AFRICAN DEVELOPMENT BANK GROUP

PROJECT: RICE AGRO INDUSTRIAL CLUSTER (SL RAIC) PROJECT

COUNTRY: SIERRA LEONE

PROJECT APPRAISAL REPORT

August 2021

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RDGW/AHAI/COSL

October 2021

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Currency Equivalents[1]

As of [22 June 2021]

Monetary Unit	=	SLL (Sierra Leonean Leone)
1 USD	=	SLL10,231.08
1 UA	=	SLL 14,789.1
1 UA	=	USD 1.44467

Fiscal Year

1st January – 31st December

Weights and Measures

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

This Appraisal Report was prepared by a Bank team, led by Mr. Mark Eghan (Principal Agricultural Economist) and comprised of Ms. Aminata Sow, (Rural Infrastructure Engineer); Mr. Christian Tucker, Senior Agriculture Officer; Ms. Felicitas Atanga, Principal Country Program Officer; Mr. Philip Doghle, Principal Financial Management Officer; Mr. Femi Fatoyinbo, Senior Financial Management Officer; Ms. Mary Foday, Principal Social Development Specialist; Ms. Nelly Maina, Principal Gender Officer; Mr. Anouar Ouedraogo, Senior Youth Employment Flagship Program Coordinator; Mr. Shiaka Momoh, Procurement Specialist; Ms. Edith Ofwona Adera, Principal Climate Change and Green Growth Officer; Mr. Franklin Kuma Gavu, Safeguards Specialist; Ms. Uzoamaka Joe-Nkamuke, Consultant; Mr. Chijioke Osuji, Senior Rice Value Chain Consultant; Mr. Adeniyi Odunlami, Senior Agro-industry Consultant.
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[1] AfDB exchange rates

Acronyms and Abbreviations

ABCs	Agricultural Business Centres
ADF	African Development Fund
AG	Auditor General
ASRP	Agricultural Sector Rehabilitation Project
BPS	Borrower's Procurement Policy
CAADP	Comprehensive African Agriculture Development Programme
cGMP	current Good Manufacturing Practices
CSP	Country Strategy Paper
DP	Development Partners
EA	Executing Agency
ECOWAS	Economic Community of West African States
EVD	Ebola Virus Disease
ENABLE	Empowering Novel Agri-Business-Led Employment
ESMP	Environmental and Social Management Plan
ESMF	Environmental and Social Management Framework
E&S	Environment & Social
EU	European Union
FAO	Food and Agricultural Organization
FBC	Fourah Bay College
FBOs	Farmer Business Organizations
FGM	Female Genital Mutilation
FM	Financial Management
GAP	Good Agricultural Practices
GBV	Gender based Violence
GoSL	Government of Sierra Leone
GDP	Gross Domestic Product
GHG	Green House Gas
HA	Hectares
IA	Internal Audit
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFRs	Interim Financial Reports
IPAs	Investment Programme Areas
IPSAS	International Public Sector Accounting Standards Islamic
IsDB	Development Bank
ISS	Integrated Safeguard Systems
MAF	Ministry of Agriculture and Forestry
MoTI	Ministry of Trade and Industry
M&E	Monitoring and Evaluation
MOF	Ministry of Finance
MOGCA	Ministry of Gender and Children's Affairs
MSMEs	Micro, Small and Medium Enterprises
MT	Metric Ton
MTNDP	Mid Term National Development Plan
NAT	National Agricultural Transformation
NaFFSL	National Farmers Federation of Sierra Leone
NCB	National Competitiveness Bidding
NDPPCO	National Development Partners Program Coordination Office
NERICA	New Rice for Africa
NGO	Non-Governmental Organization
NPSC	National Project Steering Committee
NSADP	National Strategic Agriculture Development Plan

PA	Project Accountant
PAR	Project Appraisal Report
PCR	Project Completion Report
PEMSD	Planning, Evaluation, Monitoring and Statistic Division
PFMU	Program Financial Management Unit
PFMBES	Public Financial Management & Business Enabling Support
PHAP	Post-Harvest Losses Reduction Program
PIM	Project Implementation Manual
PIU	Project Implementation Unit
P4P	Purchase for Progress
RAIC	Rice Agro-Industrial Cluster
SA	Special Account
SLARI	Sierra Leone Agricultural Research Institute
SLARiS	Sierra Leone Agribusiness and Rice Value Chain Support Project
SLEDIC	Sierra Leone Export Development Investment Corporation
SLEPA	Sierra Leone Environment Protection Agency
SLeSCA	Sierra Leone Seed Certification Agency
SLeCAD	Sierra Leone Chamber for Agribusiness Development
SME	Small and Medium Enterprises
SLRC	Sierra Leone Rice Cooperation
SLRVDP	Sierra Leone Regional Rice Value Chain Development Project
TAAT	Technologies for African Agricultural Transformation
TOR	Terms of Reference
UA	Unit of Account
USD	United States Dollars
WB	World Bank
WFP	World Food Program
WARC	West African Rice Company

Loan Information

Client's information

RECIPIENT: **Republic of Sierra Leone**

EXECUTING AGENCY: **Ministry of Agriculture and Forestry**

Financing plan

Source	Amount million (UA)	Instrument
ADF-15 PBA 2021	UA 1.54	Grant
ADF-15 PBA 2022	UA 9.25	Grant
TSF-Pillar 1	10.38	Grant
GoSL	3.32	In-kind
Beneficiary	0.97	In-kind
TOTAL COST	**25.46**	

ADF's key financing information

Grant currency	(currency)
FIRR, NPV (base case)	21% $13.76 million
EIRR (base case)	23%

Timeframe - Main Milestones (expected)

Concept Note approval	May 2021
Project approval	September 2021
Effectiveness	November 2021
Last Disbursement	January 2027
Completion	September 2026
Project Closing	March 2027

Project Summary

Project Overview

The Sierra Leone Rice Agro-Industrial Cluster (SL RAIC) Project, in the rural floodplain areas of Pujehun and Bonthe Districts of Sierra Leone, will help advance GoSL's renewed commitment to sustainably transform the agricultural sector, under its New Direction Agenda and the National Agricultural Transformation Program (NAT 2023). The key expected outputs of the Project include more than 3-fold per hectare, increase in Rice production figures (currently 1-5-2.0 tons/ha), commercialisation of rice production and increased wealth for rice producing communities. The SL RAIC Project will be implemented over five years at a total cost of UA 23.29 million, of which the ADF will provide UA 21.17 million and UA 2.12 million will be provided by the GoSL and beneficiaries as in-kind contribution.

The direct beneficiaries of the Project are the estimated 35,000 active smallholder farmers and other SME operators along the rice value chain in the Project area. It is expected that this Model project will be expanded into other SL rice production clusters, for a wider impact. Farmers will experience a demand-driven multiple increase in rice yields through input support via linkages to large scale operators, targeted and demand-driven skills development and entrepreneurship support, and the provision of enabling infrastructure and common user facilities. Rice processors will have access to modern processing facilities and methodologies. Arranged marketing channels are expected to guarantee overall wealth creation, food and nutrition security, poverty reduction, and improved livelihoods for the farming communities and their households. Women and youth are specifically targeted to increase their participation and benefits from the project especially through the sustainable creation of jobs.

Needs Assessment

The promotion of local production and modern milling of rice is a key strategy of GoSL[2] to reverse the steady decline of local production of rice, dominant staple commodity and major crop, which it used to export a few decades ago but now imports, towards promoting food security and improving livelihoods. The SL RAIC project is needed to address a major and traditional production challenge of reliance on floating rice cultivation in one of SL's major rice production areas by introducing solutions that allow for dry-season, modern cultivation and processing of quality rice.

Bank's Value Added. The Bank is already engaged with GoSL on Agricultural development, and in particular, rice production through SLARIS project, and has become the major donor, on Rice in a country with very little developed private sector. Much of the activities financed in Agricultural development is from donors and the Bank is already working with Development Partners to complement the ongoing investments of other development partners. Most of the projects on rice in Sierra Leone is centered on increased production with limited attention in efficient parboiling and processing. This project will take the rice equation in the country by supporting value addition and increased marketing of locally processed rice. The Bank has tremendous experience in this area following successful projects implemented in The Gambia, Nigeria, Uganda, etc. The project supports the Bank's Strategies for Feed Africa (2016-2025) and Jobs for Youth in Africa (2016-2025). The project contributes to ADF-15 strategic pillar II: human, governance and institutional capacity development for inclusive growth and job creation.

[2] the Medium Term National Dev Plan 2019-2023; National Agricultural Transformation (NAT 2023)

Knowledge Management. This Project represents a Model of Rice Agro-Industrial Cluster development. The outcomes and impact of the project will be closely monitored, and lessons learned will be disseminated through the Bank's mechanisms and other dissemination channels. This model will also be applied in future Agro-Industrial Cluster development projects in other regional member countries (RMCs) and will provide the Bank with requisite knowledge to meet its objectives under the Feed Africa Strategy and the Job for Youth in Africa Strategy.

RESULTS FRAMEWORK

A PROJECT INFORMATION

PROJECT NAME AND SAP CODE: **Rice Agro-Industrial Cluster (RAIC) Project (P-SL-AA0-021)**	COUNTRY/REGION: **Sierra Leone / RDGW**
PROJECT DEVELOPMENT OBJECTIVE: To improve food security in Sierra Leone through the development of rice value chains to improve livelihoods.	
ALIGNMENT INDICATOR (S): Number of people who are hungry / malnourished; Cereal yield (ton/hectare); Africa's share of market value for key processed commodities (%); Land with improved water management (thousand ha); Rural population using improved farming technology (millions); Agricultural inputs provided: fertiliser, seeds, etc. (thousand tons)	

B RESULTS MATRIX

RESULTS CHAIN AND INDICATOR DESCRIPTION	RMF/ADOA INDICATOR	UNIT OF MEASUREMENT	BASELINE (2021)	TARGET AT COMPLETION (2027)	MEANS OF VERIFICATION
OUTCOME STATEMENT 1: Improved food security					
1.1: Reduced percentage of food insecure population	☑	Percentage (disaggregated by Female / Male headed households)	57%	45%	Project Reports, MAF reports, Household surveys, FAO/WFP Reports
OUTCOME STATEMENT 2: Improved value addition and commercialization of rice					
2.1 Reduced post-harvest loses 2.2 % change in income from paddy value chain activities (at least 50% women) 2.3 Improve productivity of rice	□ □ □	Percentage Percentage MT/Ha	20% US$ 500 2.8	3% 1500 3.5	Project Reports, MAF reports, Household surveys, Outcome surveys
OUTCOME STATEMENT 3: Agribusiness skills development for employability and entrepreneurship					
3.1: Increased youth and women with employability and entrepreneurship skills in agribusiness (at least 50% women)	□	Number	0	1000	Project Reports, Outcome surveys
OUTPUT STATEMENT 1: Enhanced input supply					
1.1 No. of farmers supported with agricultural inputs and technical services (disaggregated by sex and type of support type i.e. seeds, fertilizers etc. 1.2 Volume of Certified seeds multiplied 1.3 Number of Private Certified Seed companies trained	□ □ □	Number MT Number	0 0 0	5000 500 3	Project periodic reports
OUTPUT STATEMENT 2: Improved land and water management					
2.1 Area of arable land irrigated 2.2 Number of Water Users Associations created/strengthened 2.3 Number of sustainable land and water management plans developed	□ □ □	Ha Number Number	0 0 0	5,000 100 2	Project periodic reports
OUTPUT STATEMENT 3: Green Industrial Cluster Development					
3.1 Number of SME rice mills established (At least 50% owned by women) 3.2 Number of Aggregation centers established	□ □ □	Number Number Number	0 0 0	20 3 1	Project Periodic Reports,

3.3 Number of Quality and Safety Standards management systems established 3.4 Volume of rice produced 3.5 Number of climate smart rice production technologies promoted 3.6 Number of storage structures Constructed/rehabilitated 3.7 Number of landing craft supplied	□ □ □ □ □	 Metric tons Number Number Number	 0 20 3 0	 437,500 50 12 1	
OUTPUT STATEMENT 4: Skills development and entrepreneurship support- targeted and demand driven					
4.1 Number of fabricators trained on production of axial flow thresher -cleaner disaggregated by sex (at least 30 % of women)	□	Number	0	20	Project Periodic Reports
4.2 Number of processors trained on current Good Manufacturing Practices, quality management, Branding/marketing, High value rice products, mainstreaming and managing climate risks disaggregated by sex. (at least 30 % of women)	□	Number	0	35	
4.3 Number of women and youth entrepreneurs trained and coached to manage their businesses and to mainstream climate risk management in their business plans disaggregated by sex (50% women and men)	□	Number	0	100	
4.4 Number of agricultural producer organizations strengthened in technical and managerial capacity disaggregated by sex (at least 50% women groups) 4.5 Number of beneficiaries of matching grant disaggregated by gender 4.6 Number of good Agricultural and irrigation good Practices disseminated	□ □ □	Number Number Number	0 0 0	8 500 500	

Project Timeframe

Year	2021				2022				2023				2024				2025				2026			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Initial Activities																								
Negotiations, Project Approval																								
Signing of Grant Agreement and Disbursement effectivness																								
Setting up Project Implementation Unit – Begin process of The Procurement activities																								
Project Launching																								
Component 1: **Enhancement of Agricultural Production Systems**																								
Supply of breeder seeds from qualified research institutions																								
Establishement of private sector seed companies																								
Selection of services providers through outgrower sheems model																								
Selection of beneficiaries																								
Input supply to farmers																								
Design and construction of irrigation scheems																								
Technial training of farmers and water users associations																								
Component 2: **Green Industrial Cluster Development**																								
Selection of the industrial cluster contractor																								
Construction of the industrial cluster																								
Selection and aggreement with beneficiaries (Small &medieum enterprises)																								
Acces to market and development of off-taker aggreements with farmers																								
Component 3:Capacity Building and Institutional Strengthening																								
Contracting with Technical Aassistance for cluster development																								
Capacity building in cluster development, structuring and training																								
Development of youth and women enterprenership and delivry of the matching grant																								
Upgrading of the Njala University worshop and agreement for training of trainers																								
Project Management																								
Establishment of the baseline situation																								
Project Management, M&E and communication activities (quarterly reports/disbursement//etc.)																								
Coordinate Financial Management and Annual financial auditing																								
Procurement of Goods																								
Environmental monitoring																								
Mid Term Review																								
Project Completion report (PCR)																								

REPORT AND RECOMMENDATION OF THE MANAGEMENT TO THE BOARDS OF DIRECTORS ON PROPOSED GRANTS TO THE REPUBLIC OF SIERRA LEONE FOR THE RICE AGRO-INDUSTRIAL CLUSTER PROJECT

Management submits the following Report and Recommendation on a proposed ADF-15 Grant of UA 1.54 million and a TSF Pillar 1 Grant of UA 10.38 million to the Republic of Sierra Leone to finance the Rice Agro-Industrial Cluster (RAIC) Project in Sierra Leone.

I – STRATEGIC THRUST & RATIONALE

1.1. Project linkages with country strategy and objectives

1.1.1 The proposed Project is well aligned with Sierra Leone's Medium-Term National Development Plan (2019 – 2023), which was launched in February 2019. The MTNDP articulates agriculture as one of the primary drivers of economic diversification and inclusive economic development. At the sector level, the Project is in accordance with the National Strategic Agriculture Development Plan (NSADP) (2010-2030) which is Sierra Leone's in-country version of the Comprehensive African Agriculture Development Programme (CAADP) as well as its National Climate Change Policy (2015), National Climate Change Strategy and Action Plan and National Determined Contributions (2016), all of which prioritize climate-resilient agricultural production. It is also consistent with the recently launched National Agricultural Transformation Program (NAT 2023) which focuses on developing agricultural value chains, making available improved inputs (seeds and fertilizers), increasing productivity and production, and establishing crops and livestock processing zones across the country. Rice is the primary staple crop in Sierra Leone, with an average consumption of about 131 kg per person per year. National consumption requirement has increased steadily with the population and now stands at approximately 1,000,000 MT. Although nearly 75% of rural households are engaged in rice cultivation, a large proportion of the rice consumed in Sierra Leone is imported, making Sierra Leone dependent on the international rice market. The Government of Sierra Leone aims to be 86% rice self-sufficient by the end of 2023. The Strategy prioritises three value chains, namely: rice self-sufficiency, livestock development, and crop diversification and strengthens four enablers that include: improvement of the policy environment, promoting women and youth in agriculture, setting up of private-sector-led mechanisation, and sustainable management of biodiversity.

1.1.2 The Project aligns well with the Bank's Country Strategy Paper (CSP) for Sierra Leone (2020–2024) through its two pillars namely Priority Area I: Enhancing access to quality infrastructure facilities and Priority Area II: Supporting inclusive growth and job creation through private sector development. Both pillars support the development of private sector, climate-resilient agricultural production, agribusiness and agro-processing.

1.2. Rationale for Bank's involvement

1.2.1 Following the formal request from the Government of Sierra Leone, the Bank undertook missions in the country to review the rationale and assess the technical and financial feasibility of the Project. The proposed Project will build on the implementation experience of the immediate past policies, strategies and existing DP funded programmes and projects. The

Bank's comparative advantage and added value in the Project derived from its accumulated experience in funding projects in Sierra Leone covering sectors comprising agriculture, water and sanitation, social and multi-sector. The Project will provide opportunities to capitalize on the Bank's experience leveraging the private sector in agricultural value chains and on the gains of past projects in the Mano River Union, other ECOWAS countries and across the continent.

1.2.2 The Project will address key issues in the following critical areas: enhancing access to agricultural inputs and services, suitable land and water management, production support and intensification, value addition commercialization, and financing. The Bank has financed in 2010, a preliminary Report for harnessing irrigation potential in five districts of Sierra Leone, by Angelique International Limited. RAIC Project is also based on the technical report prepared by the International Consultant in agribusiness mobilized by the Bank and the work done by the technical team from the Ministry of Agriculture to undertake the needs assessment.

1.2.3 The Bank's financing will also fill a gap in the value chain that has not been fully addressed by the other Development Partners. The Bank is already investing in the SLARiS project to support seed development and provide institutional support to seed agencies to enhance seed system development in the country. This Project will complement the investment in the SLARiS to scale up the production and processing of rice at the commercial scale.

1.2.4 The Project is consistent with the Bank Group's policies and strategies including the Ten-Year Strategy (2013-22) and the High 5s particularly Feed Africa, Industrialise Africa and Improve the Quality of Life of Africans. It supports the Bank's Strategies for Feed Africa (2016-2025) and Jobs for Youth in Africa (2016-2025); the Climate Change Action Plan (2016-2021); the Gender Strategy (2021-2025) on investing in Africa's women to accelerate economic growth; as well as the Strategy for Addressing Fragility and Building Resilience in Africa (2014-2019 extended to 2021). The Project is also firmly rooted in the Bank's main agriculture flagship programs focused on improving agricultural productivity through technology dissemination and scaling (TAAT), Post-harvest loses and agro-processing (PHAP), Staple crop processing zones, agro-clusters and value chain development, enhancing resilience to climate change through climate-smart agriculture and promoting youth empowerment (ENABLE Youth). The proposed Project contributes directly to the ADF-15 priorities. The Project contributes to ADF-15 strategic pillar II: human, governance and institutional capacity development for inclusive growth and job creation.

1.3. Donors' coordination

1.3.1 The Development Partners (DPs) participate actively in the GoSL led Rice Working Group which brings together various stakeholders including the private sector, DPs, research institutions and farmers. Spurred by the recent commitment of the GoSL to sustainably transform the agricultural sector under its New Direction Agenda and the NAT 2023, IsDB has recently funded the Sierra Leone Regional Rice Value Chain Development Project (SLRVDP) with 22 million USD. Exim Bank has made effective a loan of 30 million USD for irrigation and flood management. The Project will work closely with these donors funded projects working on Rice subsector across the country. Other projects that will collaborate with the proposed project include World Bank's SCADeP and EU road rehabilitation and construction projects and the TRASNCO regional electrification project (funded by the AfDB, World Bank and the German National Bank). In accordance with the Paris Declaration on Aid Effectiveness, the proposed Project has made concerted efforts to harmonize with the project approaches/designs adopted with our sister organisations to ensure complementarity of

interventions, avoid duplication of efforts, and learn from each other's experiences. The Project will complement the effort of the existing investments. The WFP's Purchase for Progress Program and Home-Grown School Feeding Program will provide market opportunities for the produce resulting from the Project, in addition to opportunities under a plan to promote a distinct home brand.

II – PROJECT DESCRIPTION

2.1. Project components

The goal of the Rice Agro-Industrial Cluster Project (RAIC) is to contribute to rice self-sufficiency in Sierra Leone and improve the livelihoods of rural households. The specific objectives are to : (i) increase the productivity and production of rice by providing farmers access to quality inputs, land and water management, mechanization and extension services; (ii) improve the value chain through the processing of high-quality rice; (iii) promoting the consumption and marketing of locally processed rice. RAIC will consist of four components as described below in table 2.1.

Table 2.1: Project components

nr.	Component name	Est. cost (UA million)	Component description
1	Enhancement of Agricultural Production Systems:	10.04	<u>Subcomponent 1.1: Input supply</u> ▪ Facilitate the establishment of Private Certified Seed Companies, linked to competent research organizations such as AfricaRice and SLARI for sourcing Breeder and/or Foundation seeds of improved varieties. ▪ Ensure about 5000 farmers have access to seeds, fertilizer, and other technical services through the support to out-grower schemes. ▪ Facilitate the establishment of small and mediums enterprises in the mechanization of rice production activities with a special focus on women and youth. ▪ Support to the development of soil fertility maps to enhance soil nutrient management. <u>Subcomponent 1.2. Land and water management</u> ▪ Development of irrigation schemes for about 5000 ha of land. ▪ Detailed design of irrigation schemes and control of works. ▪ Liming of soil for enhanced soil nutrition ▪ Support to Water Users Associations (WUAs) in the development of a sustainable water management system.
2	Green Agro-processing Cluster Development:	10.97	▪ Establishment of a milling cluster that will upgrade the milling technology of operators. The processing of rice paddy will be promoted by improved rice processing technologies such as the use of: Rubber Roll Mills (10) 1.5 – 2T/h; Destoners (10); Pre-cleaners (10); Colour sorter (1); Product Packaging and branding; Bag Stitchers (10); Axial flow thresher cleaners produced by fabrication training (20); Threshers ordered from the successful trainees (10); Flatbed false bottom parboilers (20); Dryers (20); Moisture meters (20); Processing water supply borehole and overhead tank (2); Briquetting and carbonization equipment for uptake of husks. - Cluster buildings and facilities including the internal access and solar and diesel energy mix. - Technical assistance to support the development and management of the green agro-industrial cluster.

3	Capacity Building and Institutional Strengthening	1.95	▪ Training of about 100 (50% female) in such areas like fabrication of simple equipment, operation, maintenance and repair of new equipment, modern rice production processes, quality management etc. and who should add value to the system with the new skills. ▪ Technical and managerial capacities will be strengthened for about 8 youth and women agricultural organisations. Young fabricators will be trained in thresher fabrication and patronized to produce threshers. Youth groups will be given grants to access the threshers and develop thresher service businesses. ▪ Financing of about 50 Youths to access power tillers and commence mechanization services through the MAF machine ring. ▪ Support to a Workshop at Njala University with equipment upgrade and training on Thresher fabrication to enable the engineering faculty to become a thresher fabrication training centre. ▪ Training of about 5,000 farmers on general Entrepreneurship, current Good Agricultural Practices (GAP), current Good Manufacturing Practices (cGMP), Food Product Safety & Quality Management, Branding/marketing, High-Value Rice Products, Environmental Safety Management and Managing Climate Risks will be supported by the Project. ▪ Technical Assistance to support the strategic and operational capacity development to the Ministry of Agriculture and Forestry; Ministry of Environment; and Ministry of Water Resources on land and water (policy and strategy for planning, monitoring and controlling of water and land, training, logistic, equipment etc.). ▪ Support for postgraduate training in the following specialization areas: a) Irrigation Engineering (Njala University /MAF); b) Hydrology (FBC & Njala University); c) Food Safety (Njala University); and d) Food Technology (Njala University).
4	Project Management:	2.49	▪ Component four will focus on: **Project Implementation Unit (PIU)**: Staff recruitment, their performances evaluated; Steering committee and Coordination meetings organized; Management of partnerships and contractors; Management of Project assets; monitoring of recommendations of different missions and report **Planning**: Annual Work and Budget to be prepared, validated and approved by the Project Steering Committee. **Monitoring and evaluation**: Operational manual prepared and implemented, Project activities monitored and evaluated; Different missions organized; Progress reports, mid-term and Completion evaluations and reports prepared. **Procurement**: General Procurement Notice and First Project Procurement Plan prepared and published. **Environment and Social Safeguard**: Progress and annual audit reports prepared. **Financial Management**: Procedures Manual prepared; Software installed; Annual rate of disbursement of 20%; Financial progress reports and Annual audits prepared timely.

2.2. Technical solution retained and other alternatives explored

The technical solution which was retained comprises the following:

2.2.1 Land and water management. The Project will support the development of key climate-smart agricultural infrastructures that will strengthen the climate resilience of rice through improved management of agricultural water and lands. The major support will be in the provision of technically feasible water management and flood control measures that will

facilitate the increased production of rice paddy (and some vegetables) throughout the year in the selected location(s). The infrastructure development will be aligned with the crop varietal selections and flooding seasonal cycle to optimize the utilization of the land. Also, key access roads will be rehabilitated to ensure ease of movement of goods, machinery and persons to and from the selected locations, and therefore reduce post-harvest losses caused by climate damages on rural transportation infrastructures.

2.2.2 The Project will boost rice production and value addition in Sierra Leone through the development of irrigated rice farming in the Torma Bum and Gbondapi axis with a contiguous stretch of about 200,000ha flood plains out of which about 100,000Ha can be used for rice production. The Project plans to develop irrigated dry season farming using pipeline irrigation in about 5,000ha out of the 50,000ha Project site. Existing farmers in this location cultivate floating rice under rainfed / flood conditions in limited parts of the area. They currently face the severe challenges of seasonal flooding, low yields among others. The rivers adjoining the area usually overflow in the rainy season and cover the vast areas. Therefore, the Project aims to establish water management structures for irrigated cropping of early maturing and high yielding varieties. This strategy will enable the all-season cultivation of rice with the harvests from the rainy season complimenting the expected higher volumes produced under irrigated conditions in the dry season.

2.2.3 **Establishment of the green agro-industrial cluster**

The Project will establish a milling cluster that will upgrade the milling technology of operators. The Project intends to establish a cluster that will house 7 milling units of 2.5T/h - 5T/h milling capacity that are capable of producing high quality milled rice at the defunct Sierra Leone Rice Cooperation (SLRC) site at Torma Bum. This location is already having some semblance of an industrial hub with big players like ABHAJAR Rice Company (operates a 2-unit rubber roll mill without destonning capability) and West African Rice Company (WARC) (operates a mechanized 5 tonne/batch mechanized dryer) running some processing activities there. The housing of the old and dilapidated SLRC mill with its vast drying floor is also situated in this location. The major businesses that will be located at the cluster are as follows:

2.2.4 The Project will require space to establish the industrial cluster in which the milling stations that to be operated by private sector owners will be housed. The mills will be off-takers for the paddy produced from the fields. The producers will be guided to produce the varieties suitable for the production of high-quality products. The processing of rice paddy will be promoted by introduction of improved rice processing technologies such as, false bottom (steam) parboilers, rubber roll rice milling technology and destoners. The Project will also support the recycling and use of rice by-product for livestock feed and for producing renewable energy. The yield and quality of paddy will increase to make the products more competitive in volume and pricing. The farming and processing will be aligned to achieve uniformity in finished products that can compare with imported products.

2.2.5 The parboiling process will be developed as women dominated business. The women will be trained and equipped for steam parboiling and drying operations. Another line of business will be developed for destoning of milled rice products. There will be mandatory destoning of all rice products leaving the cluster. The packaging will proudly have a label claim that declares the stone-free status. Colour sorting services will be used to give the products the finishing that will make them comparable to the imported rice products. The products will be packaged in attractively designed bags. Another business will be established for the production

of husk briquettes to be used as renewable energy in place of the forest-denuding firewood. This same business would also be able to package bran for sale or use bran to formulate a livestock feed premix by incorporating broken grains and/or rice dust. Some youths will be trained and equipped with thresher-cleaners to offer threshing services. This will be especially important when manual harvesting is inevitable such as when the field is not conducive for the combined harvester equipment. Paddy Aggregation business may be owned by the association (s) operating at the cluster. They will be responsible for negotiating with the farmers and receiving the cleaned grains. They will bag, standardize and grade the rice paddy before transfer to the millers.

2.2.6 Promoting market access. Marketing of finished products under the Project will be promoted by the development of high-quality products with improved packaging backed by brand promotion and consumer advocacy. Quality and safety standards management systems will be established to ensure the production of stone-free parboiled rice with a good quality that will be suitable for import substitution. Packaging and branding will be demonstrated to overcome the absence of nationally recognized and accepted rice brands. Presently there is need for a champion brand(s) that will be available nationwide and useful to complete the import substitution process. For this to happen rapidly, products of the agro-industrial cluster of the Project must be firmly connected to the markets. The rice agro-industrial clusters should be supported to adopt well-designed packaging that befits the improved quality and is capable of attracting the attention of consumers. MAF's Agriculture Communication Unit, in collaboration the respective District Communication Teams, will engage all stakeholder in the awareness-raising to popularize the project in the project sites and help to promote the products that emerge from the project. There exists a packaging gap in the country's rice value chain. Good quality products in attractive packages will still require to be propelled in the market especially at the initial stages. The support required will be mostly in the form of consumer advocacy, promotional campaigns and other incentives especially for the importers to enable them to begin to invest in the Sierra Leone rice value chain. Also, for policy development for promotion of support for marketing of locally made rice. This will enable locally made brands to gain access into the marketing channels. The imported products are presently dominating the trade so the local products must appeal to the consumer as a viable substitute. A well-known advantage of the local rice products is that they have a more acceptable taste. This is a major selling point which the rice industrial cluster can leverage on. The project will strengthen the existing Agricultural Market Information System (AMIS) Platforms in Bonthe and Pujehun Districts. Furthermore, the project will support to op-rationalize the existing Food and Nutrition Security Early Warning Systems in the project operational districts.

2.2.7 Access to resilient farm inputs and finance. The Project will be designed to enable the beneficiaries of the milling stations to commence with low capital and low-emission investment input and a manageable pay back system in a matching grant arrangement. The beneficiaries will make a lump sum deposit to take the mills and agree to a payback scheme for the non-grant aspects of the funding. The mill owners could also be the route of extending credit to farmers who will produce for them in a contract farming arrangement. When such arrangement is achieved the farmers will be supplied with climate-resilient inputs and mechanization services until harvest time. After harvest, the value of the input and mechanization support will be recovered in kind and the rest of the paddy purchased at prevailing market rates.

2.2.8 Skills development-targeted and demand-driven

Identified skills gaps that inhibit productivity will be targeted and closed in such a way that the value chain is made stronger, and productivity is improved. Care will be taken to ensure that beneficiaries of previous capacity building and training programmes who are available will be absorbed into the Project to avoid duplication. The training will be implemented in collaboration with identified local agriculture training institutions to improve their capacities and ensure the sustainability of the Project outcomes. Where new technologies are being introduced selected trainees for such will have their knowledge base improved to enable them operate or manage the new systems. The trainings will be provided in such areas like fabrication of simple equipment, operation and maintenance of new equipment, modern rice production processes, quality management etc. And graduates of the training will be charged to add value to the system with the new skills. Organizational strengthening in areas where the beneficiaries will work in groups will be provided for synergy.

2.2.9 Capacity building will be most needed for the application of the newly introduced equipment and technologies, food safety, personnel safety, environmental safety and product marketing. Areas to be covered include: Rice seed selection and management for effective production and marketing, Agronomic best practices in rice production with the newly introduced simple farm machinery and labour reducing equipment which the farmers have to learn fast to use, Irrigation, water management and dry season rice farming. This is important because rice production in rainfed conditions will have low yields. The farmers are not used to dry season farming. Therefore, it is important to sensitize them on this practice and its potential advantages for increased productivity and incomes; Best rice on-farm post-harvest practices to now introduce new operations such as mobile threshing and drying to reduce cumbersome manual labour, improve quality and reduce post-harvest losses; Understanding the technical aspects of producing good quality parboiled rice; Current Good Manufacturing Practices (cGMP); Basic food processing equipment maintenance; Environmental considerations in rice processing and by-product management. This will highlight the benefits of processing waste by recycling and utilization beyond what is currently being practised, which tends to be dumping. For example, the rubber roll mills to be supplied in this Project will generate a bran-free husk waste with low oil content. The bran will be suitable for livestock feed formulation and can then be sold separately. The husk can then be formed into briquettes and used as cheap fuel. Basic rice product marketing to include improved packaging, branding and promotion; Rice quality standards, food safety and quality management assurance; Industrial safety and use of personal protective wears. A training course for machine fabricators on the production of axial flow thresher cleaners will be developed.

2.2.10 Entrepreneurship and basic business management for agribusiness stakeholders including women. Special provisions will be created to empower women and youth through the Project to become business and enterprise owners. Areas like the rice parboiling units will be managed by women groups who will be trained specifically on the skills required to use the parboiling and drying process to achieve high-quality products. Youth will be trained as operators of the new equipment for rice milling. They will also be trained for equipment maintenance, product packaging and quality management as well as entrepreneurship skills and business management. Youth entrepreneurs will manage such stand-alone profitable services in the milling operations like drying, threshing and destoning. Those trained in the fabrication of such equipment like threshers, parboilers, and dryers could be assisted to set up their businesses. Women who qualify will be granted equal access to mill ownership like their male

counterparts. Women will be involved in the trading of the products, advertisement and consumer persuasion activities that will herald and declare the quality of the products.

Table 2.2: Project alternatives considered and reasons for rejection

Altenative Solution	Brief Description	Reasons for Rejection
Full diesel pump-based irrigation system or connection to the National grid system	Green agroindustrial cluster will use electric generators	High operation and maintenance costs. The Project will prioritize renewable energy such as solar, hydroelectricity
	Electric-pump-based irrigation network	The national electricity grid is not adequate within the vicinity of the Project area
Large-scale and automated agro-processing equipment	Fully automated agro processing equipment	High capital, operation and maintenance costs The Project will work to improve the business environment, while the private sector will raise from the commercial Banks, the needed resources to set up their own equipment

2.3. Project type

The Project is a standalone Investment Project funded by ADF XV and TSF Pillar 1 resources.

2.4. Project cost and financing arrangements

2.4.1 The total Project cost, including physical and price contingencies, is UA 25.46 million (USD 36.79 million). The Bank's contribution of UA 21.17 will be funded from the available PBA Country allocation in 2021 of UA 1.54 million and TSF Pillar 1 allocation of UA 10.38 million, the gap of UA 9.25 million will be financed from the PBA 2022. The resolution will reflect only the amount that is available in 2021. The remaining amount (UA 9.25 million) will be submitted for Board approval next year, when the final 2022 PBAs became available. The actual resolutions will request the Boards of Directors' approval of UA 11.92 million in 2021. A second resolution will be submitted in 2022 to request the approvals of the remaining amount (UA 9.25 million) when the 2022 PBAs become available.

2.4.2 The ADF resources will finance the Agro-processing Cluster Development while the TSF resources will finance the Enhancement of Agricultural Production Systems, training, capacity building, and project management. The counterpart contribution of UA 4.29 million from GoSL and beneficiaries will be in-kind respectively through office space, salaries for staff, and services such as electricity, water and telecommunication and matching grant arrangement for equipment, mechanization services from the Government machinery program and value of their time spent on Project meetings and trainings. The details are indicated in Tables 2.4a, 2.4b, 2.4c and 2.4d.

Table 2.4a: Summary of Project Cost by Components (UA million)

COMPONENTS	(US$ '000)			(UA '000)			%	%.
	Local	Foreign	Total	Local	Foreign	Total	For	Base
Enhancement of Agricultural Production Systems	2,374	11,246	13,620	1,643	7,783	9,426	83	39
Green Industrial Cluster Development	5,318	9,544	14,862	3,680	6,605	10,285	64	43
Capacity Building and Institutional Strengthening	719	2,017	2,736	498	1,396	1,893	74	8
Project Management	2,851	591	3,442	1,973	409	2,382	17	10
Total Baseline Costs	**11,262**	**23,398**	**34,660**	**7,794**	**16,192**	**23,986**	**68**	**100**
Physical Contingencies	160	866	1,026	111	599	710	84	3
Price Contingencies	318	782	1,100	220	541	761	71	3
Total Project Cost	**11,740**	**25,046**	**36,785**	**8,124**	**17,333**	**25,457**	**68**	**106**

Table 2.4b: Financing arrangements by Local & Foreign Distribution

Sources of finance	(UA, 000)			(US$ '000)			% Total
	Foreign	Local	Total	Foreign	Local	Total	
ADF Grant	16,026	5,144	21,170	23,157	7,434	30,591	83.2
TSF Grant							
GoSL	373	2,948	3,321	539	4,259	4,799	13.0
Beneficiaries	933	32	966	1,349	47	1,396	3.8
Total	**17,333**	**8,124**	**25,457**	**25,046**	**11,740**	**36,785**	**100.0**

Table 2.4c: Summary of the Grants by Categories of Expenditure (UA '000)

Expenditure Category	(UA '000)				
	ADF Grant	TSF Grant	Beneficiary	GoSL	Total
A. Goods	2,954.0	3,386.9	323.7		6,664.6
B. Services	2,382.4	2,733.2			5,115.6
C. Works	5,126.3	2,440.0	642.1	1,244.7	9,453.1
D. Miscellaneous				2,076.1	2,076.1
E. Personnel		969.0			969.0
D. General Operating Expenses	327.4	851.2			1,178.5
Total	**10,790**	**10,380**	**966**	**3,321**	**25,457**

Table 2.4d : Expenditure Schedule by Components (UA '000)

Component	(UA, 000)					
	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Enhancement of Agricultural Production Systems	941	3,977	3,199	1,615	308	10,040
Green Industrial Cluster Development	4,334	2,396	3,995	189	64	10,978
Capacity Building and Institutional Strengthening	995	525	195	145	90	1,951
Project Management	565	442	554	459	468	2,488
TOTAL	**6,836**	**7,340**	**7,944**	**2,408**	**930**	**25,457**

2.5. Project's target areas and population

The Project will be implemented in Pujehun and Bonthe Districts with a combined human population of 545,577. The direct beneficiaries are estimated at 35,000 economically active smallholder farmers and SME operators living in the rural areas in the two districts who are already willing to participate in agricultural activities as a business. Among the target groups, women and youth play a major role in rice production, processing, small enterprise operation and marketing. Women constitute more than 50% of the active agriculture value chain actors in Sierra Leone, they will be specifically targeted in Project activities to ensure that they reap benefits by providing equal access to all production support and services.

The production area of the Project is the Riverine grassland in Torma Bum, Bonthe District and Gbondapie, Pujehun Districts. The Wanje and Sewa Rivers in the south of the country are the main areas of this ecological zone. Given the relatively flood depths, the areas are currently only suitable for floating rice cultivation during the raining season; Rice must be broadcast and weeded before the flood arrives and cannot be harvested until after the water has receded. The Project's approach to promoting dry season farming under irrigation is therefore the realistic transformational way to, promptly, achieve a massive increase in Rice production, in the area.

2.6. Participatory process for Project identification, design and implementation

2.6.1 The design of this Project was informed extensively by multi-stakeholder participatory consultations. The Bank mission had a general consultation and technical working sessions

with Government personnel and key stakeholder groups in agriculture including Development Partners. Some of the stakeholders are the Minister and Directors of the Ministry of Agriculture and Forestry, Ministry of finance, Directors and officials at the Ministry of Trade and Industry, Ministry of Gender and Children's Affairs, Ministry of Energy, Environmental Protection Agency, Public-Private Partnerships Unit at the Office of the President, and the National Youth Commission, Development Partners, including the World Bank, IFAD, FAO, European Union, Islamic Development Bank, IFC; local banking institutions; Faculty at the Agricultural Engineering Department, Njala University; Sierra Leone Chamber of Agribusiness Development and local government; agribusinesses (WARC, Abhaja), chiefs and population of the Project area.

2.6.2 Stakeholder engagements during the mission show the need to adopt a holistic approach and coordination so as to avoid communication gaps that can affect the level of engagement of key stakeholders. To that effect, the Project's guiding principles will be based on the following: alignment to the New Country Policy shift; complementarity and harmonization with ongoing interventions from the Governments and Donors. The Rice agro-industrial cluster will be the strategic approach to enable the concentration of producers, agro-industries, traders and other private and public actors engaged in the rice industry, inter-connecting and building value networks, either formally or informally, addressing common challenges and pursuing common opportunities.

2.7. Bank Group experience, lessons reflected in project design

The Bank has gained useful experiences from its ongoing and previous operations across various sectors in the country. Key lessons learnt include the need to: (i) improve quality at entry in project design, procurement planning, implementation and contract management; (ii) strengthen and streamline project management implementation capacities and increase understanding of the Bank's procedures in the project and the project environment; (iii) engage the private sector and stakeholder communities in the management of project infrastructure; (iv) and expedite the fulfilment of conditions precedent to effectiveness and first disbursements. The proposed Project design has drawn on these lessons and will adopt a public sector enabled and private-sector-driven value chain approach to achieve not only increased crop production and productivity through commercialization and infrastructure development but also provide key frameworks and incentives to boost private sector investments.

2.8. Key performance indicators

The Project's key performance indicators to be measured throughout the Project life are presented in the Results Based Logical Framework. The M&E expert of the PMU will carry out internal Project monitoring and evaluation in collaboration with MAF, to monitor performance. Regular implementation progress will be measured through Quarterly Progress Reports, bi-annual Bank supervision missions, and annual technical and financial audits.

The key performance outcomes include crop production, crop yield per hectare and percentage value added for rice value chain, access to the products, purchase of and consumption of the products. Major output indicators include number of new irrigation sites developed into irrigation schemes, number of existing schemes rehabilitated, number of staff and farmers trained and quantity of seed multiplied. All these are disaggregated by gender with a special focus on young people and women. The indicators will be monitored using Project's M&E system.

III – PROJECT FEASIBILITY

3.1 Economic and financial performance

3.1.1 A financial assessment of the Project was undertaken using activity models, and on the basis of prevailing market prices. The key assumptions underlying the analyses include: (i) the use of certified improved seed varieties by farmers; (ii) the area under cultivation is 50,000 Ha at full operation of the Project; (iii) reduced post-harvest losses; (iv) a 20-year time period was used to measure the incremental benefits from the Project. Farm gate prices were used in estimating the total revenue from the Project; (v) the opportunity cost of capital (OCC) used for discounting future benefits was estimated to be 12%. For the economic analysis, (vi) hired labour value was adjusted by a conversion factor of 0.75. These analyses were carried-out with financial and economic costs generated using Costab 32. Summary of financial and economic analysis is in in Annex B6 in Volume II of the Project Appraisal Report.

3.1.2 On the basis of the above-captured assumptions, the Project is expected to generate the following benefits: (i) increase rice production and productivity resulting in total annual rice of 437,500 metric tons; (ii) increase value-added to rice production through the cluster model; (iii) improve market linkage and value chain for rice production; (iv) improve average household income of beneficiaries to USD 1,500; and (v) provide employment for 40,000 farmers and entrepreneurs.

Table C.1: Key economic and financial figures

FIRR, NPV (base case)	21%	USD 13,764,912.19
EIRR (base case)	23%	USD 16,523,826.72

NB: detailed calculations are available in Annex B6

3.1.3 ***Financial analysis:*** Based on the above assumptions, the financial analysis generated Net Present Value (NPV) of USD 13,764,912.19 and internal rate of return (IRR) of 21%, as captured in the technical annexes (B6). Based on the above analysis, the Project is deemed financially feasible. The FIRR of 21% is higher than the opportunity cost of capital (12%).

3.1.4 ***Economic analysis:*** The economic analysis was conducted using the same approach as the financial analysis, on the basis of shadow prices (prices in conditions of the efficient market operation) of tradable goods and total cost of Project. In addition, other indirect benefits were also expected, such as, easy access to markets through market linkages, enhanced skills development, reduced unemployment, reliable market information system and business developments from the fabrication trainings. The economic analysis yielded an NPV of USD 16,523,826.72 and EIRR of 23% as captured in the technical annexes.

3.2. Environmental and Social impacts

The project category is confirmed as Category 2 according to the African Development Bank's Integrated Safeguard System (ISS) as the potential environmental, social and climate change impacts associated with the project activities are expected be site-specific environmental and/or social impacts that can be minimized by including mitigation measures in prepared ESMP. The project will not involve activities that will lead to involuntary resettlement of persons as the machinery for the rice milling operations will be installed on government lands. Environmental and social due diligence will be undertaken by the E&S Officers on farmlands to be acquired by the individual farmers.

The environmental and social management framework (ESMF) was prepared by MAF, reviewed and cleared by the Bank, and disclosed by MAF on August 19, 2021. Subsequently, the Bank also disclosed the ESMF on August 20, 2021 in accordance with the ISS requirements. The PMP and ESIA, which would be prepared under project implementation will be publicly disclosed in-country and at the Bank's website prior to first disbursement for works. Consultations were restricted to mostly institutions due to COVID protocols and were held between the 2nd to the 10th of July 2021 with the Ministry of Agriculture and other line Ministries and agencies such as (EPA-SL, SLARI, SLESCA, NAFRA, SLeSCA, SLeCAD, NaFFSL, Njala University etc. At local level, a wide range of consultations were held with local communities and beneficiaries, CBOs, NGOs, private actors and religious chiefs.

The major risks and significant impacts are [(i) energy consumption during steam generation, de-husking and milling operations; (ii) noise generation from milling operations; (iii) rice husk dust generation from milling operations; (iv) wastewater generation from the washing, soaking and parboiling operations and (v) pollution of surface and groundwater from wastewater discharges, (vi) noise generation from the movement truck and machinery; (vii) dust generation from trucks; (viii) soil erosion from the clearing and excavation work and (ix) flooding from choked water courses, (x) impact on labour; (xi) community health and safety; (xii) impact on cultural resources and heritage; (xiii) impacts on women and vulnerable groups; (xiv) occupational health and safety hazards; (xv) indirect impact of mono-cropping by rice farmers; and (xvi) Indirect increased use of agro-chemical by rice farmers.

The implementation of the approved ESMF and subsequently the ESIAs and ESMPs, which seeks to promote good agriculture practices, improve agriculture technologies such as integrated soil fertility management (ISFM), integrated pest management (IPM) and sustainable land and water management practices when implemented according to the guidelines of both SLEPA (EPA-SL) and the Bank, will adequately address all the Project's risks and impacts. The project will prevent social impacts/risks such as disruption of social units and networks, safety and security issues. All risks and impacts will be managed by the site specific ESIAs and ESMPs that would be developed with GRMs and stakeholder engagement especially at the local level when developing site specific ESIAs and ESMPs. The total cost of the ESMP implementation including monitoring and capacity building is Eight Hundred and Thirty-Six Thousand dollars (836,000 USD). The overall responsibility of the Environmental and Social Safeguards monitoring including the grievance redress mechanism will lie with the Project Management Unit (PMU). The PMU will appoint one Environmental safeguards specialist (ESS), One Social safeguards specialist (SSS). The capacity improvement and strengthening measures for MAF and PMU including specialist recruitment and training have been appropriately budgeted for in the ESMF.

Climate Change

Sierra Leone faces some environmental and climate change challenges including deforestation, storms, flooding and mudslides which cause damage to farmlands, settlements, and livestock. Rice, accounting for the largest share of agricultural GDP and 42 percent of the average person's caloric intake, is highly sensitive to increased humidity and rainfall intensity and is vulnerable to pests that thrive in higher temperatures. It is also affected by climate-induced post-harvest losses due to infrastructure damage, landslides, and road flooding, which disrupts of the supply chain. The Project is therefore classified as Category 2 according to the Bank's climate safeguard system, meaning that the Project is vulnerable to climate change. Considering this, the Project will integrate climate-change resilience initiatives focusing on reducing the inundation of rice fields, climate-induced pest infestations and effects of humidity into its design. Farmers will be encouraged to adopt climate-smart agriculture inputs and practices including adoption of high yielding seed varieties, water catchment and land management, improved farming technologies, GHG reduction practices and technologies and climate risk analysis. It will also improve rural transport facilities to minimize post-harvest

losses induced by climate damages to rural infrastructures. The Project will also promote solar-powered rice storage and processing technologies/mills as well the recycling and reuse of rice by-products for livestock feed and bioenergy production. It will also carry out specific training to enhance the capacity of Small and Medium Enterprises (SMEs) on climate risk management and mainstreaming in their business plans.

Gender

In line with NAT 2023, which identifies stimulating women's and youth participation in agriculture as one of the main enablers of the sustainable transformation of agriculture and the Ministry's Gender in Agriculture Policy (2019), this Project is in line with Sierra Leone's National Gender Equality and Women's Empowerment Policy specifically on increasing women's control and access to productive resources through trade and economic development. Women are heavily involved in the rice value chain, but their participation greatly exceeds their benefit from the same. The Project has a focus on enhancing women's entrepreneurship and value addition capacity in commercial rice value chains through business skills development, enhancing the capacity of women and youth farmer groups, and increasing their access to technology, inputs, finance and market linkages. Training on new technologies will target both women and men and ensure that these technologies do not acquire gender stereotype labels. Women as consumers will be involved in designing, marketing and branding strategies to promote the local rice produced through the Project. The Project will have positive outcomes in the form of increased incomes for women and youth. As private sector actors, women's MSMEs and cooperatives will be strengthened through formal registration, improved organization and business management practices that will propel their financial growth. The use of new technologies will reduce women's heavy workloads and time used in traditional rice processing activities allowing them to engage in other activities. Social safeguard mechanisms such as gender-based violence mitigation measures will be integrated across the Project components. A gender analysis for the Project has been compiled, with the Project categorised as GEN II on the Bank's Gender Marker System. The Project contributes to all the pillars of the Bank's Gender Strategy (2021-2025) specifically on increasing women's access to financing, enhancing women's skills and increasing access to social services through infrastructure development. A gender action plan has been developed to guide gender mainstreaming activities for this Project and will also be used as a monitoring tool during project implementation.

Youth employment

Sierra Leone faces a multitude of challenges with the high levels of poverty and unemployment, especially among the youth topping the list. The youth under 35 years make up 74.5% of the population but the youth structural unemployment rate of 70% is amongst the highest in the West African sub-region. About 65% of the youth population within the employment age do not have access to secure and sustainable jobs. The main reasons for this high level of unemployment are lack of financial or other resources to start businesses, family responsibilities and the lack of skill requirements or experience. This high unemployment frequently causes despair among young people pushing them to migrate from rural to urban areas and abroad in the hope of finding greener pastures, which are in actual fact not there.

Generally, young people are not adequately prepared for employment due to low levels of education and/or marketable skills. They also have little connection to the formal economy and lack skills that are required by the labour market commonly referred to as a skills mismatch.

Equally, they do not have the appropriate knowledge and skills to start a business enterprise. The Project will address these issues by supporting demand-driven skills development for the rice value chains. There is already a strong relationship between the MAF and the Ministry of Youth Affairs to train and provide technical and financial support to youth to become agripreneurs around agriculture value chains. The Project will leverage on this partnership to ensure that the youth are well equipped to play a major role.

Fragility Assessment

Sierra Leone continues to experience some challenges stemming from the root causes and drivers of fragility which manifested itself over the decade-long conflict. These drivers of fragility include: high rates of youth unemployment, high poverty rate of 60%, gender inequality, high levels of perceived and real corruption, weak human and institutional capacities and poor economic governance systems, especially public financial management (PFM) and revenue management systems, capacity constraints of the Government to fully implement its development agenda. Rapid urbanization fueled by migration of mainly the youth from rural localities into Freetown in search of (better socio-economic opportunities) is posing serious development challenge for the Government of Sierra Leone. Urban migration rate is currently 4.20% (about 46,000 people per annual) added to the existing 1.1 million people living in Freetown and environs which is exerting more pressure on the city limited infrastructure as an estimated 15% of the country's population lives in Freetown and environs.

Food insecurity remains a significant concern due to large segment of the population undernourished. According to the World Food Program (WFP), food security analysis in Sierra Leone shows a deterioration in food security compared to February 2019, with the total food-insecure population increasing from 34 percent to 47.7 percent. This implies that almost half of the population of Sierra Leone (3,921,752) are not consuming enough nutritious diet to live a healthy life. Limited availability and affordability of nutrient-adequate and healthy diets hampers the country human-capital development. It stifles pregnant-women's feeding, infant and young child nutrition, and causes nutrition (iron, zinc, etc) deficiencies like anaemia, child-brain underdevelopment, other low human capital outcomes, and other ailments. Nutrition is so critical that it affects future human productivity owing to its direct links with brain and cognitive development. Competitiveness can be enhanced by prioritizing nutrient-rich feeding via production, access, and consumption of nutrient-rich diets to pregnant women and young children: This is very important for the first 1000 days (from conception to 2 years postnatal) are "a critical period and lay the foundations for health and well-being across the human life span.

Involuntary resettlement
Not applicable

IV – IMPLEMENTATION

4.1. Implementation arrangements

4.1.1 Institutional arrangements

4.1.1.1 The Ministry of Agriculture and Forestry will be the executing agency and will execute the project, through a Project Implementation Unit (PIU) to be established. The Project Implementation Unit (PIU) will be competitively recruited to manage the Project and will be

based in Moyamba to co-exist with the SLARiS project temporarily for a year (at minimal cost) and thereafter relocate to Torma Bum. The PIU will comprise key officers as follows: (i) Project Manager; (ii) Accountant; (iii) Rural infrastructure Engineer; (iv) Agro-processing Specialist; (v) Agronomist; (vi) Procurement Expert; (vii) M&E Officer; (viii) Gender and Youth Expert (ix) Agribusiness Development Officer; (ix) Extension Officer; and (x) Environmental and social safeguards Specialist. Government will assign Extension officer, Agronomist and irrigation engineer to the PIU.

4.1.1.2 Based on the weaknesses identified in the management of the ongoing SLARiS project and lessons distilled by the Bank from its experience in implementing programs in the country, the management of the Project will emphasize a highly decentralized but inclusive structure. At the National Level, the existing National Development Partners Program Coordination Office (NDPPCO) will be strengthened to carry out key policy and institution back stopping at the Ministry of Agriculture and Forestry.

4.1.1.3 The Project will use the existing National Project Steering Committee (NPSC) for the ongoing SLARiS project consisting of the Ministry of Agriculture and Forestry (Chair), Ministry of Finance, Ministry of Planning and Economic Development, Ministry of Youth/ National Youth Commission, SLARI, SLeSCA, SLeCAD, National Farmers Federation of Sierra Leone (NaFFSL), Ministry of Local Government and Rural Development, Ministry of Gender and Children's Affairs, Ministry of Water Resources, Ministry of Trade & Industry, Water Regulatory Commission, Environmental Protection Agency/Ministry of the Environment, Njala University, Civil Society Representative working on agricultural development as well as the Chairperson of each of the two District Councils where the Project will be implemented. The NPSC will provide guidance and general oversight functions, including policy and strategic orientation of the Project. The Food and Agriculture Organization of the United Nations will be engaged to provide technical assistance to the Project on component 3[3]. The industrial cluster will be managed by private entities competitively selected through a Public-Private-Partnership (PPP) arrangement.

4.1.2 **Procurement Arrangements**

4.1.2.1 Procurement of goods (including non-consultancy services), works and the acquisition of consulting services, financed by the Bank for the Project, will be carried out in accordance with the "Procurement Policy and Methodology for Bank Group Funded Operations" (BPM), dated October 2015 and following the provisions stated in the Financing Agreement. Specifically, Procurement will be carried out as follows:

4.1.2.2 Borrower Procurement System (BPS): Procurement through National Competitive Bidding (NCB) and shopping procedures will be carried out using BPS comprising its Laws and Regulations of the respective country, using the national Standard Solicitation Documents (SSDs) agreed during Project negotiations for various group of transactions to be indicated under the Project, detailed in Annexes to this report and the provisions stipulated in the Financing Agreement.

4.1.2.3 Bank Procurement Policy and Methodology (BPM): Bank Standard (Procurement Methods and Procedures) PMPs, using the relevant Bank Standard Solicitation Documents

[3] The FAO will be informed early to give adequate time for its preparation and approval to provide the assistance.

(SDDs), will be used for Open Competitive Bidding International (OCB-I) and Limited International Bidding (LIB) or Restricted Competitive Bidding contracts for both goods and works and Acquisition of Consulting Services as indicated in the relevant Annex of this report.

4.1.2.4 Procurement Risks and Capacity Assessment (PRCA): the assessment of procurement risks at the Country, Sector, and Project levels and of procurement capacity at the Executing Agency, were undertaken for the Project and the output have informed the decisions on the procurement regimes (BPS and Banks PMP) being used for specific transactions or groups of similar transactions under the Project. The appropriate risks mitigation measures have been factored in the entire procurement arrangements of the project.

Financial Management Arrangements

The Project will be executed by the Ministry of Agriculture and Forestry (MAF) through a Project Implementation Unit (PIU) to be constituted for the implementation of the Project. The financial management (FM) function of the PIU will be headed by a Project Accountant (to be competitively recruited) who shall be a seasoned chartered accountant with hands-on experience on donor funded projects accounting (especially in the practical application of international public sector accounting standards- IPSAS) and skilled in the usage of an accounting software. Like all other projects implemented by MAF, the Senior Financial Management Specialist at the National Development Partners Programmes Coordination Office (NDPPCO) will have an oversight role over the FM function of the Project while leading the coordination and harmonization of all MAF project's fiscal management issues. The Project Accountant (PA) will be assisted by an Accounts Officer. Their specific roles on the Project will be detailed in their respective contracts to ensure adequate segregation of duties. The PA shall report to the Project Manager and the Senior Financial Management Specialist at the NDPPCO for: consolidation of all projects under MAF, administrative, compliance, and quality control purposes. In harmony with the ongoing Bank funded SLARIS project, the Project will adopt the same financial management manual (when finalised), chart of accounts. Tompro accounting software will be procured for financial reporting. The proposed Project will adopt International Public Sector Accounting Standards (IPSAS) Cash Basis for financial reporting in accordance with accounting standards adopted by the Government of Sierra Leone. The assessment further recommends that a project implementation manual be customised from the exiting draft PIM (being developed for SLARIS) to guide Project implementation.

GoSL internal control procedures modified for projects and internal audit function appear adequate and will be implemented to strengthen the Project internal control environment. The internal audit (IA) function of MAF is adequately staffed and will provide of-the-fact checks and periodically review Project operations. The IA will submit their report to the NPSC and the internal audit Directorate at the MOF.

At the end of every quarter, the Project Accountant will generate from the accounting system un-audited interim financial reports (IFRs), share with MAF and submit to the Bank within forty-five (45) days after the end of each calendar quarter. Annually, the PA will prepare Project financial statements covering all Project activities of the relevant fiscal year, which shall be audited, and the audit reports submitted to the Bank no later than six (6) months after the end of each fiscal year. The contents of both IFRs and annual financial statements have been discussed during this appraisal.

External Audit: The annual financial statements of the Project will be audited by the Auditor General (AG) of Sierra Leone or a competitively recruited independent private external audit firm, acceptable to the Bank. The audit terms of reference (TORs) shall be agreed with the Bank. The audit reports (comprising of the audited financial statements with the auditor's opinion and related management letter) must be submitted to the Bank no later than six (6) months after the end of each financial year. The costs of external audit will be paid from Project resources.

Disbursement: Four disbursement methods are used by the Bank in disbursing funds to its projects: (i) Direct payments; (ii) Payments through Special Account (SA); (iii) Reimbursement method; and (iv) Reimbursement Guarantee. Bank's disbursement to projects implemented by MAF, including the ongoing SLARIS and closed Agricultural Sector Rehabilitation Project (ASRP) among others, has generally made use of the Direct Payment and Special Account methods. The **Direct payment** method will be used for the payments against larger contracts signed between project management at MAF and contractors/suppliers/ service providers. In line with Bank's guidelines, the use of **Special Account** method will only be authorized for the proposed project upon refund or justification of the unjustified balance of a closed Bank financed Project**.** As and when the Special Account method becomes applicable, a dedicated USD special account will be opened at an acceptable commercial bank to receive advances from the Bank for payment of operating expenses. A local currency account will be opened at same bank to to receive transfers from the SA for making local eligible payments. **Reimbursements** will be made for eligible expenses for goods, works, services and operating expenses already incurred and paid for by using GOSL own resources. Regarding the **Reimbursement guarantee method**, the Bank shall provide an irrevocable undertaking to reimburse a commercial bank for payments made or to be made to a beneficiary against a letter of credit (for imported goods). *All disbursements under the project shall follow the Bank's disbursement procedures outlined in the Disbursement Handbook, 2020*.

4.2. Monitoring

The M&E system will be developed and managed by the M&E Officer, within the framework of the Project Results Based Logical Framework. The M&E Officer will regularly track, document and report the Project's results and progress, facilitate knowledge building, and share knowledge with key stakeholders. The monitoring and reporting plans will be developed based on gender-disaggregated indicators in the log frame. It will be part of the obligation of all Project implementers to provide reports in prescribed format on outputs and outcomes achieved within the implementation agreements. The Project will provide financial resources to facilitate training, proper data gathering, processing and reporting.

Project milestones and the Monitoring process/Feedback loop

Timeframe	Milestone	Monitoring process / feedback loop
August 2021	Negotiations of Grant Agreement, PAR, Disbursement Letter	Minutes of the Negotiations
September 2021	Approval	Resolutions of the Board
October 2021	Signing of the Grant Agreement	Agreement signed
October 2021	Effectiveness of the Grant	Signing of the Grant Agreement
January 2022	Satisfaction of condition prior to 1st disbursement	Bank's Legal Opinion
February 2022	First disbursement	Notification to the PIU
August 2023	Mid-Term Review (MTR)	Mid-term review report
December 2026	Project completion	Completion report
December 2027	Last disbursement	Last audit report

4.3. Governance

4.3.1 The National Agricultural Transformation (NAT 2023) program shows the Government of Sierra Leone's commitment to set up a conducive environment for private sector development. The New Policy shift emphasizes private sector involvement throughout the agriculture value chains, with Government not playing a role in input distribution, but being a facilitator and quality assurer; increased linkages from agro-businesses to smallholder farmers throughout-growers schemes ; improved data systems, collection and analysis, facilitated by new technologies and supporting evidence-based decision-making; investment in quality research, especially on seeds for rice, with clear links to extension services so farmers can benefit from the latest research; large-scale irrigation targeting 100,000 hectares, with improved water management; agricultural machinery services and Agribusiness Service Centres made available nationwide. To this regard, the GoSL has mobilized, through the Central Bank of Sierra Leone, a USD 50 million fund to incentivise private sector involvement.

4.3.2 The establishment of the production and processing clusters will facilitate the collection of the relevant government taxes. To achieve the desired impact, it will be beneficial to synergize with other donor and development partners and partner with private sector operators who have years of experience in the rice value chain and have accumulated relevant data through interactions with farmers, processors and other actors along the value chain.

4.4. Sustainability

4.4.1 The irrigation schemes will be managed by the farmers' organisations and technical sustainability will be assured since they will easily finance the recurrent costs based on generated funds. Since the Project interventions will improve household food security and increase incomes, farmers will have money to buy farm inputs to sustain crop production and productivity. The irrigation development, agro-processing and marketing of value-added products, provision of institutional support and development of strong farmer groups will work in synergy to ensure sustainability. The rice industrial cluster operators will be developed into well-managed associations and strong functional groups in their different specialized businesses but there will be an apex leadership or governing council. They will collectively receive appropriate training in the areas of current good manufacturing practices (cGMP), food safety and quality management, basic equipment maintenance, safety workplace safety health and environmental management and food product marketing and brand promotion etc. The cluster is expected to grow into a major rice market in the near future. Private sector investors will acquire the milling station after paying a lump sum and the outstanding amount will be spread out over a period of time. The job opportunities that will be created at the cluster include: Farmers, Drivers/Transporters, Parboiler Operators, Mill Owners and Operators, Firewood and Energy Product Suppliers, Loaders and Off-loaders, Waste Processors, Bag stitchers, Caterers/Food Traders and General Goods Traders, Machine and Spare Parts Suppliers, Maintenance Service Providers, Packaging Material Suppliers, Mill Employees, Water Supply Service Providers, Warehouse Owners and Waste Handlers/Processors.

4.5 Risk management

	Risk	Mitigation Measures
1.	Limited Government commitment to implementation on private sector-oriented policy incentives.	Ensure policy incentives are fully discussed and agreed upon with Government.
2.	Poor performance of some contractors. Insufficient experienced contractors in counties.	Stringent evaluation process and good follow-up in contract execution.
3	Poor market access of products, and competition from rice importation/importers.	National Branding of the rice supported with robust awareness program by government.
4.	Limited buy-in and commitment from Project beneficiaries.	Early involvement of beneficiaries in the Project design.
5.	Weak implementation capacity that affects progress of the Project.	Capacity building support and competitive selection of additional Project experts with adequate experience.

4.6 Knowledge building

The Project is expected to generate considerable knowledge which will add value to the overall design and management of similar future interventions. Lessons and experiences will be shared within the Bank and other institutions interested in implementing projects based on Agro-industrial cluster development. The Project will contribute to knowledge building through: (i) the M&E system put in place which is designed to generate information on implementation achievements, Project financing, disbursement trends, procurement, contractor performance, beneficiary participation, Project outputs and outcomes and sustainability; and (ii) lessons learnt from Supervision Mission reports, MTR and PCR. This will enhance knowledge in designing future similar projects.

V – LEGAL INSTRUMENTS AND AUTHORITY

5.1 Legal instruments

5.1.1 The legal instruments to finance this operation are: (i) ADF Protocol of Agreement between the Republic of Sierra Leone (the "Recipient") and the African Development Fund (the "Fund") for an amount of UA 1.54 million; and (ii) TSF Pillar 1 Protocol of Agreement between the Recipient and the African Development Bank (the "Bank") and the Fund (the Bank and the Fund together the "Fund") as Administrators of the TSF for an amount of UA 10.38 million (together the "Grant Agreements).

5.2 Conditions associated with the Fund's intervention

A. Condition Precedent to Entry into Force of the Grant Agreements:

The Grant Agreements shall enter into force on the date of signature by the Recipient and the Fund.

B. Conditions Precedent to First Disbursement of the Grants:

The obligation of the Fund to make the first disbursement of the Grants shall be conditional upon the entry into force of the Grant Agreements and the fulfilment by the Recipient, in form and substance satisfactory to the Fund, of the following conditions:

(i) The submission of evidence of the recruitment or appointment of staff for the Project Implementation Unit (PIU) with qualifications and terms of reference acceptable to the Fund, as follows: (i) Project Manager; and (ii) Project Accountant.

C. Conditions Precedent to Disbursement for Works:

Subject to the *Conditions Precedent to Entry into Force of the Grant Agreements* and *Conditions Precedent to First Disbursement of the Grants*, the obligation of the Fund to disburse the Grant for works that involve the use of an Environmental Social Management Framework (ESMF) shall be subject to the satisfaction of the following additional conditions by the Recipient:

(i) Submission of the site-specific Environmental and Social Impact Assessment ("ESIA") and Environmental and Social Management Plan ("ESMP") for each works and Integrated Pest Management Plan ("IPMP") for the Project, prepared in accordance with the ESMF and the Fund's Safeguards Policies, in form and substance satisfactory to the Fund; and

(ii) Submission of the evidence of approval of the site-specific ESIA and ESMP by the competent national authority of the Recipient.

D. Other Conditions:

(i) Not later than six (6) months after Grant effectiveness, the submission of evidence of recruitment of additional staff for the PIU with qualifications and terms of reference acceptable to the Fund, as follows: (i) Rural Infrastructure engineer; (ii) Agro-processing specialist; (iii) Agronomist; (iv) Extension Officer; (v) Gender and Youth Expert; (vi) Agribusiness Development officer; (vii) Monitoring and Evaluation Officer; (viii) Environmental and Social Specialist; and (ix) an Irrigation Engineer on a need basis; and

(ii) The Recipient shall within six (6) months of the Date of the Grant Agreement or such later date as may be approved by the Fund, office space, salaries for assigned staff, utilities and matching grant arrangement for equipment, mechanization services from the Government machinery program, as its in-kind contribution (the "Counterpart Contribution") towards the costs of the Project.

E. Undertakings: The Recipient undertakes to:

(i) To carry out the project in accordance with: (a) Fund's rules and procedures; (b) national legislation; and (c) the recommendations, requirements and procedures set forth in the ESMF, ESIA, ESMP, IPMP prepared for the Project;

(ii) To deliver to the Fund project quarterly reports and any other reports in form and substance acceptable to the Fund, including the Recipient's implementation of the ESMF, ESIA, ESMP;

(iii) To maintain the National Project Steering Committee (NPSC) established under the SLARiS project, for guidance and general oversight functions, including policy and strategic orientation of the Project, throughout the Project implementation period; and

(iv) To cause implementation of measures to mitigate financial management risks associated with Project implementation including inter alia: (a) adoption of the

Project implementation/financial manual developed for the SLARIS project; and (b) acquisition of an accounting software for reporting.

5.3 Compliance with Bank Policies

- This Project complies with all applicable Bank policies.

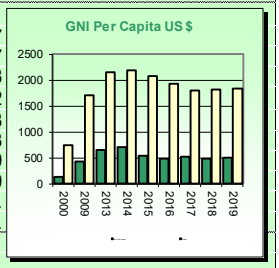
VI – RECOMMENDATION

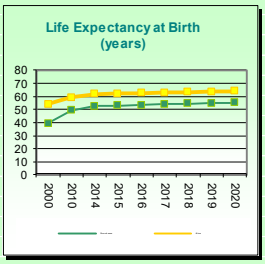
A. Management recommends that the Boards of Directors approve the proposed **ADF grant** not exceeding an amount of **UA 1.54 million** and **TSF Pillar 1 grant** not exceeding an amount of **UA 10.38 million** to the Republic of Sierra Leone for the purposes and subject to the conditions stipulated in this report.

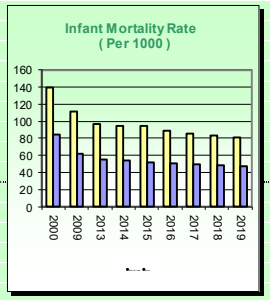
B. **When the ADF-15 Performance Based Allocations for 2022 are available**, Management proposes to submit for the Board of Director's consideration an Addendum with a cover note **for Additional Financing** to fill the financing gap of up to UA 9.25 million ADF grant for the proposed Project.

Appendix I : Sierra Leone's comparative socio-economic indicators

	Year	Sierra Leone	West Africa	Africa	Develo-ping Countries
Basic Indicators					
Area ('000 Km²)	2020	72	5,115	30,067	94,557
Total Population (millions)	2020	8.0	397.2	1,338.8	6,437.7
Urban Population (% of Total)	2020	43.3	47.6	43.8	50.8
Population Density (per Km²)	2020	110.5	78.9	45.6	67.2
GNI per Capita (US $)	2019	500	1 677	1 843	5 093
Labor Force Participation *- Total (%)	2020	57.1	57.7	61.3	58.3
Labor Force Participation **- Female (%)	2019	57.5	57.1	55.8	45.9
Sex Ratio (per 100 female)	2020	99.6	101.4	99.9	106.9
Human Develop. Index (Rank among 189 countries)	2019	182	...	...	...
Popul. Living Below $ 1.90 a Day (% of Population)	2007-18	43.0	36.0	34.4	...
Demographic Indicators					
Population Growth Rate - Total (%)	2020	2.1	2.7	2.5	1.2
Population Growth Rate - Urban (%)	2020	3.1	4.0	3.6	2.3
Population < 15 years (%)	2020	40.3	43.2	40.4	27.4
Population 15-24 years (%)	2020	20.4	19.7	19.3	16.3
Population >= 65 years (%)	2020	2.9	2.8	3.5	7.3
Dependency Ratio (%)	2020	76.3	85.1	78.1	54.6
Female Population 15-49 years (% of total population)	2020	24.7	23.4	24.2	25.1
Life Expectancy at Birth - Total (years)	2020	55.1	58.4	63.8	71.0
Life Expectancy at Birth - Female (years)	2020	55.9	59.5	65.6	73.2
Crude Birth Rate (per 1,000)	2020	32.4	36.4	32.6	19.7
Crude Death Rate (per 1,000)	2020	11.3	9.8	7.8	7.3
Infant Mortality Rate (per 1,000)	2019	80.9	63.3	47.9	30.6
Child Mortality Rate (per 1,000)	2019	109.2	98.2	69.5	41.0
Total Fertility Rate (per woman)	2020	4.1	5.0	4.3	2.6
Maternal Mortality Rate (per 100,000)	2017	1120.0	704.7	432.3	231.0
Women Using Contraception (%)	2020	21.4	25.5	39.1	59.1
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2010-18	2.5	25.1	33.4	127.9
Nurses and midwives (per 100,000 people)	2010-18	22.4	98.7	107.8	247.6
Births attended by Trained Health Personnel (%)	2010-18	81.6	54.2	64.7	79.4
Peop. Using at least basic drinking water services (% of Pop.)	2017	60.8	69.8	66.3	87.7
Peop. Using at least basic sanitation services (% of Population)	2017	15.7	32.5	40.3	68.4
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2019	1.6	1.3	3.1	...
Incidence of Tuberculosis (per 100,000)	2019	295.0	170.2	198.2	152.0
Child Immunization Against Tuberculosis (%)	2019	86.0	76.8	81.0	88.0
Child Immunization Against Measles (%)	2019	93.0	65.9	71.9	84.9
Underweight Children (% of children under 5 years)	2010-19	3.6	25.6	18.1	14.5
Prevalence of stunding	2010-19	7.9	36.4	32.4	23.6
Prevalence of undernourishment (% of pop.)	2018	26.	13.1	15.1	9.7
Current health expenditure (% of GDP)	2018	16.1	4.1	5.2	5.4
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2010-20	143.7	89.4	101.0	101.6
Primary School - Female	2010-20	145.6	87.3	98.8	100.5
Secondary School - Total	2010-20	41.8	50.3	53.5	72.4
Secondary School - Female	2010-20	41.1	42.9	50.5	72.1
Primary School Female Teaching Staff (% of Total)	2010-20	29.9	41.7	49.2	63.7
Adult literacy Rate - Total (%)	2010-18	43.2	51.9	67.9	84.3
Adult literacy Rate - Male (%)	2010-18	95.4	71.1	73.5	88.4
Adult literacy Rate - Female (%)	2010-18	34.9	42.1	61.7	80.2
Gouvernment expenditure on Education (% of GDP)	2010-19	7.7	3.9	4.8	4.1
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2016	21.9	17.0	8.0	11.3
Agricultural Land (as % of land area)	2016	54.7	48.9	38.2	38.3
Forest (As % of Land Area)	2016	43.1	9.2	13.2	31.9
Per Capita CO2 Emissions (metric tons)	2016	0.1	0.5	1.1	3.4







Sources : AfDB Statistics Department Databases; World Bank: World Development Indicators; UNAIDS; UNSD; WHO, UNICEF, UNDP; Country Reports. *last update : March 2021*

*Note : n.a. : Not Applicable ; ... : Data Not Available. * Labor force participation rate, total (% of total population ages 15+)*

*** Labor force participation rate, female (% of female population ages 15+)*

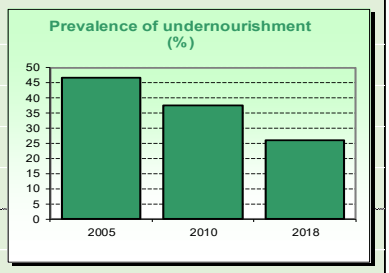
Appendix II : Table of AfDB's portfolio in the country

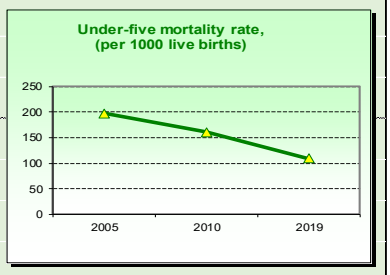
No.	Project Name	Approval date	Closing date	Approved amount M UA	Project age	Cofinance window	Cofinance amount in M UA	Total cost in M UA
1	Rural Water Supply & Sanitation Project	9/18/2013	12/31/2021	20.39	7.9	GEF, RWSSI, DFID	13.55	33.94
2	Freetown Wash & Aqua Env. Revamping Project	12/5/2018	6/30/2024	10	2.6	OFID, IsDB, KF	25	35.00
3	Freetown Water Supply & Sanit Master Plan	12/14/2017	11/30/2021	1.64	3.6	NEA D2B	0.58	2.22
	Total Water and Sanitation			**32.03**			**39.13**	**71.16**
4	Bo And Kenema Dist. Sys Rehab And Expansion	12/16/2016	12/31/2022	9.31	4.6	DFID	25.7	35.01
	Total Energy			**9.31**			**25.7**	**35.01**
5	MRU - Rehabilitation of Bo-Bandajuma Road Project	12/17/2015	12/31/2021	6.94	5.6	OFID	14.41	21.35
	Total Transport Sector			**6.94**			**14.41**	**21.35**
6	Sl Agribusiness and Rice Value Chain Support	7/17/2019	12/31/2023	7.99	2			7.99
	Total Agriculture			**7.99**				**7.99**
7	Sierra Leone Youth Entrep And Empl Project	8/17/2016	12/31/2021	1	4.9	FAPA	0.72	1.72
8	Enhancing Tax Compliance in Sierra Leone	6/20/2019	4/30/2022	1	2.1			1.00
9	Enhancing Policy Dev't: Research & Capacity Building	6/1/2019	10/28/2022	0.5	2.3			0.50
10	Multi-Country Covid 19 Crisis Response Programme	24/07/2020	31/12/2021	18	1			18.00
	Total Multisector			**20.5**			**0.72**	**21.22**
11	Clsg Interconnexion - Sierra Leone	11/6/2013	12/31/2021	16.73	7.7	EU	6.67	23.40
12	Clsg Rural Electrification	6/11/2013	12/31/2022	4.48	7.7	EU	8.55	13.03
13	Post Ebola Recovery Social Investment Fund (Persif)	12/15/2015	12/31/2022	9	5.8	RWSSI	0.824	9.82
14	Digitization of Government Payments In Mru- Sl	11/25/2019	12/31/2022	0.3	1.7	ADF		0.30
	Total Multinational projects			**30.51**			**16.044**	**46.55**
	Grand Total			**107.28**			**96.00**	**203.28**

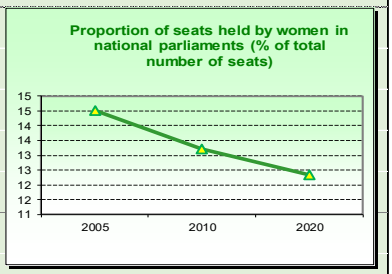
Appendix III : Map of Sierra Leone

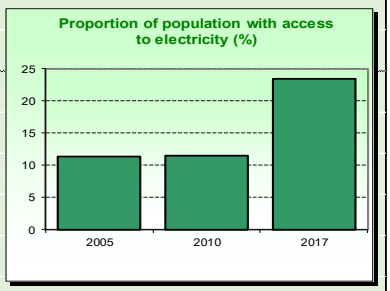
Appendix IV: Progress Toward Achieving the SDGS

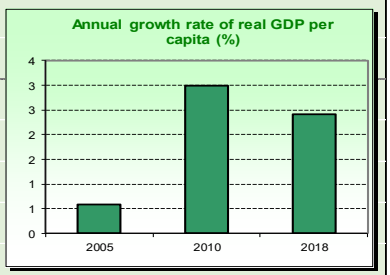
Goal 1: End poverty in all its forms everywhere	2000[1]	2010[2]	2020[3]
Proportion of population living below the international poverty line of US$ 1.90 (PPP) per day	72.0	...	40.0
Proportion of population living below the national poverty line (%)	66.4	...	52.9
Employed population below the international poverty line of US$1.90 per day, aged 15-24 (%)	67.8	...	60.6
Employed population below the international poverty line of US$1.90 per day, aged 25 and over (%)	60.1	...	51.5
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture			
Prevalence of undernourishment (%)	46.7	37.5	26.0
Proportion of children moderately or severely stunted (%)	45.0	44.4	29.5
Agriculture orientation index for government expenditures	...	...	0.0
Total official flows for agriculture (Millions of Constant 2018 US$)	4	45	13
Goal 3: Ensure healthy lives and promote well-being for all at all ages			
Maternal mortality ratio	1760	1360	1120
Proportion of births attended by skilled health personnel (%)	40.0	60.8	86.9
Under-five mortality rate (deaths per 1,000 live births)	197.3	160.5	109.2
Malaria incidence (per 1,000 population)	388.3	458.7	320.4
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all			
Proportion of children and young people at the end of primary achieving a minimum proficiency level in: Reading (%)	...	...	...
Proportion of children and young people at the end of primary achieving a minimum proficiency level in: Maths (%)	...	...	...
Gender parity index of trained teachers, primary (ratio)	...	...	1.3
Total official flows for scholarships (Millions of Constant 2018 US$)	...	0	1
Goal 5: Achieve gender equality and empower all women and girls			
Proportion of seats held by women in national parliaments (% of total number of seats)	14.5	13.2	12.3
Proportion of women who make their own informed decisions regarding contraceptive use (% of women aged 15-49 years)	...	...	82.2
Proportion of women who make their own informed decisions regarding reproductive health care (% of women aged 15-49 years)	...	...	60.1
Goal 6. Ensure availability and sustainable management of water and sanitation for all			
Level of water stress: freshwater withdrawal as a proportion of available freshwater resources (%)	0.5	0.5	0.5
Water body extent (permanent) (% of total land area)	0.21	0.20	0.20
Total official development assistance for water supply and sanitation (Millions of Constant 2018 US$)	8.3	11.8	50.4
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all			
Proportion of population with access to electricity (%)	11.3	11.5	23.4
Proportion of population with primary reliance on clean fuels and technology (%)	5.0	5.0	5.0
Renewable energy share in the total final energy consumption (%)	87.3	84.2	77.5
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all			
Annual growth rate of real GDP per capita (%)	0.6	3.0	2.4
Unemployment rate, (aged 15-24) (%)	...	...	9.5
Unemployment rate, (aged 25 & over) (%)	...	...	3.7
Proportion of youth not in education, employment or training (%)	...	...	10











Sources : ADB Statistics Department Database; last update : April 2021
United Nations Statistical Division, Online Database on Sustainable Development Goals (https://unstats.un.org/sdgs/).
Note : n,a, : Not Applicable ; ... : Data Not Available,
[1] Latest year available in the period 2000-2005; [2] Latest year available in the period 2006-2010; [3] Latest year available in the period 2011-2020

Appendix V: Mandatory annex on M&E arrangements

A. Outcome and output indicators *(performance indicators)*

Indicator name	Definition/ description	Methodology for collection	Responsibility for collection	Frequency of reporting
Reduced percentage of food insecure population	The percentage of population living in the project area that are food insecure	Data collection from field supervision	Project Implementation Unit (PIU)	Quarterly
Reduced post-harvest loses	The proportion of paddy rice that is lost after harvesting.	Data collection from field supervision	Project Implementation Unit (PIU)	Quarterly
% change in income from paddy value chain activities	The nominal income of the value chain actors	Data collection from field supervision	Project Implementation Unit (PIU)	Quarterly
Increased Number of employment opportunities created	New employment opportunities that will be created by the project	Data collection from field supervision	Project Implementation Unit (PIU)	Quarterly

User note for table 1:

1. *Indicator name:* This refers to the exact same indicator name referred to in the results framework.
2. *Definition / Description:* This provides an easy-to-understand and detailed enough definition of each indicator.
3. *Methodology for data collection:* This refers to the specific computation used to provide updated data.
4. *Responsibility for data collection:* This indicates the unit or office responsible for collecting the data at regular intervals.
5. *Results planning.* This indicates the planned/expected targets for each indicator at different stages of the project (at minimum the target data at mid-term and at completion should be specified).
6. Note that baseline and targets for alignment indicators are not mandatory. If not available, operations staff should insert "not available" in the corresponding cell.
7. *Frequency of reporting* should document the periodicity at which data on the indicator is updated. It is recommended to avoid as much as possible to use "end of project" in this column as operations staff s should know in advance of the completion of the project if the project results are on track or if improvement actions are needed

Appendix VI: Mandatory annex on risks

RISK CATEGORY	RISK DESCRIPTION	RATING	MITIGATION MEASURE	RISK OWNER
Technical design of the operation	Limited buy-in and commitment from project beneficiaries.	Low	Early involvement of beneficiaries in the project design.	Bank/ Government
Capacity of implementing entity	Limited Government commitment to implementation on private sector-oriented policy incentives.	High	Ensure policy incentives are fully discussed and agreed upon with government.	Government
	Poor performance of some contractors. Insufficient experienced contractors in counties.	High	Stringent evaluation process and good follow-up in contract execution.	Government
	Weak implementation capacity that affects progress of the project.	High	Capacity building support and competitive selection of additional project experts with adequate experience	Bank/ Government

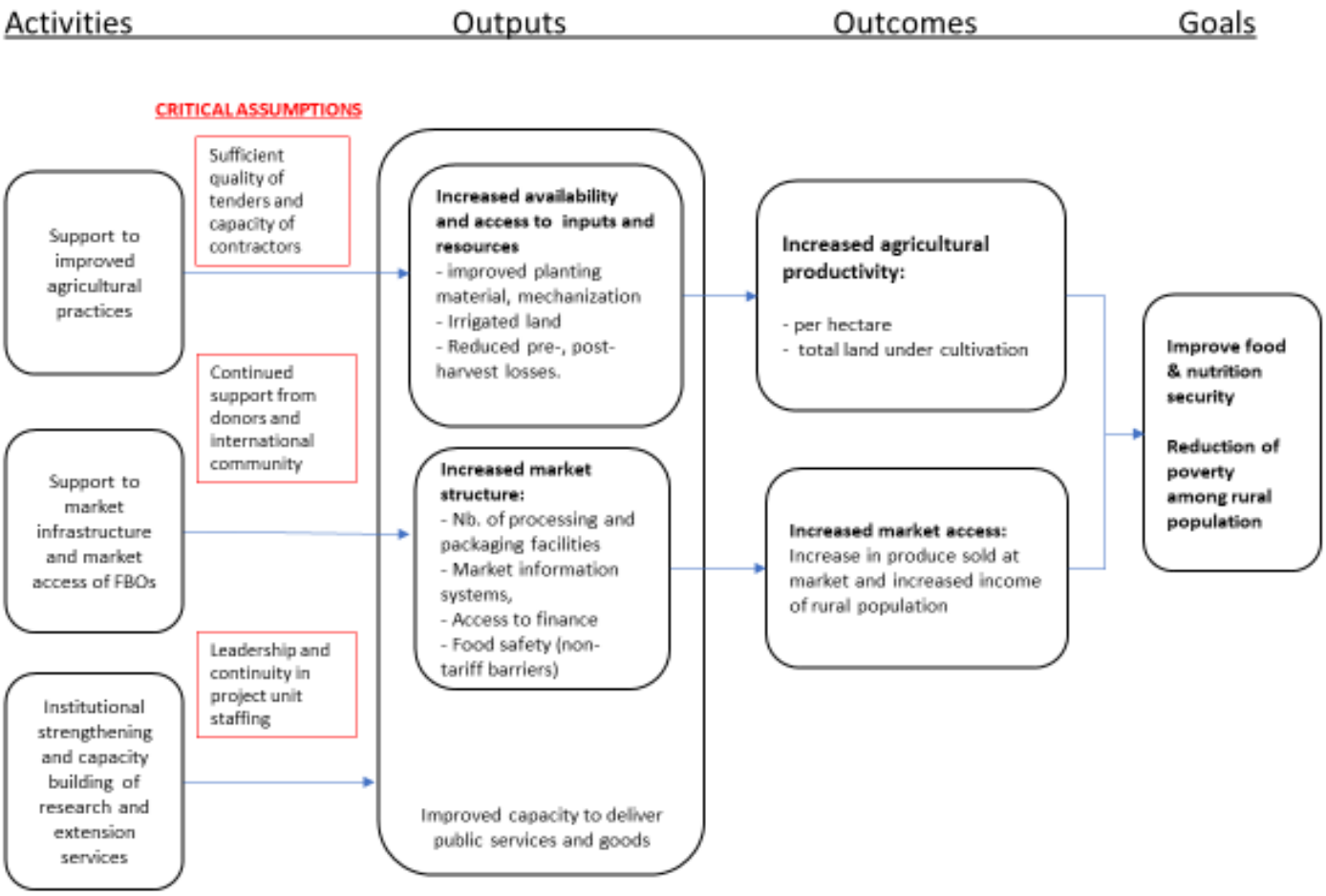
Appendix VII: Theory of Change

Food security is an important factor that directly influences the state of fragility in Sierra Leone. Growing demand for rice remains unmatched by domestic supply as growth in agricultural productivity remains below its potential, while a high reliance on imported rice leaves the country structurally vulnerable to exogenous price shocks along with a high import bill. Conversely, the level of investment in domestic food crops maintains a sector with high production costs, low adoption of technologies and poor integration with commercial markets.

Against this backdrop, the Project assumes:

- Productivity gains in agriculture will result in greater competitiveness and growth in agricultural production;
- As a corollary of the first assumption, the project assumes that greater production, value addition and market access will result in better food supply and increased revenues for organized smallholder farmers.
- As a corollary of the second assumption, the project assumes that a combination of the above will ultimately result in improved resilience and food security and reduced rural poverty.

Youth employment, gender and climate change would remain central and crosscutting issues addressed in the Project.


Activities
Outputs
Outcomes
Goals
CRITICAL ASSUMPTIONS
Support to improved agricultural practices
Sufficient quality of tenders and capacity of contractors
Support to market infrastructure and market access of FBOs
Continued support from donors and international community
Institutional strengthening and capacity building of research and extension services
Leadership and continuity in project unit staffing
Increased availability and access to inputs and resources
- improved planting material, mechanization
- Irrigated land
- Reduced pre-, post-harvest losses.
Increased market structure:
- Nb. of processing and packaging facilities
- Market information systems,
- Access to finance
- Food safety (non-tariff barriers)
Improved capacity to deliver public services and goods
Increased agricultural productivity:
- per hectare
- total land under cultivation
Increased market access:
Increase in produce sold at market and increased income of rural population
Improve food & nutrition security
Reduction of poverty among rural population

ENVIRONMENTAL AND SOCIAL COMPLIANCE NOTE (ESCON)

AFRICAN DEVELOPMENT BANK GROUP

A. Basic Information[4]

Project Title: Rice Agro Industrial Cluster (RAIC) Project		**Project ''SAP code''**: P-SL-AA0-021
Country: Sierra Leone	**Lending Instrument**[5]: DI ☒ FI ☐ CL ☐ BS ☐ GU ☐ RPA ☐ EF ☐ RBF ☐	
Project Sector: Agriculture		**Task Team Leader**: Mark EGHAN
Appraisal date: June 7, 2021		**Estimated Approval Date**: 23 September 2021
Environmental Safeguards Officer: Sekou Abou KAMARA / Franklin Kuma GAVU		
Social Safeguards Officer: xxxxxx		
Environmental and Social Category: 2	**Date**: March 28, 2021	**Operation type**: SO ☒ NSO ☐ PBO ☐
Is this project processed under rapid responses to crises and emergencies?		Yes ☐ No ☒
Is this project processed under a waiver to the Integrated Safeguards System?		Yes ☐ No ☒

B. Disclosure and Compliance Monitoring

B.1 Mandatory disclosure

Environmental Assessment/Audit/System/Others (specify: ESMF)	
Was/Were the document (s) disclosed ***prior to appraisal?***	Yes ☐ No ☒ NA ☐
Date of "in-country" disclosure by the borrower/client	19/08/2021
Date of receipt, by the Bank, of the authorization to disclose	19/08/2021
Date of disclosure by the Bank	20/08/2021
Resettlement Action Plan/Framework/Others (specify: ….)	
Was/Were the document (s) disclosed ***prior to appraisal?***	Yes ☐ No ☐ NA ☒
Date of "in-country" disclosure by the borrower/client	[Date]
Date of receipt, by the Bank, of the authorization to disclose	[Date]
Date of disclosure by the Bank	[Date]
Vulnerable Peoples Plan/Framework/Others (specify: ……..)	
Was the document disclosed ***prior to appraisal?***	Yes ☐ No ☐ NA ☒
Date of "in-country" disclosure by the borrower/client	[Date]
Date of receipt, by the Bank, of the authorization to disclose	[Date]
Date of disclosure by the Bank	[Date]
If in-country disclosure of any of the above documents is not expected, as per the country's legislation, please explain why: NA.	

B.2. Compliance monitoring indicators

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes ☒ No ☐ NA ☐
Have costs related to environmental and social measures, including for the running of the grievance redress mechanism, been included in the project cost?	Yes ☒ No ☐ NA ☐
Is the total amount for the full implementation for the Resettlement of affected people, as integrated in the project costs, effectively mobilized and secured?	Yes ☐ No ☐ NA ☒
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes ☒ No ☐ NA ☐
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes ☒ No ☐ NA ☐

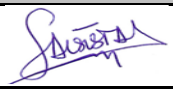
C. Clearance

Is the project compliant to the Bank's environmental and social safeguards requirements, and to be submitted to the Board?

Yes ☒ No ☐

[4] **Note**: *This ESCON shall be appended to project appraisal reports/documents before Senior Management and/or Board approvals.*

[5] **DI**=Direct Investment; **FI**=Financial Intermediary; **CL**=Corporate Loan; **BS**=Budget Support; **GU**=Guarantee; **RPA**=Risk Purchase Agreement; **EF**=Equity Financing; **RBF**=Results Based Financing.

Prepared by:	*Name*	*Signature*	*Date*
Environmental Safeguards Officer:	Franklin Kuma GAVU		25/08/2021
Social Safeguards Officer:			
Task Team Leader:	Mark EGHAN		25/08/2021
Submitted by:			
Sector Director:	Martin FREGENE		25/08/2021
Cleared by:			
Director SNSC:	Maman-Sani ISSA		06/09/2021