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Report No: PPHI01248

INTERNATIONAL DEVELOPMENT ASSOCIATION

SMALL GRANT PROJECT PAPER

ON A

PROPOSED GRANT

IN THE AMOUNT OF US$4.7 MILLION

FROM THE
JAPAN SOCIAL DEVELOPMENT FUND

TO THE

GOVERNMENT OF LIBERIA

FOR THE

SUSTAINABLE URBAN AND PERI-URBAN AGRICULTURE FOR WOMEN EMPOWERMENT PROJECT

SEPTEMBER 11, 2026

Farming and Agribusiness Global Practice
Western and Central Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective August 31, 2026)

Currency Unit =	LRD
LRD174.57=	US$1.00

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Ousmane Diagana
Regional Director:	Chakib Jenane
Division Director:	Robert R. Taliercio
Practice Manager:	Abel Lufafa
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ABBREVIATIONS AND ACRONYMS

AAID	ARREST Agenda for Inclusive Development
CE	Citizen Engagement
CPF	Country Partnership Framework
CSA	Climate-Smart Agriculture
DA	Designated Account
ESF	Environmental and Social Framework
ESS	Environmental and Social Standard
EU	European Union
FAO	Food and Agriculture Organization
FM	Financial Management
GAP	Good Agricultural Practice
GBV	Gender Based Violence
GM	Grievance Mechanism
GoL	Government of Liberia
JSDF	Japan Social Development Fund
MoA	Ministry of Agriculture
M&E	Monitoring and Evaluation
NADP	National Agricultural Development Plan
NDC	Nationally Determined Contribution
NSC	National Steering Committee
PIM	Project Implementation Manual
PIU	Project Implementation Unit
RETRAP	Rural Economic Transformation Project
SEA	Sexual Exploitation and Abuse
SH	Sexual Harassment
SME	Small and Medium Enterprise
UAE	United Arab Emirates

BASIC INFORMATION

Project Beneficiary(ies)		Operation Name
Liberia		Sustainable Urban and Peri-Urban Agriculture for Women Empowerment Project
Financing Instrument		Classification
Investment Project Financing (IPF)		Small Grants
Approval Date	Closing Date	Environmental and Social Risk Classification
15-Sep-2026	29-Jun-2029	Moderate
Approval Authority	Bank/IFC Collaboration	
CD Decision	No	

Proposed Development Objective(s)

The development objective of the project is to enhance the productivity, resilience and access to market by beneficiary women and youth vegetable farmers in selected urban and peri-urban communities in Liberia.

Components

Component Name	Cost (US$)
Support for Development of Climate-Smart Modern Community Vegetable Gardens	3,750,420.00
Support for Farmer Coordination, Institutional Strengthening and Market Linkages	790,000.00
Project Management, Monitoring and Evaluation, and Knowledge Dissemination	189,580.00

Organizations

Borrower/Recipient:	Ministry of Finance and Economic Planning, Government of Liberia
Implementing Agency:	Ministry of Agriculture, Government of Liberia

PROJECT FINANCING DATA (US$, Millions)

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Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	Yes
Is this project Private Capital Enabling (PCE)?	No

SUMMARY

Total Operation Cost	**4.73**
Total Financing	**4.73**
Financing Gap	**0.00**

DETAILS

Non-World Bank Group Financing

Trust Funds	4.73
Japan Social Development Fund	4.73

FINANCING & IMPLEMENTATION MODALITIES

Situations of Urgent Need of Assistance or Capacity Constraints

[ ] Fragile State(s)	[ ] Fragile within a non-fragile Country
[ ] Small State(s)	[ ] Conflict
[ ] Responding to Natural or Man-made Disaster	

Other Situations

[ ] Financial Intermediaries (FI)	[ ] Series of Projects (SOP)
[ ] Performance-Based Conditions (PBCs)	[ ] Contingent Emergency Response Component (CERC)
[ ] Alternative Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)

Practice Area (Lead)

Farming and Agribusiness

Contributing Practice Areas

OVERALL RISK RATING

Risk Category	Rating
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	Not Currently Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently 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

Conditions

Type	Citation	Description	Financing Source

PROJECT TEAM

Bank Staff

Name	Role	Specialization in this operation	Unit
Kadir Osman Gyasi	Team Leader(ADM Responsible)		SAWA1
Akeem Adeleye Bello	Procurement Specialist(ADM Responsible)		EAWP2
Buniyaminu Abdul Kadiri	Procurement Specialist	Procurement Management	ESARU
Oyewole Oluyemi Afuye	Procurement Specialist	Procurement Management	EAWP2
Zephaniah J Smith	Financial Management Specialist(ADM Responsible)		EAWG2
Janet Victoria Ngegla	Environmental Specialist(ADM Responsible)		SAWM1
Zinnah S Mulbah	Environmental Specialist	Environmental safeguards	SAWM1
Emmanuel Anyang Abeka	Environmental Specialist		SAWM1
Aloysius K Kotee	Environmental Specialist	Environmental Safeguards	SAWM1
Cheryl Angela Williams	Social Specialist(ADM Responsible)	Social Development	SAWM1
Samuel Lule Demsash	Social Specialist	Social Development	SAWM1
Uzma Quresh	Social Specialist	Social Development	SAWM1
Kelvin Doesieh	Team Member	Agriculture Specialist	SAWA4

Sustainable Urban and Peri-Urban Vegetable Gardens for Women Empowerment Project

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I. STRATEGIC CONTEXT

A. Project Strategic Context

1. Liberia possesses an exceptionally favorable agro-ecological environment for agricultural development, characterized by abundant annual rainfall, vast river systems, and millions of hectares of fertile, arable land. Despite these natural resource advantages, the country's agricultural potential remains heavily underutilized. A critical structural gap within this landscape is the underdevelopment of the horticulture value chain - specifically the production of high-value fruits and vegetables. While the domestic demand for fresh produce in expanding urban hubs like Monrovia continues to increase, local production networks have failed to scale. Liberia's inability to achieve self-sufficiency in horticulture creates a severe developmental bottleneck. Relying heavily on imports for fruits and vegetables compromises national food and nutrition security and imposes fiscal and macroeconomic costs through foreign exchange outflows[1] and foregone employment and income opportunities[2]. The proposed Liberia Sustainable Urban and Peri-Urban Agriculture for Women Empowerment Project is designed to support reliable, sufficient, and competitive production of vegetables in the urban and peri-urban areas of Liberia for improved food and nutrition security, improved farmer incomes, jobs creation, and women economic empowerment. The project will address binding constraints across the entire vegetable value chain, spanning input supply, production, aggregation, and marketing.

B. Sectoral and Institutional Context

2. **Increasing population, rapid urbanization, rising incomes, and the expansion of retail and hospitality sectors are fueling strong and growing demand for fresh vegetables in Liberia**. However, domestic smallholder production systems, which are predominantly rainfed and characterized by low-input, low-productivity practices, remain structurally unable to meet this demand consistently throughout the year. As a result, imports account for the dominant share of vegetable supply in Liberia, particularly for onions, cabbage, tomatoes, lettuce, and carrots, where domestic production is minimal[3]. This reliance on imports heightens Liberia's vulnerability to external supply and price shocks and underscores both the fragility of its food system and the significant, largely untapped opportunity for import substitution.

3. Domestic vegetable production remains concentrated in traditional crops such as pepper, leafy greens (including Amaranthus, cassava leaves, sweet potato leaves, etc.), okra, and bitterballs (African eggplant). At the same time, higher-value vegetables such as chili peppers, tomatoes, and onions are essential components of Liberian diets, contributing significantly to household nutrition and food security. Their short production cycles, year-round market demand, and strong commercial potential make them attractive enterprises for smallholder farmers, providing regular cash income and supporting dynamic rural-urban value chains. The horticulture sector is particularly important for women, who play a central role across production, aggregation, processing, and retail marketing. As such, investments in horticulture offer a powerful pathway for enhancing women's economic empowerment, increasing household incomes, and improving nutrition outcomes.

4. **Liberia's abundant rainfall, fertile lowlands, and varied microclimates provide a foundation to scale highly productive domestic horticulture and eliminate costly import dependence.** Liberia receives above 3,000 mm of rain annually, which eliminates the macro-level water scarcity challenges to vegetable production. In urban and peri-urban areas, particularly around Monrovia, the water table sits very close to the surface. This shallow aquifer system allows

[2] Horticulture yields rapid, continuous harvest cycles and generates far higher profit margins per hectare than traditional field staples. This makes it an ideal engine for job creation, poverty reduction, and women's economic empowerment.

[3] Over US$30 million is spent importing basic carrots and onions, largely sourced from countries as far away as the Netherlands apart from a large proportion of vegetables, particularly onions and tomatoes from Guinea and Côte d'Ivoire, entering through informal border crossings that are not captured in formal customs records, and traded in the local (wet) markets.

smallholder farmers to easily utilize low-cost, motorized shallow-well irrigation pumps to sustain vegetable crops during the dry season without requiring massive, expensive irrigation infrastructure. Liberia also possesses roughly 600,000 hectares of highly fertile inland valleys with the ability to retain massive amounts of residual sub-surface moisture, allowing for dry season vegetable production when import prices typically spike - yet less than 5 percent of these are actively cultivated. The country also possesses favorable microclimates which allow for varied cultivation. The humid coastal and peri-urban lowlands are ideal for heat-tolerant, short-cycle vegetables (greens, cucumbers, peppers). Concurrently, cooler interior highland plateaus provide the microclimate needed to cultivate temperate, high-value import commodities like carrots, onions, and tomatoes that currently drain Liberia's foreign exchange.

5. **Unlocking the potential of Liberia's natural resource base for increased vegetable production requires targeted interventions to mitigate the following systemic barriers.**

- **Low productivity:** Productivity across the horticulture sector remains well below attainable levels. Production is largely rainfed, with dry-season cultivation confined to residual moisture in lowland areas. Farmers achieve less than 50 percent of attainable yields, constrained by limited access to irrigation, poor-quality inputs, inadequate land tenure security, and weak market linkages. Research, extension, and advisory services are severely under-resourced, and most horticultural knowledge is rooted in traditional practices derived from generational trial and error rather than evidence-based agronomic guidance. The limited application of climate-smart technologies and practices further stifles higher productivity.

- **Food safety and quality gaps:** Inadequate adherence to Good Agricultural Practices (GAPs) and the widespread misuse of pesticides undermine productivity, food safety, and market competitiveness. Non-compliance with food safety standards restricts access to high-value markets (including supermarkets, hospitality buyers, and export channels) where certification and quality standards are prerequisites for market entry. These gaps erode the overall performance and competitiveness of horticulture value chains and perpetuate a low-quality equilibrium that discourages investment.

- **Fragmented market systems and logistical constraints:** Smallholder production remains highly fragmented, with limited aggregation capacity and weak coordination across value chain actors. This fragmentation is compounded by underdeveloped market infrastructure — including packhouses, cold storage, and logistics networks — and the absence of reliable market information systems essential for managing perishable commodities. Together, these constraints prevent smallholders from consistently meeting the quality, volume, and delivery requirements of high-value buyers, effectively excluding them from premium domestic and export markets.

- **Climate vulnerability and production risk:** Climate stressors — including increasingly erratic rainfall, rising temperatures, flooding and inundation of lowlands, and heightened pest and disease pressure — are progressively undermining productivity and resilience across the horticulture sector. Recurrent flooding and localized landslides are disrupting vegetable production in low-lying urban and peri-urban areas, while smallholder farmers remain acutely exposed due to their reliance on rainfed systems and limited capacity to absorb or recover from climate shocks.

- **Gender and youth exclusion:** Despite their central role in horticulture production, women face significant and entrenched barriers to accessing land, finance, training, and productive resources. A gender analysis conducted under the World Bank-financed Liberia Rural Economic Transformation Project (RETRAP, P175263) identified horticulture as a high-potential entry point for gender inclusivity and women's economic empowerment. However, deep-rooted social norms continue to limit women's control over productive assets and income, while male-dominated extension systems restrict their access to technical knowledge and skills. Youth similarly face structural exclusion from productive agricultural opportunities.

6. The proposed project will support the Government of Liberia to address the key barriers constraining vegetable production and market development through a set of integrated interventions. The project will invest in climate-smart horticulture systems (including improved inputs, water management infrastructure, and resilient agronomic practices) to enhance yields, reduce production risks, and strengthen smallholder sustainability. It will promote the adoption of good agricultural practices and post-harvest handling standards to close food safety and quality gaps, while facilitating farmer aggregation through producer groups and cooperatives to overcome market fragmentation and logistical constraints, forging productive linkages among value chain actors and improving connectivity to higher-value domestic and regional markets. Across all interventions, the project will mainstream gender-responsive and youth-inclusive approaches to ensure equitable access to training, productive assets, financial services, and market opportunities — expanding income and employment throughout the vegetable value chain. It complements the ongoing World Bank support for community vegetable and kitchen gardening under RETRAP.

7. The proposal is to focus on urban and peri-urban horticulture as this offers the highest potential to simultaneously advance food and nutrition security, jobs, and climate resilience objectives. First, over 52 percent of the Liberian population now lives in urban hubs, creating concentrated demand for fresh food. Second, focusing investments around these areas, rather than in deep rural areas, helps bypass Liberia's road infrastructure gap, by positioning production proximate to the consumer which effectively reduces post-harvest losses and greenhouse gas emissions associated with produce transportation. Third, it offers the best prospects for reducing foreign exchange outflows associated with horticultural imports as most of these are destined for urban consumption. Fourth, because urban retail food markets in Liberia are dominated by "market women", whose profit margins are suppressed by the erratic pricing of imported produce, localizing production gives them direct, stable access to cheaper, fresher inventory, which is key to their economic empowerment. Finally, Liberia's urban and peri-urban areas are flooded with underemployed youth. Peri-urban horticulture can leverage agile technology, transforming agriculture into attractive job opportunities for the youth.

8. The proposed operation is firmly anchored in Liberia's national development priorities, directly supporting the ARREST Agenda for Inclusive Development (AAID) 2025–2029, specifically Pillar 1 on economic transformation, which envisions a competitive, diversified, and resilient private sector-led economy with agriculture at its center. This vision is operationalized through the National Agricultural Development Plan (NADP), which identifies horticulture, and vegetables in particular, as a priority value chain for income growth, food and nutrition security, and productive employment. The support is also consistent with Outcome 4 (Increased private investment, with a focus on agroindustry and forestry) of the World Bank Group's Country Partnership Framework (CPF) for Liberia (FY2025–2030), especially the intention to improve the productivity of select agriculture value chains. To the extent that the project contributes to food and nutrition security, as well as job creation, it is also aligned with the Mission AgriConnect, which aims to create more and better jobs, raise smallholder incomes, and strengthen food security. It will also contribute directly to the World Bank Group's Climate Change Action Plan. Finally, the project supports the Japan Social Development Fund (JSDF) objectives by empowering vulnerable groups through targeted training and capacity-building for urban and peri-urban vegetable farmers.

II. PROJECT DISCRIPTION

A. Project Development Objectives (PDO)

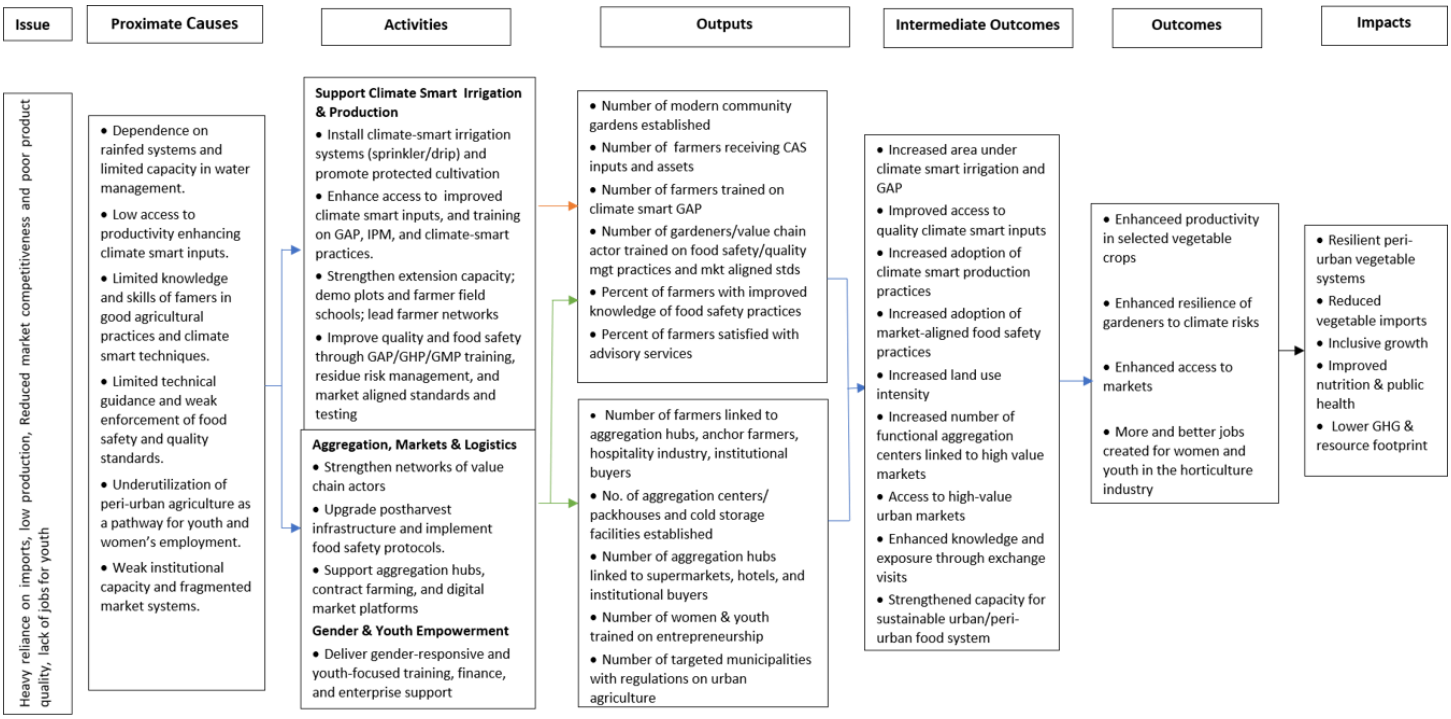
9. The development objective of the project is to increase productivity, enhance resilience and improve market access for targeted women and youth vegetable farmers in selected urban and peri-urban communities in Liberia.

B. Theory of Change and PDO Indicators

10. The proposed key outcome indicators include: (i) Enhanced productivity in selected vegetable crops (disaggregated by crops); (ii) Enhanced resilience of gardeners to climate risks (disaggregated by gender); (iii) Enhanced

access to markets; and (iv) More and better jobs created for women and youth in the horticulture industry (disaggregated by gender and youth).

Figure 1: Theory of Change



Critical Assumptions: *(i) strong participation and sustained engagement of women and youth; (ii) supportive peri-urban land-use frameworks and effective cooperation from city authorities on land and water access; (iii) timely delivery of quality training, inputs, and advisory services; (iv) active private sector engagement and stable demand for safe, high-quality vegetables; and (v) affordable operation and maintenance costs for irrigation and cold-chain systems*.

C. Project Beneficiaries

11. The primary project beneficiaries are women and youth groups, including persons with disabilities, engaged in or with the potential to engage in urban and peri-urban vegetable production in Liberia. The project is expected to directly benefit approximately 15,000 value chain actors, many of whom currently face constraints related to seasonal production, overreliance on rain-fed agriculture, low productivity, and limited access to markets due to poor product quality. The intervention will strengthen the capacity of a broader ecosystem of actors including Small and Medium Enterprises (SMEs), aggregators, traders, and public and non-public service providers involved in production, aggregation, and market linkages. The project will be implemented in urban and peri-urban communities across six counties in Liberia—Montserrado, Bong, Margibi, Grand Bassa, Bomi, and Nimba where horticulture represents a predominant livelihood activity for rural households.

D. Project Components

12. Project activities are organized around three components as detailed below.

Component 1: Support for Development of Smart Modern Community Vegetable Gardens (US$3.75).

13. Support under this component will go towards strengthening the productive capacity of smallholder vegetable farmers by promoting the adoption of sustainable productivity enhancing practices and technologies, including irrigation, and improved inputs. The component will support three key activities:

(a) **Community gardens.** The project will support the establishment of market-oriented, modern community vegetable gardens (5–10 hectares each) across 30 communities in six counties, covering a total of 300 hectares. These sites will be equipped with climate-smart irrigation systems (drip or sprinkler), enabling approximately 7,500 peri-urban women and youth farmers to adopt improved production practices, increase productivity, and reduce seasonal supply fluctuations. Gardens will be established on existing cultivated areas and suitable, litigation-free public lands. The project will require documented evidence of lawful land availability, confirmation that the land is free of disputes or competing claims, consent from relevant authorities and affected communities, and assurance that project activities will not result in involuntary resettlement, land acquisition, restrictions on land use, or economic displacement. The project will finance: (i) solar-powered, pressurized water systems (such as boreholes, solar pumping, elevated storage tanks, and drip/sprinkler irrigation) along with perimeter fencing where needed to protect against livestock and rodents; and, where feasible, pilot greenhouse systems with digital enhancements for selected youth entrepreneurs; (ii) construction of multipurpose sheds for use as packhouses, meeting spaces, and shelters, as well as sanitary facilities; and (iii) support for the formation and strengthening of gardeners' associations, including capacity building in organizational management and the installation, operation, and maintenance of irrigation systems. To ensure sustainability, members will contribute water user fees deducted from produce sales and deposited into a dedicated Garden Management and Maintenance Account to finance ongoing operations and maintenance. Garden design will prioritize simplicity, reliability, and ease of use (particularly for women) minimizing technical complexity and reducing the need for frequent equipment replacement.

(b) **Capacity building on sustainable market gardening**. The project will finance tailored training for beneficiaries to strengthen market-oriented horticulture production, with a focus on sustainable practices, adoption of modern inputs and technologies, and improved market linkages. Activities will include: (i) training in women-friendly, climate-smart production techniques such as the use of shade nets and plastic covers, improved seed selection, and sustainable practices including mulching, conservation agriculture, low/no tillage, intercropping, fertigation, composting, organic fertilizers, bio-pesticides, integrated pest management, and improved agricultural waste management; and (ii) training in modern production systems, including drip irrigation, greenhouse technologies, and efficient nursery management, alongside hands-on capacity building in the operation and maintenance of irrigation infrastructure to ensure optimal performance, cost efficiency, and long-term sustainability.

(c) **Community nutrition.** Under this activity support will be provided to promote nutrition-sensitive interventions targeting vulnerable groups, focusing on increasing the availability, access, and utilization of nutrient-dense vegetables. Support will be provided for behavior change and awareness initiatives to improve dietary diversity and nutrition outcomes in target communities.

Component 2: Support for Farmer Organization, Institutional Strengthening and Market Linkages (US$0.79).

14. The component will: (i) address key constraints to smallholder integration into organized supply chains, including limited market access, weak skills, and inadequate organizational capacity; and (ii) leverage private sector investment to strengthen the vegetable value chain, improve product quality, and expand access to essential productive assets. The component will finance:

(a) **Farmer organization.** This activity will strengthen the institutional and organizational capacity of women's groups and vegetable cooperatives to operate as commercially oriented entities. It will finance: (i) farmer clustering and training in modern cooperative practices, business management, and market-oriented production to instill a "farming as a business" mindset among women and youth; (ii) training in business and market development to support off-taker arrangements with anchor firms, supermarkets, hotels, hospitals, and other institutional buyers, and to strengthen linkages with agribusinesses across the value chain; (iii) capacity building on food safety management systems (including good storage and handling practices, hygiene standards, residue management, and compliance with market-driven quality standards) to enable access to high-value markets; and (iv) the integration of digital platforms to improve access to market information and coordination among value chain actors The project will also support value addition activities (such as cleaning, grading, packaging, and labeling/branding) to enhance product quality and competitiveness in markets.

(b) **Institutional strengthening.** The project strengthen the capacity of municipalities to effectively support and manage urban and peri-urban agriculture. This will focus on enhancing enforcement of land-use zoning regulations and municipal by-laws, strengthening food safety and quality standards oversight, and expanding extension and advisory services tailored to the needs of urban and per-urban farmers.

(c) **Private sector engagement and market development**: This activity will mobilize private investment to maximize the productive use of irrigation infrastructure, improve product quality and standards compliance, and strengthen market development, thereby catalyzing downstream value chain investments and job creation. Specifically, it will: (i) leverage private financing, including from anchor farmers and aggregators, to strengthen inclusive market systems through aggregation hubs, cooperative business models, contract farming arrangements with retailers and hospitality actors, and last-mile logistics solutions that reduce market fragmentation; (ii) co-finance the construction of up to two (2) packhouses equipped with solar-powered cold storage to support aggregation, cleaning, grading, storage, and value addition, thereby improving the quality, competitiveness, and marketability of locally produced vegetables. The eligibility criteria, selection process, and implementation arrangements for accessing matching grants to support the packhouses will be clearly defined in the Project Implementation Manual (PIM); (iii) support the introduction of quality grading systems, simple sanitary and phytosanitary (SPS) and food safety protocols, and facilitate certification (including GLOBALG.A.P) to enable access to higher-value markets; and (iv) provide start-up support to youth-led enterprises delivering climate-smart services (including agro-inputs, mechanization, and irrigation solutions) alongside piloting low-cost digital market interfaces (e.g., SMS/USSD, WhatsApp buyer platforms) to connect smallholders to urban demand in low-connectivity settings. In parallel, the project will empower enterprising women and youth through targeted training, access to finance, and entrepreneurial skills development to participate across the broader value chain (including agro-input supply, seedling production, aggregation, and irrigation equipment services). This approach will not only improve access to critical services but also create new business opportunities for youth within the horticulture ecosystem.

Component 3: Project Management, Monitoring and Evaluation, and Knowledge Dissemination (US$0.19)

15. Financing under this component will go towards project management, including coordination of implementation, monitoring of performance and impact, and systematic documentation and knowledge sharing. The project will finance the following activities:

(a) **Project management.** This will include provision of support for the project implementing agencies for effective project management, implementation, and supervision.

(b) **Monitoring and evaluation (M&E)**. This will include the establishment and implementation of an effective monitoring and evaluation system. Financing will be provided to conduct a baseline survey, develop and implement a participatory monitoring system, organize quarterly reflection meetings with beneficiaries, and document and disseminate best practices and lessons learned.

(c) **Knowledge dissemination.** This will include analysis and dissemination of lessons learned from project implementation through information, education and communication campaigns. Support will also be provided to create awareness and increase visibility of the project.

E. Role of Technical Partners

16. The Food and Agriculture Organization (FAO) of the United Nations is the main technical partner. FAO will provide in-kind Technical Assistance in good agricultural practices, including Integrated Pest Management Practices, particularly in relation to vegetable production, handling and storage as part of its existing technical assistance frameworks with GoL.

III. PROJECT IMPLEMENTATION

A. Institutional and Implementation Arrangements

17. **The Ministry of Agriculture (MoA) will have overall responsibility for project oversight**. Implementation will be carried out in close coordination with relevant ministries, departments, and agencies, including: (i) municipal councils under the Ministry of Internal Affairs, responsible for spatial planning, allocation of land for urban agriculture, and permitting; (ii) the Ministry of Gender, Children and Social Protection, supporting community mobilization and the promotion of women's participation and empowerment; (iii) the Ministry of Youth and Sports, mobilizing youth groups and strengthening their institutional capacity; (iv) the National Standards Laboratory and the Ministry of Commerce and Industry, providing training and support on food safety, quality control, certification, and standards; and (v) the Cooperative Development Agency (CDA), strengthening the leadership, governance, and management capacity of women and youth producer organizations, including cooperatives. Within MoA, the relevant technical departments (Technical Services, Planning, and Extension) will lead the implementation of field-level activities.

18. **An inter-ministerial National Project Steering Committee (NSC) chaired by MoA, will provide strategic oversight for the Project.** The NSC will include representatives of all relevant ministries and agencies, non-governmental entities (such as the Liberia Farmers Union Network), and representatives of youth and women's organizations. It will strengthen inter-institutional coordination and ensure delivery of project services and benefits. The NSC will meet at least twice annually and will be chaired by the MoA.

19. **The project will be implemented** through the existing Project Implementation Unit (PIU) responsible for coordinating RETRAP. The PIU will manage day-to-day project coordination and implementation, including monitoring and evaluation, and will ensure compliance with all legal and fiduciary requirements under the Grant Agreement, including reporting, audits, and safeguard obligations. Leveraging the RETRAP PIU will capitalize on established systems, networks, and fiduciary capacity, thereby enhancing implementation readiness. RETRAP already has the necessary human and institutional capacity to meet JSDF fiduciary requirements and support timely delivery.

20. **The Project Implementation Manual (PIM**) sets out the detailed operational modalities and procedures governing project implementation, including: (i) the organizational structure, roles, and functions of all project management and implementation bodies; (ii) eligibility criteria and procedures for accessing project support instruments, including matching grants; (iii) implementation methodologies for each component and associated activities; (iv) monitoring and

evaluation (M&E) systems, frameworks, and reporting procedures; (v) financial management and fiduciary protocols; and (vi) social and environmental risk mitigation measures, including grievance redress mechanisms.

B. Results Monitoring and Evaluation (M&E) Arrangements

21. **The M**&E Unit within the RETRAP PIU will be strengthened to lead the monitoring, reporting, and learning functions of the project. The M&E unit will produce quarterly progress reports to support timely reporting and facilitate the capture and dissemination of lessons learned, enabling adaptive management and improved project performance. To further strengthen supervision, the project will utilize the World Bank's Geo-Enabling Initiative for Monitoring and Supervision (GEMS) tools and methods, building on those already applied by the RETRAP M&E team.

22. **The RETRAP Management Information System** (MIS) will be upgraded to incorporate a dedicated module for the project's M&E system, enabling efficient data management and real-time reporting to enhance performance and decision-making. The MIS will track outcome and output indicators across all components and subcomponents, including gender-disaggregated metrics and safeguard indicators. Baseline qualitative and quantitative data will be collected at project inception to establish benchmarks for performance monitoring. A mid-term rapid assessment will evaluate implementation progress and inform course correction, while an end-of-project survey will assess the achievement of targets and contribute to government completion reporting.

23. **A knowledge management and dissemination plan** will be developed by the PIU to systematically capture and share good practices, project results, and lessons learned. The project will engage closely with stakeholders to identify key innovations and insights, which will be packaged into targeted knowledge products (such as briefs, posters, video clips, and newsletters) and disseminated through a mix of traditional and digital communication channels.

24. Personal data collected and processed under the Project will adhere to the principles of data minimization, purpose limitation, informed consent where appropriate, confidentiality, and restricted access. The Project will implement secure data management systems and safeguards to protect personal information from unauthorized access, disclosure, misuse, loss, or alteration. Data handling practices will be guided by applicable Liberian laws, regulations, and institutional requirements on data protection and privacy, including established procedures for reporting and responding to data breaches or misuse. The Data Protection Protocol and Privacy policy has been present in the PIM.

C. Disbursement Arrangement

25. **A Designated Account (DA)** denominated in United States dollars will be opened at a commercial bank acceptable to the World Bank. Disbursements will primarily be made using the Statement of Expenditure (SOE) method. Other disbursement methods available under the project will include: (i) Advances; (ii) Reimbursements; (iii) Direct Payments; and (iv) Special Commitments, in accordance with the World Bank's Disbursement Guidelines for Investment Project Financing (IPF). The project will follow these agreed funds flow and disbursement arrangements throughout implementation.

26. Withdrawal applications will be prepared by the PIU and submitted to the World Bank through the Ministry of Finance and Development Planning (MFDP). Funds advanced to the DA will be used exclusively to finance eligible project expenditures as defined in the Grant Agreement, the approved Annual Work Plans and Budgets (AWPBs), and the PIM. The PIU will retain full authority for authorizing and executing all project payments. Where project activities are implemented by relevant government ministries, departments, and agencies (MDAs), financial management and payment processing responsibilities remain centralized within the PIU, ensuring consistency of fiduciary controls and reporting standards across all implementing entities.

27. All project expenditures will be subject to the internal control framework defined in the PIM, including clearly defined segregation of duties for authorization, verification, and payment processing functions. Expenditures will be

recorded by the PIU in project-specific accounting records and reported through Interim Unaudited Financial Reports (IFRs) on a quarterly basis and through annual project financial statements. Annual external audits of the project financial statements will be conducted by an independent auditor acceptable to the World Bank, in accordance with applicable World Bank requirements and terms of reference.

D. Sustainability

28. Ensuring the long-term sustainability of peri-urban women's vegetable gardens requires addressing systemic constraints while fostering an enabling environment for continuous production, climate-resilient productivity growth, investment, and market participation. Sustainability will be reinforced through five interrelated dimensions:

i. **Institutional Sustainability.** The project will reinforce ongoing MoA-led efforts by strengthening inter-ministerial coordination to improve municipal by-laws, clarify land-use arrangements, and formalize peri-urban agricultural zones. These measures will reduce land insecurity and support long-term planning for urban agriculture. Enhanced coordination across agriculture, water, and municipal authorities will ensure consistent enforcement of standards and strengthen extension delivery, thereby embedding peri-urban horticulture within local institutional frameworks and reducing reliance on project-driven support.

ii. **Market Sustainability.** The project will strengthen women's capacity and skills to facilitate their integration into stable and diversified markets, ensuring sustained profitability beyond project support. By improving product quality and strengthening linkages with aggregators, off-takers, supermarkets, institutional buyers, and informal markets, women producers will benefit from more reliable demand and improved pricing. Enhanced collective marketing, post-harvest handling, and compliance with food safety standards will further boost competitiveness. These market-driven incentives will promote continued investment in production and support the transition of gardens into viable, sustainable micro-enterprises.

iii. **Technical and Environmental Sustainability.** The project will promote climate-resilient AgTech solutions (including drip irrigation, solar pumping, and greenhouse systems) to reduce production risks and support year-round supply. Targeted training in good agricultural practices, integrated pest management, and food safety management will strengthen the technical capacity of women gardeners beyond the project lifecycle. Gardeners' associations will establish maintenance funds, financed through user contributions from produce sales and water use, to support operations and upkeep of infrastructure. By promoting resource-efficient and ecologically sound production systems, the project will enhance resilience to climate variability while reducing long-term operating costs.

iv. **Social Sustainability and Women Empowerment.** Sustainability will depend on the strength of women's groups and their capacity for collective action. The project will support leadership development, peer learning, and community engagement to institutionalize knowledge and ensure continuity. As women gain confidence, economic autonomy, and social recognition, peri-urban gardening will become more firmly embedded in community structures and household decision-making, strengthening long-term ownership and sustainability of the interventions.

v. **Involvement of the private sector.** Sustained growth of vegetable value chains will depend on strengthened private sector participation. The project will support an enabling environment for private investment by facilitating market linkages and strengthening farmers' organization and professionalism. This will enhance their capacity to engage effectively with agribusinesses involved in aggregation, processing, and marketing, thereby improving market access and fostering sustainable value chain development.

IV. APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

29. **Technical.** The project design draws on lessons from past and ongoing initiatives in Liberia and considers multiple technical options to address sector constraints. Experiences from the UAE-funded FAO vegetable production program and RETRAP interventions (including vegetable kiosks and cold storage) demonstrate that post-harvest and market support alone have limited impact without stronger farmer integration into value chains and sustained private sector engagement. Building on these lessons, the project adopts a market-oriented, quality-focused, and climate-resilient production model that is simple, scalable, and accessible to women. This approach aligns with successful practices from comparable World Bank operations and builds on Liberia's implementation experience under RETRAP and related agricultural programs.

30. **Economic and Financial Analysis**. The financial analysis assesses the viability of SUPAWEP-supported horticulture systems at farm-level, comparing "with project" and "without project" scenarios over a 10-year horizon. Eight horticulture models were developed, all based on solar-powered irrigation, combined with good agricultural practices (GAP), post-harvest improvements and access to markets. Results show that all models are financially viable. Average performance across crops amounts to a Financial Net Present Value (FNPV) of US$ 12,360 per ha, a Benefit–Cost Ratio (FBCR) of 1.55, and an average IRR of 47.4 percent. Moreover, the project generates very strong economic returns. Excluding environmental externalities, SUPAWEP yields an Economic Net Present Value (ENPV) of US$39.26 million over 20 years and an Economic Internal Rate of Return (EIRR) of 34.78 percent, with an economic BCR of 6.97. These results are driven by productivity gains (average yield increase of 70 percent), higher cropping intensity enabled by irrigation, and incremental benefits along value chains, conservatively estimated at 25 percent of farm-level benefits. Sensitivity and switching-value analyses confirm robustness. The ENPV remains positive even with large adverse shocks.

31. **Greenhouse Gas Accounting.** Overall, the Project is estimated to mitigate 91,758 tCO_2-eq over 20 years, equivalent to 4,588 tCO_2-eq per year. Including carbon benefits raises the ENPV to US$42.3 million under the low carbon price trajectory and US$45.36 million under the high price trajectory, while the EIRR increases to 36.78–38.80 percent. GHG mitigation therefore represents a meaningful co-benefit, reinforcing SUPAWEP's alignment with climate-smart agriculture and low-carbon development objectives, while remaining secondary to its strong productivity, income, and employment impacts.

Summary of Economic and Financial Indicators

Indicators	Unit	Results		
		Without Carbon mitigation	Including Carbon Mitigation	
			Low price estimate range	High price estimate range
EIRR	Percent	34.78	36.78	38.80
ENPV	US$ million	39.26	42.30	45.36
EBCR	Ratio	6.97	8.18	8.70
FIRR	Percent	47.7	-	-
FNPV	US$ million	12.360	-	-
FBCR	Ratio	1.55	-	-

32. **More and Better Jobs**. The Project is expected to create new and better jobs, particularly for women and youth, while significantly increasing rural incomes. It will directly benefit about 15,000 households, at least 70 percent female-headed or female-managed, including 7,500 smallholders engaged in small-scale irrigation and an estimated 7,500 additional jobs generated through seasonal labor and upstream and downstream value-chain activities. Given an added

value of US$20.1 million per annum at aggregated SUPAWEP project level, of which 80 percent [4] or US$16.05 million is allocated to labor-income per annum, 240 working days per annum and a cost of labor of US$ 4 per day, the total number of jobs created would be 16,756. In case it is assumed that only 60 percent of added value would be allocated to labor, the number of jobs would amount to 12,567. A total amount of 15,000 jobs (base case scenario of the SUPAWEP Project) implies a labor-income share of 72 percent of the added value, which is acceptable as irrigation is rather capital intensive. Consequently, the MBJ methodology confirms the targets of the Project.

Added value allocated to labour	Jobs
80%	16,756
72%	15,080
60%	12,567

33. The Project has two technical components: The job creation by Component would be:

Component	Jobs
Support for Development of Smart Modern Community Vegetable Gardens	9,048
Support for Farmer Organization, Institutional Strengthening and Market Linkages	6,032
Total	**15,080**

34. **Private Capital Mobilized/Enabled/Maximizing Finance for Development (MFD).** The project will directly mobilize private investment through co-financed investments in improved basic postharvest management infrastructure downstream the value chains, including the construction of pack houses (with solar-powered cold storage) and risk mitigation through aggregation and off-taker services and matching grants under Component 2. Public financing will prioritize critical public goods (such as infrastructure) and address key market failures to create an enabling environment for private sector participation. Productivity gains will be supported through access to water and climate-smart technologies, alongside strengthened market linkages. Together, these interventions are expected to crowd in private investment in aggregation, value addition, and marketing. It is estimated that about US$520,000 will be mobilized from participating agribusinesses.

35. **Gender.** Women play a central role in agriculture, as a primary source of employment and income, yet they continue to face significant constraints, including limited access to advisory services, restricted control over productive resources, high labor burdens, and limited participation in farmer organizations and decision-making processes. These structural gaps constrain their ability to adopt improved technologies, enhance productivity, and fully participate in agricultural value chains.

36. The project will support actions that close the above gender gaps and enhance women's participation across all project activities. The project will: (i) prioritize women's participation in training, climate-smart agriculture demonstrations, financial literacy, and technology adoption; (ii) improve access to labor-saving and productivity-enhancing technologies and climate-resilient practices that reduce drudgery; (iii) strengthen women's leadership and representation in farmer groups, with a project target that at least 70% of beneficiary groups are women's groups (with ≥90 percent female membership); (iv) expand access to extension sand advisory services, through women-responsive delivery models; and (v) ensure inclusion in community engagement and feedback mechanisms, including tailored grievance redress channels.

[4] Labor-income shares typically range from 0.50–0.60 in labor-intensive activities and 0.20–0.30 in capital-intensive activities, reflecting differences in capital intensity and technological change. For low-income countries such as Liberia, the labor-income share is generally estimated at 0.70–0.90 of incremental value added (MBJ Technical Note, *Agricultural Output–Labor Income Transformation: Production Function Framework and Empirical Calibration*).

37. **Citizen Engagement**. The project will operationalize Citizen Engagement (CE) mechanisms established under RETRAP, within whose institutional framework it will be implemented. It will adopt structured, inclusive, and transparent engagement processes to ensure meaningful participation of beneficiaries (particularly vulnerable groups) throughout the project cycle, from site selection and beneficiary targeting to the establishment of accountable management systems that support sustainability and mitigate potential conflicts. The project will promote participatory planning and monitoring, enabling communities, farmer groups, women, and youth to contribute to site selection, validation of investment priorities, and implementation oversight. Community-level structures will be strengthened to facilitate continuous dialogue, feedback, and grievance redress, reinforcing ownership and long-term sustainability. Two citizen engagement indicators will be tracked: (i) the percentage of grievances related to project benefits that are addressed, disaggregated by gender; and (ii) the share of beneficiaries reporting that project investments reflect their needs, as measured through biennial satisfaction surveys.

38. **Paris Alignment**. The project interventions align with Liberia's climate priorities and support both mitigation and adaptation objectives. The project activities are consistent with the country's Nationally Determined Contribution (NDC)[5], National Climate Change Policy (NCCP), and National Adaptation Plan (NAP), and will contribute to Liberia's transition toward climate-resilient and lower-carbon agriculture. This will be achieved through the promotion of climate smart solutions, including solar powered and precision irrigation systems, which enhance resource efficiency, reduce emissions, and improve resilience to climate variability. Overall, the operation is aligned with the mitigation and adaptation objectives of the Paris Agreement.

39. **Assessment and reduction of mitigation risks.** The anticipated expansion of urban and peri-urban vegetable production has been assessed to ensure it does not compromise Liberia's low-emission development pathway. The operation supports lower-carbon agriculture, including many universally aligned activities such as those related to climate-smart agriculture (CSA), solar power, capacity building and institutional strengthening, etc. Under Component 1, the project prioritizes climate-smart and low- GHG technologies (including solar-powered drip irrigation, protected cultivation (greenhouses and shade structures), water-efficient irrigation systems) thereby avoiding carbon-intensive production pathways. To further strengthen mitigation outcomes, the project will invest in farmer training and capacity building to promote the adoption of CSA practices, including integrated soil fertility management, use of bio-fertilizers and bio-pesticides, integrated pest management, precision water application, and improved post-harvest handling. These interventions align with universally recognized low-carbon development categories such as integrated land management, water management, CSA, research and innovation, and economic services. And under Component 2, investments in technical assistance, aggregation hubs, and strengthened market linkages will promote more efficient use of equipment, reduce post-harvest losses, and improve value chain efficiency. These measures minimize mitigation risks to a low level and support Liberia's transition toward low-emission agricultural systems.

40. **Assessment and reduction of adaptation risks.** The project explicitly addresses climate hazards (such as flooding, extreme heat, and drought) that are particularly acute in low-lying peri-urban horticulture areas. The project design incorporates targeted risk-reduction measures, including climate-informed site selection to avoid flood-prone zones, thereby reducing exposure and vulnerability to acceptable residual risk levels. Key adaptation interventions include: (i) improved water management and irrigation systems, including water harvesting, solar-powered drip irrigation, and water-efficient technologies; (ii) adoption of climate-resilient, stress-tolerant horticultural varieties, including flood-, drought-, and heat-tolerant cultivars to sustain productivity under climate stress; (iii) diversified cropping systems, including mixed cropping, staggered planting, and protected cultivation to buffer against climate variability; and (iv) Institutional and farmer-level capacity building to strengthen climate risk awareness, climate-informed decision-making, and adoption of

[5] Liberia's Third Nationally Determined Contribution (NDC 3.0): LIBERIA'S 2035 NATIONALLY DETERMINED CONTRIBUTION (NDC 3.0). Revised and Enhanced Climate Action Plan under the Paris Agreement Submitted to the United Nations Framework Convention on Climate Change (UNFCCC). September 2025

climate-smart agricultural practices. Therefore, any adaptation risks are reduced to an acceptable level and support the transition to climate-resilient agricultural systems.

B. Fiduciary

Financial Management

41. **Financial Management (FM) Arrangements**. The proposed grant will be fully integrated into RETRAP's FM framework, including designated accounts, accounting, budgeting, and reporting arrangements. The PIU, experienced in World Bank procedures, will manage day-to-day FM through an FM Specialist (a Chartered Accountant under recruitment), supported by an Accountant and an Assistant Accountant. The Project Implementation Manual and FM Procedures Manual will be updated to incorporate grant -specific processes, with clear roles, segregation of duties, and control mechanisms. Project transactions will be recorded in the TOMPRO accounting system using a segregated chart of accounts and project codes to facilitate automated Interim Financial Reports (IFRs) and financial statement preparation. Prior to project effectiveness, the TOMPRO system will be reviewed and, where necessary, configured to reflect the project's specific components, financing categories, chart of accounts, reporting requirements, and monitoring indicators. Any required system enhancements and user training will be completed before implementation to ensure effective accounting, reporting, and project monitoring throughout the project lifecycle.

42. **Controls, Reporting, and Audit**. Disbursement will follow standard modalities under the Grant Agreement, including advances to a segregated Designated Account, reimbursements, direct payments, and special commitments. Quarterly unaudited IFRs will be submitted within 45 days of each quarter-end, while annual audited financial statements, prepared on a cash-basis in line with International Public Sector Accounting Standards (IPSAS), will be submitted within six months of the end of the fiscal year. The annual work plan and budget will be submitted by November 30 each year and integrated into TOMPRO system to support budget execution, monitoring, and variance analysis. External audits will be conducted annually by the General Auditing Commission under World Bank–cleared Terms of Reference, with a single audit opinion covering the project financial statements. Internal audit arrangements within the PMU will continue, including semiannual reviews, risk-based audits, and systematic follow-up on identified control weaknesses.

43. **Risk Assessment and Mitigation**. At entry, overall FM risk is assessed as High due to systemic weaknesses and capacity constraints; however, the residual risk is expected to decline to Substantial following the implementation of mitigation measures. These include regular external audits and timely follow-up on recommendations, risk-based World Bank FM supervision, strengthened internal audit functions, enhanced documentation and approval controls within TOMPRO workflows, and targeted capacity building for FM and internal audit staff. Consistent with the World Bank Financial Management framework for IPF operations, these arrangements are designed to provide reasonable assurance that project funds will be used for intended purposes, with due consideration to economy, efficiency, and transparency, supported by reliable financial reporting, effective asset safeguarding, and sound audit arrangements throughout implementation.

Procurement

44. **Procurement Regulations**. Procurement will be carried out in accordance with the World Bank's Procurement Regulations for IPF Borrowers (September 2025), the Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants (July 1, 2016), and other applicable provisions of the Financing Agreement. The project will utilize the Systematic Tracking of Exchanges in Procurement (STEP) system to plan, record, and monitor procurement transactions, ensuring transparency and efficiency.

45. **Procurement Implementation Arrangements.** The project will be implemented by the Ministry of Agriculture through the existing RETRAP PIU, which will have overall responsibility for procurement and contract management in close coordination with beneficiary agencies. Given the project's scope, the current RETRAP Procurement Specialist,

competitively recruited and experienced in World Bank procurement procedures, will lead all procurement activities. The specialist will work closely with PIU staff and Ministry counterparts to ensure compliance with Bank requirements while strengthening in-country procurement capacity.

46. **Procurement Risks.** Key procurement risks include: (i) limited capacity in the national market; (ii) challenges in contract administration, including potential payment delays; and (iii) internal approval delays and bureaucratic bottlenecks. To mitigate these risks, the project will: (i) ensure continuous and transparent publication of procurement opportunities to broaden participation of national providers; (ii) recruit a qualified Procurement Assistant to support the existing RETRAP Procurement Specialist; (iii) implement the grant using the established PIM; (iv) establish and enforce service standards for procurement processing and decision-making within the MoA; and (v) engage user agencies early and, where necessary, utilize consultants to support the preparation of terms of reference and technical specifications. Given the existing procurement capacity and the relatively small scale and simplicity of activities, the residual procurement risk is assessed as Moderate.

C. Environmental, Social and Legal Operational Policies

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

47. **Environmental Assessment**: The project's environmental risk is rated Moderate, though preliminary assessments indicate that adverse impacts will be minimal, predictable, temporary, and reversible in nature. The project centers on small-scale, micro-level vegetable gardening interventions in urban and peri-urban areas (5–10 hectares), with a strong emphasis on environmentally friendly inputs such as bio-fertilizers, bio-pesticides, improved seeds, and solar dryers. The adoption of efficient water management practices, including drip irrigation, is expected to optimize water use, reduce soil erosion, and improve soil fertility resulting in a net environmental benefit relative to conventional agricultural methods. The relevant Environmental and Social Standards (ESSs) include ESS1: Assessment and Management of Environmental and Social Risks and Impacts; ESS2: Labor and Working Conditions; ESS3: Resource Efficiency and Pollution Prevention and Management; ESS4: Community Health and Safety; ESS8: Cultural Heritage; and ESS10: Stakeholder Engagement and Information Disclosure. The existing PIU within MoA has demonstrated familiarity with the World Bank's Environmental and Social Framework and holds adequate institutional capacity to manage environmental risks throughout implementation. A PIM to be consulted upon, approved, and disclosed prior to project effectiveness will provide guidelines for assessing and managing E&S risks, and simplified site-specific ESMPs will be developed during implementation as needed.

48. **Social Assessment**: The project's social risk is rated Moderate, driven primarily by the country context around gender equality and social inclusion. The project is designed to deliver direct benefits to women and youth, including smallholder female farmers, female-headed households, widows, single mothers, women from ethnic minorities, and persons with disabilities. However, capacity constraints within both the Ministry of Gender, Children and Social Protection and the MoAs' gender and social inclusion unit are noted risks. To address social inclusion, comprehensive eligibility criteria will be developed for beneficiary selection to prevent elite capture and avoid social conflict within project communities. Component 1 will screen land acquisition documents carefully to ensure legitimate and transparent use of

existing land. Component 2 will focus on market access, financial literacy, and skills development for smallholder farmers. The project will coordinate with the Liberia Women Empowerment Project to strengthen synergies on Women's Economic Empowerment (WEE) and Gender-Based Violence (GBV) outcomes, and a GBV risk assessment will be integrated across all project activities.

49. **Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH)**: The project SEA/SH risk is rated Substantial. Most project beneficiaries are women, and youth including vulnerable groups such as female-headed households, widows, single mothers, women from ethnic minorities, and persons with disabilities, whose increased economic engagement and access to markets, while beneficial, may heighten their exposure to GBV, SEA, and SH. The elevated SEA/SH rating reflects Liberia's alarming GBV statistics, including high rates of spousal violence and female genital mutilation across project counties. In response to mitigation, the project will develop both an SEA/SH Action Plan and a Gender Action Plan, require project workers to sign codes of conduct, train grievance mechanism (GM) staff to handle GBV-related complaints, and hire a dedicated social and GBV specialist. The project will also coordinate closely with the Liberia Women Empowerment Project to ensure synergies on women's economic empowerment and GBV prevention and response.

50. **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 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.

V. KEY RISKS

51. **Overall project risk.** Based on an assessment using the Systematic Operations Risk-Rating Tool (SORT), the overall risk to the attainment of the development objective is ***Substantial***. The risks rated substantial are discussed below.

52. **Macroeconomic**. Inflation and currency depreciation in Liberia may significantly increase the cost of imported irrigation equipment and agricultural inputs, potentially leading to price volatility, supply disruptions, and procurement delays. Rising inflation could also erode real incomes, affecting women producers' ability to sustain production and service microloans that they may access from financial institutions. To mitigate these risks, project expenditures will be denominated in U.S. dollars to help hedge against exchange-rate volatility.

53. **Technical Design**. The project's success depends on reliable water sources, appropriate system sizing, and effective operation and maintenance of irrigation system. Weak after-sales support could result in non-functional pumps or drip systems. To mitigate these risks, common design specifications and installation protocols will be applied across all sites. Procurement will prioritize suppliers with proven after-sales service, availability of spare parts, and capacity for user training, including local repair support. Beneficiaries will also be supported to establish maintenance funds to strengthen long-term sustainability.

54. **Institutional Capacity for Implementation**. Liberia's limited public sector capacity poses a significant risk to the effective implementation of SUPAWEP and the sustainability of its outcomes. Key constraints mainly include the low technical expertise within the Ministry of Agriculture (MoA) to support project implementation. To mitigate these risks,

SUPAWEP will leverage the established implementation capacity and technical expertise of the RETRAP PIU to bridge critical operational and technical gaps during the early stages of implementation.

55. **Fiduciary risk is rated *Substantial***. The project faces risks of leakage, mistargeting, and fraud in the distribution of inputs and equipment, compounded by weak procurement capacity and limited competition. Inadequate record-keeping at the producer group level may further reduce transparency and accountability. To mitigate these risks, the project will establish a geotagged beneficiary registry with verification at enrollment and deploy digital vouchers with two-stage validation to minimize pilferage. Strengthened procurement oversight and improved documentation controls will further enhance fiduciary integrity.

VI. RESULTS FRAMEWORK AND MONITORING

Project Development Objective Indicators

Project Development Objective(s)

The development objective of the project is to enhance the productivity, resilience and access to market by beneficiary women and youth vegetable farmers in selected urban and peri-urban communities in Liberia.

Baseline	Period 1	Period 2	Closing Period
Increase in productivity of selected vegetable crops (disaggregated by product: Pepper, Onion, tomato, okra, papaya) (Percentage)			
Jun/2026	Dec/2026	Dec/2028	Jun/2029
0	40	65	70
Beneficiaries with enhanced resilience to climate risks (aggregated by gender) (Number)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	5,000	7,000	7,500
Share of beneficiaries who have reached and maintained sales agreements with high-value urban markets (Percentage)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	40	65	70
Increase in volume of market sales of selected vegetables by project supported producers (Percentage)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	10	30	50
The estimated equivalent number of more and better-paid jobs due to the operation (disaggregated by gender and youth) (Number)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	3,000	12,500	15,000

Intermediate Indicators

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Baseline	Period 1	Period 2	Closing Period
Area under climate-smart irrigation and/or Good Agricultural Practices (GAP) (Hectare (Ha))			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	150	300	300
Increase in cropping intensity in targeted project areas (Percentage)			
Jun/2026	Dec/2027	Dec/2028	Jun/2026
0	200	300	300
Participants reporting enhanced knowledge or exposure relevant to project objectives, following training, exchange visits/study tours (disaggregated by gender, youth and type of knowledge/exposure) (Number)			
Jun/2026	Dec/2027	Dec/2028	Jun/2026
0	3,000	6,800	7,500
Producers reporting adoption of at least One (1) specified climate-smart agricultural practice (disaggregated by gender and youth (Number)			
Jun/2026	Dec/2027	Dec/2028	Dec/2029
0	3,000	6,800	7,500
Farmers with new or strengthened market/commercial linkages to aggregation hubs, anchor farmers, hospitality Industry or Institutional buyers resulting in at least one transaction (Number)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	1,500	5,000	6,000
Share of beneficiaries who have reached and maintained sales agreements with high-value urban markets (Percentage)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	20	70	80
Share of value chain actors demonstrating improved knowledge and compliance with food safety practices and market aligned standards (Percentage)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	20	60	70
People benefiting from actions to advance gender equality (Number)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	5,000	12,000	15,000
Share of project beneficiaries that feel project investment reflected their needs disaggregated by gender (Percentage) (Percentage)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029

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0	40	75	75
Grievances addressed within stipulated time (disaggregated gender and youth) (Percentage) (Percentage)			
Jun/2026	Dec/2027	Dec/2028	Jun/2029
0	60	80	100

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Monitoring & Evaluation Plan: PDO Indicators

Outcome 1: Enhanced Productivity in Selected Vegetable Crops	
PDO Indicator 1: Increase in productivity of selected vegetable crops (disaggregated by product: Pepper, Onion, tomato, okra, papaya) (Percentage)	
Description	Measures increase in yield (ton/ha) of targeted value chains (disaggregated by product: Pepper, Onion, tomato, okra, papaya) recorded on participating farmers' farm due to project interventions
Frequency	Annual
Data source	Project MEIS: Annual survey report, progress reports
Methodology for Data Collection	Crop Cutting Experiments: harvest of small, randomly selected test plots inside a field to measure actual weight and moisture;/or Farmer Recall & Records: based on structured surveys
Responsibility for Data Collection	PIU
Outcome 2: Enhance Resilience of Gardeners to Climate Risks	
PDO Indicator 2: Beneficiaries with enhanced resilience to climate risks (irrigation, improved land and water management system) (disaggregated by women); (Number)	
Description	Measures the Project's success in promoting adaptation to climate change. It includes farmers adopting improved irrigation and land and water management system, water-use efficiency and saving, sustainable production techniques, or other resilience-building methods
Frequency	Semi-Annual
Data source	Project MEIS: Semi-Annual survey report, farmers records, and other technical mission reports
Methodology for Data Collection	M&E Beneficiary annual survey
Responsibility for Data Collection	PIU
PDO Indicator 2.1: Beneficiaries with enhanced resilience to climate risks (irrigation, improved land and water management system) (Women); (Number)	
Description	Measures the Project's success in promoting adaptation to climate change for females. It includes females adopting improved irrigation and land and water management system, water-use efficiency and saving, sustainable production techniques, or other resilience-building methods
Frequency	Semi-Annual
Data source	Annual survey report, farmers records, and other technical mission reports
Methodology for Data Collection	M&E Beneficiary annual survey
Responsibility for Data Collection	PIU/Farmer groups
Outcome 3: Enhanced Access to Markets	

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PDO Indicator 3.1: Share of beneficiaries who have reached and maintained sales agreements with high-value urban markets (Percentage)	
Description	Measures the number of farmers (group members) engaged in supply contracts with off takers
Frequency	Bi-Annual
Data source	Project MEIS: Bi-Annual survey report, farmers records, and other technical mission reports
Methodology for Data Collection	M&E, Project implementation reports or Beneficiary annual survey
Responsibility for Data Collection	PIU, SMES, aggregators, traders.
PDO Indicator 3.2: Increase in volume of market sales of selected vegetables by project supported producers (Percentage)	
Description	Increase in the aggregate amount (metric tons) of commodities supplied by smallholder cooperatives to off-takers. Calculation will be based on cooperatives supply records.
Frequency	Annual
Data source	Annual survey report, farmers and SMES records, and other technical mission reports
Methodology for Data Collection	Project implementation reports or Beneficiary annual survey
M&E specialist	M&E specialist, M&E specialist, farmer groups, SMES, aggregators, traders
Outcome 4: More and Better Jobs Created for Women and youth in the Horticulture Industry	
PDO Indicator 4: The estimated equivalent number of more and better-paid jobs" due to the operation (Number) (disaggregated by women and youth)	
Description	Monitors Project's impact in terms of "more and better paid jobs" as defined in the WBG Scorecard Planet Guidance Note as of March 05, 2026
Frequency	Bi-Annual
Data source	Project MEIS: Annual reports (PMU), mission reports, farmer groups, SMES, aggregators, traders
Methodology for Data Collection	M&E, surveys, midterm evaluation, third-party monitoring, impact assessments
Responsibility for Data Collection	PIU, farmer groups, SMES, aggregators, traders
PDO Indicator 4.1: The estimated equivalent number of more and better-paid jobs" due to the operation (Women) (Number)	
Description	Monitors Project's impact in terms of "more and better paid jobs" for females along the vegetable value chain. Estimation follows the draft WBG Scorecard Planet MBJ guidance note
Frequency	Bi-Annual
Data source	Bi-Annual reports (PMU), mission reports, farmer groups, SMES, aggregators, traders
Methodology for Data Collection	M&E, surveys, midterm evaluation, third-party monitoring, impact assessments
Responsibility for Data Collection	M&E specialist, farmer groups, SMES, aggregators, traders
PDO Indicator 4.2: The estimated equivalent number of more and better-paid jobs" due to the operation (Youth) (Number)	
Description	Monitors Project's impact in terms of "more and better paid jobs" for youth for youth along the vegetable value chain. Estimation follows the draft WBG Scorecard Planet MBJ guidance notes

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Frequency	Annual
Data source	Annual reports (PMU), mission reports, farmer groups, SMES, aggregators, traders
Methodology for Data Collection	M&E, surveys, midterm evaluation, third-party monitoring, impact assessments
Responsibility for Data Collection	M&E specialist, farmer groups, SMES, aggregators, traders

Monitoring & Evaluation Plan: Intermediate Results Indicators

Component 1: Support for Development of Smart Modern Community Vegetable Gardens (C1)	
C1.1: Area under climate-smart irrigation and/or Good Agricultural Practices (GAP) (Hectare (Ha))	
Description	Measures measures in hectares the total area of land farmed with climate-smart irrigation and/or Good Agricultural Practices due to project interventions.
Frequency	Annual
Data source	Survey Report, cooperatives records
Methodology for Data Collection	Survey, key informant interviews, and focus group discussions in targeted farming communities
Responsibility for Data Collection	M&E specialist, farmer groups
C1.2: Increase in cropping intensity in targeted project areas (Percentage)	
Description	Measures the ratio of total harvested areas over the area equipped for full control irrigation and GAPs irrigated and under GAPs (times 100 to give it in percentage)
Frequency	Semiannual
Data source	Project delivery records
Methodology for Data Collection	M&E
Responsibility for Data Collection	M&E specialist, agriculture specialist
C1.3: Participants reporting enhanced knowledge or exposure relevant to project objectives, following training, exchange visits/study tours (disaggregated by women and youth and type of knowledge/exposure) (Number)	
Description	Measures the number of farmers (groups members) who demonstrate knowledge and skills from training, exchange visits/study tours (disaggregated by female and youth and type of knowledge/exposure) (Number)
Frequency	Semiannual
Data source	Project delivery records
Methodology for Data Collection	M&E, Beneficiary annual survey
Responsibility for Data Collection	M&E specialist, agriculture specialist
C1.3.1: Participants reporting enhanced knowledge or exposure relevant to project objectives, following training, exchange visits/study tours (Women) (Number)	
Description	Measures the number of female farmers (group members) who demonstrate knowledge and skills from training, exchange visits/study tours (Number)
Frequency	Semiannual
Data source	Project delivery records
Methodology for Data Collection	M&E, Beneficiary annual survey
Responsibility for Data Collection	M&E specialist, agriculture specialist

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C1.3.2: Participants reporting enhanced knowledge or exposure relevant to project objectives, following training, exchange visits/study tours (Youth) (Number)	
Description	Measures the number of youth farmers (group members) who demonstrate knowledge and skills from training, exchange visits/study tours (Number)
Frequency	Semiannual
Data source	Project delivery records
Methodology for Data Collection	M&E, Beneficiary annual survey
Responsibility for Data Collection	M&E specialist, agriculture specialist
C1.4: Producers reporting adoption of at least One (1) specified climate-smart agricultural practices (disaggregated by women and youth) (Number)	
Description	Measures the percentage of farmers applying agricultural technology or practice designed to increase their resilience to the effects of climate change and other exogenous factors. Adoption refers to a concrete change in practice or the effective use of a technology newly introduced or promoted by the Project. This implies a measurable deviation from preexisting practices or technologies (for example, seed preparation methods, sowing periods, storage or post-harvest treatment methods). When a project introduces or promotes an integrated technology package, whose effectiveness depends on the simultaneous adoption of several components, the whole package is counted as a single technology. Farmers are defined as individuals (men or women) or members of an agriculture-related structure/enterprise and specifically targeted by Project interventions.
Frequency	Annual
Data source	Annual progress reports, field mission reports
Methodology for Data Collection	M&E, Beneficiary annual survey
Responsibility for Data Collection	M&E specialist, agriculture specialist
C1.4.1: Producers reporting adoption of at least One (1) specified climate-smart agricultural practices (women) (Number)	
Description	Measures the number of female farmers applying climate-smart agricultural practices.
Frequency	Annual
Data source	Annual progress reports, field mission reports
Methodology for Data Collection	M&E, Beneficiary annual survey
Responsibility for Data Collection	M&E specialist, agriculture specialist
C1.4.2: Producers reporting adoption of at least One (1) specified climate-smart agricultural practices (women) (Number)	
Description	Measures the number of youth farmers applying climate-smart agricultural practices.
Frequency	Annual
Data source	Annual progress reports, field mission reports
Methodology for Data Collection	M&E, Beneficiary annual survey
Responsibility for Data Collection	M&E specialist, agriculture specialist
Component 2: Support for Farmer Organization, Institutional Strengthening and Market Linkages (C2)	
C2.1: Farmers with new or strengthened market/commercial linkages to aggregation hubs, anchor farmers, hospitality Industry or Institutional buyers resulting in at least one transaction (Number)	
Description	Measures the total number of commercial agreements established between smallholder producers and market actors (buyers, processors, distributors,

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	and agro-industries), within the framework of agricultural partnerships supported by a project.
Frequency	Semiannual
Data source	Project progress reports, contracts signed
Methodology for Data Collection	Review of financing agreements and partnerships supported
Responsibility for Data Collection	M&E specialist
C2.2: Share of Beneficiaries who have reached and maintained sales agreements with high-value urban markets (Percentage)	
Description	Measures the total number of formalized and financed commercial agreements between smallholder producers and market actors (buyers, processors, distributors, and agro-industries), within the framework of agricultural partnerships supported by a project. Measures the scale of market-led partnerships where producers receive inputs, technical support, and guaranteed markets. Includes verified contracts with clear terms (for example, pricing, quality, and standards). Tracks the uptake and implementation of structured, market-oriented production agreements supported by the Project. It shows how many agreements have been successfully established and financed to improve market access, reduce risks, and increase income for small producers.
Frequency	Semiannual
Data source	Project progress reports, contracts signed
Methodology for Data Collection	Review of financing agreements and partnerships supported
Responsibility for Data Collection	M&E specialist
C2.3: Share of value chain actors demonstrating improved knowledge and compliance with food safety practices and market aligned standards (Percentage)	
Description	Measures the Project's success in training and and provision of advisory and extesions services. It includes farmers applying climate-smart agricultural practices, improved irrigation, water-use efficiency and saving techniques, sustainable production techniques, integrayted pest management practices, GAPS, as well as hygene, sanitary and phytosanitary and food safety standards.
Frequency	Annual
Data source	Annual survey report, farmers records, and other technical mission reports
Methodology for Data Collection	Beneficiary annual survey
Responsibility for Data Collection	PIU
Component 3: Project Management, Monitoring and Evaluation, and Knowledge Dissemination (C3)	
C3.1: People benefiting from actions to advance gender equality (Number)	
Description	Measures the number of persons who have benefited from economic opportunities due to actions supported by the project to advance gender equality
Frequency	Annual
Data source	Annual survey report, farmers records, and other technical mission reports
Methodology for Data Collection	Third party Beneficiary survey
Responsibility for Data Collection	PIU
C3.2: Share of beneficiaries that feel project investment reflected their needs (Percentage)	
Description	Measures the proportion of beneficiaries (farmers, SMES, aggregators, traders, and staff from ministries departments and agencies) in the project area reporting improved access to services due to the project, including

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	extension and advisory services, and input supply, backward/forward linkages in value chains, training, information, marketing services, business development services, laboratory testing, accreditation/certification, export promotion.
Frequency	Annual
Data source	Beneficiary satisfaction assessment report
Methodology for Data Collection	Beneficiary satisfaction assessment (random sampling and structured interviews)
Responsibility for Data Collection	Third-party monitoring firm
C3.3: Grievances addressed within stipulated time (disaggregated by women and youth) (Percentage)	
Description	Measures proper registration system for grievances to enable tracking and review. The proportion of complaints or grievances received through the Project's GRM that were resolved within the designated timeframe (for example, 30 days). It reflects the Project's accountability, transparency, and responsiveness to community concerns or issues raised during implementation.
Frequency	Semiannual
Data source	Quarterly progress report, field mission reports, Project database
Methodology for Data Collection	Records count
Responsibility for Data Collection	PIU
C3.3.1: Grievances addressed within stipulated time (women) (Percentage)	
Description	The proportion of complaints or grievances received from females through the Project's GRM that were resolved within the designated timeframe (for example, 30 days).
Frequency	Semiannual
Data source	Quarterly progress report, field mission reports, Project database
Methodology for Data Collection	Records count
Responsibility for Data Collection	PIU
C3.3.2: Grievances addressed within stipulated time (Youth) (Percentage)	
Description	The proportion of complaints or grievances received from youth through the Project's GRM that were resolved within the designated timeframe (for example, 30 days).
Frequency	Semiannual
Data source	Quarterly progress report, field mission reports, Project database
Methodology for Data Collection	Records count
Responsibility for Data Collection	M&E specialist, third-party monitoring

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