minimal impacts of establishing nurseries will be minimal.

<sup>15</sup> USAID 2013: *Leveraging oil palm production at smallholder levels in Liberia.*



**Figure 11 : Potted seedlings of oil palm in Bomi county**

#### 7.1.1.4 LINING AND HOLING

After site preparations, lining begins and this is normally before planting of a leguminous cover crop to allow sowing in drills, equal distant from the palm rows. The palm rows will run parallel to field drains. The pattern for planting is equilateral triangular i.e. palms in one row being positioned opposite the mid points of the inner-palm space in adjoining rows, giving optimal utilization of the soil in terms of space and light for plant growth. After lining, holing commences and the size of the hole has to be large enough to accommodate the seedling.

#### 7.1.1.5 FIELD PLANTING

The planting distance is 8.5m triangular, which gives a density of 148 oil palms per hectare. Field planting consists of the following operations: loading of seedlings onto vehicles transport from nursery to the field, offloading seedlings at suitable locations, checking holes for depth, carrying seedlings to planting holes, transport of rock phosphate from store to the field, and slitting and removing bags, planting, back filling and consolidating soil around the seedlings.

#### 7.1.1.6 PLANTING COVER CROP

Leguminous cover crops e.g. *Puerania javanica* and *Colopogonium caeruleum* will be sown at a rate of 1kg/ha. The cover crop will improve soil fertility, mitigate erosion and reduce ground temperature. Already cover crops are planted all over the open fields (Figure 12).



**Figure 12 : Fully grown leguminous cover crop in the foreground in an oil plantation in Margibi**

#### 7.1.1.7 WEEDING

Once planted, circle weeding (weeding around the plant) commences one month after field planting. This is repeated monthly for six months to reduce competition for moisture and nutrients. This is to be done through circle weeding around the palm tree at a radius of 2m around the tree. Other over-grown weeds are regularly cut to reduce risks of fires (Figure 13).



**Figure 13:: Oil palm plantation with overgrown weeds and not pruned making it susceptible to fires during the dry season in Bomi Country**

#### 7.1.1.8 PRUNING AND HARVESTING

Pruning of excess palm fronds (generally to leave not less than two fronds below the lowest developing branch) is to be undertaken every nine months as a means of improving harvesting output and fruit set. As for harvesting, this is done by use of a chisel or sickle type tool attached to a long handle. Harvesters will be instructed in the skill of selecting ripe bunches normally, when at least 4-6 loose fruits are identified at the palm tree base.

#### 7.1.1.9 TRANSPORTATION OF FRUITS

The duty of a harvester does not end with the cutting of the ripe fruits. It also involves collection of loose fruits from the palm bases, trimming of long bunch stalks; removal of fronds that obstruct access to ripe bunches; stacking of the cut fronds in designated sites/spots and transporting of bunches and loose fruits to collection points for eventual transport to the processing mill.

#### 7.1.1.10 PROCESSING OF PALM OIL

In the rural areas the farmers use local technology while some fresh fruit bunches can be taken to the factories for processing. Crude processing yields palm oil for local use (Figure 14).



**Figure 14: : Women processing and packaging palm oil in rural areas of Cape Mount County**

#### 7.1.2 RICE PRODUCTION

According to the National Rice Development Strategy for Liberia 2018<sup>16</sup>, 69.3% of rice producers in the country live below the poverty line. Worse, 49% of these food crop farmers are highly vulnerable and food insecure. They are principally subsistence farmers with limited outlets to market. As a group, they are geographically dispersed and, in most cases, are often marginalized. They are challenged by poor infrastructure, low market access and poor crop quality and yield. It is reported that, in some instances, surplus production sometimes rots in the fields. In addition, their rice fields are too small and dispersed to form a critical mass needed for visible project impact. At the moment, FABRAR has so far demonstrated that, value addition to local rice contributes to its marketability; sales of country rice in urban markets is rapidly increasing competing with imported one. A local NGO, Community of Hope Agriculture Project (CHAP) urges that, capacity building of rice growers, improvement of water storage

<sup>16</sup> Ministry of Agriculture Monrovia 2012: National Rice Development Strategy of Liberia Doubling Rice Production by 2018



and its efficient use, provision of post-harvest storage facilities coupled with judicious application of agro-inputs are key in the expansion and revitalization of rice growing in the country. These will improve the yields and make production more marketable and farmers will get higher returns. Therefore, STAR-P project is hoped to revitalize and transform rice farmers into prosperous commercial food producers with improved livelihoods and greater resilience to economic and food security shocks in the country.



**Figure 15: Women in a rice field in rural areas of Liberia in Nimba**



**Figure 16: : Typical set up inside a rice processing facility in Margibi**



**Figure 17: : A rice processing facility-drying yard and cyclones to take out flour flumes**

**7.1.3 HORTICULTURE SUB-SECTOR**

The Liberia market for horticulture in 2013 was worth \$103.6 million, of which \$90.4 million was produced locally. In 2013 Liberia produced 291,000 tonnes worth of fruit and vegetables and imported 14,300 tonnes. There are 20 concessions operating in Liberia, with a potential to create 100,000 jobs and demand high quality produce. The horticultural products include: pepper, cabbages, onions and tomatoes. These will be produced on small-scale and in the backyards so no adverse impacts are anticipated. Impacts will be anticipated from value addition chains. According to Director General CARI, one of the challenges which horticulture farmers face is increasing incidence of diseases and pests which calls for enhanced IPM practices in their control. At the moment, amidst weak extension services, farmers purchase and apply agro-chemicals without any guidance and this has impacts in the expansion of the market for horticulture to European markets and health of both the consumers and the farmers themselves. On the other hand, it is noted that, the planned interventions under STAR-P in terms of construction of storage facilities for vegetables and improved access roads to farms and markets will facilitate development of this sub-sector.



**Figure 18: : Horticulture production largely at household levels in Nimba**

#### 7.1.4 REHABILITATION OF LABORATORIES IN CARI

This intervention will mostly involve improvement works in the research laboratories in terms of expansion of space, remodeling works to improve their functionalities through provision of lighting, ventilation, plumbing works and measures for handling and containment of research waste awaiting disposal. The civil works will likely pose health and safety issues, including issues relating to the management of construction waste. The ESMF has been prepared in a consultative manner to guide planning and implementation of mitigation measures during rehabilitation of laboratories in the institute though the potential environmental impacts are likely to be relatively low, site specific and can be adequately managed by integrating environmental and due diligence into the sub-project cycle.

#### 7.1.5 AGRO-PROCESSING FACILITIES CONSTRUCTION

Agro-processing facilities construction mainly for rice processing will likely involve the following activities:

- a. site clearing of bushes and trees;
- b. digging of foundation;
- c. Ferrying of construction materials (sand, concrete, cement)
- d. walling and roofing;
- e. finishing (doors and window works, plastering);
- f. construction of storage rooms and drying yards;
- g. water harvesting facilities in place;

- h. greening the sites;
- i. installation of processing plant (rice hullers); and
- j. Electrification.

The lands for these facilities have been contributed by the communities and Counties governments and hence, no issues of compensation and resettlements are likely to arise.

#### 7.1.6 ROADS IMPROVEMENTS UNDER STAR-P

The overall goal of this sub-component is to contribute to poverty reduction among rural households in the selected project areas. The expected project results are improved road networks at the counties and community levels as well as increased volume and market value of agricultural produces with a focus on feeder roads.

The key aspects under roads improvements will involve:

- a. Community mobilization;
- b. Community sensitization on cross cutting issues;
- c. Removal of vegetation to clear the road site;
- d. Identification of borrow pits and digging murrum from those sites;
- e. Excavation, hauling, placing and compaction;
- f. Grading and gravelling; and
- g. Restoration of borrow sites.

The project activities will be on existing roads and works will be focused on drainage by installing culverts, roadside drainage facilities and improvements of the carriageway to enhance motor ability of the road. There will be no land take and on aspects of accessing borrow materials, the contractors will enter agreements with the land owners and thereafter, the areas will be restored and re-grassed.

## 7.2 STAR-P PROJECT POSITIVE IMPACTS

A summary of positive impacts of STAR-P can be summarized as follows:

1. The planned STAR-P support towards physical infrastructure rehabilitation, re-modelling and equipping of CARI to enable it to assume and discharge and deliver agricultural research services in its mandate areas of research especially in rice, horticulture and oil palm and irrigation will provide much needed input and support to sustainable agricultural production in the country;
2. The project interventions with a focus on value addition which will earnings for farmers and improved livelihoods at households and poverty reduction;
3. The Project will finance productivity enhancing assets, new production technologies and small-scale infrastructures (access roads, storage facilities) which will improve market access and reduce on middlemen in the trade making farmers earn better returns from their farming;
4. The production technologies at smallholder levels especially cottage palm oil processing will go along-way to improving the processing and handling of the product (packaging etc) thereby improving marketability of the products;
5. Most important, the cottage processing of palm oil is done mainly by women hence, improved technology will relieve the women from committing most of their time to this activity enabling them have time for other family responsibilities;
6. In addition, the project provides an avenue to explore Public Private Partnership (PPP) in smallholder agriculture development, by building on some of the existing interventions already in place such as rice production in Lofa, Bomi, Nimba, and Sinoe counties; for vegetables

production in Grand Bassa and Grand Gedeh Counties; while Grand Cape Mount and Bomi Counties have presence of private sector investment in oil palm production and processing. These ventures ought to mature and will provide case studies in government effort to expand and enhance such ventures to boost production and profitability of farming for the small-scale farmers;

7. One of the challenges to agricultural development is lack of extension support for the farmers. However, under the project, there will be provision to finance technical assistance, and business development services. Technical assistance will support the delivery of services to producer organizations, such as extension services, technology demonstration and transfer which will bring about improved production at farm level. At the moment, lack of extension services is one of the limiting factor to production in the areas of the project;
8. The project in partnership with WAATP is envisaged to strengthen the Innovation Platforms where all value chain actors will be meeting to address challenges in their entrepreneurships and such developments will provide avenues for sharing ideas and skills;
9. It is important to note that, STAR-P project will target poor STAR-P farmers and disadvantaged groups (such as the handicap, widows, the sick, and economically-inactive members of the community), who do not currently have access to either subsidized or market rate credit. As such, it is a deliberate and bold move by GoL to empower such groups by providing a one-time grant equivalent to the full cost of their asset subproject, to assist the targeted vulnerable groups to constitute an asset base for their income-generating activities;
10. Project resources will also be allocated as grants to qualified SFGs for rehabilitation of existing and/ or construction of new productive physical infrastructure projects that will facilitate the process of smallholder farmer commercialization, by promoting increased productivity, value addition and access to agricultural markets. The focus will be to facilitate repairs and sustenance of selected production infrastructure, such as farm service centres and rehabilitation of low land areas. The project will earmark investments for minor irrigation infrastructure creation and management on lowland (such as lift irrigation and tube-wells);
11. The project will partner with Energy and Extractives Global Practice (E&E GP) of the Bank for supply of solar driven pumps, provision of farm light and link to existing hydro facilities. Limited tube-wells with pumping facilities will be provided in critical areas for high value produce such as rice and horticultural crops which will enhance production and efficient use of water;
12. STAR-P is earmarking resources towards organization of smallholder farmers into viable farmer groups and cooperative associations that will optimize capacity building and institution strengthening, so as to enhance their influence along their respective supply chains, increase their ability to create stronger market linkages, and better position them to influence government policy on agriculture;
13. The project interventions of value addition imply that, the farmers will get good earnings from their farming, which will improve livelihood at household levels;
14. Horticultural interventions will improve supply of fresh and leafy vegetables which will have a double pronged advantage in terms of incomes to mainly women and youth but also improve nutrition at household with sources of vitamins;
15. The project will provide employment opportunities through engaging labour in civil and infrastructure works, which will translate to economic empowerment at household levels and improvement in livelihoods though on short-term basis;
16. Investments to support irrigation will enhance both water availability and efficiency usage in farming, enabling farmers to have more crop seasons in a year thereby guaranteeing household food security and income which translates to better livelihoods and poverty reduction in the

communities. Irrigation aspects will not involve construction of dams but focus on water holding ponds and use of basic irrigation equipment to avail water to the fields;

17. Furthermore, the project has plans to create enabling policy environment to accelerate agricultural transformation, connect production to markets and strengthen regional integration institutions. This is to be achieved through removal of barriers to cross-border trade in technologies and inputs, identifying products for which regional demand is growing, and strengthening the institutions at the regional level to provide backstopping for the reform process. These are all to be realized through strategic and deliberate re-orientation of policies, markets and institutional strengthening geared towards revitalization of agriculture; and
18. The project will support the construction of satellite storage facilities to feed into the warehouse receipt system which is envisaged to address lack of post-harvest and storage equipment as well as in-appropriate marketing systems making agricultural smallholder producers vulnerable to middlemen especially during bumper harvests periods.

### 7.3 PROJECT NEGATIVE IMPACTS AND THEIR MITIGATIONS

Negative impacts of the project will largely be based on rehabilitation and refurbishment works on the infrastructures at CARI and participating agencies and will largely arise from laboratories and can be summarized as follows:

#### 7.3.1 NEGATIVE IMPACTS RELATING TO SMALLHOLDER OIL PALM DEVELOPMENT

The proposed Smallholder Agriculture Transformation and Agribusiness Revitalization with respect to oil palm will trigger the following:

##### 7.3.1.1 LAND CLEARING AND REPLANTING

- The primary negative environmental impact of the transformation and revitalization of smallholder oil palm under STAR-P will likely arise from clearing and replanting of the oil palm plantations. However, under the Bank OP 4.04 and in particular, OP 4.36 all place emphasis on the use of fallow i.e. fields that have not been previously cultivated, clearing land that has pristine/good quality natural forests. In addition, since the project's main focus is on existing smallholder farmers, environmental screening of potential subprojects will be done to ensure that, any such sub-projects with potential negative impacts will not be considered/included in the financing under STAR-P. In particular, women and youth access to land and land ownership may limit their direct involvement in the project, though this may differ from one project area to the other. The STARP Gender Analysis Report has been prepared to bridge any such gaps to allow meaningful participation of vulnerable groups in the project.

j.

Where clearing is done in the dry season, the land surface will leave the land exposed to the early rains of the wet season and thus to soil erosion and consequent run-off to local waterways. It should be noted that, at smallholder farm levels, land clearance will be undertaken by use of manual tools which reduces risks of massive exposure of land to erosion and this will keep negative impacts of the project to a low scale.

##### 7.3.1.2 CROP PROCESSING

Oil palm processing has the potential for environmental impacts whose magnitude will depend on the type and quantity of emissions (liquid and gaseous) and solid waste produced, and whether or not these impacts are managed (avoided or mitigated).

Two forms of processing [plantation scale factories and small village mills] will continue to exist. The oil palm plantation sector will be supported through small farmer out-growers, including processing their production. However, there is already some processing done by farm and village level facilities, and as a result of the project there is likely to be a significant increase in the use of small mills. The potential environmental impacts from traditional village extraction and Freedom Mill processing of oil palm are minimal since currently the process uses only minimal quantities of local natural resources (water and firewood) and manual labor. In future the mills are likely to be engine driven and will likely increase in size, resulting in the use of petroleum products and generation of larger quantities of effluent. Thus, where district level processing is established, these facilities should be subjected to the same environmental management requirements as the Concessions (i.e. have a monitored emissions management plan).

### 7.3.1.3 PEST MANAGEMENT

Oil palm interventions under STAR-P will require use of a range of agro-chemicals to control pest and diseases as well as enhance soil fertility and types of agro-chemicals that will likely be used will as shown on Table 3. Potential adverse impacts on the handling and storage of these chemicals, can be minimized, if not avoided by good management, training and support equipment (PPE).

**Table 5: A summary of classes of Agro-chemicals likely to be used in oil palm under STAR-P<sup>17</sup>**

Type of Agro-chemical	Oil Palm
Insecticide	√
Herbicide	√
Pesticide	√
Rodenticide	√
Fertilizer	√

### 7.3.1.4 NURSERIES

Potential environmental impacts from tree crop nurseries will be similar to farm/plantation impacts (i.e. land clearing, pest and disease control) with the possible exception that irrigation will be required should large scale nurseries be established. The most probable water reservoir will be located within the channel of a suitable stream, which will have potential adverse impacts to downstream users as well as disruption and possible contamination during dam construction.

### 7.3.1.5 CROP HANDLING AND STORAGE

With the Oil Palm sector handling the majority of the processing, farmers will deliver their fruit bunches to the factories and thus, there will be little requirement for village/district level storage.

### 7.3.1.6 HEALTH AND SAFETY ISSUES

<sup>17</sup> *Smallholder Tree Crop Revitalization Support Project (STCRSP) Credit N<sup>o</sup>: IDA Q 7490 Project N<sup>o</sup>: P113273 N<sup>o</sup>: PMU-MOA/STCRSP/EIA/113273*

Within any plantation there is always the possibility of accidents (i.e. exposure to pesticides, cuts from sharp harvesting and maintenance equipment, falling trees or fresh fruit branches), though with training and experience, accidents can be minimized.

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#### 7.3.1.7 FIRE RISKS

Probably the most serious risk within the smallholder oil palm rehabilitation is likely to be fire risks, particularly when it is used in the land clearing process, either by the farmer him/herself or neighbors. Hunters also use fire and may be less careful than farmers in its use. Rural communities have very little resources in terms of fighting fire. Fire is more lethal during the dry season when the winds tend to be stronger (Figure 13).

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#### 7.3.1.8 GENDER ISSUES

Liberia faces major gender disparities in terms of women's access to productive assets<sup>18</sup>. Many women are unable to fully benefit and enjoy access to economic opportunities. The tree crop sector (such as oil palm) in Liberia is dominated by men. Women are major players in the agricultural sector, constituting the majority of smallholder producers and agricultural labor force. Despite women and girls' important economic role, they have limited access to the inputs and services essential to carrying out their productive functions and are absent from important economic sectors. Women have less access than men to productive inputs and services, including land, skills training, basic tools, and technology.

Women hardly own land in Liberia and their access to land is through men, who may be their husbands, fathers or a relative. This current land tenure system has contributed to a lack of land security for women and frequent conflicts over property rights within families. The outlined impacts below were confirmed by stakeholders.

*Positive Impact:* Overall impact may be positive as women's inclusion in tree crops production improves with increase in household incomes. The project has a strong focus on gender considerations. An independent Gender Analysis has been done, whose outcome is being used to guide the design of the project. The project will specifically expand women economic opportunities through their involvement in the STAR-P and a mapping of the number of women, youth and the disadvantaged group who actually possess and could participate directly in the project is being pursued within the project.

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<sup>18</sup> Ministry of Agriculture Monrovia 2012: National Rice Development Strategy of Liberia Doubling Rice Production by 2018

### 7.3.2 NEGATIVE IMPACTS OF REHABILITATION OF LABORATORIES IN CARI

- a) Improper construction waste management:** Solid waste will be generated at the site during site preparation and rehabilitation phases. The waste may consist of timber or metal cuttings, excavated materials, paper/cement bags, empty paint and solvent containers, broken glass among others. Construction waste will be managed through proper site clearance and restoration;
- b) Generation of noise:** noise will be one of the most undesirable consequences of the rehabilitation phase. Considerable levels of noise and vibrations will mainly result from use of equipment during breakages for modification of spaces inside the laboratories facilities. Though the level of discomfort caused by noise is likely to be subjective, the most commonly reported impacts of noise levels will be interference in oral communication in the vicinity of the institute;
- c) Occupational Health Safety (OHS) Risks for the project workers:** Construction activities have potential to pose occupational risks such as fatal falls if workers do not use safety latches when working at heights. Working with high voltage and hot works (welding) pose a risk of electrocution. In addition, falling debris could injure workers if Personal Protective Equipment (PPE) are not provided or properly used;
- d) HIV/AIDS concerns:** Implementation of works will likely attract laborers to the project areas which can trigger HIV/AIDS concerns and it is proposed that, the project will work with nearby HIV/AIDS service providers, to provide counselling and supply of condoms to the workers at agreed terms with the project contractors;
- e) Generation and accumulation of construction waste:** Demolition works will likely generate construction-based wastes and some of the re-usable and re-cyclable materials can be redeemed and used for construction to ensure environmental sustainability;
- f) Disposal of excess construction waste:** Excess construction waste material which will not be re-usable will be disposed into areas and in a manner acceptable to CEO in respective areas, EPA and the PMU;
- g) Vegetation loss:** The contractor will bring to the site all equipment necessary for carrying out the works and ensure proper safeguards to prevent excess and un-wanted loss of vegetation and soil erosion. In addition, the pathways/access routes have to be managed in accordance with sound environmental practices;
- h) Interruption of utility service lines:** Measures will be taken to minimize any potential damage to utility public infrastructures on sites where such works are to be undertaken i.e. electricity, water supply, drainage and sewer lines should be mapped out and excavations well managed on such sections to avoid risks of cutting and breaking those lines;
- i) Non-payment of workers:** Payment of salaries and wages is sometimes of concern on sites and it is proposed that, workers be issued with contracts before commencement of work; and
- j) Issues of child labour:** There should be no engagement of children below 18 years on the sites supported by the project. Any contractor with such practice will have his/her contract terminated as such a practice compromises and contradicts the ILO Employment Convention as well as the Liberian Education and children Act;
- k) Incineration:** All other laboratory waste that are deemed unsuitable to be put in the normal waste bins in the laboratories, will be placed in a special waste-bin supplied in each of the laboratories and such items include: broken laboratory glassware, sharp objects of metal or glass, dirty sample tubes or other items lightly contaminated with chemicals and such will all be incinerated. STAR-P needs to support construct an incinerator for CARI as part of the support;
- l) Risks of fires:** Risks of fires in laboratories can be occasioned through spillages, irresponsible storage, handling and application of inflammable reagents, irresponsibly carrying around naked flames, smoking cigarettes and faulty electricity connections. Fully functional fire extinguisher laboratory staff should be trained on their operations alongside rescue drills.
- m) Management of**



**reagents spills:** laboratories to adopt strategies for managing reagents spills as part of their Standard Operating Procedures (SOPs). When a spill occurs, the area is cleared of any users, and the spill cleaned up immediately. Waste from spill clean-up is then disposed of appropriately depending on the kind of chemical;

**n) Concerns over handling of agro-pesticides:** Scaling up of soil fertility management including soil mapping, soil testing, and fertilizer blending will call for application of agro-pesticides hence need for PPMP in the project safeguards agenda which is a stand-alone document in this project.

**o) General procedure for disposal of expired reagents:** CARI should put in place, a standard protocol in place for the management and disposal of expired and obsolete reagents and should be applicable to all laboratories and screen houses operations. This includes:

- ❖ Routinely checking and preparing a list of materials which have or are near expiry;
- ❖ A chemical Disposal Form should be filled with all key information which could include: name of the chemical(s), date at which the chemical is to expire and information be filled on a label and attached to the chemical intended for disposal;
- ❖ Such chemicals/reagents are placed in designated rooms i.e. rooms designated for waste storage, with the label facing outwards and clearly visible; and
- ❖ Laboratory Manager(s) will be informed of such chemicals intended for disposal.

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### 7.3.3 NEGATIVE IMPACTS OF ACCESS ROADS IMPROVEMENTS

These will include:

**a) Land-uptake impacts,** in which rehabilitation of the roads will likely involve loss of roadside crops and trees along the roads. It is expected that, the rehabilitation works will be undertaken within the existing alignments and incase of uptake, an RPF has been prepared to address any land uptake related issues if they arose;

**b) Noise and vibration impacts,** is likely to result from construction activities and from equipment. Workers will be provided with PPEs, restricting road works to day time hours to minimize disturbance to the neighborhoods;

**c) Soil erosion concerns,** the roads topography once subjected to road works will likely trigger erosion from lose ends and can result in sedimentation of water courses. This is to be addressed through watering the road surfaces and compaction;

**d) Disruption of roadside livelihoods means,** small-scale roadside commercial activities which enable women to earn some independent income for themselves will likely be disrupted by the project. This will be mitigated through undertaking works within contract schedule to reduce disruptions over a long period of time. Where issues of loss arise, provisions in the RPF will be utilized to mitigate such concerns;

**e) Issues of borrow pits,** opening of access routes and borrow pits all represent likely negative impacts of the project. The following measures are proposed: securing the consent of the land owners for borrow areas; over-burden materials shall be stockpiled to be used during the restoration process of the borrow pits; leveling borrow pits to attain free drainage of ponding waters and sequential restoration of borrow pits when they are exhausted of materials. The restored borrow pits at the end of the project have to be inspected and approved by the respective area counties environment authorities and EPA at the end of the Defects Liability Period before final handover of the project;

**f) Waste management concerns,** a labor force on the road is likely to generate some volume of associated solid wastes such as polyethylene bags, plastic water bottles amongst others. Ensuring clean-up of these waste implies cleaning up of the site at the end of road project rehabilitation works;

**g) Risks of road accidents:** the roads to be rehabilitated are existing and will be operational, as such, there can be risks to the road users. The contractors will put in place road signs warning road users about such works for the safety of the workers (Figure 19).



**Figure 19: Typical road signs to be placed on the roads during road rehabilitation.**

*h) HIV/AIDS concerns*, can arise through workers coming to work on the road rehabilitation projects. Measures such as conducting HIV/AIDS sensitization and recruiting workers from within such road projects will address such concerns.

#### 7.3.4 NEGATIVE IMPACTS OF AGRO-PROCESSING AND STORAGE FACILITIES

These will include:

*a) Vegetation loss*: this can arise through clearance and site preparation works which can lead to loss of vegetation on the areas where storage facilities are to be located. These impacts can be mitigated by delineating areas for construction of such facilities and such areas be restored and re-grassed after works;

*b) Management of cut to soil material* which is likely to arise through excavation works and general works on foundations of building and such materials can be eroded to nearby water sources. Such materials can be dumped in approved sites while some can be used to backfill foundations for such buildings;

*c) Potential conflict in the use of public facilities*, in particular, the toilets and this can be risky when workers begin to use toilets in the neighboring areas. This is to be remedied by contractor having their own toilets for the workers and should be set up before start of the project and should be separate;

*d) Erosion control concerns*, likely to arise through site clearances and excavations, run-offs from roofs of constructed storage and agro-processing facilities. This can be mitigated through site restoration, planting trees and water harvesting measures;

*e) Noise nuisance* which can arise through transportation of construction materials and from the workers and the noise can be a nuisance to the school operations. This is to be mitigated through briefing the workers and drivers on the need to control noise while in the areas of settlements or schools' settings;

*f) Site preparatory works* such as pre-construction activities relating to site preparation works, removal of waste and site leveling works, setting out new structures and removal of demolition waste will result in erosion which will be mitigated by landscaping and leveling the site;

*g) Impacts relating to sourcing of construction materials* like stones, sand, etc will have impact on the environment at their points of extraction which emphasizes the need for the contractors to obtain construction materials from suppliers who will be responsible for restoring the extraction sites;

**h) Occupational Health Safety (OHS) risks** on both the construction workers and the school community is to be mitigated by providing PPEs to the workers, having modestly stocked First Aid kits with some basic medical supplies such as iodine, bandages to help on some cases of accidents and injuries. In addition, the contractors should have contacts of nearby ambulance and police fire and rescue services for any emergencies;

**i) Management of construction waste**, the construction works will generate some amounts of construction waste such as cement bags, some dust and brick debris, off-cuts from roofing and timber works, solid waste mainly paper, plastic bags and paper and heaps of excavated soils will likely be generated. It important that, the contractor be obliged to clear and restore the sites fully and such work has to be certified by the County Environment Officer before final Defects Liability Period expires and final payments effected to the contractors;

**j) Fear of collapse of infrastructure**, the country has witnessed a number of collapsed buildings in construction sites and this is attributed to a host of factors including poor workmanship, issues with construction materials and design related issues. In the project, a supervising engineer will play an oversight role to ensure the infrastructures will be of standards for storage and agro-processing;

**k) Risks of lightning strikes**: of recent there are increasing risks of lightning in the region damaging buildings and power supply lines. To mitigate this, the buildings should be equipped with lightning conductors/arrestors preferably, of aluminium type which are not sought out so much by thugs as opposed to copper rods to handle any would be lightning strikes;

**l) Non-payment of wages and salaries for the worker**, the contractors have to provide the workers with contracts for their employment and such agreements should stipulate vividly the terms and conditions of the employment; and

**m) Payment for construction materials**: Time and again there are reports of contractors winding up projects in rural areas and escaping without paying the suppliers. Such practices taint the image of the client including the financiers. It is therefore recommended that; the community mobilization platform be used to avail such information to the public to ensure they follow up contractors and in case any difficulties with getting their payments the matter is brought to the attention of the employer.

## 7.4 OTHER SAFEGUARDS GUIDING DOCUMENTS

### 7.4.1 PEST MANAGEMENT PLAN

Since the STAR-P Project triggers OP 4.09 for Pest Management as such, a Pest and Pesticides Management Plan (PPMP) needs to be prepared as part of its safeguards documents. The PPMP should enhance IPM practices and ensure a guided acquisition, storage, handling and application of pesticides where such a need is inevitable. The PPMP addresses relevant stakeholder concerns about pests and pesticides. It stresses the need to monitor and mitigate negative environmental and social impacts of the STAR-P (which includes the use of pesticides) and emphasizes the need for an integrated approach to the management of pests in line with GoL strategies on IPM adoption as well as World Bank requirements on pest management and makes provision for adequate measures to enable the Project to sustain the adoption of IPM techniques.

### 7.4.2 GRIEVANCE REDRESS MECHANISM

The Grievance Redress Mechanism (GRM) will provide a way to provide an effective avenue for expressing concerns and achieving remedies for communities. The goal is to promote a mutually constructive relationship and enhance the achievement of project development objectives. The GRM is to ensure that complaints are directed and expeditiously addressed by the relevant agencies which is to enhance responsiveness and accountability. While a project-specific feedback and complaints mechanism is set up, the STAR-P will incorporate the existing grievance mechanism that uses the chieftdom-based approach in areas of the project.

#### 7.4.2.1 TYPICAL GRIEVANCES UNDER STAR-P

Likely common grievances in STAR-P implementation areas will include:

- a. Abuse or improper use of pesticides;
- b. Crop destruction by neighbors' livestock;
- c. Non-payment of work done;
- d. Access routes through a neighbour garden
- e. Non-payments of infrastructure construction materials;
- f. Employment opportunities offered by the projects activities; and
- g. Encroachment on neighbors' lands.

At project level, each Implementing Partner is expected as an operational institution to have in place, its mechanisms of handling feedback and complaints which the STAR-P project will essentially build on. Such a mechanism will be checked to ascertain its effectiveness, accessible and transparent procedures to receive and resolve complaints and where need be and for purposes of delivering this project, it shall then be reviewed and modified accordingly.

Feedback/ complaints shall be encouraged among all workers and community members throughout the project and resolved without undue delay. This will also be closely monitored and reported. It is important that, concerns are raised on project level before they are brought to the PMU level.

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#### 7.4.2.2 PRINCIPLE OF GOOD GRM

The grievance mechanism should follow the following principles:

- a. it should be scaled to address the risks and impacts on affected communities;
- b. be culturally appropriate;
- c. be clear and accessible for any individual or group at no cost (vulnerable groups); and
- d. be transparent and including regular reporting, and preventive of retribution and should not impede access to other remedies.

Furthermore, the grievance mechanism should be designed to provide access to specific target groups, e.g. girls and women who, might be subject to sexual harassment during construction, would need avenues to submit grievances that protect their privacy. In the complaint resolution, the Implementing partners should use existing complaint and resolution mechanisms, including informing the PMU about serious concerns/complaints and involve them in the resolution, if appropriate. All grievances should be logged in a complaint register to assess whether the grievance is closed or whether further action is needed.

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#### 7.4.2.3 STEPS OF GRIEVANCE REDRESS

A verbal or a written complaint from aggrieved person will be received by the Project Manager or a person assigned in the project as the Grievance Officer (GO) and recorded in a grievance log (electronically if possible). Grievances can be lodged at any time, either directly to the Contractor, Sub-county/District Office or via the grievance committee member.

The process for lodging a complaint is outlined below:

- a. The GO will receive a complaint from the complainant.
- b. The GO will ask the claimant questions in their local language write the answers in English and enter them in English onto the Grievance Form.
- c. A representative of the community shall witness translation of the grievance into English.
- d. The GO reads the complaint in English and translates it into the complainant's local language on the Grievance Form.
- e. The local leader and the complainant both sign the Grievance Form after they both confirm the accuracy of the grievance.
- f. The GO lodges the complaint in the Grievance Log.

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#### 7.4.3 MECHANISM UNDER STAR-P

Local Grievance Redress Committees (LGRC) will be initiated at the village level, to record grievances and also help in mediation. This committee will comprise the area local chief or a trusted village elder, a religious representative, and specific vulnerable group representatives of relevance to the village i.e. women and the disabled. Disputes will be resolved at the village level as far as possible. The GRC at the district and county levels will be resolved under a County/District GRM constituted by the Project. At the County Level, the Grievance Redress Committee will be established to deal with any grievances unsettled at the village level. More serious grievances must immediately be referred to the police. It is important to note that, not all conflicts and grievances in the project are to be concluded under STAR-P GRM. More serious cases that involve assault, gender-based violence, rape and "serious" theft will not be resolved under this framework but are instead referred to the police for appropriate prosecution process.

## 8 ESMF IMPLEMENTATION FRAMEWORK

### 8.1 INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

#### 8.1.1 EXECUTING AGENCY

The Project will be implemented over a five-six-year period, from July 2019 to June 2024/2025, and will close by December 2024/2025. The Ministry of Agriculture (MoA) will have overall responsibility for execution of the Project. However, this role will be played in consultation with the other relevant stakeholders (ministries, departments and agencies) of the GoL. This is to ensure that project activities are consistent with national policies. The MoA will delegate responsibility for day-to-day implementation coordination at the national level to the existing Project Implementation Unit (PIU) currently facilitating the project preparations of the STAR-P alongside the WAATP. The implementation coordination function at both the national and county levels will be conducted according to the provisions of the Financing Agreement (FA), and administratively, the PIU will report to the supervising ministry through the National Project Steering Committee (NPSC).

#### 8.1.2 THE NATIONAL PROJECT STRATEGIC COMMITTEE (NPSC)

The project will be under the general oversight of the NPSC, chaired by the Minister of Agriculture, as the key sector ministry, and will comprise of the representatives from the Ministries of Finance and Development Planning (MoFDP), Ministry of Commerce and Industry (MoCI), other sector ministries, the state and non-state institutions involved in project implementation, and other relevant government entities. The NPSC will oversee the overall project implementation, including approval of the annual work plan and budget, and provide policy guidance and oversight for proper coordination and supervision of all project components and would have a policy and advisory role and would meet twice a year.

The NPSC will therefore be responsible for:

- a. approving the annual work plans;
- b. approving the annual budget;
- c. reviewing progress in the implementation of the work plans and other aspects of project performance, including taking responsibility on fiduciary oversight responsibilities following World Bank procedures on FM and procurement; and
- d. ensuring that there is policy and implementation coordination, not only between sub-components of the project but also among all the project implementing institutions and addressing any emerging problems likely to affect project implementation and providing oversight during project implementation.

The NPSC will provide conceptual and strategic guidance to the PIU, ensure conformity of project activities with government policies and strategies, review project progress, its annual plans and budgets, and resolve any implementation problems or conflicts. Such arrangements would enhance coordination, alignment, and synergy between donor-funded operations in the agriculture and agribusiness sector of Liberia.

### 8.1.3 PROJECT MANAGEMENT UNIT (PMU)

The PMU, comprising of a Director of all donor-funded projects will work in close consultation with the MoA and will also be responsible for convening the NPSC meetings. Thus, the PMU would coordinate the implementation of all IDA-supported projects, and by implication coordinate the implementation of all development partners-supported projects in the agricultural sector.

The MoA's responsibility for the mobilization, sensitization and organization of the farmers will be in collaboration with the selected agribusiness firms. The MoA will also work in coordination with the other relevant Ministries in order to ensure that the project activities are consistent with national policies, integrating and leveraging on complementary investments. The MoA will consider the creation of a Working Group (STAR-P WG) encompassing the relevant line Ministries involved in the project. It is envisaged that the STAR-P WG will include the following institutions: Ministries of Agriculture, Commerce and Industry, Finance, Justice, Labor, and Transport. In order to be effective, this group will require strong support from highest level of government and a clear mandate for its members, as well as progress monitoring and accountability mechanisms.

Through the MoA, the project will selectively support activities and services, including various forms of capacity development for government MDAs (ministries, departments and agencies) that are relevant to developing agribusiness, especially responsible for providing public sector services, including the policy environment for the promotion of agribusiness development in Liberia:

- a. The MoCI will be supported for the desirable improvement in regulatory environment for the agribusiness sector, in order to improve upon domestic private sector participation in the economy;
- b. The Ministry of Finance and Development Planning (Aid Management Unit) will be supported with short term capacity building training and the provision of the necessary logistics to facilitate project supervisions.
- c. The Central Bank of Liberia (CBL) will provide the required oversight functions to commercial banks and other non-financial institutions that will be involved in the input credit facility to be put in place under the project. The project will leverage on the role of CBL to fast track the initiative on the Liberian Incentive-based Risk Sharing System for Agricultural Lending (LIRSAL), which is aimed at bridging the huge gap between agriculture and the financial sector in Liberia;
- d. The relevance of the MoCI resides in the Small Business Bureau of the Ministry which is primarily responsible for MSMEs. The current small business cultural change is an important entry point for agro-allied and agro-industry developments and it portends huge opportunity for agribusiness development. The project will provide technical and financial support for the MSMEs.
- e. A hand-holding capacity building process to be initiated for smallholder farmers, will confer very important relevance on certain existing Agribusiness firms and MSME groups. The project will work with these selected private agribusiness firms and MSME groups, that incorporate productive linkage arrangements with smallholder farmers. Criteria for selection will include the overall long-term business plan of the MSMEs, their innovative plans and experience working with organized farmers' groups or cooperatives<sup>19</sup>;
- f. The County and District administration will benefit from the program on how to facilitate smallholder farmers' engagement with governments, civil societies, and the private sector thereby enhancing their power in markets and influence in the policy arena;

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<sup>19</sup> *Feasibility Study & Mapping of Small and Medium-sized Agricultural Enterprises on the Value Chains of Oil Palm, Rice and Horticulture (on-going): The objective is to analyse the small and medium-sized agricultural enterprises involved in the three targeted value chains of the project.*

- g. The Ministry of Labor with the established National Bureau of Employment will have its relevance in the STAR-P with regards to the creation of employment opportunities to absorb the large and expanding youth population into the workforce<sup>20</sup>.

In addition, the project will be implemented with appropriate support from national and international consultants and other implementation partners to ensure strengthening of capacity of the project team and organizations. Service providers with international experience will be involved in the management of the matching grants and technical assistance to MSMEs, as well as in M&E activities.

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## 8.1.4 AT THE NATIONAL LEVEL

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### 8.1.4.1 PROJECT IMPLEMENTATION UNIT (PIU)

The PIU is the STAR-P Management Team, looking after the day-to-day STAR-P implementation. The small core team consisting of the Project Coordinator, M&E Officer, Accountant and Procurement Officer are already on board in the project preparation. This team will be strengthened with the recruitment of additional technical consultants that will also give support to the WAATP within the PMU. The PIU will be responsible for overall project planning, coordination, and technical implementation of the project.

By implications, the responsibilities of the PIU include:

- a. to ensure the overall coordination of the project, make sure implementation of component activities complement each other;
- b. to manage project funds on behalf of the executing agencies, keep financial records according to international standards, implement internal management control, and ensure regular external audit (in collaboration with the Audit Authority in the country);
- c. to prepare and implement Annual Work Plans and Budgets as well as procurement plans aggregating the needs of all project implementing institutions;
- d. to identify potential implementing agencies/goods and service providers, organize their procurement activities, negotiate and sign contracts, and carry out all procurement work related to the project as per the approved procurement plans; and
- e. to prepare quarterly, semi-annual and Monitoring and Evaluation (M&E) reports. The project is expected to be implemented with PIU performing these roles under the leadership of the National Project Coordinator (NPC) who will report to the MoA through the PMU Director and the World Bank through the Task Team Leader.

The PIU team will include professionals with seasoned experiences in agriculture, project planning and management, accounting and finance, procurement and M&E and other relevant specialties to support project implementation. The overall responsibility for the project FM will rest with the STAR-P Finance Officer, who already has the requisite experience in handling FM and disbursement of the Bank-financed operations. However, the PIU may also benefit from the support of senior PMU and MoA staff for core functions such as strategic guidance, FM and administration, procurement, and M&E. The project would contribute to the staffing costs of such senior PMU staff should there be the case. In order to address the shortcomings and identified risks with regards to FM, procurement and M&E, the project would include a number of training activities, exchanges of experiences, and specialized short term international technical assistance to build the capacity of the PMU/PIU in these key domains.

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<sup>20</sup> *African Economic Outlook (2014)*



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#### 8.1.4.2 AT THE COUNTY LEVEL

Each beneficiary County will delegate day-to-day implementation coordination of the Project to the County STAR-P Focal Point (CSFP) who will work with the CACs and DAOs in these counties to be led by the County STAR-P Focal Points., while the oversight, policy, and strategic orientation functions of the project will be performed by the County STAR-P Technical Committee (CSTC). The CSTC will be chaired by the Administrative Head of the County Agriculture Department - the County Agriculture Coordinator (CAC), and will meet every six months, and/or at any other time determined by the chair to assess progress of implementation at the County level, review and approve work plans and budgets. Other membership of the CSTC will comprise of the Administrative Heads of other participating government departments and agencies in the County, including the Cooperative Development Agency (CDA) County Unit. Administratively, the CSCO will report to the supervising department/agency of government in the County. CSCO, using resources from the line government agency/department in the County i.e. approved engineering and other consultant services, will review, screen, and provide clearance on the technical viability of all sub-projects submitted for project funding. In order to implement the project with due diligence and economy, as required under the Financing Agreement (FA), the government will cause the CSCO to ensure that: (i) Bank guidelines and procedures are followed on procurement; disbursements, auditing and overall FM; and (ii) environmental and social guidelines are followed in both developing and implementing project-funded activities.

The CSCO will have a maximum of five staff, including the CSC. Along with the CSC, are other specialists in agriculture, accounting and finance, MIS (Management Information System), and M&E. In consultation and collaboration with the County Superintendent (CS), the CSCO will facilitate and coordinate all project implementation activities, including M&E, and also responsible for mobilization of resources at the County level. To play these key STAR-P roles, the team will be supported by external consultants, especially for extension services, and also supported by experienced private sector players in the establishment of linkages to markets both for inputs and outputs. All CSCOs will obtain the consent of their respective CS before forwarding subproject proposals on behalf of the County. The project will assist in capacity building of CSCOs, provide technical assistance to CSCOs, and engage service providers to assist CSCOs in their work related to project implementation.

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#### 8.1.4.3 AT THE DISTRICT AND COMMUNITY LEVELS

STAR-P implementation will require one or two District Desk Officer(s) in each of project participating Districts that will play key role of coordinating project activities at the District level, especially to process local development plans and business plans under STAR-P for approval, to avoid duplication/multiplications of projects, including close monitoring of sub-projects. The project will finance corresponding and full compliments of institutional mechanisms at both the District and Community levels. The project will also finance the salaries of externally hired staff and limited technical assistance and training, office equipment and vehicles, and operational costs, and the costs of periodic financial audits.

**Partnership Arrangements:** This project will be implemented in partnership with the International Finance Corporation (IFC) and other development partners (e.g. FAO, IFAD, GIZ, SIDA, IFC, etc.).

IFC will provide technical advice on the operations of the agribusiness development fund. IFC will also provide guidance on the technical assistance required by agribusinesses and MSMEs. For smallholder farmers, the technical assistance will be provided by private service providers and/or NGOs. FAO, prospective NGOs and private sector service providers will provide technical guidance and monitor the performance of the out-grower schemes based on their experience in-country and elsewhere.

IFAD could provide technical guidance and monitor the performance of the Microfinance Institutions (MFIs), Village Savings & Loan System (VSLs) or Credit Unions, and Rural Community Finance Institutions (RCFIs) in the provision of lending facilities for smallholder farmers and other stakeholders under this project. The CBL approved the implementation plan for Rural Community Finance Institutions (RCFIs) for all the political subdivisions in response to the bank's strategy of financial inclusion adopted in 2009, while the VSS has been identified with certain success stories in Liberia, especially in Nimba, Lofa, Maryland, and Sinoe Counties.

## 8.2 MONITORING AND EVALUATION

The objective of this sub-component is to facilitate project implementation, management, and evaluation in each participating country. Each participating country will put in place an implementation mechanism best suited to its needs and specific context. Overall, this mechanism will include a National Steering Committee (NSC), a Project Implementation Unit (PIU), and a Technical Advisory Committee (TAC) with clear roles and responsibilities for each to be finalized during project pre-appraisal.

The key functions of the PIU include: coordination of project activities across all implementers, development and implementation of a robust Monitoring and Evaluation (M&E) and geographic information system (GIS), to monitor project performance; and fiduciary support financial management, procurement, and safeguards. The M&E arrangements will include Annual Research and Development workshops both at the national and regional levels to share outcomes and lessons learned. Each PIU will be properly staffed with managerial, fiduciary and safeguards staff as well as technical specialists on key aspects of the project—including agricultural research and development, agricultural marketing and trade.

## 8.3 CAPACITY BUILDING FOR ESMF IMPLEMENTATION AND ITS BUDGET

The Ministry of Agriculture (MoA) will have overall responsibility for execution of the Project. Capacity for effective management of environmental and social safeguards within the MoA and the other line agencies is generally weak both in terms of personnel and hands on in environmental and social impact management as well as awareness of the laws and regulations. The effort to build this capacity needs to be continued in view of the fact that, the Ministry has been implementing World Bank, AfDB and JICA financed projects which all have components of capacity building. However, under STARP, MoA will delegate this responsibility to its existing Project Implementation Unit (PIU) which will take lead in championing capacity building.

The PIU Environmental Specialist and Social Development Specialists will be responsible for organizing and assisting in training of personnel in the project stakeholder agencies all aspects of the ESMP creating a general awareness of environmental management throughout the participating organizations, partner organizations and the beneficiary communities. One of the objectives of the program will be to encourage communities to safeguard their own environment and the value of conserving their natural heritage for their present use and the use of future generations.

The PIU will be responsible for identifying and selecting suitable local training resource persons, preparation of standard and specific relevant training modules, liaising with providing agencies and stakeholders to plan training implementation and preparation of training progress reports.

The PIU is the STAR-P Management Team, which will be looking after the day-to-day STAR-P implementation. The small core team consisting of the Project Coordinator, M&E Officer, Accountant and Procurement Officer are already on board in the project preparation. This Team will be strengthened

with the recruitment of additional technical staff (Environmental and Social Development Specialists) to give support to the project implementation. The PIU will be responsible for overall project planning, coordination, and technical implementation of the project. It should be noted that, the Safeguards will equally support WAATP as well the PIU in consultations with the Bank will agree on the recruitment of such staff and the sources of funds i.e. from which project funds will be accessed.

For effective implementation of the ESMF for STAR-P there will be need for deliberate measures to ensure responsible agencies have the requisite capacity to effectively accomplished the roles assigned. There will be needed to build capacity of the National Steering Committee in terms of basic concepts of environmental mainstreaming covering issues such as:

- a. environmental screening;
- b. Introduction to World Bank's Environmental and Social Safeguards;
- c. EIA and ESMF requirements in development projects; and
- d. Environmental reporting.

This training can be delivered in form of half-day seminars.

On the other hand, there will be needed to support the capacity of County Environmental Inspectors and County Agricultural Officers, PIU/PCU Environmental and Social Specialists, EPA staff, other staff in the PCU/PIU. These categories will be trained in areas such as:

- a. World Bank Safeguard policies;
- b. Liberia EPA Environmental Assessment Regulations;
- c. Preparation and review of screening reports;
- d. Introduction to ESMF/Process Framework;
- e. Preparation of ToRs for Subject Area Specialist (ESIA, Pest Management, Resettlement);
- f. Preparation of Environmental Briefs and the ESIA;
- g. Preparation of process documents for projects or activities;
- h. Technical training to support implementation of the ESMF;
- i. Training on mainstreaming social and gender-related issues (OHS and HIV/AIDS);
- j. Monitoring and Evaluation of STAR-P;
- k. Climate Change; and
- l. Climate Smart Agriculture-CSA.

### 8.3.1 CAPACITY BUILDING FOR COLLABORATING INSTITUTIONS

It is anticipated that, there will be a range of collaborating institutions under the project. These will include: FBOs and NGOs such as CHAP, and the private sector players (NAIDAL) and participating farmers. Each of these categories will require responsive capacity enhancement on aspects of safeguards issues based largely on their levels of involvement in STAR-P project activities.

**Capacity Building:** Will be in form of training on safeguards mainstreaming and reporting.

## 8.4 MONITORING, EVALUATION, AND REPORTING

### 8.4.1 MONITORING

Monitoring is required to ensure that all the required environmental and social mitigation measures, set out in the ESMF for the project are implemented satisfactorily. The objective of monitoring is to ascertain that, the proposed mitigation measures are being implemented and that, there is compliance to the terms and conditions for approval.

The purpose of the environmental and social safeguards monitoring includes:

- a. Ensure that proper appraisals on the effects of sub-projects takes place and that proper measures are put in place to mitigate the effects;
- b. Set out the basis for compliance and enforcement of terms and conditions for approval;
- c. Design compliance strategies;
- d. Assess compliance with management of the environment and social safeguards; and
- e. Ensure that all stakeholders participate in the sub-project processes

The environmental and social safeguards monitoring will be carried out by the staff of ESMU in PCU alongside the County Environmental Officers (CEO) and the EPA.

The ESMU staff verifies the application of mitigation measures as contained in the field reports submitted to the Unit. In this case, the ESMU staff will undertake regular visits to project sites to provide technical support and document progress in implementing mitigation measures. Where feasible, the CEOs will support monitoring in line with mandates which is to oversee compliance of development project in the districts with environmental provisions. The reporting on environmental monitoring will be included in the overall project progress reports, which will be shared with the World Bank, EPA and other line stakeholders as necessary.

## 8.5 ESMF BUDGET<sup>21</sup>

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<sup>21</sup> Suggested that, most of the costs will be met through the IDA Credit facility for STARP.

The ensure effective implementation of the ESM, several key activities have been identified and costed, including public awareness and sensitization for farmers and other stakeholders; capacity building for staff of the PIU and other relevant stakeholders, including County Agricultural Officers; and activities related to mitigation of environmental and social impacts including preparation of ESMPs for sub-projects as required.

**Table 6 Detailed ESMF Budget**

<b>N<sup>o</sup>.</b>	<b>Item/Activity</b>	<b>Cost in USD</b>
01.	Awareness and sensitization campaigns for farmers and communities	85,000
02.	Capacity building for County Agricultural and Environmental Officers: five (5) i.e. Bomi, Lofa, Nimba, Cape Mount and Margibi).	75,000
03.	Environmental Audits : two (2) <sup>22</sup>	65,000
04.	Equipment and Facilitation of Environmental and Social Unit (vehicles, desks, computers) <sup>23</sup>	205,000
05.	Mitigation of environmental and social impacts in the projects (including subsequent Environmental Assessments for sub-projects)	350,000
	Environmental monitoring and follow up	25,000
<b>Total Budget Estimate for ESMF Implementation</b>		<b>805,000</b>

## 8.6 ESMF DISCLOSURE

The disclosure is a requirement from the World Bank safeguard policies as well as from national environmental assessment procedures, hence the report will be available to project affected groups, local NGOs, and the public at large. The PMU will make copies of the ESMF available in selected public places as required by law for information and comments as well as in the media. The ESMF will be announced and published on an official Government website. EPA and PMU/MoA will upload the ESMF and other safeguards for STAR-P onto its website <https://www.MoA.gov.lr> and invite the public to access and review the documents. The PMU will also provide copies of the ESMF and the RPF and other safeguards documents in the project to the public in CARI, from where the public can access it for any comments. The ESMF and RPF alongside other safeguards documents will be disclosed at the World Bank's website and made available to any interested persons, for public access and for public information and comments/feedback as will be necessary.

<sup>22</sup> Two Environmental Audits are proposed i.e. one mid-way implementation and at the end of the project

<sup>23</sup> The 2 Specialists should receive salaries under WAATP while office facilitation could come from STARP

## 9 CONCLUSION AND RECOMMENDATIONS

- a. Smallholder oil palm rehabilitation is strongly to be undertaken on existing plantations and where expansion is deemed necessary, that should involve use of previous cultivated lands or fallow fields, not closed pristine natural forests;
- b. The effective implementation of the ESMF hinges on having in place, institutions that are staffed, equipped and facilitated. However, with reference to the PIU/PCU a number of related projects are being implemented and others in the pipeline and funded by either AfDB or World Bank. For instance, WAATP, which is being, prepared shares a number of capacity building requirements with the STAR-P. It is suggested that, the PIU/PCU in consultations with MoA and the Bank will harmonize on how funds can be committed towards certain costs such as hire of two Safeguards staff and related aspects which criss-cross without duplication of effort and resources;
- c. Smallholder agricultural enterprises to a large extent have a big involvement of women in terms of cropping, harvesting, transportation and processing though at the end, it is clear, they in many cases do not fully benefit. The deliberate effort in STAR-P to mainstream gender dimension into all aspects of the project offers a window of opportunity for gender empowerment which should be keenly implemented; and
- d. The revitalization of smallholders' agriculture with a focus on rice, horticulture and oil palm amidst current weather variability implies there will be issues of pests and diseases on these crops which will be a challenge to their envisaged production and productivity, a situation already echoed by a cross-section of stakeholders. In addition, continued use of rudimentary technologies such as use of children to scare birds calls for alternate measures to address such production challenges, to enable the children to enjoy their education rights as enshrined in both the national laws, IFC Performance Standards and the ILO. All these implies amongst others, inevitable need for a Pest and Pesticides Management Plan as part of STAR-P safeguards documents, with measures and alternate technologies of controlling pests and diseases in the target project commodities.

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# 11 ANNEXES

## 11.1 ANNEX 01: ATTENDANCE LIST

**Attendance Lists**  
Preparation of ESMF for Smallholder Agriculture Transformation & Agribusiness Revitalization Project (STAR-P)

No.	Name	Designation	Organization	Contact	Signature
1.	Jerry T. Doe	Manager	EPRA	0880662176 jtdoe@epa.gov	<i>[Signature]</i>
2	Edward G. Winyahala	Asst Manager	EPA	088576150 win@epa.gov	<i>[Signature]</i>
3	Mberha A. Broad	Coordinator	EP	0886516758	<i>[Signature]</i>
4.	Henry D. Mayson	Accountant	CHAP	08775-587096	<i>[Signature]</i>
5.	ESHA S. Tuwood	Head of Fin	CHAP	0886901175	<i>[Signature]</i>
6	Jeremial P. Smith	Data Collector	CHAP	0886932562	<i>[Signature]</i>
7.	J. Moses Harris	Cashier	CHAP	0776269072	<i>[Signature]</i>
8.	Blanco Cheq	MGLE Officer	CHAP	08864575324	<i>[Signature]</i>
9.	Marcus A. Jones	Director General	CHART	0777-978-335	<i>[Signature]</i>
10.	Northa F. Jones	SNYGA Farmer	Farmen	—	<i>[Signature]</i>
11	Eyeg penice	SNYGA Farmer	Farmen	—	<i>[Signature]</i>
12	George B. F. Jones	SNYGA Farmer	Farmen	0886615651	<i>[Signature]</i>
13	Sano Igada	Farmer	Farmen	—	<i>[Signature]</i>
14	DYME Skelic	Raymond Farmer	Farmen	—	<i>[Signature]</i>
15.	FLORA KASKULA	Raymond Farmer	Farmen	0777-813884	<i>[Signature]</i>
16	GLORIA FLORES	Raymond Farmer	Farmen	—	<i>[Signature]</i>



No.	Name	Designation	Organization	Contact	Signature
19	Gail Flom	Regional team	turner	0886930873	G. Flom
20	Tina Morris	Regional team	turner	—	T. Morris
21	Nathan Miller	Regional team	turner	0886930873 <i>(taken from dial)</i>	N Miller
22	Moses Flom	Regional	turner	—	M Flom
23	Leben Kjaer	Regional	turner	088639385	L. Kjaer
	Gary Muller	Regional	turner	—	—
	Fred Sims	Regional	turner	—	—
	Nathan From	turner	turner	0888466587	—
	Ruth Flom	turner	turner	turner	turner
	Amie Gagnier	turner	turner	turner	turner
	Ronan Kelen	turner	turner	turner	turner
	Angela McGiv	Postmaster Specialist	ITTA/STPEC	0770021677	Angela McGiv
	Michael Belot	Extension Agreement	ITTA/SATC	0850307646	Michael Belot

## 11.2 ANNEX 02: SUMMARY OF MINUTES OF CONSULTATIVE MEETINGS

<b>Date of Meeting</b>	<b>Person Met</b>	<b>Organization/Designation</b>	<b>Contacts</b>	<b>Venue and Date of Meeting</b>	<b>Issues Discussed</b>	<b>Remarks/Action</b>
19 <sup>th</sup> March, 2018	Mr. Cyrus Saygbe	Project Coordinator: WAATP/STAR-P	+231880828775	PCU in PMU MoA Fendell	-Need to expedite the ESMF for the project to ensure the project is within its processing timelines; -Program meetings based on the need to consult key stakeholders. It is important to keep a clear record of all meetings because that will be key in the final documents; -While in the field, try and see fields of the farmers and capture some of the on-ground issues.	Consultant finalized his program and shared with PC and agreed on key stakeholders to be consulted.
19 <sup>th</sup> March, 2018	Momoh Bukare	Duport Horticulture Farmer	088634385	Horticulture Farm premises	-Prospects in horticulture and limitation in the production: -Farming in vegetables has	The sub-sector interventions under STAR-P need to support aspects of pest management for

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>promising future because its market is assured in Monrovia, its environs and even at the locality.</p> <p>-Growing vegetables has limitations especially diseases which affects mainly tomatoes, cabbages and pepper.</p> <p>The pesticides we sometimes use are not that effective as such, the crops don't improve even after applying them.</p>	farmers to get the better returns.
20 <sup>th</sup> March, 2018	<ul style="list-style-type: none"> <li>❖ Mr. Jerry Toe</li> <li>❖ Edward G. Winghah</li> <li>❖ Moretha A. Brand</li> </ul>	<ul style="list-style-type: none"> <li>a. EPA Manager, Environment Compliance</li> <li>b. EPA Assistant Manager Compliance Dept.</li> <li>c. EPA EIA Coordinator</li> </ul>	<p>0880662516</p> <p>0886576150</p> <p>0886516758</p>	EPA Secretariat, Monrovia	<ul style="list-style-type: none"> <li>a. EPA has County Environment Inspectors in only 10 counties, others are yet to have the Inspectors;</li> <li>b. Regarding STAR-P, rice</li> </ul>	The project will earmark resources as part of its capacity building agenda and will target Environmental Inspectors and Agricultural Officers in the Counties where

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>farmers are facing problems of pests and diseases and much as some grow paddy rice, it is evident, they could be beginning to apply agro-chemicals which can bring about eutrophication of water bodies. They need extension services to guide in such instances;</p> <p>c. Where there are no County Inspectors, EPA works with line department Technical staff to address environmental issues. However,</p>	<p>STAR-P is participating and train them in Environmental safeguards aspects including field monitoring and reporting.</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>Counties technical staff need to be trained on environmental mainstreaming;</p> <p>d. The EPA through its Environmental Standards and Research Unit is developing a database on agro-inputs but has limitations in terms of capacity to enforce compliance;</p> <p>e. Agricultural Bank supported projects need to work more closely with the EPA just like infrastructure projects are doing.</p>	
20 <sup>th</sup> March, 2018	a. Vivian M. Konneh	Supervisor, Social Protection Unit, Ministry of Gender, Children and	0886525815	MoGSP HQs, Monrovia	Rice cultivation relies very much on household	STAR-P is mainstreaming Gender

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
	<p>(Ms.) b. Mrs. Alfred B. Jacobs</p>	<p>Social Protection (MoGSP)  Assistant Director, Division of Social Assistance, Ministry of Gender, Children and Social Protection (MoGSP)</p>	<p>0886731554</p>	<p>MoGSP HQs, Monrovia</p>	<p>labour but raises two issues: ❖ women offer their labour in most of the activities but they benefit little if any; ❖ ii. It tends to exploit the children during weeding, harvesting and scaring birds which compromises their attendance of school contravening their right to education. The project should come up with technologies for weeding and scaring birds than relying on children. The planned revitalization in the project should focus on technologies that</p>	<p>dimensions into its activities for meaningful and economic empowerment of the women. PPMP ought to be prepared to address issues of pest management in STAR-P. Appropriate technologies through mechanization components of the project are part of the STAR-P.</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>can help women who are involved in it at cottage levels.</p> <p>The palm oil processing at cottage level generates waste which is in the project could be turned to energy sources.</p>	
21 <sup>st</sup> March, 2018	<ul style="list-style-type: none"> <li>a. Robert S. M. Bimba</li> <li>b. Blamo Chea</li> <li>c. J. Moses Harris</li> <li>d. Esther S. Tuowel</li> <li>e. Henry D. Mayson</li> </ul>	<ul style="list-style-type: none"> <li>a. Executive Director, CHAP</li> <li>b. M&amp;E Specialist, CHAP</li> <li>c. Cashier, CHAP</li> <li>d. Head, Finance Dept. CHAP</li> <li>e. Accountant, CHAP</li> </ul>	<ul style="list-style-type: none"> <li>0886543735</li> <li>0886457534</li> <li>0776269072</li> <li>0886901175</li> <li>0775587096</li> </ul>	Zuba Town, Duport Road Community, Paynesville City Montserrado County.	<ul style="list-style-type: none"> <li>a. Most of the rice at household is produced at substance levels and especially by the women. However, the husbands control the resources.</li> <li>b. The rice farmers have increasing challenges of pests especially migratory birds during time of</li> </ul>	<p>If farmers are to be supported to improve rice production, there is need to build on effort of CHAP in terms of sensitizing farmers on a range of aspects such as financial management and generally doing farming as a business.</p> <p>The farmers need to be trained on Climate Smart Agriculture (CSA) to be able</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>maturity.</p> <p>c. Waste/rice husks are useful in terms of making briquettes for fuel and the communities are slowly taking it up.</p> <p>d. One of the challenges facing rice farmers is increasing weather variability which is affecting farmers.</p>	<p>to cope with climate variability which is affecting production of rice.</p> <p>On rice pests, CHAP is of the opinion that, farmers be sensitized on farming calendar so that, they are able to synchronize their timing of planting which gives a harmonized crop maturation and growth giving opportunity for joint pest management over an area.</p>
21 <sup>st</sup> /3/2018	<p>a. Dr. Wasiu Awoyale</p> <p>b. Dr. Michael Edet</p>	<p>a. Cassava Value Chain Specialist.</p> <p>b. Cassava Extension Agronomist.</p>	<p><a href="mailto:w.awoyale@cgiar.org">w.awoyale@cgiar.org</a></p> <p><a href="mailto:m.edet@cgiar.org">m.edet@cgiar.org</a></p>	IITA Field Offices, Monrovia	a. Transformation in agricultural technology from hand-hoe to mechanization at smallholder levels is a key	The STAR-P has plans to engage in mechanization in terms of fabrication of irrigation and farm machinery which will



Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>to drawing the youth to agriculture otherwise, continued use of rudimentary hand tools has made it unattractive to the youth and have shunned it;</p> <p>b. Value addition is a key to uplifting households incomes and poverty reduction amongst smallholder farmers;</p> <p>c. Wastes from agricultural produce esp rice and cassava are being used to make livestock feeds.</p>	<p>support technology development.</p> <p>STAR-P is hinged on value addition for rice, horticultural products and palm oil which is expected to raise household incomes.</p> <p>According to Community of Hope Agriculture Project (CHAP), they are producing briquets from rice husks which will address management of such wastes.</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
22 <sup>nd</sup> March, 2018	Dr. Akhilesh Ranjan	Senior Social Development Specialist	+231881367967	World Bank Country Offices, Monrovia	<p>a. Though EPA has County Environmental Inspectors, they claim they are poorly facilitated as such, they don't stay long in the counties, many resign and leave.</p> <p>b. During preparation, good safeguards documents are normally prepared the challenge is implementing such commitments during implementation .</p> <p>c. The PCU needs to have two Specialists i.e Environment and Social Safeguards who will take charge</p>	<p>The ESMF has proposed capacity support for Counties Environment and Agricultural Officers. The PCU agrees to recruit two specialists to play oversight role in the projects regarding issues of safeguards. Capacity building aspects in the project should target building capacities of counties technical staff in the areas of environmental mainstreaming.</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>of implementation of safeguards aspects in the projects.</p> <p>d. EPA's has a mandate to play oversight role on projects its approves and to do that, they should use approval fees payable by projects to facilitate its staff to go the field.</p>	
22 <sup>nd</sup> March, 2018	Rebecca S. Kalayi	President, National Agro-In Puts Dealers Association, Liberia	0775244113	PMU Premises, Fendell Monrovia	<p>There is no proper regulation of agro-input dealers in the country;</p> <p>Many of the agro-input dealers do it as any other business but do not have the basics on uses, risks and proper handling of agro-inputs.</p> <p>The farmers do have good extension support</p>	<p>There would be need to support NAIDAL in their effort to register and training agro-input dealers.</p> <p>Horticultural farmers need training on pest management including handling agro-inputs.</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>to help them in identifying diseases on crops and animals and then the right medicines to be used.</p> <p>Horticultural farmers complain of diseases attacking their vegetables especially cabbage and tomatoes.</p> <p>The Association is working on registering and training of agro-input dealers in the country.</p>	
22 <sup>nd</sup> /03/2018	Kennedy Christopher G and Varenny Kiadii	Small Business Administrators, Ministry of Commerce and Industry.	<a href="mailto:gbordoe@gmail.com">gbordoe@gmail.com</a> and <a href="mailto:kiadiivarney@gmail.com">kiadiivarney@gmail.com</a>	Ministry of Commerce and Industry premises	<p>One of the biggest challenges with small enterprise development is their being scattered in terms of location and operations hence, unable to mobilize resources.</p> <p>The SMEs lack information on business</p>	STAR-P is designed to give support to some SMEs especially the youth and women using

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>opportunities and need to be mobilized and sensitized. Focus should also be on the youth who should be targeted as a way of addressing unemployment.</p>	
23 <sup>rd</sup> March, 2018	Marcus Jones PhD	Director General	0777978335	Centre for Agricultural Research Institute-CARI	<p>CARI is mandated to conduct research on 7 thematic areas including on products of STAR-P. However, the institute is virtually non-functional, needs rehabilitation and revitalization. Currently relying on adaptive research by IITA. The country has challenges of crop diseases especially on</p>	<p>CARI needs to be rehabilitated so that it can be responsive in its research especially on rice, oil palm and livestock. There is currently no framework for effective management of pesticides in country and as such, though pesticides are being sold and applied by the farmers, there is need to regulate the trade to guarantee safety.</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
25 <sup>th</sup> March, 2018		Sinyea Women Rice Farmer Group, Bong County	See attached attendance above	Sinyea Trading Centre	<p>One of the challenges in rice production by the group is labor during weeding. However, the women now work under <i>Kuku system</i> i.e. women come together to clear gardens in groups after which, they move on to other women gardens. Over the past two years, rice production is dwindling mainly due to diseases farmers cannot tell and the Grass Cutter Rats which destroy rice at all stages of growth. This is attributed to the period of the civil war in which, the rat population rapidly increased since there was virtually no farming and hunting.</p>	<p>The women are well placed to enhance rice production through their now organized way of helping work on each other's garden in turns but needs to support in terms of inputs especially high yielding seeds. There is need for support to the rice farmers with respect to control of disease and pests.</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>On marketing, this is done at household levels after setting a side what is deemed adequate for household needs the rest is sold though there are instances where men squander the resources leaving the households without incomes.</p>	
25 <sup>th</sup> March, 2018	Smallholders Oil palm Growers Group	Raymond Group		Raymonds Town, Bong county	<p>Oil palm cultivation is profitable in that, they get income through sale of palm wine, they get palm oil for home consumption and sale for income. There are challenges in the control of weeds and if not done regularly, the fields get bushy with overgrown weeds making the plantations</p>	<p>The farmers to plan on how to manage weeds in their smallholder oil palm fields. On food production vis a viz oil cultivation the following were agreed upon during the discussion:</p> <p>a. Sensitizing households to intercrop oil palm with food crops such as</p>

Date of Meeting	Person Met	Organization/Designation	Contacts	Venue and Date of Meeting	Issues Discussed	Remarks/Action
					<p>susceptible to fires (Figure 13-14). There were fears on expansion of smallholder cultivation of oil palm is promoted without clear and sustainable plans which can bring about reduced food production at household levels.</p>	<p>potatoes, maize and cassava;</p> <p>b. Oil palm itself is a food crop as such, farmers to plan on its domestic usage against sale;</p> <p>c. The farmers to apportion their lands for crops including food crops.</p>



### 11.3 ANNEX 03: ENVIRONMENTAL AND SOCIAL SCREENING FORM

Please type or print clearly, completing this form in its entirety. You may provide additional information on a separate sheet of paper if necessary. This will guide in the identification and categorization of the project accordingly.

Component under STAR-P	
Name of Subproject	
Project Objective	
Expected Commencement Date	
Proposed Main Project Activities	
Location (District, Parish, Village)	
Name of Evaluator	

#### BRIEF DESCRIPTION OF THE PROPOSED PROJECT

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#### EMPLOYEES AND LABORERS

Number of people to be employed: Employees and Laborer	During Construction	During Routine Operation
FULL-TIME		
PART-TIME		

#### DESCRIPTION OF PROCESS THAT COULD BE IMPLEMENTED

Briefly describe the type and nature or type of the project at the site.

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 -----

List the type and quantity of raw materials to be used in the project and highlight their sources

Material	Quantity	Source

#### POTENTIAL ENVIRONMENTAL IMPACTS

Please indicate environmental impacts that may occur as a result of the proposed project.

##### A. The Biological Environment

##### The Natural Environment

Describe the habitats and flora and fauna in the project area and in the entire area expected to be affected by the sub-project (e.g., downstream areas, access roads):

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 Will the project directly or indirectly affect?

Natural forest types?

Swamps?

Wetlands (i.e., lakes, rivers, swamps, seasonally inundated areas)?

Natural critical habitats (parks, protected areas)?

Other habitats of threatened species that require protection under Ugandan laws and/or international agreements?

YES \_\_\_\_\_ NO \_\_\_\_\_

Are there according to background research/observations any threatened/ endemic species in the project area that could be affected by the project?

YES \_\_\_\_\_ NO \_\_\_\_\_

Will vegetation be cleared? If yes, please state the distance/length of affected area

YES \_\_\_\_\_ NO \_\_\_\_\_

Will there be any potential risk of habitat fragmentation due to the clearing activities?

YES \_\_\_\_\_ NO \_\_\_\_\_

Will the project lead to a change in access, leading to an increase in the risk of depleting biodiversity resources?

YES \_\_\_\_\_ NO \_\_\_\_\_

Provide an additional description for “yes” answers:

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**Protected Areas**

Does the subproject area or do subproject activities?

Occur within or adjacent to any designated protected areas?

YES \_\_\_\_\_ NO \_\_\_\_\_

Affect any protected area downstream of the project?

YES \_\_\_\_\_ NO \_\_\_\_\_

Affect any ecological corridors used by migratory or nomadic species located between any protected areas or between important natural habitats (protected or not) (e.g., mammals or birds)?

YES \_\_\_\_\_ NO \_\_\_\_\_

Provide an additional description for “yes” answers:

---

**Invasive Species**

Is the sub-project likely to result in the dispersion of or increase in the population of invasive plants or animals (e.g., along distribution lines)?

YES \_\_\_\_\_ NO \_\_\_\_\_

Provide an additional description for a “yes” answer:

---

**B. The Physical Environment**

**Geology/Soils**

Will slope or soil stability be affected by the project? YES \_\_\_\_\_ NO \_\_\_\_\_

Will the subproject cause physical changes in the project area (e.g., changes to the topography)?  
YES \_\_\_\_\_ NO \_\_\_\_\_

Will local resources, such as rocks, wood, sand, gravel be used?  
YES \_\_\_\_\_ NO \_\_\_\_\_

Could the subproject potentially cause an increase in soil salinity in or downstream the project area?  
YES \_\_\_\_\_ NO \_\_\_\_\_

Could the soil exposed due to the project potentially lead to an increase in lixiviation of metals, clay sediments, or organic materials?  
YES \_\_\_\_\_ NO \_\_\_\_\_

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### **Landscape / Aesthetics**

Is there a possibility that the sub-project will adversely affect the aesthetics of the landscape?  
YES \_\_\_\_\_ NO \_\_\_\_\_

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### **Pollution**

Will the sub-project use or store dangerous substances (e.g., large quantities of hydrocarbons)?  
YES \_\_\_\_\_ NO \_\_\_\_\_

Will the subproject produce harmful substances? YES \_\_\_\_\_ NO \_\_\_\_\_

Will the subproject produce solid or liquid wastes? YES \_\_\_\_\_ NO \_\_\_\_\_

Will the subproject cause air pollution? YES \_\_\_\_\_ NO \_\_\_\_\_

Will the subproject generate noise? YES \_\_\_\_\_ NO \_\_\_\_\_

Will the subproject generate electromagnetic emissions? YES \_\_\_\_\_ NO \_\_\_\_\_

Will the subproject release pollutants into the environment? YES \_\_\_\_\_ NO \_\_\_\_\_

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### **C. The Social Environment**

Land Use, Resettlement, and/or Land Acquisition

Describe existing land uses on and around the sub-project area (e.g., community facilities, agriculture, tourism, private property, or hunting areas):

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Are there any land use plans on or near the sub-project location, which will be negatively affected by subproject implementation? YES \_\_\_\_\_ NO \_\_\_\_\_

Are there any areas on or near the subproject location, which are densely populated which could be affected by the sub-project? YES \_\_\_\_\_ NO \_\_\_\_\_

Are there sensitive land uses near the project area (e.g., hospitals, schools)?  
YES \_\_\_\_\_ NO \_\_\_\_\_

Will there be a loss of livelihoods among the population? YES \_\_\_\_\_ NO \_\_\_\_\_

Will the sub-project affect any resources that local people take from the natural environment? YES \_\_\_\_\_ NO \_\_\_\_\_

Will there be additional demands on local water supplies or other local resources?  
YES \_\_\_\_\_ NO \_\_\_\_\_

Will the sub-project restrict people's access to land or natural resources?

YES \_\_\_\_ NO \_\_\_\_

Will the project require resettlement and/or compensation of any residents, including squatters?

YES \_\_\_\_ NO \_\_\_\_

Will the subproject result in construction workers or other people moving into or having access to the area (for a long-time period and in large numbers compared to permanent residents)?

YES \_\_\_\_ NO \_\_\_\_

Who is/are the present owner(s)/users of resources/infrastructures the subproject area?

---

**Loss of Crops, Fruit Trees, and Household Infrastructure**

Will the subproject result in the permanent or temporary loss of:

Crops?

Fruit trees / coconut palms?

Household infrastructure?

Any other assets/resources?

**Occupational Health and Safety, Health, Welfare, Employment, and Gender**

Is the sub-project likely to safeguard worker's health and safety and public safety (e.g., occupational health and safety issues)? YES \_\_\_\_ NO \_\_\_\_

How will the project minimize risk of HIV/Aids?

How will the sub-project minimize the risk of accidents? How will accidents be managed, when they do occur?

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Is the project likely to provide local employment opportunities, including employment opportunities for women? YES \_\_\_\_ NO \_\_\_\_

Provide an additional description for "yes" answers:

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**Historical, Archaeological, or Cultural Heritage Sites**

Based on available sources, consultation with local authorities, local knowledge and/or observations, could the sub-project alter:

Historical heritage site(s) or require excavation near the same? YES \_\_\_\_ NO \_\_\_\_

Archaeological heritage site(s) or require excavation near the same? YES \_\_\_\_ NO \_\_\_\_

Cultural heritage site(s) or require excavation near the same? YES \_\_\_\_ NO \_\_\_\_

Graves, or sacred locations (e.g., fetish trees or stones) or require excavations near the same?

YES \_\_\_\_ NO \_\_\_\_

N.B For all affirmative answers (YES) Provide description, possible alternatives reviewed and/or appropriate mitigating measures.

**RECOMMENDATIONS**

**Environmental category: (tick where applicable)**

	<b>Category</b>	<b>Justification</b>
	Does not require further environmental or social studies	
	Requires submission of only a Project Brief	
	Requires a full ESIA to be submitted on date	
	Requires an ESMP to be submitted on date	
	Requires a RAP to be submitted on date	
	Requires an Indigenous Peoples Plan (IPP)	
	Requires a Physical Cultural Resources Plan	

**CERTIFICATION**

We certify that we have thoroughly examined all the potential adverse effects of this subproject.

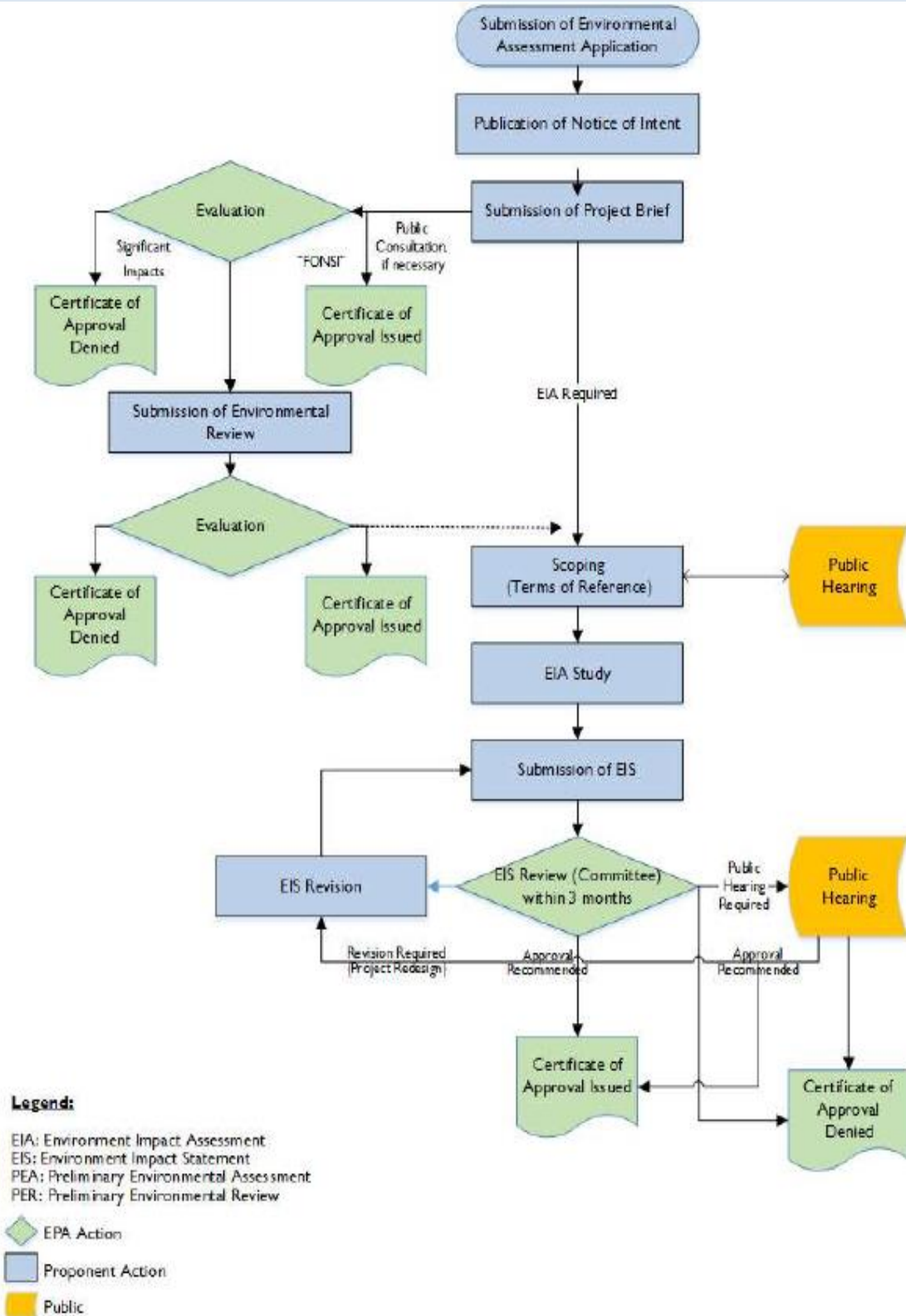
Reviewer: .....

Name: .....

Signature: .....

Date: .....

## 11.4 ANNEX 4: LIBERIA EIA PROCESS<sup>24</sup>



<sup>24</sup> ESMF for REDD Project 2014 Forest Department, Liberia

## 11.5 ANNEX 5: ENVIRONMENTAL & SOCIAL MONITORING REPORT TEMPLATE

1. Name of subproject:
2. Project Location:
3. Environmental and Social Impacts Brief description of the environmental impacts which were predicted when the project was designed.
4. Environmental and Social Impacts Observed During Field Visit Brief description of the environmental effects observed during the field visit against the predicted effects and level of damage, as well as the unpredicted effects and level of damage
5. Project Compliance of environmental and social policy, laws and regulations Brief description of the project's compliance with environmental specifications and guidelines
6. Results of Field Visit Brief description of the on-going bio-physical and socio-economic effects against baseline values and past monitoring results
7. Conclusions and Recommendations to Project Management Listing of recommendations for adjustments so that project becomes fully compliant
8. Conclusions and Recommendations to the Monitoring Programme Listing of recommendations for adjustments to the monitoring programme
9. Other Observations:
10. Recommendations and Conclusions
11. Name of Monitor:  
  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_
12. Date of Review by ESMT:  
  
Recommended Actions by ESMT
13. Brief summary of discussions and decisions on the issues by ESMT
14. Signed by Safeguards Manager: \_\_\_\_\_ Date \_\_\_\_\_

## 11.6 ANNEX 6: CHANCE FINDS PROCEDURES

Project-supported civil works could impact sites of social, sacred, religious, or heritage value. "Chance finds" procedures would apply when those sites are identified during the actual construction period.

1. Cultural property includes monuments, structures, works of art, or sites of significant points of view, and are defined as sites and structures having archaeological, historical, architectural, or religious significance, and natural sites with cultural values. This includes cemeteries, graveyards and graves.
2. The list of negative subproject attributes which would make a subproject ineligible for support includes any activity that would adversely impact cultural property.
3. In the event of finding of properties of cultural value during construction, the following procedures for identification, protection from theft, and treatment of discovered artefacts should be followed and included in standard bidding documents;
  - a. Stop the construction activities in the area of the chance find;
  - b. Delineate the discovered site or area;
  - c. Secure the site to prevent any damage or loss of removable objects;
  - d. Notify the Supervising Engineer who in turn will notify the responsible authorities;
  - e. The Ministry of Information, Cultural Affairs, and Tourism (aka Ministry of Cultural Affairs), in collaboration with responsible local authorities (where applicable), would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures;
  - f. Decisions on how to handle the finding shall be taken by the Ministry of Cultural Affairs or other responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance), conservation, restoration and salvage;
  - g. Implementation of the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Cultural Affairs; and
  - h. Construction work could resume only after permission is given from Ministry of Cultural Affairs or other responsible authorities concerned with safeguarding the cultural heritage. These procedures must be referred to as standard provisions in construction contracts. During project supervision, the Supervising Engineer shall monitor the above regulations relating to the treatment of any chance find encountered. Relevant findings will be recorded in World Bank Supervision Reports and Implementation Completion Reports will assess the overall effectiveness of the project's cultural property mitigation, management, and activities, as appropriate.



## 11.7 ANNEX 7: ENVIRONMENTAL RULES FOR CONTRACTORS

These Environmental Rules for Contractors are prepared for all the contractors to be engaged for any STAR-P civil works construction activities. The rules include provisions for proper management of construction sites, safe storage of construction materials and safe disposal of wastes.

### **General Considerations**

The contractor shall, in all his activities ensure maximum protection of the environment and the socio-economic wellbeing of the people affected by the project, whether within or outside the physical boundaries of the project area.

### **General Considerations**

- a. The contractor shall, in all his activities ensure maximum protection of the environment and the socio-economic wellbeing of the people affected by the project, whether within or outside the physical boundaries of the project area;
- b. Before any construction works begin, the contractor shall ensure that the relevant environmental and land acquisition certificates of authorization for the works have been obtained from Liberia's Environmental Protection Agency and/or Land Commission;
- c. In general, the contractor shall familiarize himself with the ESMF for the STAR-P. Specifically, the contractor shall make every effort to follow and implement the recommendations and mitigation measures of the ESMF and any supplemental safeguards document, to the satisfaction of the EPA, World Bank as applicable; and
- d. The contractor shall always keep on site and make available to environmental inspectors or any authorized persons, copies of the ESMF and any other relevant documents for the monitoring and evaluation of environmental and social impacts and the level or progress of their mitigation.

### **Acquisition of Construction Materials**

The contractor shall ensure that construction materials such as sand, quarry stone, soils or any other construction materials are acquired from approved suppliers and that the production of these materials by the suppliers or the contractor does not violate the environmental regulations or procedures as determined by the EPA.

### **Movement and Transportation of Construction Materials**

The movement and transportation of construction materials to and within the construction sites shall be done in a manner that generates minimum impacts on the environment and on the community, consistent with the provisions of the ESMF.

### **Fencing of Construction sites**

Construction sites refer to all areas required for construction purposes, including equipment staging areas. The boundaries of the site shall be demarcated prior to any work commencing on the site. It is the responsibility of the contractor to decide on an appropriate system of protective fencing for the site. The site boundary demarcation fence shall be removed when construction is completed, if appropriate. The Contractor shall ensure that all their equipment and materials remain within the boundaries of the site and he shall ensure that materials used for construction on the site do not blow away or otherwise escape the site.

### **Storage of Construction Materials and Equipment**

Construction materials shall be stored in a manner to ensure that:

- a. There is no obstruction of service roads, passages, driveways and footpaths;
- b. Where it is unavoidable to obstruct any of the service paths, the contractor shall provide temporary or alternate by-passes without inconveniencing the flow of traffic or pedestrians;
- c. There is no obstruction of drainage channels and natural water courses;
- d. There is no contamination of surface water, ground water or the ground;
- e. There is no access by public or unauthorized persons, to materials and equipment storage areas;
- f. There is no access by staff, without appropriate protective clothing, to materials and equipment storage areas; and
- g. Access by staff and public or unauthorized persons, to hazardous, corrosive or poisonous substances including sludge, chemicals, solvents, oils, asbestos cement dust or their receptacles such as boxes, drums, sacks and bags is prohibited.

### **Solid Waste Management**

The Contractor shall institute a waste control and removal system for the site. All wastes shall be disposed of offsite at an approved refuse disposal site in consultation with the EPA. Burning of any waste on any construction site is forbidden. The Contractor shall supply waste bins throughout the site at locations where construction personnel are working.

The bins shall be provided with lids and an external closing mechanism to prevent their contents blowing out and shall be scavenger-proof to keep out any animals that may be attracted to the waste. The Contractor shall ensure that all personnel immediately deposit all waste in the waste bins for removal by the Contractor. Bins shall be emptied on a frequent basis and waste removed to a temporary storage site where it shall be properly contained in water and windproof containers until properly disposed of. The bins shall not be used for any purposes other than waste collection.

In performing his activities, the contractor shall use the best practical means for preventing emissions of noxious or offensive substances into the air, land and water. He shall make every effort to render any such emissions (if unavoidable) inoffensive and harmless to people and the environment. The means to be used for making the emissions harmless or for preventing the emissions shall be in accordance with the ESMF and any other applicable safeguards document, and with the approval of the EPA and (if applicable) relevant Local Authority. Hazardous wastes shall be treated and disposed of in conformity with the national regulations and where applicable, with the supervision of qualified personnel.

### **Wastewater Management**

The Contractor shall construct and operate the necessary collection and treatment facilities for waste water to prevent pollution. In cases where water is mixed with oily waste, separators shall be installed. The oil should be stored in tanks or drums as hazardous waste and disposed of in approved manner. The Contractor shall dispose of collected waste water in a manner agreed with the EPA and respective local officials. The Contractor may discharge “clean” silt laden water overland, preferably vegetated land at the construction site and allow this water to filter into the ground.

However, the Contractor shall ensure that he does not cause soil erosion as a result of any overland discharge. Water from washing operations shall be collected in a sturdy container and disposed of in a manner agreed with EPA. Trucks delivering concrete or other construction supplies or equipment shall not be washed at the project site, nor in any other environmentally sensitive areas. All washing operations shall take place at a location where wastewater can be disposed of in an acceptable manner. Sanitary wastes shall be disposed into septic tanks.

### **Stockpiles, Borrow Pits and Quarries**

Borrow pits and quarries shall be prohibited where they might interfere with the natural or designed drainage patterns. River locations shall be prohibited if they might undermine or damage the river banks, or require works in the wet area, which may carry too much fine material downstream. The Contractor shall ensure that all borrow pits and quarries are restored, either to their original conditions or to semi-natural habitats that maintain useful conditions for wildlife.

### **Site Restoration**

The Contractor shall ensure that all temporary structures, equipment, materials, and facilities used for construction activities are removed upon completion of the project. Any oil and fuel contaminated soil shall be removed and buried in waste disposal areas. Soak pits and septic tanks shall be covered and effectively sealed off and the sites shall be re-vegetated.

### **Health and Safety of Workers**

The contractor shall protect the health and safety of workers by providing the necessary and approved protective clothing and by instituting procedures and practices that protect the workers from dangerous operations. The contractor shall be guided by and shall adhere to the relevant national labor regulations for the protection of workers. In addition, the contractors should indicate specific measures they will take during construction to prevent HIV/AIDS or other disease transmission by the work force.

### **Natural Habitats**

In all relevant civil works projects, the contractor shall locate project facilities (permanent and temporary) so as to avoid or minimize the clearing of natural vegetation. The contractor shall enforce a strict prohibition on the washing of vehicles or changing of lubricants in waterways or wetlands.

### **Chance Finds Procedures for Physical Cultural Resources**

If, during project construction, the contractor or project workers encounter archaeological relics, fossils, human remains, or other items of historical or other cultural value, the Contractor shall:

- a. temporarily suspend any works which might damage these items; and
- b. notify the Supervising Engineer who will then notify the competent authority (Ministry of Cultural Affairs) for guidance regarding the appropriate next steps to evaluate, salvage, recover, protect, and/or document the items found.

### **Worker Behavior**

To help ensure that good environmental and social practices are consistently followed throughout project construction and operation, all workers, operational staff, and contract personnel shall be prohibited from (i) hunting, (ii) fishing, (iii) wildlife capture, (iv) bush-meat purchase, (v) plant collection, (vi) unauthorized vegetation burning, (vii) speeding, (viii) weapons possession (except by security personnel), (ix) working without Personal Protection Equipment (PPE), (x) inappropriate interactions with local people, (xi) disrespecting local customs and traditions, (xii) littering of the site and disposing trash in unauthorized places, (xiii) using alcohol on-site or during working hours, (xiv) sexual harassment, or (xv) setting unauthorized fires of any kind.