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Report No: PAD00248

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED GRANT

IN THE AMOUNT OF SDR 55.9 MILLION
(US$74.0 MILLION EQUIVALENT)

TO THE

REPUBLIC OF SIERRA LEONE

FOR A

SIERRA LEONE CONNECTIVITY AND AGRICULTURAL MARKET INFRASTRUCTURE PROJECT

MAY 6, 2024

Transport Global Practice
Western and Central Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2024)

Currency Unit =	SLE (Sierra Leonean Leone)
SDR 0.75525849=	US$1
US$ =	SDR 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Ousmane Diagana
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ABBREVIATIONS AND ACRONYMS

AFD	*Agence Française de Développement* (French Development Agency)
AfDB	African Development Bank
AMIS	Agricultural Market Information System
ASSL	Audit Service Sierra Leone
AWPB	Annual Work Plan and Budget
BCR	Benefit-Cost Ratio
BMS	Bridge Management System
CAMIP	Connectivity and Agricultural Market Infrastructure Project
CBD	Central Business District
CCTV	Closed Circuit Television
CERC	Contingent Emergency Response Component
CPF	Country Partnership Framework
DA	Designated Account
E&S	Environmental and Social
ESCP	Environmental and Social Commitment Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard(s)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FM	Financial Management
FP	Focal Point
GBV	Gender-Based Violence
GCRF	Global Crisis Response Framework
GDP	Gross Domestic Product
GEMS	Geo-Enabling initiative for Monitoring and Supervision
GHG	Greenhouse Gas
GM	Grievance Mechanism
GoSL	Government of Sierra Leone
GRS	Grievance Redress Service
GIZ	*Gesellschaft für Internationale Zusammenarbeit* (German Agency for International Cooperation)
HCI	Human Capital Index
HDM-4	Highway Development and Management Model
IEG	Independent Evaluation Group
IFAD	International Fund for Agricultural Development
IFR	Interim Financial Report
IPR	Independent Post Review
IRR	Internal Rate of Return

IRUMP	Integrated and Resilient Urban Mobility Project
ISA	International Standard on Auditing
IPF	Investment Project Financing
KfW	*Kreditanstalt für Wiederaufbau* (Credit Institute for Reconstruction)
M&E	Monitoring and Evaluation
MAFS	Ministry of Agriculture and Food Security
MoF	Ministry of Finance
MTA	Ministry of Transport and Aviation
MTC	Metro Transport Company
MTNDP	Medium-Term National Development Plan
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NGO	Nongovernmental Organization
NMT	Nonmotorized Transport
NPSC	National Project Steering Committee
NPV	Net Present Value
O&M	Operation and Maintenance
PAD	Project Appraisal Document
PCIU	Project Coordination and Implementation Unit
PDO	Project Development Objective
PFM	Public Financial Management
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PPA	Project Preparation Advance
PPR	Procurement Post Review
PPSD	Project Procurement Strategy for Development
RAMS	Road Asset Management System
RAP	Resettlement Action Plan
RMFA	Road Maintenance Fund Administration
RSSAT	Road Safety Screening and Appraisal
SCADeP	Smallholder Commercialization and Agribusiness Development Project
SDUMI	Strategy for Delivering Urban Mobility Interventions
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SEP	Stakeholder Engagement Plan
SLPTA	Sierra Leone Public Transport Authority
SLRA	Sierra Leone Road Authority
SLRSA	Sierra Leone Road Safety Authority
SLRTC	Sierra Leone Road Transport Corporation
SPD	Standard Procurement Document
STEM	Science, Technology, Engineering, and Mathematics

STEP	Systematic Tracking of Exchanges in Procurement
ToR	Terms of Reference
TMP	Traffic Management Plan
UNDP	United Nations Development Program
WASH	Water, Sanitation, and Hygiene

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DATASHEET

BASIC INFORMATION

Project Beneficiary(ies)	Operation Name		
Sierra Leone	Sierra Leone Connectivity and Agricultural Market Infrastructure Project		
Operation ID	Financing Instrument	Environmental and Social Risk Classification	
P178683	Investment Project Financing (IPF)	Substantial	

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternative Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
29-May-2024	31-Dec-2029
Bank/IFC Collaboration	
No	

Proposed Development Objective(s)

To enhance climate-resilient transport connectivity and agricultural market access in selected areas of Sierra Leone.

Components

Component Name	Cost (US$)

Resilient Urban Transport	17.00
Resilient Rural Bridges and Link Roads	44.00
Resilient Agriculture Market Infrastructure	8.00
Project Management Support	5.00
Contingent Emergency Response Component (CERC)	0.00

Organizations

Borrower:	Republic of Sierra Leone
Implementing Agency:	Ministry of Transport and Aviation

PROJECT FINANCING DATA (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	Yes
Is this project Private Capital Enabling (PCE)?	Yes

SUMMARY

Total Operation Cost	**74.00**
Total Financing	**74.00**
of which IBRD/IDA	**74.00**
Financing Gap	**0.00**

DETAILS

World Bank Group Financing

International Development Association (IDA)	74.00
IDA Grant	74.00

IDA Resources (US$, Millions)

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount
National Performance-Based Allocations (PBA)	0.00	74.00	0.00	0.00	74.00
Total	**0.00**	**74.00**	**0.00**	**0.00**	**74.00**

Expected Disbursements (US$, Millions)

WB Fiscal Year	2024	2025	2026	2027	2028	2029	2030
Annual	0.50	4.00	10.00	20.00	20.00	15.00	4.50
Cumulative	0.50	4.50	14.50	34.50	54.50	69.50	74.00

PRACTICE AREA(S)

Practice Area (Lead)

Transport

Contributing Practice Areas

Agriculture and Food

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Operation Document

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate

5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Moderate
9. Overall	Substantial

POLICY COMPLIANCE

Policy

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

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

ENVIRONMENTAL AND SOCIAL

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant
ESS 2: Labor and Working Conditions	Relevant
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4: Community Health and Safety	Relevant
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
ESS 8: Cultural Heritage	Relevant
ESS 9: Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

LEGAL

Legal Covenants

Sections and Description
Schedule 2, Section I. A. 2(a) The Recipient shall not later than [sixty (60)] days of the Effective Date, establish a National Project Steering Committee ("NPSC"), and thereafter, maintain, throughout the period of Project implementation the said NPSC with mandate, composition, and resources, satisfactory to the Association.
Schedule 2, Section IV, 1. No later than ninety (90) days after the Effective Date, or such later date as agreed with the Association, the Recipient shall have: (i) identified and procured appropriate software for use in Project accounting; and (ii) carried out a training in financial management and disbursement for Project financial management staff, in form and substance acceptable to the Association.
Schedule 2, Section IV, 2. No later than ninety (90) days after the Effective Date, or such later as agreed with the Association, the Recipient shall have developed procurement records and contract management systems, in form and substance acceptable to the Association.
Schedule 2, Section IV, 3. No later than thirty (30) days after the Effective Date, the Recipient shall: (i) adopt and disclose the updated Environmental and Social Management Plan for Components 1 and 3; (ii) the Environmental and Social Impact Assessment for Component 2 of the Project; (iii) the updated Resettlement Action Plan for Component 2; and (iv) the Sexual Exploitation and Abuse/Sexual Harassment Action Plan consistent with the ESCP and relevant ESSs.
Per ESCP, The Recipient will adopt and disclose the Labor Management Procedures (LMP) one month after project effective date and implement the LMP throughout Project implementation.

Conditions

Type	Citation	Description	Financing Source
Disbursement	Schedule 2 Section III B 1b	No withdrawal shall be made under Category (1), unless the Recipient has prepared a financial management/accounting policies and procedures manual, in form and substance satisfactory to the Association;	IBRD/IDA
Effectiveness	Article IV 4.01.(a)	The Recipient has prepared and adopted the Project Implementation Manual, in form and substance	IBRD/IDA

		satisfactory to the Association	
Disbursement	Schedule 2 Section III B 1c	No withdrawal shall be made under Category (2), unless the Recipient has exhausted all financing available under the SCADeP Additional Financing (IDA D6880-SL), and confirmed same in a manner satisfactory to the Association;	IBRD/IDA
Effectiveness	Article IV 4.01 (b)	The Recipient has: (i) established a procurement unit staffed with qualified and experienced procurement staff in the PCIU; and (ii) hired a financial management specialist, an internal auditor, and a social specialist, all with qualifications and terms of reference acceptable to the Association and in accordance with the provisions of the Procurement Regulations, as applicable;	IBRD/IDA
Effectiveness	Article IV 4.01 (c)	The Recipient has opened a segregated designated account in Dollars at a bank acceptable to the Association.	IBRD/IDA

I. STRATEGIC CONTEXT

A. Country Context

1. **Despite significant development progress in the past two decades, Sierra Leone remains one of the world's least developed countries.** The country's gross domestic product (GDP)[1] remains low at US$4.09 billion (2022) owing among other things to challenges in the macroeconomic environment, which is characterized by intensified fiscal pressures, soaring inflation driven by global supply shocks, and a slowdown of trade activities. In addition, the country faces post-conflict attributes of governance challenges and political polarization, as well as high unemployment and poverty levels within the context of inadequate social safety nets. It is estimated that the poverty rate was 57 percent in 2018. The incidence of poverty varies significantly across the country with nearly three-quarters of the rural population and one-third of the urban population living below the poverty line.[2]

2. **Sierra Leone is highly vulnerable to natural hazards and climate change impacts, which exacerbates the challenges in connectivity.** Sierra Leone ranks 168 out of 185 in the Notre Dame Gain Vulnerability Index[3] denoting high exposure, sensitivity, and low ability to adapt to the negative impacts of climate change. The key climate and natural hazards present in Sierra Leone are flooding, landslides, extreme heat, and wildfire.[4] Eight major river systems traverse Sierra Leone and monsoons regularly result in river flooding and flooding of low-lying areas known as Boliland. Consistent rainfall during the wet season regularly disrupts the connectivity. Sierra Leone is already experiencing the impacts of climate change. Mean temperatures have been above normal in recent decades and increasing trends are also evident in the frequency of hot days and nights. Average rainfall has been decreasing since 1960 with year-to-year fluctuations, rotating periods of wetter and drier conditions. Sierra Leone has been experiencing more seasonal precipitation changes, with the pre-monsoon period presenting stronger winds and more frequent rainstorms. Climate change is projected to intensify the frequency of heavy rainfall events during the rainy season, leading to increased flood risks for riverine communities. Coastal areas are affected by sea level rise, coastal erosion, and flooding. Some coastal communities lack flood escape routes due to the low elevation of roads.[5]

3. **Sierra Leone is among the bottom 10 countries on the Human Capital Index (HCI 2020) and requires substantial improvements on access to jobs, markets, and education.** Currently, Sierra Leone's HCI value is 0.36 on a scale of 0–1 and ranks 166 out of the 174 countries.[6] The poor human capital outcomes result from the decline in labor force participation over the past two decades (from 66.3 percent to 54.2 percent). Only less than 10 percent of this labor force is employed in the technical/managerial and skilled manual occupations. Human capital challenges are more concentrated in rural areas, where social economic development is often neglected. As the major port city in Sierra Leone, Freetown has the potential to attract productive firms and skilled workers to cluster together as a hub for exports and to support growing income and living standards across the country. See Annex 4 for details on human capital development in Sierra Leone.[7]

4. **Significant gender gaps exist in human endowment and in the distribution of economic opportunities.** Sierra Leone ranks 157 out of 193 countries according to the 2023 Gender Inequality Index of the United Nations Development

[1] https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=SL.
[2] https://www.worldbank.org/en/news/press-release/2022/12/15/sierra-leone-has-opportunity-to-increase-growth-but-faces-challenges-in-improving-citizens-welfare#:~:text=Official%20poverty%20rate%20in%20Sierra,74%20percent%20in%20rural%20areas.
[3] ND GAIN Index, Consulted on October 17, 2023. https://gain.nd.edu/our-work/country-index/rankings/.
[4] Think Hazard consulted on November 6, 2023. https://thinkhazard.org/en/report/221-sierra-leone.
[5] Climate Change Knowledge Portal, Consulted on April 10, 2024. URL.
National Adaptation Plan. Government of Sierra Leone. 2021. URL.
[6] https://thedocs.worldbank.org/en/doc/64e578cbeaa522631f08f0cafba8960e-0140062023/related/HCI-AM23-SLE.pdf.
[7] World Bank. 2018. *Reviving Urban Development. The Importance of Freetown for the National Economy*.

Program (UNDP)[8], with maternal mortality ratio at 443 deaths per 100,000 live births, partly due to constrained accessibility to hospitals; adolescent fertility remains high at 97.9 per 1,000 women ages 15–19 and only 33 percent of girls complete secondary school (compared to 53 percent completion rate for boys). Moreover, women's participation in the labor force is 51.1 percent, with men earning three times as much as women in wage employment and vulnerable employment[9] is higher among women standing at 92.9 percent compared to 83.1 percent among men[10].

B. Sectoral and Institutional Context

Transport Connectivity

5. **The transport sector of Sierra Leone plays a key role in economic and social development but is still underdeveloped relative to its needs.** The country has eight airports, 800 km of navigable river, 84 km of railways (not operational), and 11,300 km of road network, with limited intermodal integration. The road network[11] plays a dominant role in connectivity but a large percentage of it is in fair or poor condition. As of 2019, about 40 percent of the primary roads were paved, while almost all secondary and feeder roads are unpaved.[12] The rural area in Sierra Leone is mostly surrounded by rivers, and only one-third of the total population can access the all-season road network.[13] The critical infrastructure gap is the missing hydraulic structures such as bridges which caused inaccessibility for rural population to basic services and the broader road network. The riverine communities depend on manual cable ferries and canoes, which are unavailable in the rainy season due to floodwater overflowing the riverbanks creating high risks of accidents. In urban areas, road infrastructure and public transport services are inadequate to meet the increasing mobility demand caused by rapid urbanization and motorization. These infrastructure gaps discourage freight movement, limit all-season access to socioeconomic infrastructure and development opportunities,[14] and pose safety risks.

6. **Lack of all-season transport infrastructure poses serious challenges to connectivity in rural and urban areas.** Sierra Leone faces significant transport challenges characterized by its wide network of river systems, exposure to climate change related natural hazards, and the absence of bridges at river crossings, making it impossible for direct road connectivity. Currently, rural communities rely on manual hand-pulled cable ferries and small paddle boats, for passenger and freight river crossing (see Figure 1a), that are inoperable during the extreme dry season (March–April) when discharge is low and at the peak of the rainy season (August–October) when floodwater overflows the riverbank, often at an excess of over 100 m. Connectivity challenges in rural areas are further intensified by the huge deficit in paved roads and poorly engineered construction. In the northern and southern regions, for example, rural accessibility is estimated to be as low as 2 percent. The lack of access to all-season roads and bridges weakens economic integration and productivity, especially for the agriculture sector, which is predominantly rural and requires improved networks to transport agri-inputs to farmers and produce to urban consumers. Moreover, roads in urban areas are not resilient to climate change related natural hazards and are unable to match the traffic demand, stemming from increasing urbanization. The inefficient use of street spaces, lack of provisions for nonmotorized transport (NMT), road design deficiencies, and limited road density contribute to severe, chronic congestion and road safety challenges.

[8] https://hdr.undp.org/data-center/documentation-and-downloads
[9] Workers in vulnerable employment are the least likely to have formal work arrangements, social protection, and safety nets to guard against economic shocks; thus they are more likely to fall into poverty.
[10] https://genderdata.worldbank.org/countries/sierra-leone/
[11] Size is classified into Class A (primary) roads with total length of 2,140 km; Class B (secondary) roads with total length of 1,904 km; Class F (feeder) roads with total length of 4,152 km, and unclassified roads with total length of 3,104 km. However, recent surveys suggest the feeder road network is up to 7,500 km.
[12] Sierra Leone: Feeder Road Prioritization Framework: Revised (2019).
[13] https://documents1.worldbank.org/curated/en/543621569435525309/pdf/World-Measuring-Rural-Access-Update-2017-18.pdf.
[14] Government of Sierra Leone. National Adaptation Plan 2021. Accessed July 1, 2022. https://unfccc.int/sites/default/files/resource/SierraLeone_iNAP_Final.pdf.

7. **The transport service is also inadequate to address increasing mobility needs, especially in Freetown.** As the country's capital, Freetown dominates the urban landscape with an increasingly expanding built-up area and rising population from less than 300,000 in 1990s to over 1 million in recent years. However, the city's unstructured growth and geography, surrounded by hills and the ocean, brings with it a series of mobility and connectivity challenges. About 25 percent of the population (350,000 people) lack access to transport services because they live farther than 500 m from bus stops. Accessibility by public transport shows major disparities among neighborhoods, with over 40 percent of the populations of York (in the west) and Waterloo (in the east) chiefdoms lacking easy access to transport services. The traffic demand for public transport (four-wheelers) is estimated to increase to 750,000 trips per day in 2033. Public transport services are experiencing a rapid growth of unregulated informal providers, operating minibuses, locally called poda-podas (see Figure 1b). The lack of regulation and scheduled operations contributes to the high presence of small vehicles on roads, which caused congestion and safety concerns. The minibuses are mostly aged vehicles which are neither professionally driven nor routinely checked for maintenance, endangering the safety of pedestrians and the health of city residents with high emissions. The inefficient public transport system results in increased time spent on road and productivity losses.

Figure 1. (a) Cable Ferry and Small Boats on River Panpana **(b) Poda-Poda (minibus) in Freetown**

Sources: Photos taken during World Bank field trips in Freetown (right) and Komrabai Crossing on River Panpana (left)

8. **Sierra Leone has one of the poorest road safety records globally[15] with ineffective monitoring system and weak enforcement.** The World Health Organization (WHO) estimates that Sierra Leone has 33 road crash fatalities per 100,000 population annually, recording the third highest road crash fatality rate in West African countries.[16] Road crash is the seventh highest[17] cause of early death and disability among the active population group (15–64 years old),[18] with an estimated economic cost amounting to 10 percent of Sierra Leone's GDP.[19] Few road safety policies have been adopted, including age restriction on vehicle imports; however, there are critical gaps in data availability and reliability, policy development, implementation, enforcement, and funding. There is no systematic database on road safety, and Sierra

[15] For instance, the most recent estimate of road fatalities for Sierra Leone in the World Health Organization Global Road Safety Status Report series is from 2015. https://www.afro.who.int/sites/default/files/2017-06/9789241565066_eng.pdf. The Global Road Safety Facility likewise has not published a country profile for Sierra Leone.

[16] WHO, Global Health Observatory. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/estimated-road-traffic-death-rate-(per-100-000-population).

[17] Road crash accident is the seventh cause of death (1st malaria, 2nd HIV/AIDS, 3rd maternal disorders, 4th tuberculosis, 5th diarrheal diseases, 6th stroke).

[18] IHME (Institute for Health Metrics and Evaluation). 2019. "Global Burden of Disease (GBD) Result Tool." https://vizhub.healthdata.org/gbd-results/.

[19] Estimated based on the Global Road Safety Facility country profile methodology. https://www.roadsafetyfacility.org/publications/guide-road-safety-opportunities-and-challenges-low-and-middle-income-country-profiles.

Leone Road Safety Authority (SLRSA) and the police department collect road incidents manually but not in a systematic and synchronized way.

9. **The lack of connectivity impedes women's safety and access to health care, education, and economic opportunities.** In rural areas, distance and cost of transportation are often reported as key barriers to accessing social services.[20] Given these constraints, women are more likely to travel on foot, often through forested and secluded locations. Much of the transport burden of moving agri-produce falls on rural women who take on the time-consuming responsibility of head-loading crop harvest from farms to either storage, or market, or to the nearest feeder road network accessible to trucks transporting agri-commodities from farm to market. In urban areas, women passengers pay, on average, up to 8 percent more than their male counterparts on transportation.[21] The poor lighting of roads, bridges, and walking spaces in the city adds to the safety concerns, particularly for women.[22] These underlying challenges hinder women's accessibility and mobility in cities such as Freetown. In addition, discriminatory norms tend to limit economic opportunities for women in the transport sector. In Sierra Leone, women's employment in the transport sector (construction and maintenance, transport services, and transport agencies) is 7.8 percent due to their underrepresentation in engineering and the lack of requisite skills, cultural concerns, and difficulties in organizing childcare.[23]

10. **Climate change is increasingly affecting rural and urban transport systems and access to agricultural markets.** A climate and disaster risk assessment found that climate change is expected to exacerbate flooding and other extreme climate events. Of particular concern are the risks associated with bridge, road, and markets damage from erosion and sand/debris deposition and assets being washed away due to floods and landslides; extreme heat deterioration of road and bridge pavements; climate shocks and changes in seasons' climate with climate change affecting agriculture productivity; and rising temperatures resulting in higher rates of food spoilage during transport and at markets, contributing to food insecurity. The unpaved nature and poor conditions of rural roads, the lack of bridges at climate vulnerable river crossings, and poor traffic management exacerbate adverse climate impacts on connectivity. From 2012 to 2022, climate hazards related to intense rainfall (floods and landslides) caused the death of more than 1,100 people and affected more than 46,000. The 2017 landslip in Freetown[24] resulted in the need for an estimated US$5.4 million for transport sector recovery alone. In addition, Sierra Leone's transportation sector accounts for 31 percent of the municipal greenhouse gas (GHG) emissions in Freetown.[25] Furthermore, transport air pollutant emissions have an adverse impact on public health in urban centers.

Agricultural Market Access

11. **Agriculture is an essential pillar for inclusive economic growth in Sierra Leone, accounting for 59 percent of GDP[26] and 43 percent of the employment.[27]** Production activities are scattered across various rural and remote locations with farmers often facing restricted access to production inputs, transportation, storage, and marketing facilities. Women represent 70 percent of the agricultural labor force,[28] often playing important roles in food crop production, harvesting, and marketing activities. However, they often gain minimal benefits from the agricultural sector owing to restrictions on their ownership, access to and control of land and postproduction infrastructure, finance, and other critical productive

[20] Ibid.
[21] World Bank. 2020. "*Invisible Travelers": 3 Lessons from Freetown to Transform Urban Transport—and Your City*.
[22] https://www.ucl.ac.uk/bartlett/development/sites/bartlett/files/esd_mobility_report_final.pdf.
[23] https://assets.publishing.service.gov.uk/media/5e18b4eee5274a06b8fa0ad0/Tanzarn-2019-GuidelinesforMainstreamingGenderinRural_Transport-ReCAP-GEN2157A-190618.pdf.
[24] https://public.emdat.be/.
[25] https://c40cff.org/projects/connecting-the-city-with-a-cable-car-mass-transit-network#:~:text=By%20investing%20in%20public%20transport,total%20municipal%20greenhouse%20gas%20emissions.
[26] Statistics SL: Report on 2020 and 2021 Real Gross Domestic Product Figures.
[27] https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=SL&most_recent_year_desc=false.
[28] https://africa.unwomen.org/en/news-and-events/stories/2017/06/women-in-agribusiness-in-sierra-leone.

resources.[29] An unpublished report from the Sierra Leone Ministry of Agriculture and Food Security (MAFS) estimates that women's usage of agricultural markets, storage and aggregation is 48 percent compared to 52 percent men. Women also have weaker influence in the marketplace because of restrictions on their mobility, limited access to obtaining business skills and online information, and insufficient consultation. A survey revealed the gender gap in Sierra Leone in access to mobile phones and social media use to be 54 percent for men against 46 percent for women. Underlying causes of this situation, among others, include limited digital skills, low-income levels, and cultural norms.[30] Women need to be included and consulted in setting priorities in the design and the operation of infrastructure if it is to have the desired development impact.

12. **The agriculture sector productivity is affected by poor connectivity and infrastructure challenges which are exacerbated by exposure to climate change related hazards.** Sierra Leone's agricultural production involves the cultivation of a wide range of food crops (cassava, maize, millet, cashew, rubber, ginger, vegetables, fruits, and sugarcane), cash crops (such as cocoa, coffee, and oil palm), and the rearing of livestock. Production output of many food crops dwindled over the last few years owing to many factors, including the effects of climate change on seasons and the occurrence of climate shocks and the lack of connectivity and market infrastructure in rural production centers. In particular, the lack of all-season connectivity has led to rising production cost as farmers must incur higher financial burdens in accessing agri-inputs (fertilizer, seeds, and tractors) and agricultural extension services in distant urban areas, creating a disincentive for rural farmers to scale up production. Additionally, the lack of market infrastructure pushes farmers to face higher post-harvest losses (20–30 percent of farm produce[31]) and engage in distress sales of produce immediately after harvest even though produce prices are at the lowest.

13. **Building climate-resilient transport infrastructure and agricultural market interventions can stimulate the local economy.** Studies have shown that distribution costs for agri-produce can be as high as US$2.00 per ton per km—this financial burden reduces profit margins for farmers and agribusinesses. Investment in transport infrastructure and logistics will help overcome these challenges. In particular, the construction of climate-resilient bridges and link roads can improve access to all-season transport services and incentivize agri-input services operators, extension services officers, and other service delivery providers to penetrate the market and serve rural farmers. Complementing these investments with improved market interventions can provide farmers with direct access to commodity marketers, aggregators, and traders, allowing them to sell their produce and earn higher incomes. The reduced time and cost of transporting commodities and the availability of climate-resilient storage facilities and markets help cut down post-harvest losses often associated with the delays in delivering commodities. In essence, vertical links between farmers and agribusinesses can help create more jobs, stimulate local economic growth, and improve food security.

Institutional Context

14. **The transport sector is mainly managed by three government ministries and their subsidiary agencies:** (a) Ministry of Transport and Aviation (MTA), tasked with planning and policy issues as well as managing road safety through its subagency – SLRSA and urban mobility through recently established Sierra Leone Public Transport Authority (SLPTA); (b) the Sierra Leone Road Authority (SLRA) responsible for the management of all classes of roads and bridges under the Ministry of Works and Public Assets (MWPA); and (c) the Ministry of Finance (MoF), which oversees road user charges collected for the Road Maintenance Fund Administration (RMFA). The SLRA handles strategy and planning, the execution of works, including procurement, safeguards, and engineering on the primary network. Road maintenance activities under both SLRA and local councils are financed and monitored by the RMFA. The Government of Sierra Leone (GoSL) regulates

[29] Government of Sierra Leone. 2020. "Gender in Agriculture Policy." https://bafs.org.sl/wp-content/uploads/2020/12/Final-MAF-Gender-in-Agriculture-Policy_v_Jul2020.pdf.
[30] Media Foundation for West Africa. Annual State of Women's Rights Online in Sierra Leone 2022. https://www.mfwa.org/wp-content/uploads/2023/04/Report-on-Womens-Rights-Online-in-Sierra-Leone-2022.pdf.
[31] https://www.cahiersagricultures.fr/articles/cagri/pdf/2015/01/cagri2015241p47.pdf.

the testing and licensing of all vehicles and drivers as well as traffic management activities through the SLRSA. In addition, the Sierra Leone Police is responsible for controlling operations and enforcing regulations.

15. **Key challenges in sectoral management include institutional fragmentation, insufficient funding, and capacity constraints.** The institutional framework for transport sector management in Sierra Leone is fragmented and lacks systematic coordination among the multiple agencies operating with overlapping responsibilities. Traffic management functions in the city of Freetown, for example, are carried out by three agencies (SLRA, SLRSA, and Traffic Police) but with limited coordination among them. The funding to road investment and maintenance is also insufficient. In 2020, the RMFA collected approximately US$12.5 million equivalent (SLL 172.43 trillion[32]) from fuel excise tax and vehicle registrations which is a small fraction of the actual support needed for road maintenance in Sierra Leone. The monitoring and management of the road asset is not systematic and lacks supporting data. The decision-making on road maintenance including the budgetary allocation is ad hoc, normally depending on the urgency of the maintenance need.

16. **The Sierra Leone MAFS has a core function to formulate agricultural development policies.** It also advises the GoSL on such policies relating to its administration and the management of the agricultural sector. Over the past years, MAFS has played important roles in improvement of rice self-sufficiency, livestock development, crop diversification, forestry, and leveraging of technologies to bring agriculture information services to the doorsteps of farmers. In 2010, MAFS launched a roadmap for strengthening the agriculture, forestry, and fisheries sectors for improved food security, increased income, and diversified revenues to the national economy. It included programs to support (a) the rehabilitation and upgrading of feeder roads and (b) rehabilitation and modernization of existing storage and processing facilities and equipment.

17. **Recognizing the challenges, the GoSL is committed to improve connectivity and accessibility in collaboration with development partners including the World Bank.** Financed by the World Bank, the Integrated and Resilient Urban Mobility Project (IRUMP, P164353[33]) and the Smallholder Commercialization and Agribusiness Development Project (SCADeP, P153437[34]) are implementing sustainable solutions in urban mobility, rural connectivity, and agriculture sectors. Particularly, IRUMP piloted operation of high-capacity buses with improved road infrastructure (on western corridor), developed and partially implemented the traffic management plan (TMP), and achieved institutional reforms for the establishment of SLPTA and Metro Transport Company (MTC), a formal private bus company which is corporatized from four informal operators' associations. SCADeP carried out Technical Assessment and Environmental and Social Impact Assessment (ESIA) for seven bridges and financed the construction of four of them. Digital systems for managing transport assets and agricultural market information were also developed under SCADeP. Additionally, the European Union (EU) delegation in Sierra Leone financed a feasibility study for another six bridges.

18. **It is critical to build on the great achievements/outcomes of IRUMP and SCADeP to scale up the impact of World Bank interventions in Sierra Leone.** Both IRUMP and SCADeP are in their final years of implementation and have achieved significant positive outcomes in both transport and agricultural sectors. The design of Connectivity and Agricultural Market Infrastructure Project (CAMIP) is, therefore, built on the great achievements of the two projects with the aim of sustaining and scaling up the outcomes, particularly on (a) improving urban accessibility and mobility in Freetown with quality infrastructure and modernized public transport services; (b) providing an all-season access to resilient bridges and road infrastructure in rural communities; (c) enhancing digital transformation of sectoral management through the development of smart road asset management system (RAMS) and agricultural market information system (AMIS); and (d) amplifying critical sectoral reforms such as strengthening the already established Urban Transport Authority and expanding bus routes and improving efficiency of bus operations.

[32] *Source*: https://rmfa.gov.sl/financial-statements/.
[33] P164353.
[34] P153437.

C. Relevance to Higher Level Objectives

19. **The proposed project is fully aligned with the World Bank's Country Partnership Framework (CPF)[35] for Sierra Leone (FY21–FY26).** It directly contributes to the achievement of the three objectives of the CPF Focus Area 3: 'Economic Diversification and Competitiveness with Resilience' by promoting road access for bolstering agricultural livelihoods and enhancing the resilience of vital road transport infrastructure. The CPF calls for a focus on "all-weather feeder roads and river crossings that link farms with processing centers and markets," scaling up districts' capacity to maintain feeder roads and road investments that reduce "travel times to markets, … post-harvest losses and support rural development."

20. **Also, the project supports the implementation of Sierra Leone Medium-Term National Development Plan (MTNDP, 2024–2030) and other relevant strategies.** The MTNDP presents the 'Big 5 Game Changers' to accelerate economic growth and resilience in Sierra Leone. In particular, the project contributes to two of the 'Big 5 Game Changers': Feed Salone and Technology and Infrastructure Programs through activities of transport and agricultural market infrastructure leading to improved connectivity to production centers and markets. The project also supports the rest of the Game Changers: Human Capital Development, Youth Employment Scheme, and Transforming the Public Service Architecture, by promoting institutional reform and capacity building and enhancing collaboration with universities for human capital development. Implementation of other strategies such as Integrated Transport Policy, Strategy, and Investment Strategy (ITPSIP), the Strategic Urban Mobility Policy, and National Sustainable Agricultural Development Plan will also be incorporated in the project.

21. **The proposed investment activities contribute to the objectives of Sierra Leone's Nationally Determined Contribution (NDC[36]) and National Adaptation Plan (NAP[37]).** Sierra Leone's NDC and NAP state that future infrastructure investment should be climate sensitive and integrate heat stress and flood risk management techniques in the design and selection of construction materials. It also specifies that new infrastructure assets will be developed to account for long-term climate changes while existing infrastructure must be retrofitted, or managed differently, to adapt to climate change. Likewise, some of the priority measures of GHG emissions mitigation and climate impact adaptation identified in the NDC include (a) the diversification of economic growth through strengthened transport, including the design and improvement of provincial and feeder roads using climate-resilient surfacing materials and (b) the development of transport infrastructure to incorporate mass transportation, walkways, and bicycle lanes. This project contributes to the low-carbon and resilient development actions outlined in the NAP and the NDC as it aims to enhance the climate resilience of transport infrastructure and of the communities served, reduce emissions, and provide all-season connectivity and accessibility.

II. PROJECT DESCRIPTION

A. Project Development Objective (PDO)

PDO Statement

22. The proposed Project Development Objective (PDO) is to enhance climate-resilient transport connectivity and agricultural market access in selected areas of Sierra Leone.

PDO Level Indicators

23. **The proposed PDO indicators are the following:**

- People benefiting from improved access to sustainable transport infrastructure and services (Number, Disaggregated by youth and gender)

[35] 148025, 2020/04/19.
[36] https://unfccc.int/sites/default/files/NDC/2022-06/210804%202125%20SL%20NDC%20%281%29.pdf.
[37] https://unfccc.int/sites/default/files/resource/SierraLeone_iNAP_Final.pdf.

- Travel time reduction crossing over Panpana, Sewa, Bagru, and Little Scarccies rivers, respectively at Komrabai, Sumbuya, Moselolo, and Kabba crossings via the project constructed bridges (Percentage)
- Volume of marketed agricultural and fisheries products due to project interventions (Percentage).

B. Project Components

24. **The project offers an integrated and multisectoral approach to provide all-season connectivity and access to jobs, markets, and services.** It will finance resilient infrastructure, green transition of urban transport services, and quality agriculture market facilities. Investments in urban transport will improve the quality of infrastructure and traffic management, with expanded bus services. The investments in rural bridges and link roads will reinforce connectivity for improved farmers' access to markets year-round. Complementary investments in agricultural market infrastructure seek to safeguard farmers from price depreciation due to excess supply and the lack of storage facilities. The combination of improved access and availability of market infrastructure will open new economic opportunities for farmers. In addition, the project will invest in digital systems and institutional capacity to help the GoSL improve the technical oversight of the two sectors. The project design is built around the interventions of IRUMP and SCADeP operations and will be further informed by technical studies funded by the Project Preparation Advance (PPA).[38] Annex 2 provides more details on project component description.

Component 1: Resilient Urban Transport (US$17 million equivalent)

25. **This component builds on IRUMP concepts and objectives to improve climate resilience and the green transition of urban transport system in Sierra Leone.** It will provide technical assistance to strengthen institutional reform, support human capital development in the transport sector, advance the operationalization of the TMP, and strengthen aspects of integration, inclusiveness, and safety. These measures include scaling up high-capacity public transport services with private sector participation, improving urban transport infrastructure against flooding and landslides, and promoting NMT and safety measures. This component includes the following activities:

(a) **Technical assistance to develop transport strategies and build institutional capacities of transport ministries, departments and agencies (MDAs) (US$2 million equivalent).** To address climate risks and promote low-carbon sustainable development, this subcomponent will support the development of (i) a national transport strategy with integration of climate resilience and GHG mitigation measures; (ii) urban mobility plan for Freetown, incorporating climate resilience, GHG mitigation, and women's mobility patterns and needs; and (iii) national road safety guidelines and database. It will also strengthen the capacity of transport institutions (such as SLPTA) to develop and implement sustainable transport strategies that integrate measures to reduce vulnerability to climate disasters (flooding and landslides), reduce congestion, and reduce GHG emissions and air pollution. Support will be provided for capacity development and awareness raising activities on road safety and the professionalization of bus operators to strengthen public transport, enhance transport sector management, and promote human capital development in the transport sector with a gender perspective in collaboration with the universities.

(b) **Strategic low carbon and resilient infrastructure investment (US$5 million equivalent).** This subcomponent will support strategic investment on resilient and low-carbon urban transport infrastructure to promote integrated public transport and NMT with climate resilience and safety measures as well as finance the associated supervision and environmental and social (E&S) cost of the civil works. The civil works will expand safety features and consist of spot improvements of the priority public transport corridors[39] to enhance safety, climate resilience,

[38] The PPA is effective since March 1, 2024, and finances preparatory studies regarding technical, environmental and social, and fiduciary aspects.
[39] Road network from the Central Bus station through Wilberforce Street, Sani Abacha, Kissy Road, Bai Bureh Road to Jui. The improvements are expected to cover up to 2.7 km of the eastern corridor and include the installation of bus shelters with real-time passenger information. Detailed designs have been prepared for Jui and River No. 2. Support will be extended to ensure the continuity of these critical infrastructure for bus operations on the eastern corridor.

improvement of corridor intersections to prioritize bus lanes, improvement of non-motorized transport including pedestrian infrastructure with guard railings on selected locations along the eastern corridor, and upgrading/construction of bus stops/terminals and depots.[40] The selection of civil works will be based on the update on residual activities from IRUMP and technical studies and informed by the urban transport study financed by the PPA.

(c) **Expansion of the modernization of public transport system (US$10 million equivalent)**. This subcomponent will increase the coverage of modernized bus services in Freetown with inclusive private sector participation and effective traffic management. It will scale up the fleet renewal and emission reduction initiative undertaken in IRUMP and follow the approach of 'lease-operate-own'. In particular, the MTA will procure additional high-capacity buses, lease them to the private operators who will operate the buses on assigned routes, pay leasing fees to the SLPTA on a regular basis, and own the buses at the end of the concession. This scheme mobilizes private capital through the concession contract, while resolving the financial constraints of the private sector in fleet capital investment. The concession contract may also include provisions for the bus operators to promote women's employment in bus operations. It will also finance ancillary facilities and digital systems for bus operation such as a fare collection system and real-time passenger information system. The prioritization of bus routes, optimization of the fleet size, and the design of the concession will be informed by various technical studies on urban transport under IRUMP and PPA. This subcomponent will increase the attractiveness of the public transport system and include appropriate measures for women's safety. It will promote a modal shift from two/three-wheelers and minibuses to higher-capacity buses that provide more comfort to women, with Closed Circuit Television (CCTV) cameras to track and reduce incidences of harassment/violence.

In addition, this subcomponent will advance the operationalization of the TMP, which was developed and partially implemented under IRUMP and strengthen the aspects of public transport integration, inclusiveness, and safety. The specific activities may include implementing policies and regulations for instance on bus priority lanes and road safety, installing traffic signals and road markings in priority intersections/corridors to implement the bus priority lanes policy, expanding the hybrid solar-grid street lighting on pedestrian pathways to improve personal safety, especially for women and other vulnerable groups, therefore making NMT more attractive and promoting modal shift from higher-carbon transport modes.

Component 2: Resilient Rural Bridges and Link Roads (US$44 million equivalent)

26. **This component will provide climate-resilient bridges and their link roads for all-season rural connectivity and support life-cycle management of transport assets.** The proposed bridges and associated link roads were selected primarily based on the climate change related hazards present in the locations, the vulnerability of the communities served, and their connectivity benefits. Complementing the bridge construction with technical assistance aims to provide support for monitoring exposure to climate change related natural hazards, assessing vulnerabilities to adverse climate change impacts, and identifying climate change related risk situations. The component is expected to bring substantial climate change resilience benefits for communities by improving access to markets, jobs, and services in the rainy and extreme dry seasons. It will include the following activities:

(a) **Construction of four climate-resilient long-span bridges and their link roads (US$38 million equivalent)** The subcomponent will finance four bridges at Moselolo, Sumbuya, Komrabai, and Kabba crossings—and their link roads. The design and construction of the bridges and roads will apply climate change resilience measures and engineering standards against climate risks. The engineering designs for construction will follow environment-friendly norms and design parameters that increase resilience to climate change and extreme weather events by (i) aligning with climate-proofed technical design parameters for rural infrastructure and access roads; (ii)

[40] As part of IRUMP implementation, land has been secured for the construction of bus depots and a terminal at CBD, Jui, River No. 2, and approved school.

incorporating use of weather-resistant materials to withstand extreme weather events; and (iii) right-sizing drains and culverts to accommodate heavy precipitation, limit erosion, and maintain existing watersheds. The 'Green Roads for Water Concept'[41] will also be implemented along the bridge link/access roads, where and when technically justified. This subcomponent would also finance relevant consulting services for supervision as well as the E&S costs[42] associated with the civil works. The feasibility studies and conceptual designs of the four proposed bridges have already been completed under the support of SCADeP (three) and EU (one) funding. The concept design of the link roads and an update to the feasibility studies will be carried out under the PPA.

(b) **Supporting outstanding resilient bridge works under SCADeP (US$4 million equivalent).** This subcomponent will contribute to the ongoing construction of four resilient bridges under SCADeP which currently has a financing gap. The four bridges[43] are Tomparie, Manowa, Mattru, and Gendema, for which the contracts have been signed and the works started in May 2023. As of mid-March 2023, the progress of Tomparie, Manowa, Mattru, and Gendema bridge construction is respectively 30 percent, 48 percent, 42 percent, and 25 percent. The total cost of the four signed contracts is US$33.3 million against a total budget of US$26.2 million under SCADeP. This leaves a funding gap of about US$7.1 million which was initially planned to be filled by the GoSL fiscal support. Considering the current fiscal stress on the GoSL, this subcomponent will partially address the financial gap of the bridge works. It will only be triggered after full utilization of SCADeP resources. The government has committed to cover the remaining US$3.1 million using fiscal resource for the SCADeP bridges.

(c) **Supporting climate-resilient life-cycle management of road and bridge assets (US$1 million equivalent).** This subcomponent will support the development of a digital bridge management system (BMS)[44] and the operationalization of the RAMS, which was developed under SCADeP. It will also provide guidelines, procedures, and data collection on life-cycle asset management to inform decision-making and prioritize investments in enhanced rehabilitation/maintenance works against climate risks. The system development, operationalization, and integration will provide evidence-based analysis and optimize the planning, budgeting, and management of the bridge and road assets.

(d) **Technical assistance and institutional capacity building in road sector (US$1 million equivalent).** This subcomponent will promote a resilient and inclusive road network by financing technical studies to update the five-year strategic development plan of the road sector considering climate risks and to develop a national guideline on climate-resilient design standards for bridge and roads construction that can inform the next generation of resilient infrastructure. It will also support SLRA and relevant institutions to build institutional capacity on climate-resilient transport asset management systems[45] and provide training on rural road maintenance to local communities through the ongoing collaboration between SLRA and local councils and on road fund management in collaboration with the MoF. The activities will fully incorporate gender perspectives to ensure the sufficient participation of women. It will also contribute to the transport human capital program to build human capital on road and bridge sector, in collaboration with universities and the MTA.

[41] Van Steenbergen, Frank W. M.; et al. 2021. *Green Roads for Water: Guidelines for Road Infrastructure in Support of Water Management and Climate Resilience (English).* International Development in Focus. Washington, DC: World Bank Group. URL.

[42] This may include support to the national displacement secretariat.

[43] Tomparie and Manowa (contract signed on October 5, 2022, in the amount of US$14,908,999.15) and Mattru and Gendema (contract signed on April 4, 2023, in the amount of US$18,214,495.66).

[44] Technical assistance on BMS tool will include the software, data collection, and user guidelines to support efficient monitoring and informed decision-making on bridge construction and maintenance. In addition, the component will support the integration of the BMS with existing RAMS which was established under SCADeP.

[45] Capacity-building activities will focus on training to improve the technical expertise and skills of SLRA staff, including the local and national level engineers, to supervise bridge works and support the continuous operations and use of the BMS to support informed decision-making on maintenance and disaster emergency planning. In addition, training will be delivered on feeder road maintenance to support human capital development in the local communities and promote employment opportunities for women.

Component 3 : Resilient Agriculture Market Infrastructure[46] (US$8 million equivalent)

27. **Complementing transport connectivity with market infrastructure, this component seeks to strengthen the resilience of agricultural value chains and reduce farmers' vulnerability to climate and disaster risks.** The agricultural market infrastructure component will promote the climate resilience of local communities by providing reliable year-round access to markets, which will in turn improve food security and local incomes. Specifically, the construction design and upgrade of the market infrastructure will follow building codes and measures informed by climate change and disaster resilience, potentially including integrating tree planting activities to capture and sequester carbon and protect users from extreme temperature and establishing a maintenance system to regularly check for deficiencies. The investment will provide reliable access and operation of market facilities year-round, contributing to addressing food security issues as well as increasing local incomes, especially for women since they make up most of the labor force in agricultural marketing activities. The interventions aim to complement Components 1 and 2 to benefit the overall agriculture value chain and create more business opportunities. It will include the following activities:

(a) **Developing resilient agricultural market infrastructure within the catchment areas of the four climate-resilient bridges (US$6 million equivalent).** The investments will focus on constructing new infrastructure and on rehabilitating and upgrading existing infrastructure that supports the aggregation, storage, processing, and trading of agricultural products as well as the required equipment and related support to promote climate-resilient and safe commodity value chains. Specifically, the support will focus on (i) rehabilitation and upgrade of existing open markets with storage and processing facilities; (ii) construction of new aggregation centers; (iii) provision of facilities for specialized handling of produce; and (iv) the construction of internal market pathways, drainage, and water and sanitation facilities (with separate bathrooms and changing rooms for men and women) in selected market centers. It is envisaged that the project will employ the use of solar power to generate energy for powering lighting, cooling, and other electrical systems. Solar water heating systems will be used to provide hot water for cleaning and sanitation purposes. The selection criteria for facilities and upgrades will be based on a technical assessment integrating exposure to climate change related hazards, infrastructure vulnerabilities, and gender considerations to reduce post-harvest losses. The ongoing assessment, funded by the PPA, will adopt participatory processes, collect gender-disaggregated data, and prioritize the perspectives of women, given their central role in agricultural value chain.

(b) **Upgrading of the AMIS (US$1 million equivalent).** An AMIS has been established by MAFS as part of ongoing initiatives to strengthen access to market for key agricultural commodities in Sierra Leone. The upgrade will incorporate additional modules, including an online platform (Farmers Business Network) to connect farmers and buyers and eliminate the need for middlemen, information on weather, and climate forecasts relevant for agriculture production and distribution. It will specifically support the development of an AMIS Mobile App, integration of an integrated voice response system, a secured payment system, farmer profiling, warehouse ticketing platform, weather information, and, among others, valuation information to promote efficient use of the AMIS. The project will collaborate with women's organizations and nongovernmental organizations (NGOs) to train rural folks, especially women on how to effectively use the AMIS.

(c) **Capacity building and training for institutional stakeholders and value chain actors, including farmers, processors, and traders (US$1 million equivalent).** These activities seek to support value chain actors in developing a culture of entrepreneurship, innovation, and continuous learning to adapt to changing market dynamics and consumer preferences. Specifically, it will involve workshops and training sessions to strengthen the capacities of MAFS staff and value chain actors, with a priority for women's empowerment in the agri-value chain, focusing on the following topical areas: market analysis techniques (demand, trends, and competitive

[46] Agricultural market infrastructure here refers broadly to those physical and virtual structures that support the aggregation, storage, processing, transportation, and distribution of agricultural products.

dynamics), post-harvest handling techniques to reduce food spoilage and waste, quality standards and certification requirements, formal market access (supermarkets, restaurants, and export markets), use of energy-efficient and climate-smart agriculture practices in their businesses, the use of information and communications technology (ICT) with integrated gender-sensitive and socially inclusive approaches, and, among others, relevant topical areas to be identified based on needs assessment.

Component 4: Project Management Support (US$5 million equivalent)

28. **This component will support project management related costs and develop the capacity of project staff in the identification, evaluation, and implementation of climate resilience and emissions mitigation solutions.** Specifically, the allocated funds will broadly cover the cost of (a) consulting services; (b) incremental operating costs; and (c) training for project management staff. Financing support under this component will cater to all aspects of project management including, but not limited to, recruitment and staff training on procurement and financial management (FM), the environmental and social (E&S) safeguards implementation and compliance, monitoring and evaluation (M&E), communication, and knowledge management. Providing project management support will help establish the required technical abilities to deliver results and sustain impact. In all the proposed training for project staff, provisions will be made to integrate climate resilience and mitigation management.

Component 5: Contingent Emergency Response Component (CERC) (US$0 million equivalent)

29. **This CERC component** is included in the project in accordance with Investment Project Financing (IPF) Policy, paragraphs 12 and 13, for Situations of Urgent Need of Assistance and Capacity Constraints. This will allow for rapid reallocation of [loan/credit/grant] uncommitted funds in the event of an eligible emergency as defined in OP 8.00.[1] A CERC Manual will guide the activation and implementation of the CERC, and an Emergency Action Plan will be prepared to confirm activities and financing for a specific event.

30. **The project is estimated to cost US$74 million sourced from an IDA grant**. If required during implementation, a restructuring will be carried out to process project IDA resources for compensation. The detailed costs are presented in Table 1.

Table 1. Project Cost and Financing Sources (indicative, US$ millions)

Component	Estimated Cost (US$)
Component 1: Resilient Urban Transport	**17,000,000**
Technical assistance to develop transport strategies and build institutional capacities of transport ministries, departments and agencies (MDAs)	2,000,000
Strategic low carbon and resilient infrastructure investments	5,000,000
Expansion of the modernization of public transport system	10,000,000
Component 2: Resilient Rural Bridges and Link Roads	**44,000,000**
Construction of four climate-resilient long-span bridges and their link roads	38,000,000
Supporting outstanding resilient bridge works under SCADeP	4,000,000
Supporting climate resilient life-cycle management of road and bridge assets	1,000,000
Technical assistance and institutional capacity building in the road sector	1,000,000
Component 3 : Resilient Agriculture Market Infrastructure	**8,000,000**
Developing resilient agricultural market infrastructure within the catchment areas of the four climate-resilient bridges	6,000,000
Upgrading of the AMIS	1,000,000
Capacity building and training for institutional stakeholders and value chain actors, including farmers, processors and traders	1,000,000
Component 4: Project Management Support	**5,000,000**
Component 5: Contingent Emergency Response Component (CERC)	0
Total	**74,000,000**

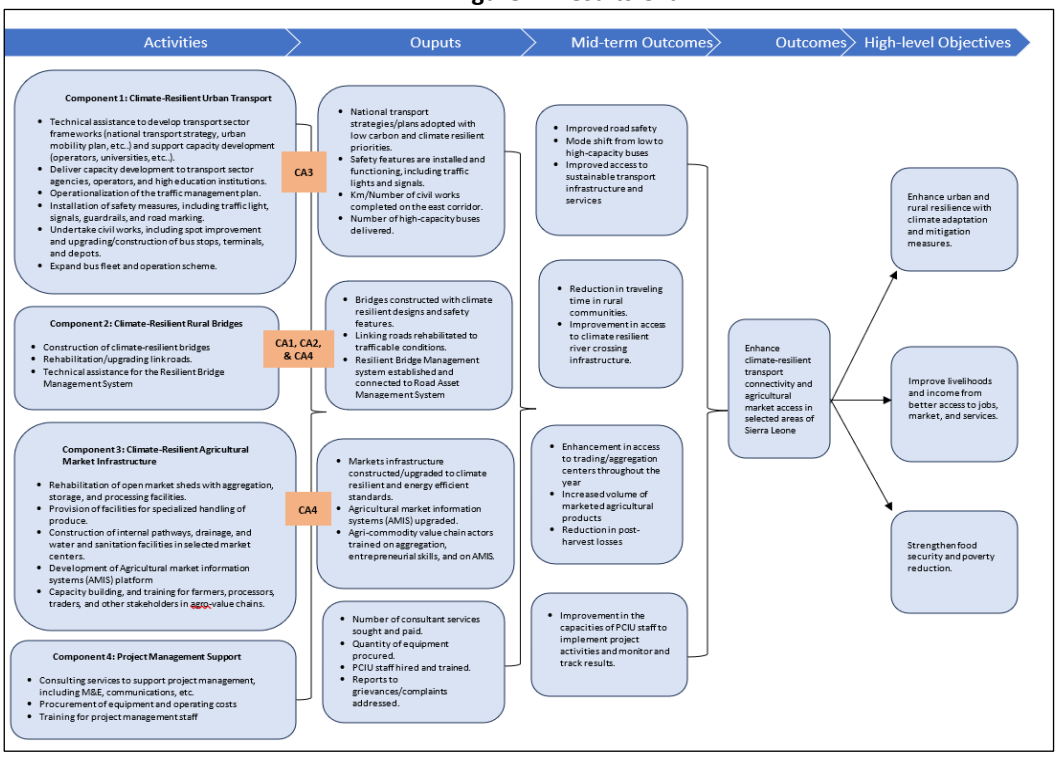
C. Project Beneficiaries

31. **The proposed project will directly benefit over 3 million people in urban and rural areas as well as institutional stakeholders, including government agencies, public transport operators, and academic institutions.** Over 1 million urban residents[47] in the city of Freetown and adjacent towns will benefit from improved transport infrastructure, traffic management, and public transport services. As the country's capital and most motorized city, supporting bus fleet expansion for mass transportation in Freetown will also contribute to overall emission reduction and increase accessibility to the economic development opportunities in the city. Approximately 2 million rural people[48] in Bo, Moyamba, Tonkolili, and Karene will benefit from the bridges, link roads, and agricultural market infrastructure. The farmers will gain better access to larger markets for inputs and commodities, extension services, and social services and amenities. Aggregators and marketers will gain unobstructed links to producers and better access to commodities. More broadly, the BMS, RAMS, and AMIS will benefit the road users and agricultural traders across the country. Importantly, the project will benefit vulnerable groups and women by providing inclusive and resilient connectivity and trainings to enhance their human capital endowment and economic empowerment.

D. Results Chain

32. **Problem statement:** The high exposure to climate exacerbated floods and landslides together with the poor maintenance of urban and rural roads, lack of bridges at river crossings, and inadequate agricultural market infrastructure increases vulnerability to disruptions in connectivity to urban and rural areas and post-harvest losses in rural agricultural communities. Figure 2 shows the project Results Chain.

Figure 2. Results Chain



[47] Combined population of Freetown and its adjoining towns such as Waterloo, Jui, Tumbu, among others (1,271,330).
[48] Combined population of the four beneficiary rural districts of the bridge and market infrastructure: Bo (756,975), Moyamba (346,771), Tonkolili (557,257), and Karene (290,313) based on the 2021 midterm census results accessed here: https://www.statistics.sl/images/StatisticsSL/Documents/Census/2021_MTPHC_Final_Results_Tables_ByDistrict.pdf

Critical Assumptions

1. SLRA continues to build and update the RAMS inventory and has adequate capacity to utilize it for programming.
2. Funding is available and project bridges and link roads are adequately maintained after project closing.
3. Government agencies are supportive and committed to improving transport sector policies and strategies with low-carbon and climate-resilient priorities.
4. There are sufficient capacities and culture for the maintenance of transport (bridges and roads) and market infrastructure.

E. Rationale for World Bank Involvement and Role of Partners

33. **Drawing upon its international and regional experience, the World Bank is in a strong position to support the GoSL in tackling the bottlenecks in connectivity and agricultural market access using a holistic approach.** The GoSL is constrained by limited human and financial capacity to develop comprehensive solutions. The World Bank's sustained engagement with connectivity and accessibility issues in western Africa countries (Nigeria, Côte d'Ivoire, and others) and its commitment to development, technical knowledge, and convening power place it in a unique position to support the GoSL in developing integrated and multisectoral solutions. The country's need for climate-resilient solutions is immediate, as demonstrated by the recent devastating flooding and landslides. The World Bank's international experience in disaster risk management and its support for climate-resilient infrastructure offer significant value added to address the vulnerabilities.

34. **The proposed project demonstrates the scalability and sustainability of the World Bank's interventions in Sierra Leone.** Over the past few years, the World Bank has supported the GoSL to improve resilient and inclusive urban mobility, rural connectivity, and smallholder market access under IRUMP and SCADeP. Significant institutional reforms and capacity, innovative solutions, and sectoral policies have been developed under the two projects. CAMIP is designed to sustain the outcomes and scale up the impact of the World Bank's portfolios in transport and agricultural sectors. The institutional and technical foundations of the two projects are expected to enhance the efficiency of the preparation and implementation of CAMIP. In particular, the World Bank's continued and consistent involvement in the two sectors will help (a) retain resources and technical expertise to operationalize sectoral reforms; (b) strengthen the private sector's investment interest in areas benefiting from better connectivity and market access; and (c) increase awareness of the need to address issues in the broader context of climate change and food security.

35. **The project will be implemented in close collaboration with other development partners in transport and agricultural sectors,** including EU, *Kreditanstalt für Wiederaufbau* (Credit Institute for Reconstruction, KfW), *Gesellschaft für Internationale Zusammenarbeit* (German Agency for International Cooperation, GIZ), African Development Bank (AfDB), *Agence Française de Développement* (French Development Agency, AFD), International Fund for Agricultural Development (IFAD), and Food and Agriculture Organization of the United Nations (FAO). The AfDB is implementing a regional Road Development and Transport Facilitation Programme that includes road and bridge construction to improve economic access and integration for border towns. KfW and IFAD are implementing community-level projects targeting rural communities. In particular, IFAD's Agricultural Value Chain Development Project is strengthening rural farmers' potential to market rice, palm oil, cocoa, and vegetables while KfW/GIZ is implementing roads and small bridges to connect agricultural production centers to business opportunities. The project will ensure complementarity, avoid overlap, and enhance synergies for sustainable development of connectivity and market access infrastructure in Sierra Leone.

F. Lessons Learned and Reflected in the Project Design

36. **The project design draws lessons from global knowledge, World Bank-wide evaluations on transport projects, and practical experience of implementing IRUMP and SCADeP.** The lessons include, but are not limited to, the following:

(a) **Tailored interventions and sustained solutions on climate adaptation and mitigation.** The project considers climate adaptation and resilience throughout transport assets' life cycle, including systems planning, engineering,

operations, contingency planning, and overall capacity building, as defined in a publication of the World Bank Group (WBG).[49] This project includes in its design the lessons learned from the publication and best practices in each of the life-cycle phases. The project will integrate climate resilience considerations in strategic transport planning, utilize climate resilience standards in the design and construction of infrastructure, and integrate climate resilience considerations in asset management systems and maintenance protocols. The project also proposes several activities to address the lack of awareness and capacity to deal with climate change impacts. Recognizing the country's combined exposure and vulnerability to climate change related hazards such as flooding, IRUMP and SCADeP incorporated adaptation measures into bridge design, road works, and related activities to improve the durability and effectiveness of the infrastructure. These good practices also inform the design of this proposed project.

(b) **Gender-informed design and implementation of project activities.** The World Bank's Independent Evaluation Group's (IEG) assessment on effectiveness of operations in supporting countries' efforts to achieve mobility for all concluded that, among disadvantaged groups, much less attention was paid to the special needs of women and disabled persons.[50] To address gender barriers which are widely present in the sectors, the project has incorporated activities to provide safer infrastructure and public transport services, empowering women with job skills on bus operations, road maintenance, and agricultural business. The project will also use the lessons learned to ultimately increase access to higher education, financial resources, family planning, and so on while providing the framework to prevent, mitigate, and respond to gender-based violence (GBV) and sexual exploitation and abuse (SEA) cases within the project's boundaries.

(c) **Effective stakeholder engagement and efficient institutional collaboration.** Involving various stakeholders is paramount for project impact. An IEG report on transport projects[51] revealed that weak institutional capacity and coordination remain a critical challenge. Since project activities often encompass diverse sectors and benefit stakeholders at different levels, it is imperative to actively engage with line ministries, technical teams, and local governments and grassroots associations. Learning from SCADeP and IRUMP, the project will also strengthen institutional collaboration with regular meetings, clarified responsibilities, transparent budgeting processes, and streamlined decision-making procedures. In addition, the technical expertise and project management experience of the IRUMP and SCADeP Project Implementation Units (PIUs) will be leveraged in project design and implementation.

(d) **Solid preparatory works to improve technical readiness of the project.** The project design is built on the technical studies carried out under SCADeP and IRUMP and will be further informed by complementary studies financed by PPA on urban transport, rural bridge and roads, and agricultural market infrastructure. Assessments of the project context, beneficiary needs, international practices, and technical solutions will set up a solid foundation for project implementation.

(e) **Inclusive private sector participation.** As observed in the two ongoing operations, this project can also benefit from involving the private sector. Engaging private operators including bus operators, agricultural traders, and local entrepreneurs will mobilize more resources and introduce efficiency and innovation into the local economy. More specifically, sufficient and constant engagement with the domestic operators is the key to modernize and formalize the paratransit system, as demonstrated in many cities in the region and globally, such as Dakar, Mexico,

[49] Climate and Disaster Resilient Transport in Small Island Developing States: A Call for Action. https://bit.ly/2SYMCR6.
[50] IEG/The World Bank. 2017. "Mobile Metropolises: Urban Transport Matters. An IEG Evaluation of the World Bank Group's Support for Urban Transport." https://ieg.worldbankgroup.org/evaluations/urban-transport.
[51] IEG/The World Bank. 2017. "Mobile Metropolises: Urban Transport Matters. An IEG Evaluation of the World Bank Group's Support for Urban Transport."add

and Cape Town. Empowering the small business owners in the agriculture sector with necessary resources and infrastructure facilities will expand the positive development impact to rural households.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

37. **The project implementation is structured into a three-layered institutional arrangement: (a) National Project Steering Committee (NPSC); (b) Project Coordination and Implementation Unit (PCIU); and (c) Focal Points (FPs).** Annex 1 provides the organogram of implementation arrangements. The NPSC will provide policy guidance, advisory, and oversight support to ensure effective coordination of all the project components by the PCIU. It will consist of memberships from sector ministries and agencies and will be chaired by the MTA—as the key sector ministry. The specific responsibilities of the NPSC will include, but are not limited to, (a) approving the annual work plans and procurement plans; (b) reviewing progress in the implementation of the work plans and other aspects of project performance, including taking responsibility for fiduciary oversight responsibilities following World Bank procedures on FM and procurement; and (c) ensuring that there is effective implementation coordination, especially between the PCIU and the FPs. The tenure of the NPSC will be consistent with the project implementation period.

38. **A PCIU will be hosted in the MTA to coordinate and supervise all day-to-day implementation of the project activities, including being responsible for the fiduciary aspects.** The MTA demonstrates readiness in terms of human and other resource capacities already in place from its establishment of a project implementing agency for IRUMP. IRUMP PIU has been assigned by the MTA to prepare CAMIP and implement the PPA activities. The MTA will convert the IRUMP PIU into CAMIP PCIU upon project effectiveness. The existing key staff of the IRUMP PIU including the project coordinator, project engineer, environment specialist (safeguard coordinator), M&E specialist, communication officer, and urban planner will remain as the key staff in the CAMIP PCIU for project implementation. The PCIU will recruit a procurement specialist, a FM specialist, an internal auditor and a social specialist before project effectiveness. The main functions of the PCIU will include (a) coordinating the project implementation of project components and ensuring synergies between activities; (b) managing project funds with appropriate financial records, internal management control, and regular external audit (in collaboration with the Audit Authority); (c) preparing and implementing Annual Work Plans and Budgets (AWPBs) aggregating the needs of all project implementing institutions; (d) identifying potential service providers, organizing their procurement activities, negotiating and signing contracts, and carrying out all procurement work related to the project as per the approved procurement plans; and (e) preparing quarterly, semiannual, and M&E reports.

39. **Although the PCIU oversees project coordination, implementation of activities under Components 2 and 3 will lean on technical support from two FPs.** These FPs are experienced representatives from (a) the SLRA for Subcomponents 2a, 2c and 2d, and (b) MAFS for only Subcomponent 2b under Component 2 and the whole of Component 3 through SCADeP PIU and MAFS. With their high-level expertise in rural bridges and link roads, and agricultural market infrastructure, they will provide technical oversight support to the PCIU, ensuring that activities are implemented following sector-specific best practices, standards, and minimum requirements. The FPs' support would be required during the (a) preparation of work plans/programs, budgets, and safeguards instrument; (b) development of draft terms of references (ToR) and bidding documents for the activities; (c) negotiation and finalization of bidding and contracts; and (d) monitoring and reporting of progress on all activities under specific project components. The detailed arrangement, roles, and responsibilities of the institutions will be laid out in the Project Implementation Manual (PIM).

B. Results Monitoring and Evaluation Arrangements

40. **A comprehensive Results Framework and M&E plan have been developed to track key impacts and assess progress at various stages of implementation.** The framework outlines PDO-level indicators and intermediate results indicators by components along with the baseline and targets at the midterm and end of project implementation. In addition, the M&E plan provides a detailed description for each PDO and intermediate-level indicator as well as the data

source, frequency, methodology, and responsibility over data collection. The timelines for tracking will be provided for enhanced effectiveness. The M&E plan will serve as a day-to-day management tool to guide project implementation and as a mechanism for the periodic checks and assessment of project performance to gauge impact. It will also support project supervision by ensuring that baseline and follow-up survey data on key performance indicators are available and regularly updated. A simplified Results Framework and M&E plan is presented under Section VII with a few selected indicators. However, the broader framework consisting of a comprehensive list of indicators (such as travel cost and volume of agricultural production) will be developed once the project M&E Specialist is hired. To systematically enhance M&E as well as supervision, the project will use tools and methods of the World Bank Geo-Enabling Initiative for Monitoring and Supervision (GEMS). GEMS will enhance the transparency and accuracy of M&E; increase accountability of third-party monitoring; and provide a platform for remote supervision, real-time risk monitoring, and portfolio mapping for coordination across projects and partners. Whenever possible, the M&E system will explicitly disaggregate results by gender.

41. **Impact evaluation will be undertaken to identify the overall socioeconomic well-being benefits attributable to the project interventions.** The evaluation will involve rigorous research methods to identify the changes in travel time and travel cost to market and other social services; and the increase in agricultural production volume income, and food security benefits attributable to the project. It will also help capture and document some of the important lessons from project implementation to inform similar operations in the future, either in the country or elsewhere. The detailed scope of work on impact evaluation will be defined in the PIM. In essence, the impact evaluation will help the GoSL, development partners, and all key stakeholders better understand the differential impacts of the spatially coordinated investments in road accessibility and agricultural market infrastructure on household behaviors, welfare, and other development outcomes.

C. Sustainability

42. **Capacity development, sectoral strategies, and infrastructure asset management are the key anchors for impact and sustainability.** Each project component consists of a technical assistance and training activity specifically targeted to the sector ministries, agencies, support staff, and beneficiaries. The national transport strategy will also incorporate the recommendation to properly manage transport assets and improve road fund. In Component 1, support to establish and operationalize transport institutions is expected to help key government agencies build an effective system for safe and inclusive mobility in urban areas. The maintenance of the urban road infrastructure will be conducted by SLRA. Infrastructure and facilities such as traffic signals, bus terminal, and stops will be owned and maintained by SLPTA. Both authorities will be involved at the construction stage and work with the MTA to develop action plans for infrastructure maintenance. Under Component 2, technical assistance is provided on Bridge Asset Management System to facilitate proper inventory of bridges, evaluation of structural condition, and identification of deficiencies requiring attention for maintenance throughout the lifespan. The SLRA and other stakeholders, including local councils, local civil works contractors, artisans, and engineers, will also be targeted for specialized human capital strengthening training on improved design and building standards to enhance their capacities for work on the bridge and link road maintenance in the long run. As part of Component 3, training will also be delivered to support local councils in maintaining the market infrastructure as well as to farmers, processors, traders, and other stakeholders in specific agri-value chains on aggregation techniques and entrepreneurship for enhanced access to the market. All project staff will also receive tailored capacity support to manage and monitor project impacts. In essence, the streamlined capacity development activities are intended to prepare all project beneficiaries with the requisite skills to maximize and sustain impacts beyond the project lifespan.

43. **Community involvement in the project activities is aimed at building ownership and sustainability.** Participatory engagement with the community leaders, committees, and women's groups is a key foundation for the sustainability of development projects. In this respect, local officials will be collaboratively involved as key stakeholders in identifying, designing, implementing, and managing the market infrastructure and bridge assets. Beneficiary rural communities will

be supported to form cooperatives/groups and develop asset maintenance plans to rehabilitate and deal with unexpected risks that may affect the bridges, link roads, and market infrastructure in the future. Women in leadership positions, especially the market queens, will be prioritized in the planning, management, and maintenance decision-making on the agricultural market infrastructure to facilitate their continuous empowerment and active involvement. Such participatory approaches are expected to strengthen ownership and sustained use and benefits from the project interventions.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

Technical Analysis (see details in Annex 2)

44. **The proposed urban transport activities are informed by interventions under IRUMP and aim to expand the coverage of resilient road infrastructure and modernized bus services in Freetown.** IRUMP supported several interventions to improve resilient mobility investments and strengthen human capital and institutional capacity including the establishment of the SLPTA, development and partial implementation of a TMP, and formalization of the public transport operator, MTC. Two pilot corridors with the busiest traffic in Freetown were identified under IRUMP: (a) a western corridor between the CBD and Number 2 River that has been developed and (b) an eastern corridor between the Central Business District (CBD) and Jui whose conceptual design was carried out under IRUMP to support future development investments. IRUMP introduced the bus fleet renewal with an initial investment in 50 'Waka Fine' buses leased to and operated by MTC on the assigned routes along the two corridors under concession arrangements with the SLPTA. A technical study developed under IRUMP shows that the current traffic demand for public transport in Freetown is 474,873 trips per day and may increase to 750,000 trips by 2033. The city is expanding in size and population, with growing transport challenges[52] making the current public transport, which is predominately two- and three-wheelers and poda-podas with more than two-thirds share of the traffic mix,[53] unsustainable. The expansion of the public transport network with additional high-capacity buses, operationalization of the ITS, and prioritization of the operating routes under the proposed project are necessitated to shift the trajectory and promote more sustainable low-carbon transport modes.

45. **The proposed project will lay the groundwork for reforms through the preparation of a comprehensive national transport strategy, which will guide the sector reforms and institutional strengthening in the medium to long term.** Areas for improving the sustainability of the road fund will be explored and an action plan on institutional, financial, and capacity aspects will be developed under the national transport strategy. Support will also be provided to sustain the reforms in the urban transport sector and strengthen road safety policy development and enforcement. The MTA will carry out an urban transport study to select infrastructure improvements and design the expansion bus service to maximize climate benefits within the financing parameters. This study will include public transport network analysis, prioritization of infrastructure improvements on bus corridors to best address the climate vulnerabilities, and detailed demand assessment of bus routes and fleet requirements for main corridors and feeder roads. It will also assess business models regarding integrating and further formalizing incumbent operators who can provide scheduled feeder services and participate in the fleet renewal scheme.

46. **The proposed four bridges were prioritized among nine identified bridge locations, informed by climate vulnerability assessment, and will address critical connectivity constraints for rural farmers and traders and provide all-season access by applying climate-resilient technical standards.** The bridge locations' selection was based on four prioritization criteria: (a) bridge locations in areas of high climate change vulnerability, with roads in fair to good condition to provide connectivity, ease, and all-weather access to the main travel corridors in Sierra Leone; (b) impact of the connectivity improvement on climate change resilience of communities and livelihoods and economic development through agriculture, fishing, and mining; (c) population density of regions where bridges are located; and (d) regional

[52] https://www.researchgate.net/publication/349731392_City_Profile_Freetown_Base_conditions_of_mobility_accessibility_and_land_use.
[53] Ibidem.

integration, that is, the potential to enhance connectivity to regional markets in neighboring countries. The bridge designs have been developed for a 100-year lifespan with climate change resilient considerations[54] and will have a steel composite deck which is comparatively less expensive and faster to construct. Their substructure will consist of a pile foundation underneath multiple columns with a capping beam pier which has increased safety due to its structural redundancy properties. Scour protection provision and the recommended cantilever abutment with straight return walls will prevent the backfilling from being undermined.

47. **The structure and characteristics of the bridges and link roads will improve conditions for NMT.** To improve access to the bridges and connectivity to adjourning roads, about 6 km length of link roads will be upgraded from their current gravel state to asphalt. Generally, the bridges will have a 7.3 m wide carriageway and 1.5 m sidewalks on each side of the carriageways of both the link roads and bridges for NMT. In particular, the design will account for more than 1.5 times the current standard estimation for planned high water flow rate and increase the spaces under the girder to keep the beam far above floodwater levels to reduce potential connectivity disruptions and losses often associated with floods and water level rises. The bridges will also be checked for resilience to climate change exacerbated floods, landslides, extreme temperature, and potential vehicles' overloads. Construction activities will prioritize the use of locally sourced materials to reduce the carbon footprint in the procurement processes (Annex 5 provides specific climate resilience considerations).

48. **Resilient agricultural market infrastructure including storage and aggregation facilities are necessary for effective and all-season agricultural logistics services.** Agricultural products are sold either at aggregation centers, often close to the fields, or at rural markets. Transportation, markets, and other infrastructure need to be linked to production and market information to achieve better results. Aggregation centers are essential in the rural-urban relationship, as they are not only a necessary step in supplying the cities but also serve as a platform for the main source of income for rural populations. In the proposed market infrastructure, tailored technical approaches will be incorporated in the design, drawing on experience from SCADeP. Investing in agricultural market infrastructure is deemed technically sound and supports the GoSL's efforts to promote economic diversification, growth, and food security. The World Bank portfolio in Sierra Leone has accumulated extensive experience in major technical aspects of this project, relating to the provision of market infrastructure items such as storage and aggregation facilities as well as facilities for specialized handling of agricultural produce and storage facilities. Based on studies, experiences, and lessons learned from previous and current activities of MAFS as well as projects supported by the World Bank and other development partners, it can be concluded that there exists adequate capacity to undertake procurement, distribution, and operation and maintenance (O&M) of the market infrastructure.

Gender

49. **The project will address some of the gender gaps identified regarding urban/rural transport safety and rural agricultural productivity.** Regarding gaps in urban and rural mobility, under Components 1 and 2, urban infrastructure and rural bridges will be equipped with gender-sensitive designs, such as walking infrastructure for pedestrians including for rural bridges to improve river crossing safety during the rainy season, especially for women, and lighting of pedestrian pathways to improve personal safety. The project will provide training to equip women with the necessary skills to perform various technical roles, to increase their competitiveness for job opportunities in transport sector. Awareness building through technical assistance to transport institutions and bus operators will then be conducted to expand opportunities for women. In addition, these actors will be trained on how to appropriately respond, set up a hotline to report sexual harassment (SH), and identify hot spots. The project will also assess the risks related to SEA/SH and prepare an SH/SEA action plan. In terms of gaps in agricultural productivity, under Component 3, interventions to address these gaps will be

[54] The AASHTO (American Association of State Highway and Transportation Officials) norms are used.

rehabilitation/construction of markets with dedicated stalls and storage facilities with specific space for women. Further details can be found in Annex 8.

50. **The needs assessment of agricultural marketing infrastructure with a gender perspective under Component 3 will inform the design of women's empowerment-specific interventions that contribute to closing gaps in alignment with the PDO and the country's Gender Action Plan.** Anticipated activities are, but not limited to, the provision of child-friendly spaces in the design of the agricultural market infrastructure to support traders/aggregators with babies and young children, design of separate bathrooms and changing rooms for men and women, and the provision of training to support their agricultural productivity and marketing activities.

Citizen Engagement

51. **The project will use a range of citizen engagement mechanisms.** These will include a mix of strategies to inform, consult, and engage with the direct project beneficiary communities, stakeholders, and the general public. In particular, roadshows, television, radio, town hall meetings, open forum, and social media will be used to inform the general public about the main objectives of the project and the envisioned development impacts toward promoting safer urban mobility, resilient rural connectivity, and sustainable agricultural livelihoods. These mechanisms will also be leveraged in delivering the proposed awareness raising activities on road safety under Component 1. Additionally, focus groups, public meetings, and workshops will be held to consult key stakeholders (for example, local council representatives, sector agencies, and community leaders), obtain their support, and gather all concerns on various issues relating to potential relocation of the project-affected people and sitting of the proposed bridges and agricultural market infrastructure. A project specific grievance redress mechanisms will be established to enable beneficiaries to express grievance or other feedback and allow for their timely identification and resolution. The process will integrate and build on the existing procedures already in place, such as local-level judicial recourse systems and community-based/traditional dispute settlement mechanisms. Lastly, beneficiary satisfaction surveys will be conducted to solicit feedback to improve and calibrate project implementation processes for enhanced results.

Paris Alignment

52. **The project is aligned with the goals of the Paris Agreement on both mitigation and adaptation.** The project is consistent with the country's NDC and NAP, as documented in the Project Appraisal Document (PAD) section on Relevance to Higher Level Objectives. Sierra Leone does not have a climate Long-Term Strategy and the Climate Country and Development Report (CCDR) is yet to be finalized.

- **Assessment and reduction of mitigation risks:** The project is not at material risk of having a negative impact on the country's low GHG emissions development pathways as all the activities financed are Universally Aligned from a mitigation perspective, except for the construction/rehabilitating/upgrading of agricultural market infrastructure that are energy efficient and use solar power and is therefore assessed as presenting low mitigation risk, and the bus fleet provision which is assessed to have a moderate risk.

  The Universally Aligned activities are developing a climate-resilient low-carbon national transport strategy and an urban mobility plan for Freetown, constructing four rural bridges and its link/access roads without risk of deforestation and promoting NMT, observing energy efficiency standards, and using solar-powered energy. The rural bridges and their link/access roads provide essential connectivity in a country with low motorization rates of seven vehicles per 1,000 inhabitants. Bridges and link roads will include sidewalks and zebra crossings for safe use by pedestrians, thus promoting NMT. The project also provides technical assistance that does not hinder the mitigation goals of the country and a CERC. The project will ensure that all eligible activities included in the CERC Manual/CERC Annex of the PIM are Paris aligned.

  The operation also supports the expansion of a bus fleet modernization emissions reductions program which is open to the introduction of low emission technologies such as electric and hybrid electric vehicles, if/when these

are deemed to be technically feasible and economically viable. If zero-carbon buses are not feasible/viable, the new buses will use the best available technologies and will be more fuel efficient than the current buses in operation. While the fleet renewal and emissions reduction program is assessed to have moderate risk, it is consistent with the low-carbon transition pathways of the country as it clearly contributes to moving away from the increasing dependency on private motorization and incorporates necessary measures to prevent carbon lock-in. Therefore, the residual mitigation risk has been reduced to an acceptable level.

- **Assessment and reduction of adaptation risks:** The main natural hazards and climate risks for the project are river floods and extreme heat. The project adequately reduces physical climate risks through resilience and adaptation design, limiting the project's exposure to an acceptable low level of residual risk. More detail is provided in Annex 5.

Climate Change Mitigation and Adaptation

53. **The interventions to be financed by the project were identified based on their potential to enhance the resilience of transport and agriculture market infrastructure and the resilience of the communities they serve.** The project will finance climate resilience and GHG emissions mitigation measures under each project component as below:

- In Component 1, the project will finance the provision of technical assistance to develop a climate-resilient low-carbon national transport strategy, including an urban mobility plan for Freetown that identifies key climate resilience and mitigation measures for deployment; the operationalization of a TMP for Freetown that promotes public transport and NMT; and the provision of capacity building for public transport institutions. Component 1 also includes the deployment of urban road spot improvements to enhance climate resilience, investments in bus stops and NMT facilities, and the scaling-up of a bus fleet renewal and GHG emissions reduction initiative, and the optimization of bus fleet size and bus routes to expand the reach and enhance the attractiveness of the public transport system.
- In Component 2, the project will finance the construction of four long-span rural bridges to strengthen the climate resilience of communities by improving connectivity at critical and vulnerable river crossings and the upgrading of bridge link/access roads to climate-resilient standards. Component 2 also invests in bridge and RAMSs to inform decision-making and prioritize investments in enhanced rehabilitation and maintenance works against climate risks.
- In Component 3, the project will finance the construction and rehabilitation of community agricultural markets, observing climate resilience and energy efficiency standards and the upgrading of an AMIS to provide information on weather conditions and climate forecasts.
- Component 4 consists of project management support and training of project staff on climate risk assessment and identification and evaluation of climate resilience and emissions mitigation options.
- Component 5 provides a CERC to allow for rapid reallocation of uncommitted project resources to cover an emergency response, including natural hazards and climate change impacts. Further information on how the project contributes to climate adaptation and mitigation is provided in Annex 5.

Private Capital Facilitation

54. **The project integrates avenues to maximize finance for development.** All the components seek to support activities that create spaces for strong engagement with several private sector officials, including informal transport services operators, road contractors, and agricultural value chain actors at the local level. Private capital will be enabled in the bus fleet renewal system through lease-operate-own approach. The private sector financing is channeled in the format of lease payment and eventually covers the capital cost of the fleet. The IRUMP demonstrates that the lease paid

by private operator covers about 50% of capital cost of bus fleet. The progress of the private capital enabling will be monitored with the indicator of number of bus lease agreement signed. The ongoing study on urban transport will assess the private sector's appetite and inform the design of the agreement. Support to private sector engagement includes but is not limited to targeted assessments to identify gaps in private sector engagement and capacity-building support on issues of road safety, maintenance, and entrepreneurship, among other areas. For example, the training for local road contractors will seek to fill in the skill gaps for road maintenance and spot improvement works. Entrepreneurship support to specific commodity value chain actors is also expected to strengthen the opportunities for smallholder farmers to aggregate, distribute, and market their commodities for income, which will improve enabling environment for future private investment from value chain actors in agricultural sector. Overall, the capacity building related supports are aimed at boosting the human capital potential of selected private sector entities of Sierra Leone, expanding their competitive advantages to serve local communities, and reinforcing their capacities for project sustainability.

Economic Analysis

55. **An economic analysis has been conducted using the conventional benefit-cost approach based on two key indicators of project viability: net present value (NPV) and the internal rate of return (IRR).** The analysis relied on the Road Safety Screening and Appraisal Tool (RSSAT) and the Highway Development and Management Model (HDM-4). Specifically, the RSSAT was adopted to evaluate the road safety benefits expected under Component 1. Component 1 also considers the benefit of emission reduction derived from mode shift to high-capacity buses with higher fuel efficiency from the aged public transport vehicles. On the other hand, the HDM-4 was used to assess four types of benefits expected under Components 2 and 3: (a) savings in travel time; (b) reduction in vehicle operating costs; (c) GHG emissions benefits (considering the low shadow price of carbon); and (d) improved road safety. Overall, the results of the analysis revealed that the benefit-cost ratio (BCR) is 2.21, the NPV is US$40.1 million, and the IRR is 21.5 percent, indicating that the project is financially and economically viable over the appraisal period of 20 years (see further details in Annex 3).

56. **Road safety benefits.** Under Component 1, the project seeks to invest in road safety features (such as road markings, hazard removal, marked footpaths, traffic signals, pedestrian crossings, and strategic streetlights) along the eastern corridor. The RSSAT analysis on the 2.7 km corridor revealed a Project Safety Impact of 0.64 (threshold is 1.0 or lower), a 36 percent reduction in road crash fatalities, and monetary savings/benefits of US$5.0 million (NPV) over a 20-year period.

57. **GHG emission reduction gains.** Per the results of the GHG emissions assessment, the project is expected to reduce carbon dioxide (CO_2) emission from motorized vehicles, from 412,533 tons of CO_2 (without-project scenario) to 228,692 tons of CO_2 (with-project scenario) throughout the 20-year evaluation period—mostly resulting from reduced distances traveled with the construction of bridges and access roads. The GHG emissions assessment also considered the impact of the modal shift from ferries to cars and the improvement in vehicle fuel efficiency of buses with the deployment of the bus renewal scheme. Therefore, the total project net saving is estimated at 183,841 tons of CO_2 emission. The shadow price of carbon calculations revealed a carbon benefit of US$12.7 million and US$25.4 million for low and high shadow carbon prices, respectively.[55]

Sensitivity analysis. Further results from the evaluation indicated that the project is economically viable even when considering an increase of 25 percent in capital costs[56] and a reduction of 25 percent in benefits. The main project costs include the capital cost for civil works, agricultural market infrastructure, and O&M costs, while benefits considered in the analysis are listed above under the para 55 of economic analysis. With high benefits from the shadow price of

[55] The social cost of carbon was derived from the 2017 World Bank guidance note on the shadow price of carbon in economic analysis and adjusted to the 2023 Consumer Price Index (CPI). *Source:* Guidance note on shadow price of carbon in economic analysis, World Bank Group; November 2017. Available via this link.

[56] In Sub-Saharan Africa, about 43 percent of construction projects in the area experienced cost overrun of more than 15 percent according to World Bank Transport Paper - Monitoring Road Works Contracts and Unit Costs for Enhanced Governance in Sub-Saharan Africa.

carbon, the project's GHG accounting also shows economic viability with estimates indicating that the IRR would drop from 22.4 percent to 13.6 percent with a low shadow price of carbon and from 23.2 percent to 14.2 percent with a high shadow price of carbon.

B. Fiduciary

(i) Financial Management

58. In accordance with the World Bank Guidance: Financial Management Manual for World Bank IPF Operations issued September 7, 2021, the World Bank conducted a FM assessment to determine the adequacy of the proposed FM arrangements of the Finance Unit of the proposed PCIU of the MTA. The objective of the FM assessment was to determine whether the entity has acceptable proposed FM arrangements. The arrangements include the Finance Units' system of planning and budgeting, accounting, internal controls, funds flow, financial reporting, and auditing. The entity's arrangements are acceptable if they are considered capable of recording correctly all budgets, transactions, and balances, supporting the preparation of regular and reliable financial statements, safeguarding the entity's assets, and are subject to auditing arrangements acceptable to the World Bank.

59. The assessment concluded that the proposed FM arrangements of the Finance Unit of the PCIU of the MTA meet the World Bank's minimum requirements for the administration of projects funds under World Bank Policy and Procedure of IPF. Based on the assessment conducted, the overall FM risks were rated as 'High' before mitigation. If the planned risk mitigation measures are properly implemented, the residual FM risk is anticipated to be rated as 'Substantial.' A detailed description of the FM assessment is included in Annex 7.

(ii) Procurement

60. **Procedures.** Procurement will be carried out in accordance with the World Bank 'Procurement Regulations for IPF Borrowers' (dated September 2023); the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants' (dated July 1, 2016) and beneficiary disclosure requirements; and other provisions stipulated in the project Legal Agreements. Furthermore, the Sierra Leone 'National Public Procurement Act of 2016' will apply for tenders approaching national market, taking into consideration the requirements of Clauses 5.3, 5.4, 5.5, and 5.6 of the Procurement Regulations for IPF Borrowers.

61. **Project Procurement Strategy for Development (PPSD).** The procurement plan for the first 18 months of implementation has been prepared and approved by the World Bank, on April 25 2024. A PPSD has been prepared by the GoSL describing the overall project operational context, market situations, implementing agencies' capacities and identifies potential procurement risks and mitigation measures to achieve value for money and PDOs. The PPSD sets out the selection methods to be followed in the procurement of goods, works, and non-consulting and consulting services financed under the project. The underlying procurement plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

62. **Systematic Tracking of Exchanges in Procurement (STEP).** The project will use the World Bank's STEP, an online planning and tracking system that will provide data on procurement activities, establish benchmarks, monitor delays, and measure procurement performance. Use of STEP is mandatory for all procurement transactions subject to post and prior review under the project.

63. **Implementation arrangements.** Procurement under this project shall be carried out by the PCIU established in MTA. The PCIU does not have a procurement unit currently and it will be established and staffed with a qualified and experienced person before the project effectiveness. The procurement staff with the required qualifications and experience acceptable to the World Bank to perform procurement operations shall report to the project coordinator. More details on procurement are in Annex 6.

C. Legal Operational Policies

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No

D. Environmental and Social

64. **The overall E&S risk classification is Substantial.** Eight of the ten environmental and social standards (ESS) apply to the proposed project as marked in the Datasheet of this documents.

65. **The environmental risk is Substantial.** Considering the construction activities under the project, the main environmental impacts anticipated include (a) nuisances related to air and noise emissions; (b) disposal and management of waste from the construction of physical improvements and expansions of infrastructure; (c) health and safety of the local community, petty traders, clients, passersby, visitors, and pedestrians during the construction phase; (d) traffic management; and (e) occupational health and safety of workers. Component 2, on the other hand, could have far-reaching impacts on downstream water users: water quality and hydrological impacts that could render the water unfit or inadequate for intended use, interruption of navigation, reduced fish catch and other cultural or traditional uses, clearing of riparian vegetation for construction activities could occur, in addition to the risks highlighted under Component 3. Some of these environmental impacts could be long term, irreversible, or regional, for example, the accidental release or spill of used oil, electrolytes, and trace metals (from batteries) or other hazardous materials into the river during construction. These risks can be mitigated by carefully implemented site-specific Environmental and Social Management Plans (ESMPs) as informed by the E&S risk assessment prepared for the activity.

66. **The social risk is Substantial.** Key social risks associated with project activities include (a) physical and economic displacement due to the project activities in the short term and the loss of livelihoods of boat/ferry operators, loaders, and traders after the construction of the bridges; (b) SEA/SH risks associated with labor and civil work since the contractor workforce can heighten risks of SEA/SH; (c) elite capture in market infrastructure creation or upgrading of interventions; and (d) social exclusion of vulnerable groups such as persons with disabilities, women including small traders, the landless, and elders in the consultations process and access to benefits and development opportunities. Other risks include potential for child labor; community health and safety concerns including contractor workforce facilitating the spread of communicable diseases to and from local communities (including COVID-19 and sexually transmitted diseases); and local conflicts among project beneficiaries related to benefit sharing in the event that the physical interventions under Component 2 result in impacts such as interrupted navigation, reduced fish catch, and poor water quality for communities downstream of the bridges.

67. **The Environmental and Social Commitment Plan (ESCP) and Stakeholder Engagement Plan (SEP).** The ESCP and SEP have been prepared and disclosed on April 19, 2024. The hiring of a social specialist (with GBV/SEA/SH experience) will be completed before the project effectiveness. An ESIA and a Resettlement Action Plan (RAP) and livelihoods restoration plan are already under development for the seven bridges originally planned to be financed under SCADeP. Within one month after effectiveness, the project will disclose the following: (a) updated ESIA for Component 2; (b) updated ESMP for Component 1; (c) updated ESMP for Component 3; (d) updated RAP for Component 2; and (d) SEA/SH action plan. A functional grievance mechanism (GM) would be in place, both for project-affected persons and project

workers. The Labor Management Procedures (LMP) is expected to be adopted and disclosed within one month after effectiveness. The GM for the project is expected to be fully functional for project implementation.

68. **The project will include an SEA/SH risk assessment in the site-specific ESIA and prepare a commensurate GBV/SEA/SH action plan for the project**. The project will also leverage the World Bank's ongoing collaboration with the Ministry of Gender and Children's Affairs to strengthen country systems for GBV/SEA/SH prevention and response.

V. GRIEVANCE REDRESS SERVICES

69. **Grievance redress.** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, visit https://accountability.worldbank.org.

VI. KEY RISKS

70. **The Systematic Operations Risk-Rating Tool (SORT) was applied to evaluate potential risks associated with the project.** The overall risk rating is Substantial because of the associated (a) political and governance risk; (b) macroeconomic risk; (c) fiduciary risk, and (d) E&S risk.

71. **Political and governance is rated Substantial.** This project's activities (unlike policy reforms, for instance) are not highly sensitive to moderate perturbations in the political dispensation, although pronounced degeneration in political stability could still undermine their implementation. The more likely risk is that poor governance may affect implementation for the road sector, resulting in reduced commitment during implementation. These risks will be mitigated through close supervision, strict adherence to the criteria for beneficiary selection, and fiduciary oversight.

72. **Macroeconomic risk is assessed as Substantial.** Sierra Leone's post-pandemic recovery was disrupted by concurrent domestic and external shocks. Inflation and exchange rate depreciation reached record levels, depressing economic activity and triggering a severe cost-of-living crisis. Fiscal accounts have deteriorated on account of macroeconomic headwinds and policy slippages, and risks to debt sustainability have intensified. The outlook for the Sierra Leonean economy is intertwined with both external and domestic developments. Geopolitical uncertainties will determine the pace of global economic recovery and the degree to which energy and agricultural supply chains normalize. On the domestic front, political stability and the reform appetite and effectiveness of the government's economic agenda will affect domestic macroeconomic stability and resilience in the face of global uncertainties. In a baseline scenario, the economy is projected to grow at 3.8 percent on average during 2023–2025, below the long-term trend. Fiscal discipline will be crucial to restoring macroeconomic stability. However, this baseline scenario is vulnerable to several downside risks especially given recent fiscal slippages and expenditure overruns, which have raised concerns about the credibility of the budget process. The macroeconomic risk may raise concerns contractors' on cost overrun and delay of payment. Key macroeconomic reforms will help reduce the imbalances and avoid the downside risks. The project is 100 percent financed by IDA which will help mitigate the macroeconomic challenges to project implementation.

73. **Fiduciary risk is rated Substantial.** The key fiduciary risks are related to the overall governance context of the

project, the risk that procurement of project works may be delayed and/or result in higher-than-expected bid prices or poorly performing contractors and difficulty retaining qualified procurement and FM professionals in the PCIU. These risks will be mitigated by implementing an action plan that aims to strengthen the accountability and control framework for project implementation and improve overall fiduciary performance and by ensuring adequate procurement and FM training are implemented. To further mitigate procurement-related risks, the PPSD will establish appropriate pre-qualification requirements and adopt standard lessons from experience procuring similar works contracts in Sierra Leone. The FM risk will be further mitigated by recruiting an internal auditor under PCIU.

74. **The project's E&S risk is Substantial.** Both environment risk and social risk are rated as Substantial as indicated in section V.D. Standard measures will be applied to mitigate these risks as will be described in the ESIA/ESMP to be prepared for the project activities. In addition, the project will include description of technically and financially feasible components to improve energy efficiency (for example, use of energy-efficient equipment and features) as part of the PIM as per the World Bank Environmental, Health, and Safety (EHS) Guidelines and relevant Good International Industry Practices (GIIPs). The project will also include an SEA/SH risk assessment in the site-specific ESIA and prepare a commensurate GBV/SEA/SH action plan for the project.

VII. RESULTS FRAMEWORK AND MONITORING

PDO Indicators by PDO Outcomes

Baseline	Period 1	Period 2	Period 3	Period 4	Closing Period
To enhance climate-resilient transport connectivity in selected areas of Sierra Leone					
People benefiting from improved access to sustainable transport infrastructure and services (Number of people) CRI					
Jun/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	500000	1000000	2000000	3,000,000
➢People benefiting from improved access to sustainable transport infrastructure and services – Youth (Number of people) CRI					
Jun/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	125,000	250,000	500,000	750,000
➢People benefiting from improved access to sustainable transport infrastructure and services – Female (Number of people) CRI					
Jun/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	300000	510000	1200000	1600000
Travel time reduction crossing over Panpana, Sewa, Bagru, and Little Scarccies rivers, respectively at Komrabai, Sumbuya, Moselolo, and Kabba crossings via the project constructed bridges (Percentage)					
Jun/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	0	0	0	30
To enhance climate resilient agricultural market access in selected areas of Sierra Leone					
Volume of marketed agricultural products due to project's interventions increase (Percentage)					
Jun/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	0	25	40	75

Intermediate Indicators by Components

Baseline	Period 1	Period 2	Period 3	Period 4	Closing Period
Resilient Urban Transport					
Safety features are installed and functional (Percentage)					
Mar/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029

0	10	30	60	90	100
Bus leasing agreement(s) signed with private operator(s) (Number)					
Jun/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
1	1	2	2	2	2
East corridor improvement works completed (Percentage)					
Mar/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	30	60	80	100
Resilient Rural Bridges and Link Roads					
Bridge and access/link road construction completed with climate resilient measures (Percentage)					
Mar/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	20	50	80	100
Climate resilient Bridge Management System (BMS) is established and operational (Percentage)					
Mar/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	5	30	70	100
Resilient Agriculture Market Infrastructure					
Functional climate-resilient agricultural market infrastructure constructed/upgraded (Percentage)					
Mar/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	20	40	80	100
Market infrastructure upgraded/constructed with reserved spaces for women (Number)					
Mar/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	0	0	0	0	4
Project Management Support					
Grievances addressed within the project implementation timeline (Percentage)					
Mar/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2029
0	60	70	80	90	100
Respondents satisfied with project delivered services (Percentage)					
Mar/2024	Jun/2025	Jun/2026	Jun/2027	Jun/2028	Jun/2026
0	0	0	70	0	80
Contingent Emergency Response Component (CERC)					

Monitoring & Evaluation Plan: PDO Indicators by PDO Outcomes

Enhance climate-resilient transport connectivity and agricultural market access in selected communities	
People that benefit from improved access to sustainable transport infrastructure and services (Number, Disaggregated by youth and gender)	
Description	It assesses the number of people supported by the project that experience improved access to sustainable infrastructure and services built or improved through the project-financed investment in urban and rural transport systems. Sustainable infrastructure and services are those designed, constructed, and operated to be low-carbon and resilient to the impacts of natural hazards and climate change.
Frequency	Annually
Data source	CAMIP M&E system
Methodology for data collection	- Progress reports - Annual surveys
Responsibility for data collection	**CAMIP PCIU**
Travel time reduction crossing over Panpana, Sewa, Bagru, and Little Scarccies rivers, respectively at Komrabai, Sumbuya, Moselolo, and Kabba crossings via the project constructed bridges (Percentage)	
Description	Measures the percentage reduction in average time crossing over the four rivers during the rainy season. The estimated reduction takes into consideration the total time saved from waiting, boarding, travelling, and unboarding goods at each of the four river crossing stations. Travel time may vary depending on the season: crossings are shorter during the dry season and much longer in the rainy season because vessels travel slower during the raining season. However, this indicator will be monitored only at the peak of the rainy season—time when beneficiary communities often face worse travelling conditions.
Frequency	Annually
Data source	CAMIP M&E system
Methodology for data collection	Origin - Destination survey
Responsibility for data collection	SLRA
Volume of marketed agricultural products due to project's interventions increase (Percentage)	
Description	Refers to the percentage increase in the volume of commodities transacted at the upgraded/constructed market/processing/aggregation infrastructure by producers within the catchment area of the project interventions.
Frequency	Annually
Data source	CAMIP M&E system
Methodology for data collection	- Progress reports - Annual surveys
Responsibility for data collection	**CAMIP PCIU and SCADeP PIU/MAFS**

Monitoring & Evaluation Plan: Intermediate Results Indicators by Components

Climate-Resilient Urban Transport	
Safety features are installed and functional (Percentage)	
Description	Refers to proportion of the overall target number of safety features, including traffic signals, streetlights, and guardrails, that have been installed and are functional along the eastern corridor and other proposed locations of the project. It inclusively tracks progress in the preliminary administrative and procurement processes, including the concept designs and review, bidding, and contract signing and preparation works by the contractors.
Frequency	Monthly/Quarterly/Annually
Data source	- Consultant/Contractor Reports - PIU Progress Reports
Methodology for data collection	- Surveys - PIU verification of Consultant/Contractor Reports

Responsibility for data collection	**- Consultant/Contractor** **- MTA/SL-CAMIP PCIU/ M&E**
East corridor improvement works completed (Percentage)	
Description	Measures the proportion of the overall targeted length of roadworks activities along the eastern corridor of Freetown that have been completed and maintained as part of the project interventions. It inclusively tracks progress in the preliminary administrative and procurement processes, including the concept designs and review, bidding, and contract signing and preparation works by the contractors.
Frequency	Monthly/Quarterly/Annually
Data source	- Consultant Reports - PIU Progress Reports
Methodology for data collection	- Surveys - PIU verification of Consultant/Contractor Reports
Responsibility for data collection	- Consultant/Contractor - MTA/CAMIP PCIU/ M&E
Bus leasing agreement(s) signed with private operator(s)	
Description	Measure the number of bus leasing contract identified and signed with private operators to support the modernisation of public transport services in Freetown. Baseline is tagged 1 given the exisitning contract signed by the private operators, transformed into Metro Transport Company Limited (MTCL) under IRUMP.
Frequency	- Annually
Data source	- PIU Progress Reports
Methodology for data collection	- PIU verification of Reports
Responsibility for data collection	- MTA/CAMIP PCIU/ M&E
Climate-Resilient Rural Bridges and Link Roads	
Bridge and access/link construction completed with climate resilient measures (Percentage)	
Description	Tracks the proportion of the four bridge and access/link road construction works that have been completed. It takes into consideration the integration of climate-resilient measures—defined as design features that are aimed at protecting bridge and link roads from potential climate hazards and disaster risk events, such as flooding, erosion, and extreme temperature. It inclusively tracks progress in the preliminary administrative and procurement processes, including the concept designs and review, bidding, and contract signing and preparation works by the contractors.
Frequency	Quarterly/Annually
Data source	Contractors' progress report
Methodology for data collection	Record of progress
Responsibility for data collection	- CAMIP PCIU - SLRA
Climate resilient Bridge Management System (BMS) is established and operational (Percentage**)**	
Description	A resilient BMS systematically integrates climate risks information to support investment decisions, disaster preparedness, and emergency response planning. This indicator will track the progress in the establishment and operationalization of the BMS.
Frequency	Monthly/Quarterly/Annually
Data source	Service provider's report
Methodology for data collection	Record of progress
Responsibility for data collection	- CAMIP PCIU - SLRA
Climate-Resilient Agriculture Market Infrastructure	
Functional climate resilient agricultural market infrastructure constructed/upgraded (Percentage)	
Description	Measures the proportion of agricultural market infrastructure (aggregation/processing/trade facilities and centers) and construction/upgrade works that have been completed during the project implementation period. Here, emphasis will also be placed on the integration of tree planting, maintenance, and energy-efficient facilities in the proposed market construction and upgrading activities. It inclusively tracks

	progress in the preliminary administrative and procurement processes, including the concept designs and review, bidding, and contract signing and preparation works by the contractors.
Frequency	Quarterly/Annually
Data source	Progress reports
Methodology for data collection	Field reports
Responsibility for data collection	SCADeP PCIU, MAFS
Market infrastructure upgraded/constructed with reserved spaces for women (Number)	
Description	Tracks the number of the upgraded/constructed market infrastructure that have 60 percent of the spaces dedicated for women users, including farmers, traders, agri-business owners.
Frequency	Quarterly/Annually
Data source	M&E system
Methodology for data collection	Progress report
Responsibility for data collection	SCADeP PCIU, MAFS
Project Management Support	
Grievances addressed within the project implementation timeline (Percentage)	
Description	Confirms the proportion of all complaints received that have been registered and steps taken to discuss or handle them in a constructive or appropriate manner in line with the mechanisms outlined in the project manual or SEP or other relevant project documentations.
Frequency	Quarterly/Annually
Data source	- Consultant Reports - PIU Progress Reports
Methodology for data collection	- Surveys - PIU verification of Consultant Reports
Responsibility for data collection	- Consultant-MTA/CAMIP PCIU/ M&E
Respondents satisfied with project delivered services (Percentage)	
Description	Measures the proportion of respondents from the beneficiary feedback survey that confirm positive impacts from project interventions. The indicator will track satisfaction from a few selected interventions implemented under the project.
Frequency	Years 3 and 5
Data source	- Consultant Reports - PIU/M&E Progress Reports
Methodology for data collection	- Surveys - PIU/M&E verification of Consultant Reports
Responsibility for data collection	- Consultant - MTA/CAMIP PCIU/M&E
Contingent Emergency Response Component (CERC)	

ANNEX 1: Implementation Arrangements and Support Plan

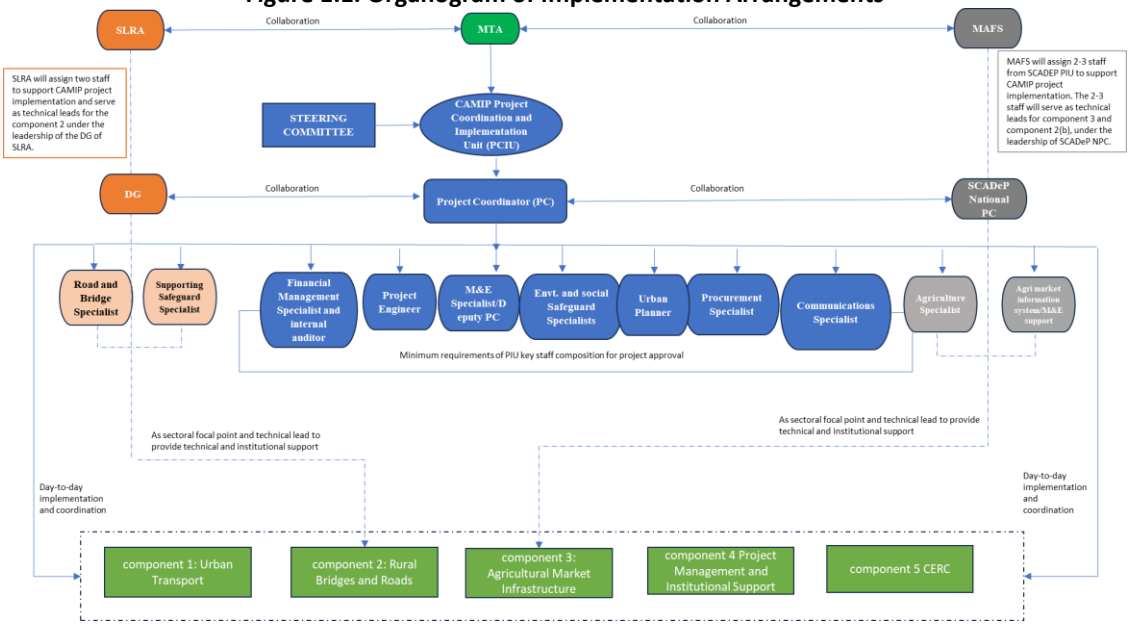
1. **The proposed institutional structure for project implementation is graphically presented in Figure 1.1; it will include three key elements**:

- An NPSC to provide policy guidance and oversight and ensure efficient and effective inter-ministerial coordination for all project activities.
- A PCIU hosted in the MTA to be responsible for coordinating and supervising the day-to-day implementation of the project.
- Technical FPs from the SLRA and MAFS to provide technical leadership to facilitate the implementation of activities under various components, in line with their expertise and mandates.

2. The key principles of the implementation arrangements are as follows:

- Achieving decision-making and coordination of activities under a unified structure (one PCIU, one DA) that has control over fiduciary management but relies on technical support from sectoral expertise in the implementation of activities under various components.
- Utilizing the existing IRUMP PCIU and its key staff to implement the project and advertising the positions of procurement specialist and FM specialist for competitive selection.
- Ensuring close collaboration with the SLRA and MAFS and complementing the PCIU with expertise on rural bridge/road and agriculture aspects by
  - Relying on the SLRA's technical leadership with two technical staff assigned by the SLRA to support implementation of Component 2; and
  - Relying on MAFS's technical leadership and collaboration with the SCADeP PIU, with two to three technical staff from SCADeP PIU assigned to support implementation of Component 3 and Subcomponent 2(b).

Figure 1.1. Organogram of Implementation Arrangements



ANNEX 2: Additional Details of Project Components and Technical Analysis

Component 1: Resilient Urban Transport

1. **Poor people's inability to access jobs and services is an important element of social exclusion that defines urban poverty.** Organized public transport is inaccessible to a vast number of the poor because of their remote location, substandard road network, and highly irregular services. As a result, the bottom 20 percent depend on paratransit (two- and three-wheelers) for daily travel, which are often more expensive than buses. For instance, people spend around the same amount of money on school fees as on travel costs to/from schools and spend nearly double in travel to medical centers than on actual medical costs.[57] A common indicator to measure accessibility is the share of the city within walking distance of public transport services. In the case of Western Area Urban, 25 percent of the population (350,000 people) lack access to transport services because they live farther than 500 m from bus stops. Accessibility by public transport shows major disparities among neighborhoods, with over 40 percent of the populations of York (in the west) and Waterloo (in the east) chiefdoms lacking easy access to transport services. Although motorcycles are increasing exponentially in Sierra Leone and constitute a popular transport mode, they result in high negative externalities: pollution and high numbers of accidents. Poor regulation, driving without a license, and carrying two or more passengers further compromise safety standards.

2. **The deficient urban transport service and infrastructure is a major constraint to firm productivity.** Nearly 30 percent of the firms in Sierra Leone reported transport as a major constraint[58] to growth. According to the World Bank,[59] Sierra Leone is among the bottom 10 logistic performance[60] economies and ranks 156 out of 160. According to the AfDB, the country's infrastructure compares poorly to the rest of Sub-Saharan Africa, and it was ranked 46 out of 54 countries on the AfDB's Infrastructure Development Index in 2016. This limits market opportunities for producers and impedes private sector investments by increasing costs and preventing links between internal and external markets.[61]

3. **The private sector is the major provider of transport services in Freetown, accounting for nearly 85 percent of the market share:** (a) poda-podas, which are minibuses carrying approximately up to 15 passengers, are often not professionally driven or adequately maintained and circumvent fare regulation (passenger demand share 28 percent); (b) shared taxis (passenger demand share 27 percent); (c) okadas, which are two-wheeler motorcycles (passenger demand share 16 percent); and (d) kekes, which are three-wheeler auto-rickshaws (passenger demand share 14 percent).[62] Of the remaining 15 percent, the government-operated buses of the Sierra Leone Road Transport Corporation (SLRTC) account for 9 percent. Small-engine motorcycle taxis (okadas) and tricycles (kekes) have increased annually by more than 20 percent over the past few years due to their low up-front cost, ability to navigate congested and unpaved roads, low barriers to entry, and high unemployment. In recent years, the SLRTC's effectiveness and efficiency have declined due to regulated low fares, increasing fuel costs, and low bus productivity.

4. The transition to a higher-quality public transport system requires a holistic and sustainable approach in the

[57] Sierra Leone Household Survey, 2011.
[58] World Bank. "Enterprise Surveys." 2017.
[59] Connecting to Compete 2018, Trade Logistics in the Global Economy, The World Bank.
[60] The logistics performance index (LPI) is the weighted average of the country's scores on the six key dimensions: (1) Efficiency of the clearance process (that is, speed, simplicity, and predictability of formalities) by border control agencies, including customs; (2) Quality of trade and transport-related infrastructure (for example, ports, railroads, roads, information technology); (3) Ease of arranging competitively priced shipments; (4) Competence and quality of logistics services (for example, transport operators, and customs brokers); (5) Ability to track and trace consignments; and (6) Timeliness of shipments in reaching destination within the scheduled or expected delivery time.
[61] Sierra Leone SCD. The World Bank Group.
[62] World Bank. 2018. "Diagnostic of Public Transport in Freetown."

planning and delivery of infrastructure and services in Freetown. This component is built on the interventions of IRUMP and scales up the impact modernization and professionalization of public transport systems, improving road safety and building human and institutional capacity. IRUMP has implemented the first phase of the transition by establishing the institutional, technical, and planning foundations for future expansion.

5. The key achievements of IRUMP include (a) road infrastructure improvements on the western corridor (No. 2 to CBD) (improving resilience, safety, and inclusiveness through works on intersections, sidewalks, drainage, footbridges, and so on); (b) establishment of the SLPTA responsible for the regulation and management of public transport; (c) formalization of the public transport operator MTC, corporatized from four informal operator associations; (d) introduction of bus fleet renewal with an initial 50 high-capacity buses procured by the GoSL and leased to MTC to operate and own; and (e) development of technical studies and strategies including conceptual design of improvements on eastern corridor (Jui to CBD), a TMP developed and approved by the Cabinet, and a Strategy for Delivering Urban Mobility Interventions (SDUMI) focusing on (i) improving access to public transport; (ii) improving road safety; (iii) addressing climate resilience; and (iv) strengthening security and enforcement. Under the SDUMI, three phases have been identified for the rollout of bus services, infrastructure, and reform. Figure 2.1 shows the network for future expansion including phase one bus routes.

6. The start-up fleet under IRUMP currently serves over 21,000 daily riders, of which 49 percent are women with increasing ridership of 9 percent per month owing to the strategic operation along routes frequented by women and the presence of safety features such as CCTV cameras. IRUMP also supported the GoSL to rehabilitate 8 km of road; construct a bus terminal, 77 bus stops, 10.5 km of sidewalk, and five pedestrian bridges; and install 150 streetlights and intelligent traffic signals at seven intersections. Overall, these interventions are providing safer and socially inclusive urban mobility for over 110,000 pedestrians and creating jobs for over 120 people, of which 36 percent are women.

Figure 2.1. (a) Two Pilot Bus Corridors Identified under IRUMP **(b) Bus Network for Future Expansion**

Source: Photos from the digital maps of the MTA[63].

7. In addition, IRUMP invested in ancillary facilities to promote efficient use of the bus fleet and operationalize the traffic management, which include (a) introducing an electronic ticketing system, suitable for use in a multi-operator environment and the full range of vehicle capacities; (b) setting up a control center to manage bus operations and provide real-time customer information; (c) constructing bus stops, transit terminal integrated with transit market and depot

[63] Maps cleared by World Bank Cartography Unit, Global Corporate Solutions on April 22, 2024

facilities; and (d) supporting bus priority measures along selected corridors. The facilities once in place will be managed by the SLPTA.

8. CAMIP will continue to support the integrated approach and expand the modernization of public transport system, with high-capacity buses, quality infrastructure, and supporting ancillary facilities, and strengthening of the established institutional and regulatory reforms. The infrastructure interventions under CAMIP will prioritize (a) the critical spot improvements of the eastern corridor to ensure the necessary quality and resilient standards are in place for efficient and safe operation of the buses; (b) completion of residual infrastructure activities under IRUMP for bus operation which may include the construction of the central bus station; (c) spot improvements on other routes where additional buses will be operated; and (d) bus stops and terminals on other routes. CAMIP will also finance more buses and more ancillary facilities to support the expansion of bus operation following the same approach as IRUMP and complement the operationalization of the TMP. In addition, CAMIP will strengthen the capacity of SLPTA, in particular on managing and regulating the public transport operation, with technical assistance such as establishing database and monitoring system of public transport operation, developing policies on route management and fare setting of different types of public transport services, and formulating an action plan aimed at complete formalization of public transport system.

Component 2: Resilient Rural Bridges and Roads

9. **The specific bridge location for each river was selected out of four alternatives.** The selection criteria were based on cost with respect to the length of the bridge, the condition of link feeder roads, and the potential E&S impact. The bridge designs have been developed for a 100-year lifespan with climate-resilient considerations and will have a steel composite deck which is comparatively less expensive and faster to construct. Their substructure will consist of a pile foundation underneath multiple columns with a capping beam pier which has increased safety due to its structural redundancy properties. Scour protection provision and the recommended cantilever abutment with straight return walls will prevent the backfilling from being undermined. The 6 span Sumbuya Bridge (241.5 m), the 2 span Komrabai Bridge (131 m), 3 span Moselolo Bridge (135 m), and the 4 span Kabba Bridge (240 m) will be constructed by incremental launching method, which will be appropriate to avoid delays from potential prolonged rainy seasons. Generally, the bridges will have a 7.3 m wide carriageway and 1.5 m sidewalks on each side of the carriageway for NMT. Additional geotechnical investigation is proposed for the bridges after the contract award to establish, particularly, the foundation or pile depth. The supervision consultant will conduct design review on the bridges and link roads.

10. **A total of about 6 km link roads are to be upgraded to climate-resilient standards.** The link roads connect the four bridges to the nearest node on the network to enhance connectivity. The Sumbuya Bridge will have the longest road link of 3 km followed by the Komrabai with 1.8 km, Moselolo with 0.6 km, and Kabba with 0.6 km. All the link roads will be upgraded from gravel roads to 6–7.3 m double-lane single carriageways with 0.5 m shoulder and 1.5 m sidewalks on each side of the roads for NMT. The roads will be upgraded to a Class 4 road category per the SLRA Road Design Manual (2012) with a design life of 20 years. Based on the geotechnical investigation, the existing in situ material which is unsuitable will be excavated and replaced with a suitable capping layer of subgrade and pavement materials. To improve the resilience, the road pavement structure will comprise a 50 mm asphalt concrete surface, 150 mm graded crushed rock base (GB1), 150 mm stabilized lateritic gravel with graded crushed rock aggregate (GS), and 150 mm thick lateritic gravel subgrade (GC).

11. **The structure and characteristics of the bridges and link roads will integrate climate considerations and are expected to improve resilience and conditions for NMT.** Walking infrastructure for pedestrians and enhancement of river crossing safety during rainy season, especially for women, will reduce connectivity disruptions and losses often associated with floods and water level rises. In particular, the design will account for more than 1.5 times the current standard estimation for planned high water flow rate and increase the spaces under the girder to keep the beam far above floodwater levels. The bridges will also be tested to confirm the stability and safety against climate exacerbated floods,

landslides, extreme temperature, and potential overloads. Also, construction activities will prioritize the use of locally sourced materials to reduce the carbon footprint in the procurement processes (Annex 5 provides specific climate resilience considerations).

12. **The ongoing construction of four resilient bridges under SCADeP will be co-financed by CAMIP to fill the existing financing gap**. The completion of these four bridges will directly affect the economic and social life of at least 120,000 farmers and an additional 500,000 traders and community people. It will promote economic diversification and growth in production and the related increase in agricultural incomes, market links, and greater commercialization as well as associated benefits of access to social services such as health and education by the rural population. As of mid-March 2024, substructure works on all four bridge sites are at advanced stages, with close to 70 percent of piling and foundation works completed. Additionally, Tomparie and Manowa bridges have the complete set of prefabricated steel girders delivered on site, while steel girders for Mattru and Gendema bridges are currently being fabricated and precast concrete slabs currently done at the sites. The total costs of these four bridges are US$33,123,494.81 (US$7,458,318.61 for Tomparie, US$7,450,680.54 for Manowa, US$9,806,905.97 for Mattru, and US$8,407,589.69 for Gendema) for an available budget of US$26.2 million under SCADeP. CAMIP will provide US$4 million and the remaining US$2,923,494.81 will be provided by the GoSL.

Figure 2.2. Priority River Crossing Locations Requiring Bridges

Source: Sierra Leone Road Authority[64]

13. Table 2.1 presents the list of river crossings or bridge locations that were initially identified by the GoSL and its development partners as priority for improving connectivity in rural areas.

[64] Map cleared by World Bank Cartography Unit, Global Corporate Solutions on April 22, 2024

Table 2.1. Priority Locations for Rural Bridge Construction in Sierra Leone

Ferry Crossing or Bridge Location	District/Region	Route	River	Crossing Length (m)	Connecting Districts
SCADeP Financed Design and Feasibility Studies (implemented under SCADeP)					
1. Mattru Jong	Bonthe/Southern Region	Mattru-Rutile (B4)	Jong	160.0	Bonthe/Moyamba
2. Gendema	Kanema/Eastern Region	Blama-Boajibu-Gandema (B19)	Sewa	121.5	Kenema/Tonkolili
3. Manowa	Kailahun/Eastern Region	Manowa-Pendembu (B31)	Moa	161.5	Kailahun/Kono
4. Tomparie	Kambia/Northern Region	Tomparie-Kamakwie (A12)	Kabba	161.5	Kambia/Karene
SCADeP Financed Designs and Feasibility Studies (to be implemented under CAMIP)					
5. Komrabai	Tonkolili/Northern Region	Komrabai-Mile 91 (A21)	Panpana	131.0	Tonkoli
6. Mosalolo	Moyamba/Southern Region	Komendi-Gbangbatok	Bagru	135.0	Bonthe/Moyamba
7. Sumbuya	Bo/Southern Region	Sumbuya-Pessana (B4)	Sewa	214.5	Bo/Bonthe
EU Financed Designs and Feasibility Studies (to be implemented under CAMIP)					
8. Kabba	Karene/Northwest Region	Makeni-Kamakwei-Madina Oula-Guinea Border	Little Scarccies	150	Bombali/Karene
EU Financed Designs and Feasibility Studies (remaining for future consideration)					
9. Bantoro	Karene/Northwest Region	Batkanu-Mateboi	Mabole	100	Karene/Port Loko
10. Yebele	Karene/Northwest Region	Gbinti-Batkanu	Bele	250	Karene/Port Loko
11. Mabanta	Port Loko/Northwest Region	Bamoi-Sanda Magbolonton	Mabole	200	Port Loko/Kambia
12. Masimera	Port Loko/Northwest Region	Marampa-Masimera	Rokel	200	Port Loko/Bo/Moyamba
13. Ribbi	Port Loko/Moyamba/Northwest and Southern Region	Mile 38-Rotifunk	Ribbi	200	Tonkolili/Port Loko/Moyamba

Component 3: Resilient Agriculture Market Infrastructure

14. Agriculture is one of the Big 5 Game Changers for the economy. The recently launched Feed Salone strategy laid out the blueprint for agricultural transformation and pursuit for food sovereignty. The strategy is expected to be implemented through six pillars, including one that specifically focuses on 'Aggregation, Processing, and Market Linkages' to help streamline the processes for maximizing profitability in agricultural commodity value chain. Currently, there is a huge deficit in agricultural infrastructure to support the aggregation, storage, and processing of key commodity value addition. The constraints in commodity infrastructure combined with the poor road networks, unreliable electricity, and

high transport costs cause perennial post-harvest losses of 30–40 percent per the estimates from the FAO.[65] Complementing transport connectivity with market infrastructure, this component seeks to strengthen the resilience of agricultural value chains and reduce farmers' vulnerability to climate and disaster risks. The agricultural market infrastructure will promote climate resilience of local communities by providing reliable year-round access to markets, which will in turn improve food security and local incomes. Specifically, the construction designs and upgrade of the market infrastructure will follow climate and disaster-resilient building codes, including tree planting to sequester carbon and protect users from extreme temperature, and establish a maintenance system to regularly check for deficiencies. The investments will provide reliable access and operation of market facilities year-round, contributing to addressing food security issues as well as increasing local incomes.

15. CAMIP proposed support for activities under Component 3 perfectly aligns with the Feed Salone strategy. The proposed activities under Component 3 seek to focus on the following:

- **The establishment of agricultural infrastructure that supports the aggregation, storage, processing, transportation, and distribution of selected agricultural products**. Currently, most rural farmers and traders in Sierra Leone market their crops at makeshift open market structures without any roof and table. Hence, the markets cannot be used during the rainy season. Besides, there are no toilets and water, sanitation, and hygiene (WASH) facilities at these marketing centers. This project will support selected rural communities with infrastructure to facilitate marketing and value addition to selected crops. Specific interventions include the rehabilitation and upgrade of existing open markets with appropriate trading sheds, storage, and processing facilities; construction of new aggregation centers and processing facilities to support the value addition, marketing, and distribution activities; and provision of facilities for specialized handling of produce; and the construction of internal pathways, drainage, and water and sanitation facilities (with separate bathrooms and changing rooms for men and women) in selected existing market centers. The selection criteria will be based on a technical assessment integrating exposure to climate vulnerabilities and gender considerations to maximize the expected reduction of post-harvest losses. Additionally, the construction and upgrading activities will (a) target marketing facilities in the local daily/weekly wet markets that are easily frequented by women; (b) be informed by strong consultation process to gather inputs, address concerns, and ensure buy-in from the stakeholders such as market queens; and (c) integrate low-carbon and climate change resilience considerations (see Annex 5 for details).
    - **Target beneficiaries, commodities, and location selection process.** Agriculture infrastructure seeks to support smallholder farmers as well as agribusinesses, processors, and marketers conducting business with rural producers. The implementation of the market interventions will commence with a technical needs assessment to identify popular value chains and infrastructure needs to support target beneficiaries in marketing their commodities within and beyond the catchment areas of the proposed bridges. Findings from the studies will guide the selection of locations and appropriate infrastructure interventions for implementation.
    - **Ownership structure.** Market infrastructure are important assets for local governments of Sierra Leone. Across the country, local councils are responsible for the establishment and administration of market centers and related facilities per the Local Government Act 2022. Therefore, the proposed market infrastructure will be managed by the local councils in close collaboration with appointed market committees and market queens. The councils will establish a revenue collection system to generate funds for future maintenance and rehabilitation needs following the general practice in the country. To build a foundation for strong and sustainable ownership, the project will provide tailored training on fund management and maintenance

[65] https://www.fao.org/3/cb3406en/cb3406en.pdf

planning to local councils and their supporting market committees members.

- **Upgrading the AMIS.** AMIS was already established under SCADeP to provide access to up-to-date market prices on key agricultural commodities. While this marketing system is currently up and running with over 3,000 users, there are a few challenges, including the limited capacity to integrate wide variations of agricultural value chains and inadequate resources for timely data collection to facilitate real-time update of market prices for users. Given these challenges and the need to build on the impacts of SCADeP interventions, CAMIP will support data collection and leverage existing systems of AMIS to cover market price information for key agricultural commodities within the catchment areas of the four proposed bridges. MAFS will prioritize public awareness of AMIS by strategically promoting its visibility among higher government officials, value chain actors, and private sector agencies either in print or on social media platforms. This will enhance sustainability of AMIS beyond the project implementation phase.
    - Data on cellphone penetration rate among rural farmers in Sierra Leone are unavailable. However, it is important to note that mobile phone usage has been increasing in many developing countries, including Sierra Leone, due to factors such as improved infrastructure and the availability of low-cost mobile devices. Despite the increasing rate of mobile access, rural communities, especially women, may still face difficulties owing to the poor connectivity infrastructure and other factors such as low literacy rates, income levels, and cultural norms. Therefore, exclusive reliance on AMIS mobile apps for accessing data and information could indeed pose a barrier for rural women who have less access to smartphones or may face challenges using technology due to literacy or other factors. There were 1.84 million internet users in Sierra Leone at the start of 2023, with internet penetration standing at 21.2 percent. However, evidence shows that rural women and farmers often have limited access to mobile phones based on factors such as literacy rates, income levels, and cultural norms.
    - To address this issue, alternative communication channels would be necessary, such as partnering with organizations that work with women's groups or community-based organizations. These organizations would serve as intermediaries for disseminating market information and data to women farmers and buyers through existing networks and channels. Implementing a system where the organization receives and distributes information/data to women through workshops, training sessions, or community meetings would help overcome barriers to access. Additionally, providing training and support to women on using mobile technology and apps can empower them to take advantage of digital tools for accessing agricultural information and improving their livelihoods.
- **Capacity and technical support for institutional stakeholders, including MAFS staff, as well as beneficiary farmers, processors, traders, and actors in the agri-value chains**. The technical support is extended to institutional stakeholders given the need to strengthen the skills of MAFS staff to support the implementation of the project activities. The beneficiary value chain actors will specifically benefit from training on (a) group management, governance, bookkeeping, business development, and marketing and (b) organizational strengthening and entrepreneurship training. Visits between farmers' organizations both within Sierra Leone and in the subregion may be organized to exchange experiences and provide peer-to-peer learning opportunities. Farmers would be trained on the use of mobile app to access market information, weather forecasts, and best agricultural practices. This will empower farmers to make informed decisions about their crops and market strategies. Data collectors would receive training to improve their understanding of the importance of accurate data collection and how to use digital tools effectively. This will improve the quality of data uploaded to AMIS. Warehouse operators would receive training on how to use the warehouse ticketing digital platform to streamline operations and improve efficiency in storage and distribution. Training sessions will be organized for other

stakeholders, such as government officials, extension workers, and market traders, to familiarize them with the new features and functionalities of AMIS and how to leverage them for their benefit.

ANNEX 3: Economic Analysis

1. **The economic analysis was conducted on Components 1, 2, and 3.** Component 1 (Resilient Urban Transport) seeks to finance the expansion of modernization of the public transport system by conducting spot improvements to enhance roads resilience, investing in NMT facilities, upgrading/constructing bus stops, and deploying road safety features such as road marking, traffic lights, and guardrails and road works to improve safe connectivity for urban residents. Assessment of Component 1 used the RSSAT and considered the shadow price of carbon for the GHG emissions reduction from the fleet renewal scheme. For Component 2 (Resilient Rural Bridges and Roads), the HDM-4 was adopted to account for four types of benefits: (a) time savings; (b) reduction in vehicle operating costs; (c) GHG emissions benefits (considering the low shadow price of carbon); and (d) road safety benefits. There are two main expected benefit types: (a) diverted traffic seeking the shorter route offered by the bridges and (b) modal shift from ferries and/or boats, eliminating the average 30-minute wait time per crossing (as documented in the feasibility study[66]). With respect to Component 3 (Resilient Agriculture Market Infrastructure), an increase in agricultural-related traffic volume by preventing products loss is considered and added as part of the HDM-4 analysis under Component 2.

2. **Key assumptions underlining the projected benefits of constructing rural bridges/link roads and agricultural market infrastructure include the following:**

- These components are designed to seamlessly connect districts and chiefdoms, link major economic hubs, and significantly boost agricultural production.
- A potential increase in traffic volume through the new bridges due to the anticipated elimination of high agricultural losses, particularly for cassava and rice. These losses are attributed to inadequate agricultural infrastructure, processing and financing constraints, and transport limitations near the project sites.
- The observed 14 percent annual growth rate in the rice and cassava markets over the past 10 years was applied to the additional agricultural traffic until it reached the maximum truck volume required to meet catchment demand. Subsequently, all modes of transport were assumed to grow at an average rate of 4 percent.

3. In undertaking economic evaluation at the appraisal stage, the following assumptions were applied in the HDM-4 calculation:

- Base alternative of the evaluation is 'Do nothing': the case of not implementing the project but carry out only routine maintenance. Project alternative considers new constructions of bridges, link roads, and agricultural market infrastructure.
- The discount rate was 12 percent, and the evaluation period is 20 years based on the acceptable rate used in most World Bank's economic analyses.
- The average annual increase in traffic rate was 6 percent per year for motorcycles, passenger vehicles, and buses over the evaluation period, based on estimated GDP growth projections.

4. The cost-saving benefit of the proposed bridges stems from traffic diversion and the corresponding reduction in the travel distance. Vehicles currently detouring around the river on longer routes lacking bridges would be redirected to the new, shorter crossings. An origin-destination survey conducted within the feasibility study[67] quantified this potential

[66] Government of Sierra Leone. 2021. "Smallholder Commercialisation and Agribusiness Development Project: Final Concept Design Report for Group A Bridges and Group B Bridges."
[67] Government of Sierra Leone. 2021. "Smallholder Commercialisation and Agribusiness Development Project: Final Concept Design Report for Group A Bridges and Group B Bridges."

diversion for Sumbuya, Komrabai, Moselolo, and Kabba crossings, revealing a reduction in travel distance by 48.3 percent, 48.5 percent, 49.5 percent, and 49.8 percent, respectively, for traffic diverted over the proposed bridges—see Table 3.1.

Table 3.1. Diverted Routes with the New Bridges

Travel Route	Travel Distance without Bridge Crossing (detour)	Proposed Bridge	Travel Distance with Bridge Crossing	Savings in Travel Distance (%)
Bo-Bonthe	120	Sumbuya	62	48.3
Bonthe-Kanema	120	Sumbuya	62	48.3
Yele-Bo-Moyamba jct	141	Komrabai	68	48.5
Bonthe-Jagbahun	101	Moselolo	51	49.5
Jagbahun-Moyamba	101	Moselolo	51	49.5
Makeni-Madina Oula (Guinea Border)	307	Kabba	153	49.8

5. Another significant benefit of bridge construction is the travel time savings, resulting from the elimination of ferry wait times for travelers. Currently, travelers cross over the river in two stages: (a) riding motorcycles/light vehicles to ferry/boat points and (b) crossing the river with or without vehicles depending on ferry capacity. This process incurs an average wait time of 30 minutes per crossing, as documented in the feasibility study.[68]

- The construction of bridges offers direct routes to bypass these cumbersome steps, and thus reducing travel time by an estimated 30 minutes per crossing. The volume of this modal shift is summarized in Table 3.2.
- Based on the estimated hourly wage reported in the feasibility study adjusted to the appraisal year as US$2.04 per hour, the value of travel time savings is calculated as 1.33 × W (US$2.04) = US$2.71 per hour.[69]

6. As highlighted in the feasibility study, the main sources of income for households in the selected communities are the agricultural commodity production, trading, and processing. Yet markets for these commodities are in distant locations. Given the poor conditions of road networks, transporting the commodities to market is often difficult and time-consuming, resulting in increased costs, significant delays, and commodity spoilage before reaching the markets. The improvement in road network and agricultural market infrastructure will significantly reduce transportation time and costs. In essence, this enhanced connectivity and infrastructure will enable households to access markets more efficiently, leading to increased incomes and a reduction in commodity losses. While these potential indirect and nonquantifiable benefits are important, they are not accounted for in the economic and financial analysis of the project due to lack of data.

Table 3.2. Estimated Traffic Demand in the Year of Bridge Open

Bridge Name	Diverted Traffic (AADT)	Modal Shift from Ferries/Boats (AADT)	Agricultural Trucks AADT (2026)	Diverted + Modal Shift + Agricultural Trucks AADT (2025)	Truck Composition (%)
Sumbuya	254	745	22	1,025	5
Komrabai	138	372	8	519	5
Moselolo	127	342	3	472	4
Kabba	292	775	4	1,071	8

[68] Ibid.
[69] Mackie, P. J., M. Wardman, A. S. Fowkeset et al. 2003. *Values of Travel Time Savings in the UK Summary and Conclusions*.

7. **The GHG emissions assessment estimates that the project interventions will reduce CO_2 emissions from motorized vehicle trips over the evaluation period.** The estimates revealed a total CO_2 emissions reduction from 412,533 tons (without-project scenario) to 228,692 tons (with-project scenario), translating into a net saving of 183,841 tons of CO_2 emissions. The CO_2 emissions reductions result mostly from reduced distances traveled by motorized vehicles, with the construction of the new bridges and access roads. The GHG emissions assessment also considered modal shift from ferries to cars and the improved vehicle fuel efficiency of buses with the introduction of the bus renewal scheme. The shadow price of carbon calculations show carbon benefits of US$12.7 million and US$25.4 million for low and high carbon price scenarios, respectively (these benefits are included in the economic analysis).[70]

8. **Sensitivity analysis accompanies the estimated rate of return to assess how changes in key variables affect the projected returns.** While the economic rate of return calculations is based on conservative assumptions, the robustness of the results hinges on the production system's nature and its sensitivity to certain key variables that influence the magnitude and direction of the outcome.

9. **The sensitivity analysis assuming an increase in 25 percent of capital costs and a reduction in 25 percent of travel demand with GHG accountings still shows economic viability.** The IRR is expected to drop from 21.51 percent to 13.00 percent without shadow price of carbon, from 22.4 percent to 13.6 percent with low shadow price of carbon, and from 23.2 percent to 14.2 percent at high shadow price of carbon. The main project costs include the capital cost for civil works, agricultural market infrastructure, and O&M costs. On the basis of the estimated economic rate of return, the project is deemed economically viable (IRR > 12.0 percent) and would have significant impact on the targeted households, if implemented as per the design. Table 3.3 presents the results of the sensitivity analysis alongside the base case and incorporating GHG accounting.

Table 3.3. Economic Evaluation Results with Sensitivity Analysis

Case Name	NPV (US$, millions)	IRR (%)
Sumbuya Bridge	2.7	15.2
Komrabai Bridge	4.2	19.8
Moselolo Bridge	1.7	15.2
Kabba Bridge	33.8	40.1
Base scenario total w/o GHG savings (Components 1, 2, 3)	**40.1**	**21.5**
Base + GHG savings (low shadow price of carbon)	44.0	22.4
Base + GHG savings (high shadow price of carbon)	47.9	23.2
Capital cost+25% w/o GHG savings	23.5	16.7
AADT-25% w/o GHG savings	24.5	19.3
Capital+25% + AADT-25% w/o GHG savings	**4.6**	**13.0**
Capital+25% + AADT-25% + GHG savings (low shadow price of carbon)	7.6	13.6
Capital+25% + AADT-25% + GHG savings (high shadow price of carbon)	10.5	14.2

[70] The social cost of carbon was derived from the 2017 World Bank guidance note on the shadow price of carbon in economic analysis and adjusted to the 2023 Consumer Price Index (CPI). *Source:* Guidance note on shadow price of carbon in economic analysis, World Bank Group; November 2017. https://thedocs.worldbank.org/en/doc/911381516303509498-0020022018/original/2017ShadowPriceofCarbonGuidanceNoteFINALCLEARED.pdf.

ANNEX 4: Human Capital Development in Sierra Leone

1. **Sierra Leone has one of the lowest health and education outcomes.** The World Bank's HCI—capturing several dimensions of health and education outcomes globally—ranks Sierra Leone among the bottom 10 countries with the poorest human capital outcomes worldwide. According to the index, a child born in Sierra Leone just before the COVID-19 pandemic will only be about 36 percent productive in the future if provided with a complete education and full health. This is lower than the average for the Sub-Saharan Africa region (40 percent) and slightly lower than the average for low-Income countries (38 percent). Detailed estimates of the health-related components show that 89 out of 100 children born in Sierra Leone survive to age 5 and 63 percent of 15-year-olds will survive until age 60. This statistic is a proxy for the range of health risks that a child born today would experience as an adult under current conditions. In terms of education, children complete an average of 9.6 years of education by the age of 18, with their performance on Harmonized Test Scores at 316 on a scale where 625 represents advanced attainment and 300 represents minimum attainment. These indicators highlight the challenges in a country that was once referred to as the 'Athens of West Africa' around independence in 1961, particularly as population growth alone is going to put pressure on an education system that is under strain even at the current demand for schooling.

2. **Labor force participation rate has declined by more than 12 percent over the last two decades**. Currently, 54.2 percent of the country's working-age population is actively engaged in the labor market, either being gainfully employed or actively seeking jobs (see Figures 4.1 and 4.2). A small proportion of this labor force is employed in technical/managerial and skilled manual occupations—8.6 percent and 6.5 percent, respectively. There is evidence that the labor market is highly gendered. The 2019 percent distribution of men and women ages 15–49 by employment status indicates that only 69 percent of women are currently employed compared to 73.7 percent men. More women are engaged in agriculture and sales and services related jobs (54.3 percent and 37.2 percent) than men (48.5 percent and 22.4 percent). But women's employment in the technical and managerial (3.4 percent) and skilled manual (4.1 percent) jobs is far lower than men, that is, 13.8 percent and 8.9 percent respectively. Many factors contribute to poor labor market outcomes, including the lack of skills training, access to Science, Technology, Engineering, and Mathematics (STEM)-based programs, discriminatory laws and norms, poor labor laws, and security problems.

Figure 4.1. Trends in Labor Force Participation and Unemployment in Sierra Leone

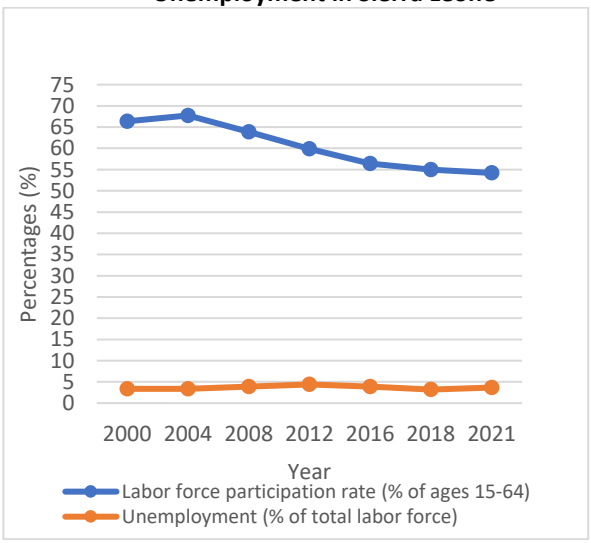
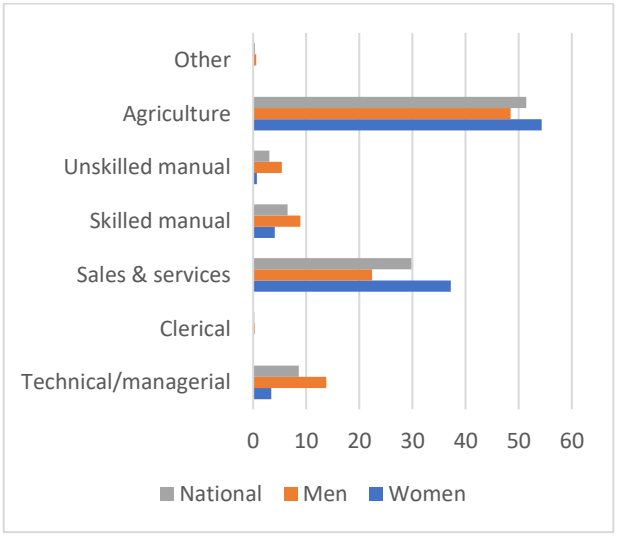


Figure 4.2. Occupational Distribution of Labor Force in Sierra Leone



Source: Based on data from the World Bank Indicators (Figure 4.1) and the Sierra Leone 2019 Demographic and Health Survey report.

3. **Human capital challenges are highly skewed toward rural more than urban areas—except for the distribution in employment.** Despite the generally poor health, education, job, and gender-related outcomes in Sierra Leone, there are wide variations when comparing the rural to urban areas. With respect to health outcomes, there is a slightly higher rate of underweight in children under age 5 who are in rural areas than those in urban areas. A similar statistic is reported for infant mortality rate—at 112 per 1,000 live births in rural areas compared to 105 in urban areas. Skilled personnel's, including doctors, nurses, and midwives, attendance at birth is critical in reducing maternal and infant mortality in developing countries. They are often professionally trained health workers equipped with the essential midwifery skills to manage normal labor and delivery, recognize complications early, and perform any essential interventions including early referral. In the case of Sierra Leone, the percentage of birth delivery attended by these skilled personnel is far lower in rural areas (53 percent) compared to urban areas (79 percent). This lower access to health personnel for rural residents is one of the key reasons for the high infant mortality rate and the generally low access to health care in rural areas. Like the health outcomes, the educational outcomes in rural areas are far lower. The percentage of the school-age population that attends secondary school in rural areas is 31.3 percent—twice as low as compared to urban areas (60.9 percent). This estimate directly correlates with the secondary school level attainment rate in rural areas. Unlike the above-reported human capital variables, the distribution of population at age 15–49 currently employed in rural areas is far higher than in urban areas and the national average. This pattern can be attributable to the domination of the agriculture sector in the country's employment distribution as shown in Figures 4.3 and 4.4.

Figure 4.3. Rural-Urban Distribution of Maternal and Child Health Outcomes

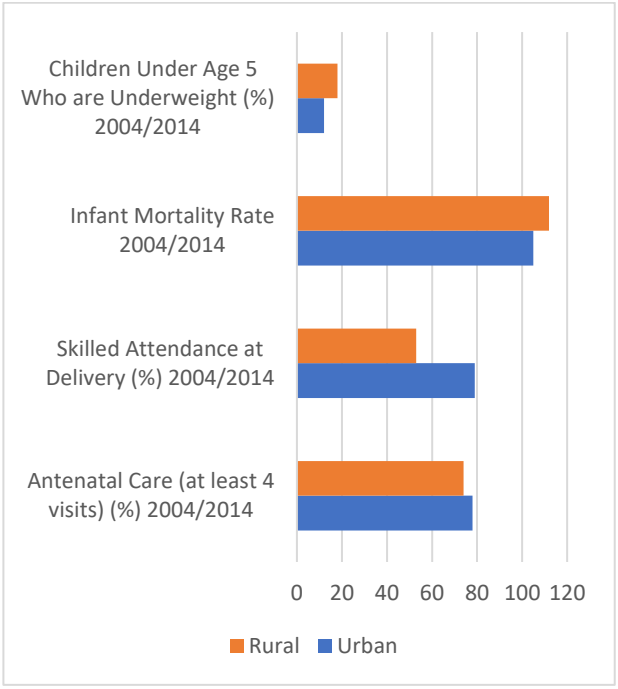
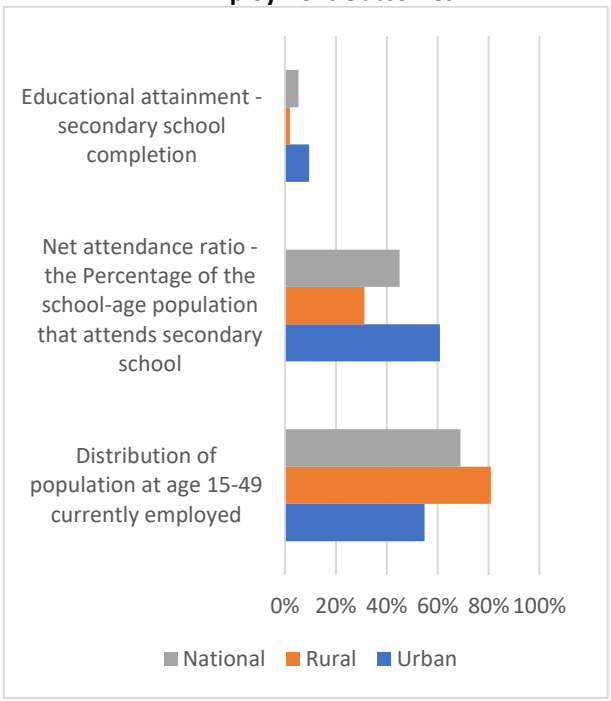


Figure 4.4. Rural-Urban Distribution of Educational and Employment Outcomes



Source: Based on data reported in the Sierra Leone 2019 Demographic and Health Survey report.

4. **The project will improve human capital through institutional capacity development activities and rural connectivity infrastructure.** Training and workshops planned to support central government departments, government agencies, and private sector (industry and firms) are aimed at strengthening expertise for transport sector planning and management. In particular, in partnership with universities higher education institutions will be supported with curriculum development, research, and school-to-work transition programs to prepare the next generation of transport professionals

with skills aligned with emerging challenges in the sector, including those relating to emissions, climate risks, and safety. There is evidence that infrastructure development can improve education outcomes and enhance access to health care for households in isolated communities. In terms of education, improvement in road infrastructure, for example, can help increase safety in walking to school, better access to transport services, and reduce the time and cost of transportation to school.[71] Through the construction and rehabilitation of rural bridges and link roads, this project will contribute to enhancing rural connectivity for improved education outcomes. In particular, the bridge infrastructure will provide direct road transport and ease of travelling for secondary school students who mostly attend school outside of their immediate communities or districts. The improved connectivity will enhance overall school attendance and teacher availability. Similarly, the lack of transport, costs of available transport, and bad or nonexistent roads particularly during the rainy season not only increase the distance travelled to access health services but also serve as a hindrance for community health workers to attend to rural populations. Therefore, this project focuses on improvement in road transport infrastructure and has a direct contribution to improving access to health for rural communities.

5. **Similarly, the project has an extended impact on generating local employment opportunities**. The construction and rehabilitated works will directly create employment in the local economy as they intend to use local contractors and laborers for the construction and maintenance of infrastructure—the contractors will benefit from training activities to enhance their skills and employability. Additionally, the proposed activities will directly help expand transport and the agri-commodity market supply industries. In particular, the project expects to attract more road transport services operators into the chain, especially four-wheelers, allowing rural communities to diversify their employment portfolios beyond the agriculture sector. On the other hand, the combined improvement in market and transport infrastructure will help farmers, commodity traders, and aggregators to move their goods and services throughout the season without any hurdles. It is also expected that these value chain actors will expand their stocks and employ additional hands. Other expected benefits can be linked to the associated increased productivity and profits improving households' capability to pay for better health and education and the economic empowerment opportunities to be created for women as they are overrepresented in the commodity market chain.

[71] https://www.sciencedirect.com/science/article/pii/S0272775717305551.

ANNEX 5: Climate Change Mitigation and Adaptation Benefits

Climate Change and Natural Hazard Risk Screening

1. **Sierra Leone is already experiencing the impact of climate change, with rising temperatures and changes in rainfall patterns.** Average rainfall has been decreasing since 1960 with year-to-year fluctuations, rotating periods of wetter and drier conditions. Sierra Leone has been experiencing more seasonal precipitation changes, with the pre-monsoon period presenting stronger winds and more frequent rainstorms. Climate change is projected to intensify the frequency of heavy rainfall events during the rainy season, leading to devastating flood risks. It is also expected to increase the length of drought/dryness in the dry season. All projections indicate substantial increases in the frequency of days and nights that are considered hot in the current climate. Annual projections indicate that hot days will occur on 26–63 percent of days by the 2060s and 37–84 percent of days by the 2090s. Additionally, the proportion of annual heavy rainfall is projected to increase, especially from July to December. This rise, coupled with alternating periods of wet and dry years, is likely to increase the occurrence of extreme weather events and floods, affecting road infrastructure and connectivity, threatening agricultural productivity, and increasing the risk of wildfires. Sea level rise presents a risk for low-lying coastal areas through increase in storm surge and coastal flood events, loss of property and population displacement, reduction in groundwater resources, and reduction in agricultural potential. The main climate change and natural hazards likely to affect the project investments are river floods and extreme heat. River floods can cause erosion, soil and debris deposition, bridge, road and markets damage, and assets washaway. Extreme heat can also damage the pavement of bridges and roads and increase food spoilage during transport and at markets. These impacts can cause road and bridge disruptions and interruption in connectivity, affecting communities and contributing to food insecurity.

2. **Transport infrastructure and services are vulnerable to natural hazards and climate change impacts, damaging assets, disrupting traffic, disconnecting regions, and exacerbating physical isolation.** Cable ferry services are frequently interrupted by river floods, strong currents, and landslides occurring during the rainy season when pedestrians and motorcycles often use canoes to cross rivers. Flooding poses a challenge to establishing reliable road access in lowland areas during the wet season, making it difficult for farmers to transport their agricultural products to market. Currently, crossing the Sewa River (proposed location of the Sumbuya Bridge) is almost impossible for large loads because of the rudimentary link road that terminates at the banks of the river—in the vicinity of the existing river road crossing. This means simple boat transport is currently the only means by which the local people and goods can cross this wide river to access the two villages on the opposite bank (see Figure 5.1 and 5.2).

3. **A climate and disaster risk assessment undertaken for the project's candidate bridge locations found that climate change is expected to exacerbate these risks and impacts.** Of particular concern to the project's physical infrastructure and assets are the risks associated with floods and extreme heat. Floods can result in erosion, sand/debris deposition, bridge and road damage, and assets washaway. Extreme heat can deteriorate road and bridge pavements. Even in current climate conditions, the Sewa River often breaches its embankments during the rainy season, resulting in floods along the surrounding land. Given the existence of flood risk, it is necessary to raise the link roads above the floodwaters and provide extensive anti-scour provisions along the embankment upstream and downstream of the bridge crossing. In the near term, impacts include slight increases in precipitation, more intense rainfall events, and drier conditions in the dry season.

Figure 5.1. Picture of Cargo in Position for Crossing the River using Ferries and Canoes

Source: GoSL Conceptual Design Report for Group A Bridges[72]

Figure 5.2. Heavily Degraded Approach Road to Sumbuya (a), Komrabai (b), Moselolo (c), and Kabba (d) Crossings

Source: Photos a-c from GoSL Concept Design Report for Group A Bridges; Photo d from GoSL/EU Group B Bridges

[72] Contract No. SL-MAFS-121003-CS-QCBS: 7 No. Bridges in Sierra Leone. Inception Report - Rev 00 - January 2021. Concept Design Report for Group A Bridges - Rev 02 - August 2021.

Climate Change Mitigation and Adaptation Benefits

4. **All the interventions to be financed by the project were identified based on their high exposed locations to climate-related natural hazards, such as river flooding, and the potential of the investments to enhance the resilience of transport, agriculture market infrastructure, and the communities served.** Since bridges are designed for a 100-year lifespan, climate change needs to be factored in during the detailed design of the bridges to ensure that service level of bridges does not deteriorate and that the bridges are climate resilient. Climate change influences the design flood levels used to determine the bridge's minimum deck soffit levels and freeboard. Since current hydrology and flood quantification methods do not cater for future climate change, the contractor during detailed design will factor in the changes in flood quantity which results from projected climate change. The project finances climate resilience and climate mitigation measures under each project component, as described in Table 5.1.

Table 5.1. Climate Adaptation and Mitigation Interventions, by Component

Component	Subcomponent	Climate Risks	Climate-related Project Interventions
Component 1: Resilient Urban transport (US$17 million)	1.1 Technical assistance to develop transport strategies and build institutional capacity (US$2 million)	Flood, extreme heat	**Adaptation and mitigation.** The project will finance technical assistance to support the development of (a) a national transport strategy and (b) an urban mobility plan for Freetown, integrating climate resilience considerations, natural hazard emergency planning and response, and GHG emissions reduction measures. The national strategy and urban mobility plan will be informed by a climate change risk assessment to identify high-risk hot spots and prioritize investments to enhance resilience of the transport network. Climate resilience measures will be identified and evaluated, including engineering, nature-based, and hybrid solutions. The GHG emissions reduction measures to be included in the national strategy and urban mobility plan include the deployment of NMT facilities, such as zebra crossings and pedestrian pathways; promotion of public transport; mode integration to facilitate modal shift; motorization management, and promotion of clean vehicles and e-mobility. The subcomponent also builds the capacity of SLPTA and finances the professionalization of bus operators to strengthen public transports.
	1.2 Strategic low-carbon resilient infrastructure investments (US$5 million)	Flood, extreme heat	**Adaptation and mitigation.** This subcomponent consists mainly of (a) the deployment of spot improvements to enhance the climate resilience of roads. Spot improvements include, for example, repairing potholes created by the action of extreme temperatures, rainfall and flooding; repairing sidewalks and footpath that have been damaged; and repairing and deploying enhanced culverts and drainage structures; (b) the operationalization of the TMP that focuses on the prioritization of bus lanes in priority corridor intersections through the establishment of policies and regulations and deployment of signalization and road markings; the expansion of solar-powered street lighting; and investments in protected pedestrian infrastructure such as sidewalks with guardrails; and (c) the upgrading/construction of bus stops. Investments in public transport infrastructure and NMT will enhance the attractiveness of these lower carbon modes and promote modal shift from cars and motorized two-wheelers.
	1.3 Expanding the modernization of public transport system (US$10 million)	Flood, extreme heat	**Mitigation.** This subcomponent invests in the scaling-up of a fleet renewal and emissions reduction scheme and will finance ancillary facilities and digital systems for bus operations such as fare collection systems and real-time passenger information system. It will also include the regulation and management of bus routes, optimizing bus fleet size and bus route network increase the attractiveness and reach of the public transport system promoting the shift of passengers from cars to public transport. Although the bus fleet renewal scheme does not specify that the new buses must be electric or hybrid electric, it is open to the introduction of zero-emissions or low-emissions bus technologies, when these are deemed to be feasible in the country context. A conservative estimate

Component	Subcomponent	Climate Risks	Climate-related Project Interventions
			of the GHG emissions reduction for the bus fleet renewal scheme alone is 63,056 tons of CO_2 for 20 years, assuming 125 buses will be replaced by buses with higher fuel economy.
Component 2: Resilient Rural Bridges and Link Roads (US$44 million)	2.1 Construction of four climate-resilient long-span bridges and their link roads (US$38 million)	Flood, extreme heat	**Adaptation.** The project will finance the construction of four long-span bridges to climate change resilient standards. Sierra Leone is already experiencing the impacts of climate change, with rising temperatures and reduction in annual mean precipitation but intensification of heavy rainfall events, resulting in higher frequency of flood and drought events. Furthermore, 1 bridge is in a Boliland area that experiences high risk of flooding in the wet season and drought in the dry season, making river crossing impossible. The engineering designs for the construction of the bridges will follow design standards and specifications that increase resilience to river floods, extreme weather, and extreme heat by, for example, (a) right-sizing drains and culverts to accommodate heavy precipitation, limit erosion, and maintain existing watersheds; (b) using retaining walls, dry stone walls, gabion walls, and slope design parameters, as appropriate; (c) incorporating the use of weather-resistant materials; and (d) accommodating thermal expansion of bridges will be countered by accounting for the temperature increment at the design phase and using expansion joints. Furthermore, the project will support the development of enhanced asset maintenance protocols and the deployment of these for bridges, culverts, and drainage structures to ensure that these are functional and not obstructed as well as the financing of improvement and maintenance of slope protection works. Due to the need for realignment of the bridge approach roads, catchment areas and capacity calculations will need to be performed at detailed design stage to ensure that the proposed drainage infrastructure is suitable and has adequate capacity. The project will include methods to convey surface runoff away from the road cross-section and minimize the vulnerability of poor drainage. The 'Green Roads for Water' concept will also be implemented along the bridge link/access roads, where and when technically justified. **Mitigation.** The new bridges will reduce the distances travelled by motorized vehicles as they improve access and proximity between local communities and basic services and markets. Bridges will include pedestrian guard railed crossing and link roads will include sidewalks to allow for the safe use by pedestrians. Hybrid solar powered-grid connected street lighting will be deployed on bridges and in access/link roads.
	2.2 Support outstanding resilient bridge works under SCADeP (US$4 million)	Flood, extreme heat	**Adaptation.** This project subcomponent includes the rehabilitation and maintenance of the roads and bridges to climate-resilient standards, as envisaged for four bridges under SCADeP. In 2023, Sierra Leone experienced a prolonged rainy season until early to mid-November, leading to a rise in water levels in river crossings where bridges are being constructed. As a result, civil works in the four sites were suspended and now require this additional financing to be completed.

Component	Subcomponent	Climate Risks	Climate-related Project Interventions
	2.3 Supporting climate-resilient life-cycle management of road and bridge assets (US$1 million)	Flood, extreme heat	**Adaptation.** This subcomponent supports the development of a climate change informed GIS-based BMS and the operationalization of a climate change informed road asset management at the national level. It provides guidelines, procedures, and data collection on transport asset management to inform decision-making and prioritize investments in enhanced rehabilitation and maintenance works against climate risks.
	2.4. Technical assistance and institutional capacity building in road sector (US$1 million)	Flood, extreme heat	This subcomponent supports the update of the five-year strategic development plan for the road sector to consider climate change risks and the development of national guidelines for climate-resilient design standards of bridges and roads construction and rehabilitation that can inform the next generation of resilient infrastructure. This subcomponent also supports capacity building of transport agencies to develop and use transport asset management systems informed by climate change risks.
Component 3: Resilient Agriculture Market Infrastructure (US$8 million)	3.1 Construction and upgrading of resilient agricultural market infrastructure within the catchment areas of the four climate-resilient bridges (US$6 million)	Flood, extreme heat	**Adaptation.** The project will finance community market infrastructure adhering to climate change resilience standards, ensuring reliable operation and year-round access for local communities, contributing to reducing food spoilage, increasing food security, increasing local incomes, and reducing poverty levels and thus enhancing the resilience of local communities. The project will identify and implement nature-based solutions, which involve the use of vegetation either alone or in conjunction with civil engineering structures, to enhance climate resilience of market infrastructure. Trees will be planted to provide shade during the day, thus protecting users from extreme heat conditions. The construction and rehabilitation of rural market facilities will reduce local farmers' vulnerability to harsh climate conditions which damage products (such as heat and flooding), therefore reducing post-harvest losses and waste and contributing to the resilience of communities. The precise locations and designs of these markets will be identified during project implementation, taking into consideration climate risks and the establishment of maintenance system to minimize vulnerability to climate hazards. For example, markets will include raised internal pathways that ensure usability even during extreme weather events such as intense rainfall and flooding. **Mitigation.** The project incorporates GHG emissions mitigation considerations in the design and construction of market infrastructure. Contractors will be incentivized to select materials and implement processes that generate less emissions, such as the use of energy-efficient materials and renewable energy in storage facilities. The project will identify and implement nature-based solutions, which involve the use of vegetation and tree planting, resulting in carbon capture and sequestration. Markets and storage facilities will use solar photovoltaic panels on rooftops or open areas to generate energy for powering lighting, cooling, and other electrical systems. Solar water heating systems will be used to provide hot water for cleaning and sanitation purposes. The project will promote energy-

Component	Subcomponent	Climate Risks	Climate-related Project Interventions
			efficient refrigeration and cold storage facilities across agricultural value chains to enable producers to store their products and reduce post-harvest losses and food spoilage with climate resilience benefits in terms of food security, reduction in energy consumption, and GHG emissions from agriculture products and food waste. The National Energy Efficiency Action Plan provides guidance on the use of energy-efficient building materials with high thermal resistance, efficient water management system, energy-efficient appliances and equipment, and energy-efficient LED lighting systems. The project implementation will follow the defined guidelines on the use of refrigerants with low global warming potential and will follow the hydrochlorofluorocarbon phase-out management plan defined by the Sierra Leone's Environmental Protection Agency. The project will also build on existing experiences in country for organic waste segregation, composting, and organic fertilizer production for use in local farms.
	3.2 Upgrading of agricultural market information systems (AMIS) (US$1 million)	Flood, extreme heat	**Adaptation and mitigation.** To minimize current and future climate and disaster risks in project areas and in agriculture more generally, the project is designed to facilitate more diversified and resilient value chains. The project will update the AMIS with a new module that provides timely and accurate information on weather conditions, climate forecasts, and early warning system for extreme weather conditions and events (for example, floods, extreme heat, dry spells, and droughts). Information will be translated into local languages and engagement will also happen with local associations to make the information accessible to vulnerable population segments who may lack access to information technologies. The project will finance training and support for agri-entrepreneurs to use energy-efficient and climate-smart agriculture practices in their businesses.
	3.3 Capacity building and training for institutional stakeholders and value chain actors, including farmers, processors, and traders (US$1 million)	Flood, extreme heat	**Adaptation and mitigation.** The project builds the capacity of implementing agencies at the county and district level to identify and proactively addresses climate risks vulnerabilities in the transport sector and builds the capacity of value chain actors in techniques to reduce food spoilage and waste.
Component 4: Project Management Support (US$5 million)			**Adaptation and mitigation.** The project will finance project implementation support and capacity-building activities for project staff on transport sector contributions to GHG emissions and appropriate mitigation options. M&E staff will be trained for an effective tracking of climate-resilient and mitigation-related indicators and impacts.

ANNEX 6: Procurement Management Assessment

1. **Procedures.** Procurement under the proposed project will be carried out in accordance with the World Bank 'Procurement Regulations for IPF Borrowers' (dated September 2023), the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants' (dated July 1, 2016) and beneficiary disclosure requirements, and other provisions stipulated in the project Legal Agreements. Furthermore, the Sierra Leone 'National Public Procurement Act of 2016' will apply for tenders approaching national market, taking into consideration the requirements of Clauses 5.3, 5.4, 5.5, and 5.6 of the Procurement Regulations for IPF Borrowers.

2. **Implementation arrangements**. Procurement under the proposed project shall be carried out by the PCIU, established in the MTA. Currently, the PCIU does not have a procurement unit, it will be established and staffed with qualified and experienced staff as shall be described in the ToRs before the project effectiveness.

3. **Staffing.** The project shall recruit a procurement staff with the required qualification and experience acceptable to the World Bank to perform procurement operations and will report to the project coordinator.

4. **Preparation of PPSD.** As part of the preparation of the project, the Recipient developed a PPSD that describes how procurement activities will support project operations for the achievement of PDOs and deliver value for money. The procurement strategy is linked to the project implementation strategy, ensuring proper sequencing of the activities. The PPSD considers institutional arrangements for procurement; roles and responsibilities; and thresholds, procurement methods, prior review, and the requirements for carrying out procurement. It also includes a detailed assessment and description of the implementing agency's capacity for carrying out procurement and managing contract implementation, within an acceptable governance structure and accountability framework. Other issues include the behaviors, trends, and capabilities of the market (market analysis) to respond to the procurement plan.

5. **Procurement planning**. The GoSL and the World Bank have agreed upon a procurement plan that details the activities to be carried out during the first 18 months of implementation, reflecting the actual project implementation needs, developed as an output of the PPSD which outlines the procurement procedures for planning and monitoring implementation of investment activities.

6. **Standard Procurement Documents (SPDs).** The project shall use the latest SPD versions of April 2021 for Consulting Services, June 2021 for Goods, and September 2023 for Works or any other version as revised.

7. **Use of country systems**. For procurements involving National Procurement Procedures below the defined thresholds, national procurement systems may be used as defined by the PPSD, taking into consideration the requirements of Clauses 5.3, 5.4, 5.5, and 5.6 of the Procurement Regulations for IPF Borrowers. The project activities will also require strong technical capability to prepare proper technical specifications to avert lack of or inadequate market response. This expertise or a plan to enhance it will be described in the procurement strategy. Open competitive approach to the market will be the World Bank's preferred approach as it provides all eligible bidders/proposers with timely and equal opportunity to supply the required goods or services.

8. **Procurement management risk assessment.** Given the country's post-conflict and fragility context including capacity constraints, the procurement management risk assessment found several issues: (a) the PCIU is yet to be established and the capacity of procurement staff in MTA is low; (b) there is a lack of knowledge in using World Bank's Procurement Regulations and STEP, though this is not the first project to be managed by the agency; (c) there is a need for establishment of the recordkeeping system; (d) inefficiencies and delays are present in the procurement process; (e) there is insufficient competition in procurement; (f) complaint redress system is weak; and (g) coordination among different project beneficiary agencies is challenging.

9. **Procurement risk.** To address the procurement risks and weaknesses, mitigation measures and concrete action plans will be agreed with the GoSL, including, among others: (a) recruitment of procurement staff; (b) capacity building through regular procurement clinics and trainings; (c) aggregation of small packages of tenders where feasible; (d) sensitization of the private sector to bid for public tenders; and (e) biannual reporting on all complaints received and actions taken.

10. **Procurement post reviews (PPRs) and independent post reviews (IPRs) by the World Bank.** Based on the assessed agency implementation risk for procurement, which is **Substantial**, the World Bank will carry out PPRs or IPRs for all contracts outlined in the approved procurement plan that have been subject to prior review by the World Bank using a minimum sample of 15 percent. Based on continuing assessment of risk and the success of risk mitigation measures implemented, the sample size will be reduced as risk mitigation measures are successfully implemented. Note that based on the risk rating, the sample sizes for the PPRs or IPRs are as follows: 5 percent for low-risk rating, 10 percent for moderate risk rating, 15 percent for substantial risk rating, and 20 percent for high-risk rating.

Table 6.1. Project Procurement Risk Factors and Mitigation Measures

Risk Factor	Mitigation Measure
Inexistence of a procurement function in the proposed PCIU	• Establish procurement function in PCIU, staffed with a qualified and experienced procurement staff.
Capacity building of procurement staff	• Attend training on World Bank procurement procedures. • Conduct training on World Bank procurement procedures. • Handholding. • Regular supervision, support, and monitoring.
Record management	• Establish a good record management system.
Limited knowledge of the World Bank's Procurement Regulations and use of STEP	• Conduct regular procurement clinics. • Hand-holding the team on use of STEP.
Inefficiencies and delays in procurement process	• Regular monitoring through procurement plan in STEP. • Conduct regular meetings to identify delays and their causes and provide solutions. • Ensure technical and procurement teams work together across different beneficiary agencies.
Insufficient competition in procurement	• Aggregate smaller contract packages wherever feasible • Sensitize the private sector to bid for public tenders.
Weak complaint redress system	• Disclose complaint redress procedure. • Provide biannual report of all complaints received and action taken.
Fraud and corruption risks (including collusion and outside interference) in contracting process	• Disclose the procurement plan, Invitation for Bids (IFB), and Bidding Documents (BDs). • Monitor bidders and bids using Company Risk Profile Database (CRPD), verify references of experience certificates, authenticate bank guarantees and insurance policies, and so on. • Strengthen bid evaluation committees and define tasks related to resolving complaints during selection phase and standstill period, and beyond. • Disclose contract awards and stress on Beneficial Ownership disclosure. • Raise awareness about the effects of fraud and corruption to central and local government PCIUs and to bidders' community. • Conduct regular reviews such as PPRs, internal audit, external audit, and follow-up on audit findings and recommendations.

Risk Factor	Mitigation Measure
Coordination among different beneficiary agencies	• Establish a mechanism of communication between the PCIU and beneficiary agencies that will facilitate collection of technical inputs for procurement processes such as ToRs and technical specifications as well as coordination of evaluation committee members.

Table 6.2. Procurement Action Plan

No.	Action	Date due by	Responsible
1	Update PPSD	Updated by negotiations	PCIU
2	Establish procurement function in PCIU	Before project effectiveness	PCIU
3	Hire procurement staff	Before project effectiveness	PCIU
4	Strengthen the capacity in applying STEP tools, which is being used to manage all procurement transactions and related documentation.	Ongoing and continuous monitoring	World Bank
5	Finalize the PIM to include procurement procedures and implementation arrangements for the project along with the standard and sample documents to be used.	Before project effectiveness	PCIU
6	Develop procurement records and contract management systems to ensure efficient and effective contract management.	Three months after project effectiveness and continuous monitoring	PCIU

ANNEX 7: Financial Management Assessment

1. The World Bank conducted a FM assessment to determine the adequacy of the FM arrangements of the Finance Unit of the PCIU of the MTA. The objective of the FM assessment is to determine whether MTA has acceptable FM arrangements. The arrangements include the MTA's system of planning and budgeting, accounting, internal controls, funds flow, financial reporting, and auditing. The entity's arrangements are acceptable if they are considered capable of correctly recording all budgets, transactions, and balances, supporting the preparation of regular and reliable financial statements, safeguarding the entity's assets, and are subject to auditing arrangements acceptable to the World Bank. The assessment was conducted in accordance with the World Bank Guidance: Financial Management Manual for World Bank IPF Operations issued September 7, 2021.

Summary of the Financial Management Assessment

2. Country issues that potentially impact the project FM arise from the public financial management (PFM) environment. Sierra Leone's PFM arrangements were assessed in 2018 using the Public Expenditure Financial Accountability (PEFA) PFM Performance Measurement Framework. According to the assessment, Sierra Leone has maintained its progress since the PFM reform started with the Institutional Reform and Capacity Building Project (IRCBP) in 2004. The weaknesses in some areas impact on fiscal discipline (the ability to stay on track), on strategic allocation of resources (alignment with the Agenda for Prosperity), and on efficient delivery of services. The PFM Reform Strategy seeks to improve efficiency, effectiveness and transparency of revenue generation and expenditure management and provide the basis for macro stability, strategic allocation of resources, delivery of vital goods and services to the country and strengthen accountability between the State and citizens.

3. The FM risk before considering the mitigating measures is **"High"** mainly due to: (i) Insufficient experience of MTA with the World Bank's FM procedures; (ii) limited capacity to meet the project's FM requirements; and (iii) overall weaknesses and shortcomings in the control environment. However, with the mitigation measures in place, the residual risk is **"Substantial"**. The following measures are proposed and agreed with MTA to be implemented by the project as follows: (i) FM functions will be centralized within the PCIU's authority with FM unit consisting of qualified FM Specialist, Internal Auditor and FM Officer; (ii) provision of specific training in FM and disbursement for project FM staff; (iii) direct payment will be used for equipment supplies, along with the opening of a DA in US$ in a bank acceptable to World Bank; and (iv) a FM / Accounting Policies and Procedures Manual (Disbursement Date) will document the project's internal control functions, the FM policies and describe the responsibilities of the PCIU's FM members with authorities and execution processes.

Financial Management and Disbursement Arrangements

4. **Planning and Budgeting.** The respective entities' AWPB will be prepared and approved based on the policy guidelines and strategy planning as laid-out in the PIM and consistent with the provisions of the PFM Act 2016. The budget will be activity based and in line with the cost tables of the project. The AWPB is expected to be prepared in a participatory way and will be approved before each new financial year begins. Actual expenditure, including a budget comparison, will be monitored during project implementation using unaudited IFRs. The PCIU will ensure timely preparation, review, consolidation, and approval of the annual work program budget.

5. **Reporting:** The Finance Unit of the PCIU will be responsible for the preparation and submission of quarterly IFRs for the project, to be submitted within 45 days after the end of the quarter to which they relate. It will also be responsible for the preparation of the annual financial statements for the fiscal period to which they relate and having them audited. The

information in these reports will be clearly reconciled to the trail balance/general ledger reports from the accounting systems used for the project.

6. The following quarterly IFRs and annual Financial Report will be produced:
   - A statement of sources and uses of funds for the reported quarter and cumulative period from project inception, reconciled to opening and closing bank balances.
   - A statement of uses of funds (expenditures) by project activity/component and expenditure category, comparing actual expenditures against budget, with explanations for significant variances for both the quarter and cumulative period.

7. The Financing Agreement will require the submission of audited financial statements for the overall project to the World Bank within six months after the end of each financial year. These Financial Statements will comprise:
   - A Statement of Cash Receipts and Payments, which recognizes all cash receipts, cash payments, and cash balances controlled by the entities responsible for project implementation.
   - The Accounting Policies Adopted and Explanatory Notes. The explanatory notes should be presented in a systematic manner with items on the Statement of Cash Receipts and Payments being cross-referenced to any related information in the notes. Examples of this information include a summary of fixed assets by category of assets and a summary of Withdrawal Schedule, listing individual withdrawal applications; and
   - A Management Assertion that IDA funds have been expended in accordance with the intended purposes as specified in the relevant World Bank legal agreement.
   - Indicative formats of these statements will be developed in accordance with fiduciary requirements and agreed with the Country FM Specialist.

8. **Disbursement Arrangements:** In terms of disbursements, the proceeds of the grant will be disbursed in accordance with the World Bank's disbursements guidelines that will be outlined in the Disbursement and Financial Information Letter (DFIL) and in accordance with the World Bank Disbursement Guidelines for Projects. Electronic disbursement will be used under this project. To ensure that funds are readily available for project implementation, a DA will be opened in US Dollar with a bank acceptable to World Bank. Authorized signatories, names and corresponding specimens of signatures should be submitted to the WB prior to the receipt of the first Withdrawal Application (WA). All WAs will include appropriate supporting documentation.

9. The project provides for the use of 'advances, reimbursements, direct payment, and special commitments' as applicable disbursement methods, and these will be specified in the DFIL. A forecast of the first six months expenditures will form the basis for the initial withdrawal of funds from the Grant and subsequent withdrawals will be based on the net cash requirements.

10. Supporting documentation will be retained by the implementing agencies for review by the World Bank task team missions and external auditors.

11. **Internal Audit and Control.** The Internal Auditor dedicated to the PCIU will carry out periodic internal audit reviews of activities done during in the implementation of the project and share copies of their report with the World Bank on a quarterly basis.

12. Segregation of duties, and full compliance with the provisions of the FM/Accounting Policies and Procedures Manual especially as pertaining to internal control aspects, will remain a key ingredient in the implementation of the expenditure

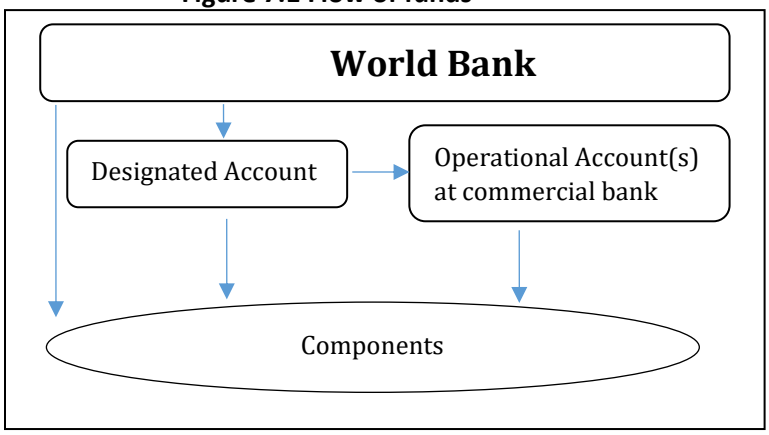
processing activities at the Finance Unit of the PCIU and the implementing and executing agencies during the life of the project.

13. **Governance and Anti-Corruption.** The World Bank's Anti-Corruption Guidelines *("Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants",* dated October 15, 2006 and revised in January, 2011) apply to this operation. Sections of these guidelines, especially those relating to conflict of interest, procurement and contract administration monitoring procedures, procedures undertaken for replenishing the DA and use of the project's asset shall be provided as an annex to the project's FM Procedures Manual. Additional mitigation measures will include advocating good governance, close monitoring and spot checks by the internal audit units of the implementing entities, as well as enhanced social responsibility by the GoSL and implementing entities.

14. Inefficient service delivery due to poor governance practices and weak PFM environment is an inherent issue. Possibility of circumventing the internal control system such as colluding practices, bribes, abuse of administrative positions, mis-procurement among other considerations are critical risks that may arise. Other internal control incidences that may expose the project to fraud and corruption include but not limited to (a) late submission of supporting documents; (b) poor filing and records; (c) lack of work plans and or budget discipline; (d) unauthorized commitment to suppliers, and bypassing budget and expenses vetting procedures. The project shall mitigate these potential fraud and corruption related risks through (i) strengthened project monitoring; ii) auditing of specific aspects on corruption will be included in the ToRs for the external audit; (iii) targeted FM procedures and internal control mechanisms across the project activities shall be detailed in the PIM; (iv) strong FM staffing will be put in place; (v) periodic FM supervisions; and vi) IFRs reviews and monitoring.

15. **Flow of Funds.** The flow of funds will be as follows:

Figure 7.1 Flow of funds



16. **Designated Accounts (DA).** To facilitate funds flow to the GoSL, the PCIU will open and maintain a segregated DA into which the World Bank will provide advances that will be used to finance project activities. The segregated DA will be opened in US Dollars at the Bank of Sierra Leone (the Central Bank of Sierra Leone). Operational account(s) will be opened at a commercial bank acceptable to the World Bank. The DAs and operational accounts will be managed by the Finance Unit of the PCIU of the MTA. Funds will be transferred from the DA to the operational account(s) from time to time to meet operational needs. Payments will also be made by the World Bank, on the instructions of the project, directly to suppliers, consultants and / or contractors.

17. **External Audit.** The Audit Service Sierra Leone (ASSL) is by law responsible for the audit of all government finances and projects. However, in view of the prevailing capacity constraints, it is likely that the ASSL could outsource such service to a private firm of auditors with qualifications and experience acceptable to the World Bank.

18. The PCIU will be responsible for preparing the project financial statements on which the auditor will issue a single opinion covering project accounts, the usage of statement of expenditures, and the management of DAs. In addition, a management letter outlining any internal control weaknesses will also be issued by the external auditor together with the audit report.

19. The annual financial statements should be prepared in accordance with International Public-Sector Accounting Standards (which inter alia include the application of the cash basis of recognition of transactions) and will be audited in accordance with International Standard on Auditing and submitted to the World Bank within six months after the end of each fiscal year.

20. The project financial statements will be audited annually in accordance with International Standard on Auditing (ISA) by independent auditors acceptable to the World Bank based on ToRs acceptable to the World Bank as above annotated. The auditors should be appointed prior to the first audits period to allow the auditors to submit the audit report within the due date. The audited financial statements will be submitted to the World Bank within six months after the end of each fiscal year. The cost of the audit will be financed from the project proceeds.

21. **Implementation Support Plan.** Implementation support of the project FM will be performed at least twice a year. It will closely monitor the FM aspects and will include but not limited to operation of DAs, evaluation the quality of budgets, project financial monitoring and management reviews of financial reports, quality of IFRs, relevancy of the FM Manual, internal controls, work and document flow and quality of financial records, and follow up of audit and mission findings. The review will also conduct random reviews of the statements of expenditures, compliance with covenants. Based on the implementation support result, the risk will be re-assessed, and the frequency of supervision recalibrated.

22. **Financial Management Action Plan.** Table 7.1 below shows the FM action plan for the project.

Table 7.1. FM Action Plan

No.	Action	Date due by	Responsible
1.	Preparation of the FM/Accounting Policies and Procedures Manual	Disbursement of funds in respect of Category 1	MTA
2.	Recruitment of FM Specialist (a professionally qualified accountant) to help set up a complete set of accounting books for the new project	By project effectiveness	MTA
3.	The PCIU will recruit an internal auditor to ensure operations of the project are reviewed on a regular basis	By project effectiveness	MTA
4.	Identify and procure appropriate software for use in project accounting	Three months after project effectiveness	MTA
5.	Agree on formats and content of IFRs	Completed at project negotiation	MTA & World Bank
6.	Open segregated DA	By project effectiveness	MTA
7.	Provision of specific training in FM and disbursement for project FM staff	Three months after project effectiveness	World Bank

No.	Action	Date due by	Responsible
8.	Support SCADeP on remaining works of bridge construction would commence once the SCADeP financing (IDA D6880-SL) was exhausted	Disbursement of funds in respect of Category 2	MTA

23. **Conclusion.** The conclusion of the assessment is that with the implementation of agreed-upon actions, the FM arrangements meet the minimum requirements. The overall FM residual risk of the project is 'substantial'.

ANNEX 8: Gender and Social Inclusive Considerations

Broader Context of Gender and Social Vulnerability in Sierra Leone

1. A rapid gender analysis has been conducted during project preparation to identify gender gaps that the project aims to close. Relevant gender gaps related to the sectoral context, namely the transport and agriculture sectors, will be addressed as part of the interventions under Components 1, 2, and 3 as follows.

Gender Aspects in the Project Design

2. **Component 1 (Resilient Urban Transport).** Opportunities are identified to advance gender equality in urban transport. Urban infrastructure will be equipped with gender-sensitive designs, such as incorporation of walking infrastructure for pedestrians and lighting of pedestrian pathways to improve personal safety especially for women. The project will provide training to equip women with the necessary skills to perform various technical roles, through technical assistance to transport institutions and bus operators. The bus operators will be encouraged to hire a specific percentage of women in technical jobs as part of their operations. For this, the technical assistance will include sensitization activities that will be carried out to increase transport sector agencies and operators' knowledge on how to appropriately respond to SH with anticipated measures including but not limited to communication campaign against SH in public transport and setting up a hotline to report SH and identify hot spots. A workshop will be organized with the transport agencies and operators to reflect on this issue, share good practices from other similar contexts. and determine the best institutional arrangement to house the hot line.

3. **Component 2 (Resilient Rural Bridges).** Rural bridges will be equipped with gender-sensitive designs, for instance, bridges will incorporate walking infrastructure for pedestrians to improve river crossing safety during the rainy season, especially for women, and lighting of pedestrian pathways to improve personal safety. Women's inclusion will get particular attention in training to be provided to local communities to build the local labor force for road rehabilitation and maintenance works through the ongoing collaboration between SLRA and local councils. Outreach activities will be carried out via women's associations in the communities to inform and encourage women to participate in the training and employment opportunities.

4. **Component 3 (Resilient Agriculture Market Infrastructure).** The needs assessment to be conducted will adopt participatory processes, collect gender-disaggregated data, and prioritize the perspectives of women, given their central role in agricultural value chains. Gender gaps in agricultural productivity will be addressed through rehabilitation/construction of markets easily frequented by women; storage facilities with dedicated space for women; and gender-friendly designs such as lactation rooms, separate toilets, changing rooms for men and women, and childcare services. Capacity-building activities will prioritize women's empowerment activities suitable to the context, including but not limited to financial education, training to rural farmers, especially women on how to effectively use the AMIS Mobile App, and aggregation techniques. The project will collaborate with women's organizations and NGOs to provide the aforementioned training.