



ADAPTATION FUND

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Adaptation Fund Board
Project and Programme Review Committee
Thirty-eighth Meeting
Bonn, Germany, 19-23 October 2026

PROPOSAL FOR LIBERIA



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT
TECHNICAL REVIEW OF PROJECT PROPOSAL FOR
"RESILIENT LIVELIHOODS AND INCLUSIVE ADAPTATION FOR LIBERIA "

Project Title Resilient livelihoods and inclusive adaptation for Liberia

Project ID AF00000573

Category Regular size project (over \$1 million)

Type Single country project

Stage Concept

Country Liberia

Implementing Entity UNIDO

Financing Requested USD 25,000,000.00

Reviewer Alexandra Munoz

Co-reviewer(s)

IE Contact Person

Alvin Tepo Togba, Fatou Haidara, Ganna Onysko, Gatti Eleonora, Lina Maria Arenas Chaves, Mark Grigoryan, Natale Guarnaccia, Olga Gordiievskaya, Sunyoung Suh

Secretariat's Overall Comment

The project Resilient livelihoods and inclusive adaptation for Liberia aims to strengthen the climate resilience and adaptive capacity of rural communities in five target counties (i.e., Montserrado, Grand Bassa, Lofa, Bong, and Sinoe) by empowering them to identify, adopt, and sustain community-driven adaptation solutions in the face of Liberia's two key climate hazards: increasing rainfall volatility and extremes, including more frequent and intense flooding, and a rise in average and extreme temperatures.

The proposal includes a PFG of 150,000 USD.

The initial technical review raises several issues, such as the need for specific details about the activities to be financed by the AF, how gender considerations were included in the Stakeholder analysis, to provide quantitative estimates of the economic, social and environmental benefits, and the beneficiaries' gender-disaggregated, among others, as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.

Country Eligibility

Is the country a developing country particularly vulnerable to the adverse effects of climate change?

Response: Yes

Secretariat: Yes.

Liberia is highly vulnerable to climate change due to its high rural poverty, low adaptive capacity, and strong dependence on climate-sensitive agriculture, forestry, and fisheries. Key risks include increasing rainfall variability and flooding, as well as rising temperatures and extreme heat, which threaten food security, rural livelihoods, and infrastructure. Liberia ranks 166th out of 181 countries on the ND-GAIN Index, reflecting its high vulnerability and very low adaptive capacity.

Project Eligibility

Has the designated government authority for the Adaptation Fund endorsed the project/programme?

Response: Yes

Secretariat: As per the Endorsement letter dated March 23, 2026.

Does the length of the proposal amount to no more than Fifty pages for the project/programme concept, including its annexes?

Response: Not Cleared

Secretariat: Yes.

The CN is 49 pages long, including annexes.

CR1: Please address the following:

1. Please proofread the entire document. For example, in paragraph 99, page 29, “community-drivenadaptation” is written without the appropriate spacing.
2. Please number all paragraphs. For example, the paragraphs on page 29, among others, are not numbered.

Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?

Response: Not Cleared

Secretariat: Yes.

However, some amendments are needed.

Part II.A (pages 21-30) provides a description of the project components, outcomes and outputs, with a focus on concrete adaptation measures. The proposed project is structured around four components, four outcomes, and 13 outputs. The project aims to strengthen community capacity for locally led adaptation, provide climate-resilient productive assets and infrastructure, and enhance national ownership, long-term sustainability, and scalability of adaptation efforts, among other actions. A coherent Theory of Change is presented alongside its diagram. However, some amendments and additional information are required.

CR2: Please indicate in the “Project/Programme Components and Financing” table which outputs and corresponding amounts will be executed by each EE.

CR3: Please use the exact wording of each AF Output in paragraph 85 (page 20). For example, instead of defining AF Output 3.2 as “strengthened capacity to capture and disseminate knowledge and learning,” it should read “Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning.”

CR4: In regards to the Theory of Change (ToC), please address the following:

1. Add the main problem to be addressed to the diagram, above the impact.
2. Revise the accompanying narrative so that, instead of being structured separately by component, it presents a single overarching narrative that integrates all components into one coherent causal pathway.

CR5: Please address the following in the descriptions of the activities included under each output (pages 24–30):

1. Clearly indicate what will be financed by the AF.
2. Identify the main institutions that will be involved in the delivery of the outputs.
3. Provide more detailed descriptions of the activities included under each output. For example, Activity 1.3.1 does not specify the frequency of the reviews to be conducted by the Committees, while in Activity 2.1.2 the training modalities do not appear to have been defined, making it difficult to understand the amount budgeted for the output.
4. Clarify whether any preliminary agreements are in place with the institutions involved in the implementation of the activities. For example, Activity 2.1.1 envisages collaboration with local universities and research centers.

CR6: Please clarify whether the project includes USPs, as the specific location and projects will be not defined before implementation. Please include and explain:

1. Why there will be no USPs if the list of adaptable solutions may be updated in the future depending on changes in community demand and the exact intervention areas have not yet been identified.
2. Why the use of USPs provides more benefits than to have predefined the projects and locations. The use of USPs must be justified as corresponds to exceptions for the AF.

For further guidance, please refer to the Adaptation Fund guidance on compliance with the ESP and USPs provided in https://www.adaptation-fund.org/wp-content/uploads/2021/05/AFB.B.32-33.7_Compliance-with-ESP_Update-of-PPR_and_Guidance-for-USPs_revised-1.pdf.

CR7: With regard to the Community Adaptation Committees, please address the following:

1. Clarify the number of members, their composition in terms of vulnerable communities, and the frequency of their appointment.
2. Clarify the frequency of the training that Committee members will receive to perform their functions. Will training be provided only when members are initially appointed? Will there be interim assessments of Committee members?

Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?

Response: Not Cleared

Secretariat: Yes.

However, more information is required.

Part II.B (pages 30-32). The proposal highlights broad economic, social, and environmental benefits of the project. However, it provides limited quantitative estimates of these benefits and does not explain how specific vulnerable groups (women, youth, others) will be targeted equitably.

CR8: Please explain the calculations used to determine the number of project beneficiaries. In addition, clarify the mechanism that will ensure a 50:50 gender distribution and at least 20% youth in project participation.

CAR1: Please refer to the Initial Gender Assessment in Part II.B.

CR9: Please further elaborate on the economic, environmental, and social benefits. This should include, among other aspects, clarifying whether employment increases are expected as an economic benefit, quantifying the projected number of hectares to be restored as an environmental benefit, and describing the changes in social dynamics expected to result from the project as a social benefit. Please ensure that the benefits included in the proposal are quantified (proxies are useful).

CR10: Please highlight the specific benefits that the project will provide to the most vulnerable communities.

CR11: Please revise Table 9 so that it provides a summary of direct and indirect beneficiaries by component, identifying the percentage of vulnerable groups, such as women and youth, for each component.

CR12: Please identify any potential negative concerns or risks of maladaptation associated with project implementation. Note that it is not necessary to discuss environmental and social risk management in this section. Please remove paragraph 105.

Is the project / programme cost effective?

Response: Not Cleared

Secretariat: Yes.

However, further information is required.

Part II.C (page 32-33). The proposal provides an explanation of how the proposed programme ensures effectiveness, outlining the rationale for each major activity. In addition, it presents less cost-effective alternatives for comparison with the interventions included in the proposed project. It states that “During full project preparation, a comprehensive cost-benefit analysis will be conducted to ensure efficient use of Adaptation Fund resources”.

CR13: Please revise Table 10 so that it compares the proposed cost of each component with the cost of alternative options, allowing the project's cost-effectiveness to be assessed. Please strengthen the justification, preferably by including quantitative figures.

Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?

Response: Not Cleared

Secretariat: Yes.

As per information provided in Part II.D (pages 33-34). The proposed programme is consistent with 5 national instruments, including the National Adaptation Plan 2020-2030, the NDC 3.0 2025, and the National Agriculture Development Plan 2024-2030.

CAR2: Please review Table 11 and include, where available, national strategies focused on reducing gender gaps and poverty.

Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?

Response: Not Cleared

Secretariat: Yes.

As per information provided in Part II.E (pages 34-35), specifically in Table 12. The proposal identifies 8 relevant legal frameworks aligned with the proposed project, including the Environment Protection and Management Law, Agriculture Law, and Fisheries and Aquaculture Management Law, among others.

CR14: Please address the following in Table 12:

1. Revise the second column to explain the relevance of each standard to the project and indicate the output affected by it.
2. Revise the third column so that its title reads "Main steps to be taken to ensure compliance." This column should describe the main steps required to ensure compliance, together with the institutions responsible for ensuring it, such as those responsible for issuing sectoral permits.
3. Review and include standards related to building codes, water quality (given the infrastructure interventions included under Component 3) and labour related issues.

Is there duplication of project / programme with other funding sources?

Response: Not Cleared

Secretariat: No.

However, further information is required.

Part II.F (pages 35-37). The concept note lists 9 completed and ongoing projects that are complements to the proposed project. However, a clear justification to ensure non-duplication is needed.

CR15: Please address the following in Table 13:

1. Remove the second column and incorporate its information into the first column, whose title should be revised to "Project title, period, and funding."
2. Replace Column 3 ("Description") with "Lessons Learned," indicating the main lessons derived from each project and the output in which each lesson is reflected.
3. Replace Column 4 ("Synergy Opportunities") with "Synergies and Complementarities," revising the content accordingly.
4. Add a final column dedicated exclusively to explaining whether there is any overlap or duplication.
5. Review the table to ensure that it is comprehensive.

Does the project / programme have a learning and knowledge management component to capture and feedback lessons?

Response: Not Cleared

Secretariat: Yes.

However, further information is required.

Part II.G (pages 37-38). The proposed project includes Component 4 on learning and knowledge management. The CN states that the expected results include lessons learned, publications and research, documentation of adaptation experiences, and knowledge sharing. However, more details are needed.

CR16: Please provide further details on LKM. Among other aspects, clarify who will be responsible for tracking experiences, specify the frequency of assessments of changes in adaptive capacity at the household and community levels, and indicate the number of forums planned to disseminate the results.

CR17: Paragraph 115 (page 37) states that “knowledge will be institutionalized within EPA and subnational authorities under the phased handover plan developed in Component 4.” Please clarify whether any preliminary agreements are in place with subnational authorities for this purpose and how will the project proceed if the subnational authorities do not cooperate.

Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?

Response: Not Cleared

Secretariat: Yes.

However, further information is required.

Part II.H (page 38-40). The proposal indicates that a participatory consultation process was carried out. Key stakeholders participated with a total of 16 individuals through 16 interviews, particularly from sectoral ministries. However, it is unclear how gender considerations and the concerns of vulnerable groups have been addressed.

CAR3: Please revise the structure of Table 14 so that it includes, among other things:

1. The consultation date, with one row per consultation.
2. The composition of participants, disaggregated by sex and vulnerable communities.
3. Topics discussed and key considerations.
4. How the feedback received was integrated into the project design, explicitly indicating the output that responds to the concerns raised by stakeholders.

CAR4: Please clarify whether consultations were conducted with members of the target communities, more local-level organizations within the five target counties, and NGOs.

CAR5: Please clearly indicate which meetings were specifically held to address gender-related issues.

CAR6: Please indicate whether additional consultations will be conducted throughout project implementation. Note that this is particularly important in this context, where the intervention areas and the solutions to be implemented will only be defined once project implementation has begun.

Is the requested financing justified on the basis of full cost of adaptation reasoning?

Response: Not Cleared

Secretariat: Yes.

However, further information is required.

Part II.I (pages 40-41). The CN outlines a baseline and AF Project scenarios. However, further details are required.

CR18: Please add a table showing, by component, the scope of the objectives. This table should compare the baseline scenario with the scenario in which the project is implemented.

Is the project / program aligned with AF's results framework?

Response: Not Cleared

Secretariat: Yes.

As per information provided in Part III.A (pages 45-48). The alignment of the project with the Adaptation Fund Results Framework is presented, considering outcomes and outputs for each component. However, further information is required.

CR19: Please address the following in Table 16:

1. Use the exact wording of the AF Outcome. For example, "Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level" should instead read "Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes."
2. Include the updated AF Outcome, Outputs and Indicators (for further information, see https://www.adaptation-fund.org/wp-content/uploads/2026/04/AF-SRF-Updated-templates_results-framework-table-and-results-framework-alignment-table.pdf).
3. Ensure compliance with the new structure of the Alignment Table Template.

Has the sustainability of the project/programme outcomes been taken into account when designing the project?

Response: Not Cleared

Secretariat: Unsure.

Part II.J (page 41-43). The proposed project provides general information on its sustainability, without providing sufficient detail on the sustainability of the benefits in each area or clarifying whether any preliminary agreements are in place.

CR20: Please clarify and explain in greater detail how the sustainability of the project benefits will be ensured. Among other aspects, this should include explaining how the social benefits will be sustained, how maintenance of the proposed infrastructure interventions will be financed, and how evidence and lessons learned will be integrated into national and county-level adaptation policies. Please clarify whether any preliminary agreements are in place for this purpose. Note that the concept of "sustainability" refers to maintaining the project benefits after the project has ended.

CR21: Please clarify how the Community Adaptation Committees will operate after project completion, including the member-selection process, the duration of members' terms, and how their training will be updated over time.

Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?

Response: Not Cleared

Secretariat: Yes.

Part II.K (pages 43-45). The proposed project is classified as Category B based on the screening process. The risks have been identified against the 15 ESP principles. However, It does not provide a detailed description of the identified risks, and some amendments are needed.

CAR7: Please note that, in Column 3 of Table 15, risks should describe as: "There is a risk" and should be accompanied by mitigation plans as: "Mitigation measures are" or "To mitigate this risk, the project"

CAR8: Please clarify how compliance of the USPs with the "Environmental and Social Policy and Gender Policy of the Fund" will be ensured.

Resource Availability

Is the requested project / programme funding within the cap of the country?

Response: Cleared

Secretariat: Yes.

Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?

Response: Cleared

Secretariat: Yes.

All figures are rounded to whole numbers, and the Implementing Entity Management Fee is 8.5%. The PFG request is correct in size (USD 150,000), including the PFG fee for the Implementing Entity's Management of 8.5% (USD 11,751).

Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?

Response: Not Cleared

Secretariat: Unsure.

The project considers the IE as one of the two EEs.

CR22: Please clarify the amount to be executed by the IE. Please note that, when the IE also serves as an EE, the IE execution costs are limited to 1.5% of the cost of the portion of the project or programme executed by the Implementing Entity (for further information, see <https://www.adaptation-fund.org/document/ie-and-ee-fees-calculator/>).

Eligibility of IE

Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?

Response: **Cleared**

Secretariat: Yes.

United Nations Industrial Development Organization (UNIDO) is an accredited Multilateral Implementing Entity (MIE).

Accreditation Expiration Date: 30 October 2027.

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Resilient livelihoods and inclusive adaptation for Liberia

Countries: Liberia

Thematic Focal Area: Rural Development

Type of Implementing Entity: Multilateral Implementing Entity

Implementing Entity: United Nations Industrial Development Organization (UNIDO)

Executing Entities: Environmental Protection Agency Liberia
UNIDO

Amount of Financing Requested: 25,000,000 (in U.S Dollars Equivalent)

Project Formulation Grant Request: Yes ☒ No ☐

Amount of Requested financing for PFG: 150,000 (in U.S Dollars Equivalent)

Letters of Endorsement (LOE) signed for all countries: Yes ☒ No ☐

Stage of Submission:

☐ This proposal has been submitted before including at a different stage (pre-concept, concept)

☒ This is the first submission ever of the proposal at any stage

In case of a resubmission, please indicate the last submission date: Does not apply

Please note that concept note documents should not exceed 50 pages, including annexes.

Project/Programme Background and Context

A. Economic and Environmental Overview

A.1. Economic Context

1. Liberia has an estimated population of 5.4 million people and a young and fast-growing population, with a median age of 19 years. The country's GDP stood at approximately \$4.75 billion in 2024. Despite possessing significant natural resources, Liberia's economic performance has been volatile and largely dependent on exports of primary commodities. Real GDP growth reached 5.1% in 2025 and is projected to remain around 5.0% through 2026, driven primarily by mining expansion and reforms in energy and transport. However, this growth has yet to translate into broad improvements in rural welfare.
2. Approximately, 51% of Liberia's population lives below the poverty line (2016-2017 Household Survey). Poverty is overwhelmingly a rural phenomenon: although rural and urban populations are roughly equal in size, eight in ten rural individuals are poor. Rural poverty is also more severe: the rural poor fall further below the poverty line than their urban counterparts. Poverty is also closely linked to food insecurity. An estimated 83.6% of the population was moderately or severely food insecure (FAO Food Insecurity Experience Scale, 2023), and approximately 30% of children were chronically undernourished. Food poverty is disproportionately rural. Despite being the primary base of subsistence food production, rural areas accounted for 60% of the country's food poor in 2016.
3. Liberia ranked 164 out of 191 countries on the UNDP Gender Inequality Index in 2021, reflecting deep and persistent structural inequalities and strong social norms that affirm women's role as caretakers and homemakers, significantly limiting their time for education, training, and more productive employment. Female labour force participation stands at approximately 73%, compared to 83% for men, but almost all women (94%) are informally employed, compared to 79% of men, and they are overwhelmingly concentrated in agriculture and the trade sector.



A.2 Climate Context and Vulnerability

Historical Climate Trends and Projections

4. Liberia's geographic location, topography, and hydrological systems strongly influence its climate and environmental conditions. Situated along the West African coast, Liberia has an estimated land area of approximately 110,000 km², characterized by low-lying coastal plains, tropical rainforests, and mountain ranges. The country has a dense network of rivers that flow predominantly from the northeast toward the Atlantic Ocean, which result in climate-induced hydrological extremes, particularly flooding during the rainy season and reduced dry-season flows during periods of prolonged heat¹. Liberia has a humid tropical climate with a single rainy season from May to October and a dry season from November to April, driven primarily by the seasonal movement of the Inter-Tropical Convergence Zone (ITCZ). Climate variability is further modulated by large-scale climate drivers, including El Niño–Southern Oscillation (ENSO) events.²
5. Two climate hazards pose the greatest risk to Liberia's livelihoods, food security, and economy: a) the increase in rainfall volatility and extremes, including flooding; and b) a rise in average and extreme temperatures. While total annual precipitation is not projected to change significantly, rainfall is expected to become increasingly concentrated into heavier, more disruptive events, raising the frequency and severity of both slow-onset and flash floods. In parallel, Liberia is projected to experience significant increases in both average temperatures and the frequency of extreme heat events, amplified by the country's high humidity.
6. Liberia's climate trajectory is estimated based on global emissions pathways. The country's climate projections are based on global models developed under the IPCC's Coupled Model Intercomparison

¹ Liberia 2025 National Determined Contribution ([NDC 3.0](#)) [Adaptation targets](#).

² [Liberia National Adaptation Plan 2020-2030](#)

Project (CMIP). The most recent data is from CMIP6. These projections are organized around Shared Socioeconomic Pathways (SSPs), which represent different possible futures based on global greenhouse gas emissions trajectories.³ The analysis below draws on four scenarios: SSP1-2.6, a low-emissions pathway consistent with aggressive climate action and warming well below 2°C; SSP2-4.5, an intermediate pathway reflecting moderate mitigation efforts; SSP3-7.0, a high-emissions scenario associated with fragmented climate policy; and SSP5-8.5, the highest-emissions pathway representing continued fossil fuel dependence and global warming exceeding 4°C by 2100⁴. All climate data used in this analysis has been extracted from the World Bank Climate Change Knowledge Portal, which draws on the CMIP6 ensemble and uses 2014 and 2015 as the boundary between the historical period and scenario-based projections, reflecting the calibration cut-off of the underlying CMIP6 models.

Precipitation: Historical and projections

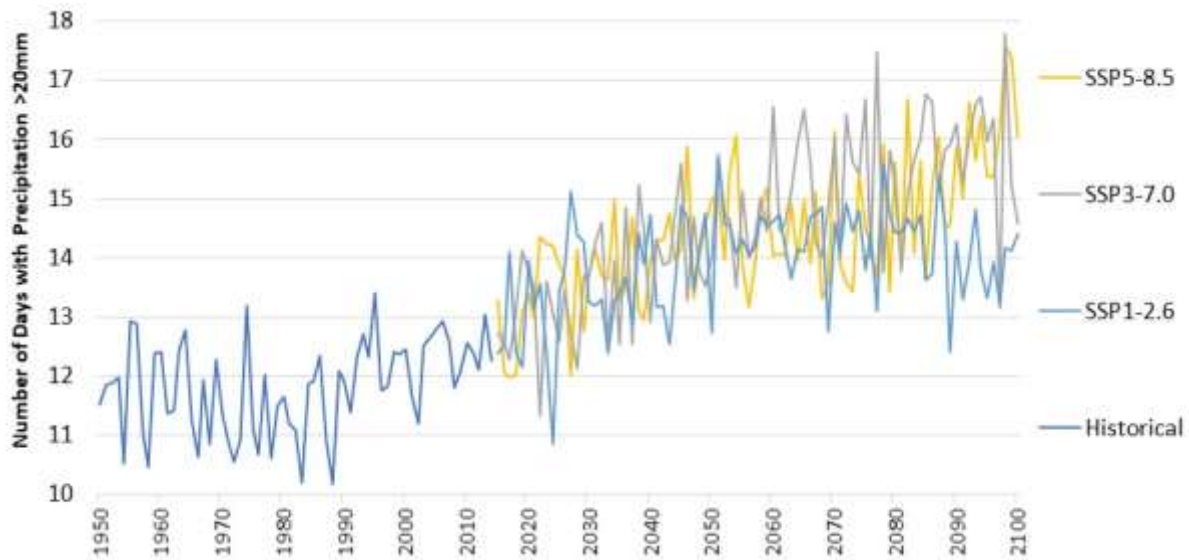
7. Liberia is one of the wettest countries in the world, receiving more than twice the global average annual rainfall. The country's location combined with its topography produces a pronounced rainy season. Historical precipitation has remained broadly stable over the 1950–2014 period, with average rainfall remaining at approximately 2,300mm per year. Year-to-year variability is substantial (e.g., from 2,233mm in 2001 to 2,383mm in 2006) which is characteristic of tropical rainforest climates. Projected annual precipitation in Liberia is expected to hold steady and continue the pattern observed in the historical record across all emissions scenarios throughout the 21st century. All four scenarios project average rainfall in the range of 2,200–2,400mm per year.
8. While total annual precipitation is projected to remain stable, the distribution of rainfall is expected to become more volatile including heavier rainfall outbursts. Historical data shows that Liberia experienced an average of approximately 11–13 heavy rainfall days per year over the 1950–2014 period (defined as days with more than 20mm in rainfall, which often damages crops, disrupts transport, and results in displacement of households in low-lying settlements). Projections indicate an increase in the frequency of heavy rainfall days across all emissions scenarios. Even under the lowest emissions pathway (SSP1-2.6), heavy rainfall days are projected to increase to approximately 13.5–14.5 days per year by 2050, stabilizing at that level through 2100. Under higher emissions scenarios the increase is more pronounced: SSP2-4.5 projects approximately 14.5 days per year by 2100, while SSP3-7.0 and SSP5-8.5 project 15.5–17.0 days by 2100, an increase of roughly 3.5–5 days above the 2014 baseline. This represents a projected increase in heavy rainfall frequency of between 30% and 40% compared to historical levels. In practical terms, this means that the same annual volume of rainfall is increasingly concentrated into fewer, more intense events with longer dry intervals in between.
9. More intense rainfall events are also projected to result in a higher number of more damaging flooding. Flooding is already Liberia's most prevalent and damaging natural hazard, and recent events illustrate the human cost of this exposure. In September 2023 alone, a series of severe flood events struck in rapid succession. On September 1, flooding in Kru Town impacted nearly 2,000 people and forced over 500 people from their homes. Two days later, torrential rains caused severe flooding across central Liberia, affecting a further 795 people, and on September 4, the worst flood in Monrovia's recorded history inundated low-lying areas of the capital, displacing 12,450 people.
10. Historical data shows that the largest 5-day cumulative rainfall event per year (a proxy for slow-onset flooding) averaged approximately 103mm over the 1950–2014 period, remaining relatively stable over time. Projections indicate a consistent increase in most scenarios. Under SSP1-2.6, peak 5-day rainfall events are projected to remain mostly flat by 2050 before rising to approximately 118mm by 2100, an increase of 10.7% above the 2014 baseline. The increase is more pronounced under higher emissions pathways: SSP2-4.5 projects peak 5-day cumulative rainfall events of approximately 125mm by 2050 (+17%) and 117.5mm by 2100 (+10%). SSP5-8.5 projects the most severe long-term outcome at nearly 133mm by 2100, an increase of nearly 25% above the baseline. This means that the most intense multi-day rainfall episodes that Liberia experiences each year are projected to become on average up to 25%

³ CMIP6 introduced Shared Socioeconomic Pathways (SSPs) as the basis for scenario analysis, replacing the Representative Concentration Pathways (RCPs) used in the previous generation of models (CMIP5/AR5). Unlike RCPs, which described emissions trajectories alone, SSPs incorporate socioeconomic dimensions (including population growth, land use, and policy choices) alongside greenhouse gas concentrations, making them a richer and more policy-relevant framework.

⁴ The projected precipitation and temperature changes presented in this analysis do not always increase in strict order from lower to higher emissions scenarios. This reflects the inherent uncertainty of regional climate projections. At the regional level, natural climate variability introduces noise into regional projections that can temporarily obscure or even reverse the expected ordering of scenarios. Additionally, the model ensembles underlying each SSP are not identical in composition. Where the ensembles differ in their regional sensitivity, this can shift the estimate in ways unrelated to the emissions pathway itself.

worse, especially under high-emissions trajectories, and with serious implications for low-lying areas with limited drainage and low adaptive capacity.

Chart 1: Historical and Projected number of days with precipitation > 20mm (1950-2100)



11. Alongside the risk of slow-onset flooding, projections also point to a significant intensification of flash floods. Historical data on one-day largest rainfall averaged approximately 46mm over the 1950–2014 period, with no meaningful trend over time. Projections indicate increases across all emissions scenarios, though with some variability. Under SSP1-2.6, peak single-day rainfall is projected to initially decline slightly to 47.2mm by 2050 (–7% over the 2014 baseline) before increasing to approximately 59mm by 2100 (+17%). Under higher emissions pathways the increase is more severe: SSP3-7.0 projects peak single-day events of approximately 56.7mm by 2050 (+12%), before tapering off slightly at nearly 55mm by 2100 (+8%). SSP5-8.5 projects cumulative 1-day precipitation of approximately 55mm by 2050 and 60mm by 2100, an increase of up to 17% above the 2014 baseline. In practical terms, single-day rainfall events of this magnitude will likely quickly overwhelm drainage infrastructure, triggering flash floods that destroy roads and homes, displace entire communities, and cause loss of life and livelihoods on a potentially devastating scale.

Table 1: Projections extreme rainfall scenarios (2050 and 2100)

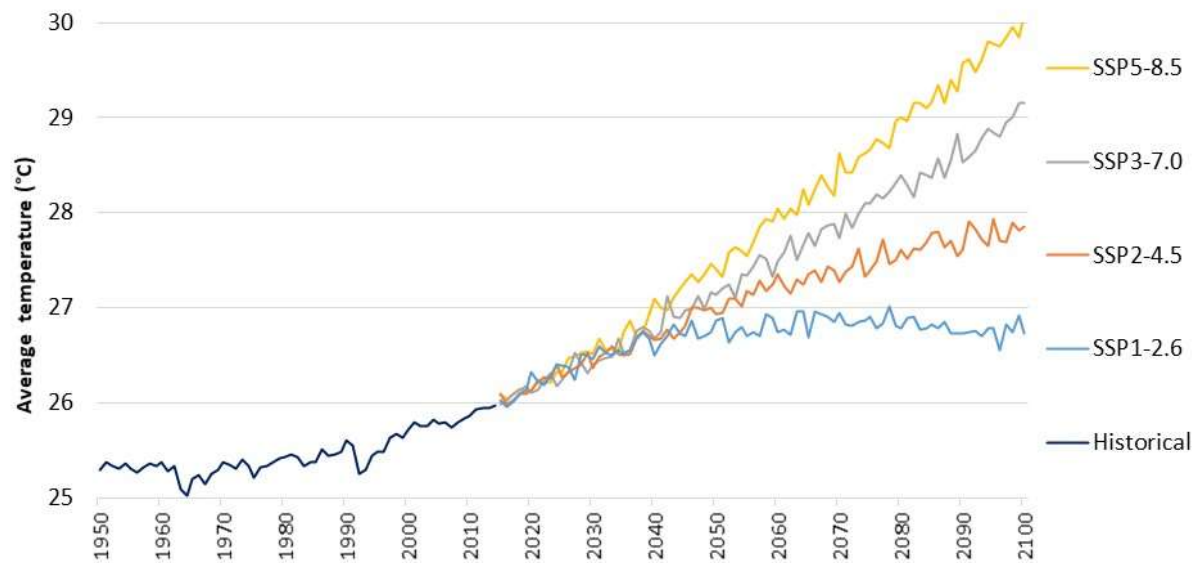
	2014 (baseline)	2050		2100	
	mm / period	mm / period	% over baseline	mm / period	% over baseline
Largest 5-Day Cumulative Precipitation					
SSP 2.6	106.5	106.3	-0.2%	117.9	10.7%
SSP 4.5	106.5	124.6	17.0%	117.5	10.3%
SSP 7.0	106.5	119.9	12.6%	116.8	9.6%
SSP 8.5	106.5	110.4	3.7%	132.9	24.7%
Largest 1-Day Cumulative Precipitation					
SSP 2.6	50.7	47.2	-7.0%	59.2	16.7%
SSP 4.5	50.7	52.0	2.5%	54.8	8.0%
SSP 7.0	50.7	56.7	11.8%	54.8	8.0%
SSP 8.5	50.7	55.4	9.1%	59.5	17.2%

Temperature: Historical and Projections

12. Liberia is expected to experience average hotter temperatures and more extreme heat days. Liberia's climate is humid and tropical, with average annual temperatures between 24°C–29°C. Historical data shows that average surface air temperatures have already risen by approximately 0.7°C between 1950 and 2014, from around 25.3°C to 26.0°C, with the rate of warming accelerating noticeably from the 1980s

onward. Projected temperatures continue this upward trajectory throughout the 21st century, though the magnitude of warming varies depending on global emissions pathways. In the near term, all four scenarios project similar temperature increases into the 2030s, reflecting warming that is already locked in regardless of future emissions choices. Meaningful divergence between scenarios emerges from the 2040s onward. Under the low-emissions scenario (SSP1-2.6), temperatures stabilize at approximately 26.8°C by 2050 and remain relatively flat through 2100, representing an overall increase of around 0.7°C above 2015. This is the only scenario in which warming stabilizes. Under the intermediate scenario (SSP2-4.5), temperatures diverge in the second half of the century and reach approximately 27.9°C by 2100, a total increase of 1.75°C compared with 2015. The high-emissions scenarios tell a more alarming story: SSP3-7.0 projects end-of-century temperatures of around 29.2°C, while SSP5-8.5 reaches 30°C by 2100, an increase of nearly 4°C above 2015.

Chart 2: Historical and Projected Average Temperature (1950-2100)



13. In addition to average temperature increases, Liberia is projected to experience a dramatic rise in extreme heat stress events. The annual number of days on which the country's average heat index exceeds 35°C (a measure that combines temperature and humidity to reflect conditions as experienced by the human body) is projected to increase sharply across all scenarios between 2024–2059. Against a historical baseline of approximately 0.7 days per year, the scale of projected increase is striking. Under the low-emissions scenario (SSP1-2.6), such days are projected to reach 17.4 per year, an increase of 16.7 days over the 2015 baseline. Under higher emissions pathways the picture worsens considerably: SSP2-4.5 projects 32.5 days per year (+31.8 days), SSP3-7.0 projects 47.7 such days per year (+47.0 days), while SSP5-8.5 projects 60.4 days (+59.7 days), representing nearly two months per year of extreme heat stress conditions.
14. These temperature increases will not be felt equally across Liberia. Interior regions are projected to warm more rapidly than coastal areas, compounding the pronounced seasonal water stress that inland communities already face. Combined with more intense dry seasons, this differential warming pattern is likely to deepen drought risk and water insecurity in some of the country's most climate-exposed areas.

Table 2: Projections extreme heat scenarios (2024-2059)⁵

	Annual number of high heat index days (>35°C)	
Scenario	Projection	Days change over 2015 baseline
SSP1-2.6	17.4	16.7
SSP2-4.5	32.5	31.8
SSP3-7.0	47.7	47.0
SSP5-8.5	60.4	59.7

⁵ Analysis published in Liberia's "Country Climate and Development Report" (World Bank, 2024)

B. Economic and Climate Change Vulnerability

B.1. Economic Context

15. Liberia's economy is structured around three dominant sectors: agriculture, services, and extractive industries. Agriculture remains the backbone of the economy, contributing an estimated 35–40% of GDP and providing livelihoods to approximately two-thirds of the population, largely through subsistence and smallholder farming systems. The services sector, including trade, public administration, transport, and informal services, accounts for roughly 30–35% of GDP and has expanded steadily in urban areas, driven by population growth and post-conflict reconstruction, though productivity remains low. The extractive sector, particularly iron ore, gold, rubber, and timber, contributes a smaller share of GDP (around 15–20%) but plays a disproportionate role in foreign exchange earnings and fiscal revenues.⁶
16. Based on projected climate change (see Section A2), Liberia faces high and growing climate risks that threaten economic stability, food security, livelihoods, and the rural economy. The country ranks 166 out of 181 on the ND-GAIN Index, reflecting both high climate vulnerability and very low adaptive capacity. The rural economy (including agriculture, forestry, and fisheries) is the most directly and severely exposed, and with the most potential to impact negatively Liberia's economy. As noted above, the sector employs nearly two-thirds of Liberia's population, provides the primary source of food and income for the country's poorest households, and contributes at least one third of the country's GDP. Climate shocks to the rural economy do not stay contained: they ripple outward through food prices, rural incomes, and government revenues, with consequences for the entire economy. Strengthening the climate resilience of rural economy is accordingly a national priority, as reflected in its central role in Liberia's National Adaptation Plan 2020–2030.
17. Women constitute a significant share of the rural agricultural labor force. They account for approximately 60% of agricultural output and carry out 80% of trading activities in rural areas. However, customary law undermines women's economic position: despite statutory provisions guaranteeing land rights, customary land tenure systems remain dominant in rural areas, restricting women's formal ownership and control over land.

B2. Rural Economy Overview

18. Agriculture, forestry, and fisheries play a key role in Liberia's rural economy and food security. Together, they employ the majority of the rural population, provide the primary source of protein and calories for most households, and serve as the main buffer against poverty and economic shocks. Yet all three sectors operate under significant stress. Low agricultural yields, deforestation driven mostly by subsistence farming, and declining fish stocks leave rural households chronically exposed to food insecurity and with little capacity to adapt to climate change. The sectors are also deeply interdependent: forest degradation undermines soil fertility and water regulation that agriculture depends on which may further accelerate deforestation, while fishing communities face growing pressure as coastal and inland ecosystems deteriorate. This interconnection means that climate shocks do not affect each sector in isolation. They cascade across all three, compounding vulnerability for the rural households that can least afford it.
19. Rural communities in Liberia operate within a layered system of traditional governance that sits alongside and often takes precedence over formal administrative structures in day-to-day community life. At the local level, each county is divided into districts, chiefdoms, and clans, with traditional chiefs empowered by the central government to collect taxes and adjudicate minor disputes. Town, clan, and paramount chiefs are the primary holders of political authority at the community level, acting as the main intermediaries between rural populations and formal district and county administrations. However, traditional and formal governance systems sometimes operate in parallel and are not systematically integrated. Jurisdictional overlaps between chiefs and formal district and county administrations over land, dispute resolution, and resource management can be a source of tension in rural areas. Customary land tenure remains the norm in rural Liberia. Land is held communally and its allocation to individual farmers or community members requires the approval of clan and paramount chiefs. The authority of traditional leaders extends to decisions over land use, natural resource management, and community development. In many instances, this authority has been exercised in ways that have limited women's and marginalized communities' access to land and productive resources.
20. Producer cooperatives and associations are an established feature of rural Liberia's agricultural economy, playing a central role in improving productivity, pooling productive assets, and strengthening value chain

⁶ [Macro Poverty Outlook](#), World Bank April 2026.

linkages for smallholder farmers. Cooperatives in Liberia are organized around specific commodities, including cash crop associations for cocoa, rubber, and palm oil, and staple crop cooperatives such as rice. Most producer cooperatives are concentrated in Liberia's agricultural heartland of Lofa, Bong, and Nimba counties, with many having processing and storage facilities that have fallen into disuse due to decades of underinvestment and civil conflict. At the national level, the Liberia Federation of Cooperative Societies serves as an umbrella body for cooperative societies across sectors. The Cooperative Development Agency (CDA), established in 1981, is the government body responsible for the oversight, regulation, and promotion of cooperative societies in Liberia. Its mandate covers cooperative promotion, training, and inspection, but it has been largely unable to fulfil these functions due to insufficient staff and limited technical capacity.

21. Despite their potential, cooperatives face significant structural constraints. Governance weaknesses are pervasive. Many cooperatives lack basic financial management systems, transparent decision-making processes, and the administrative capacity to manage collective assets effectively. Market fragmentation and poor connectivity to regional buyers' further limit cooperatives' ability to negotiate fair prices or achieve the volumes needed for commercial viability. Access to finance remains a binding constraint, with most cooperative members lacking the working capital needed to finance productive investments or upgrade post-harvest and processing infrastructure. Women and youth remain particularly underserved within existing cooperative structures, with limited representation in leadership roles and restricted access to the training, inputs, and credit that cooperatives can in principle provide.

Agriculture

22. Agriculture is estimated to directly employ nearly 41% of the population and indirectly provide a livelihood for about two thirds of Liberians (ICF International, 2021). Liberia holds significant natural resource potential: nearly 20% of its land area, approximately four million hectares, is classified as agricultural, while the remainder is largely forested. However, this potential remains largely unrealized. Agriculture is constrained by unsustainable land use practices and persistently low yields. Over 87% of cultivated land is managed by smallholder farmers, with average land ownership of between one to two hectares per household⁷. Most households are engaged in subsistence agriculture, and very few engage in cash crop production. Most of this land falls under customary land tenure systems, which contribute to insecure land ownership, discourage long-term investment in land improvement, and impede agricultural productivity growth.
23. Liberia's main crops are rice, cassava, rubber, cocoa, and palm oil. Rice is Liberia's dominant crop, and staple food. Approximately 70-75% of farming households cultivate rice, it is consumed daily across the country, and has deep political, cultural, and social significance. Rice cultivation is followed by cassava, which is valued for its resilience and complimentary role as a food security crop (nearly 80% of rice-growing households also plant cassava). These two crops are cultivated by approximately three-quarters of farming households primarily for self-consumption, with surplus sold when available. Yield growth has remained limited and production increases have been driven largely by area expansion rather than productivity improvements, keeping returns per hectare low. Slash-and-burn shifting cultivation remains widespread, including for rice, and has contributed to deforestation and land and ecosystem degradation.
24. Although rice is Liberia's primary staple, the country is not self-sufficient in rice production due to low agriculture yields. More than 80% of rice is imported, and on average 68% of total household expenditure on rice goes toward imported varieties. Rural food poverty is especially high and many farming communities cannot produce enough to meet their own dietary needs. Crop producers are the most vulnerable group: 90% report compromising on food quality and variety, skipping meals, or going without food for a full day or more.
25. Farm yields are low due to a range of technical constraints that also limit adaptive capacity to climate shocks. An estimated 80% of Liberia's agricultural sector depends on rain-fed farming, leaving it highly vulnerable to fluctuating and severe weather patterns. Irrigation is minimal and relies primarily on manual methods such as buckets drawn from nearby streams or wetlands. Access to inputs is similarly limited. Fewer than 5% of farming households use inorganic fertilizer or improved seeds. Where inputs are applied, they are often used without soil testing, proper timing, or complementary soil management practices. Most farms have limited equipment and machinery, often limited to manual tools such as cutlasses and hoes, and post-harvest storage and value addition infrastructure remains underdeveloped.

⁷ Liberia Extractive Industries Transparency Initiative (LEITI Agriculture Sector Overview. September 2025)

26. Systemic and institutional constraints further undermine agricultural productivity and climate resilience. Fewer than 5% of farming households access extension services. Public extension is underfunded and understaffed, while private provision by agro-dealers and micro, small, and medium enterprises (MSMEs) is focused on input sales rather than climate-adaptive integrated farm management. Infrastructure deficits are severe: rural electrification rates remain extremely low (estimated below 10%), limiting uptake of irrigation and processing technologies. Access to water for irrigation is often dependent on seasonal streams and wells. Market access is also weak due to poor rural roads and high transport costs, restricting commercialization opportunities. Access to credit is limited as well with less than 5% farmers reporting access to agricultural credits.
27. Many rural households depend on livestock as a buffer against crop failure, particularly small ruminants and poultry. Mixed crop-livestock systems are common. However, livestock productivity is also low because it is predominantly low-input and free-range, with limited access to veterinary services, improved breeds, or feed. Off-farm employment opportunities are also limited, so most households are almost entirely dependent on climate-sensitive agriculture for food and income. Even short-term climate shocks can therefore quickly translate into food insecurity, asset depletion, and negative coping strategies, including reduced consumption and distressed livestock sales.
28. Female-headed farming households tend to work on smaller plots and have less diversified income streams. In 2006, just 16% of women were estimated to own land compared to 33% of men, and only 11% of women held land titles compared to 20% of men. Women are also less likely than men to work in cash crop production (31.5% for women vs 48.5% for men) and less likely to benefit from value chain linkages or market development opportunities. Women's access to financial capital is similarly constrained: only 28% of women had a bank account in 2017, compared to 44% of men.

Forestry

29. Liberia's forests and its rural economy are deeply intertwined. Approximately 69% of the country is covered by forest, making it one of the most forested countries in West Africa (FDA, 2021). Nearly half of the population, including many of its poorest people, live within 2.5km of a forest. Yet deforestation is widespread and has increased steadily since 2003 (no precise deforestation rates were identified), thus contributing to soil erosion, declining soil fertility, and water shortages, and placing increased pressure on the ecosystem services provided to rural communities.
30. Deforestation is mostly driven by smallholder farming. Slash-and-burn practices remain the primary means of expanding and shifting farmland. Approximately 43% of forest-proximate households reported clearing forested land in the five years prior to being surveyed, with most using cleared land to plant rice, cassava, and cocoa (World Bank, 2020).
31. At the same time, many rural households are highly dependent on forests for fuelwood, charcoal, food, and protection against climate shocks. About 70% of forest-proximate households participate in at least one forest economic activity, earning on average 35% of their annual income from forestry products. Households collect over 40 different forestry products, most commonly fuelwood, poles, bushmeat, and rattan to meet energy, food, and housing needs. Additionally, nearly 50% of households report drawing on forestry products to cope with economic and natural shocks, particularly food price increases (World Bank, 2020).
32. Unregulated economic activities add further pressure on forests. Illegal chainsaw logging, artisanal mining, charcoal production, and wildlife hunting are typically carried out by individuals and small-scale enterprises outside official monitoring and tax systems. These activities are driven by demand for high-value forest products, particularly timber, bushmeat, and gold, which are the top cash-generating products in forest communities.
33. Community participation in sustainable forest management remains low. Just 25% of forest communities reported participating in any sustainable forestry management program in the five years prior to being surveyed. Fewer than 20% of these communities reported receiving external support, including training, product processing assistance, information on forest laws and policies, or inputs such as fertilizers and seedlings (World Bank, 2020).

Fisheries

34. Fishing is central to Liberia's food security and rural livelihoods, contributing an estimated 10% to GDP (though estimates vary) and providing 65% of the country's animal protein. With 80% of the population consuming fish regularly, seafood is a dietary staple upon which millions of Liberians depend, especially low-income and rural households for whom it represents the most accessible and affordable source of protein.
35. Liberia's fisheries sector draws on two distinct resource bases. The country's 580-kilometer Atlantic coastline accounts for approximately 86% of total national fish production, involving a predominantly semi-artisanal fishing sector. Artisanal coastal fishers operate from small canoes, largely within the 6-nautical-mile inshore exclusion zone legally reserved for their use. Inland fisheries contribute the remaining 14% of fish consumed nationally, supported by the country's approximately 15,050 km² of rivers, lakes, lagoons, and creeks. While Liberia's fish stocks are considered relatively healthy, the lack of comprehensive scientific data makes it difficult to assess their true status and ensure their sustainable management.
36. Despite its importance, the sector faces significant structural constraints that limit its productivity and resilience. Artisanal fishing methods offer limited potential for yield increases given the technology and vessel constraints of small-scale inshore fishing. The greater opportunity for improvement lies in reducing post-harvest losses. These losses are driven by inadequate cold storage, unreliable electricity in rural coastal areas, and poor transportation infrastructure, all of which prevent fishers from accessing local markets effectively.
37. Women play a central role in Liberia's fisheries economy. While men dominate the catching side of the value chain, women are the primary actors in post-harvest processing, preservation, and trade. In coastal fishing communities across West Africa, including Liberia, women typically smoke, salt, or dry fish to extend shelf life, and manage the bulk of fish marketing through informal trader networks that connect landing sites to local and regional markets. These activities are economically significant but structurally undervalued: women fish processors and traders operate with little access to credit, modern preservation equipment, or market information, limiting both their productivity and their income.

Climate information and Early Warning Systems in Rural Areas

38. Access to reliable climate information and early warning systems in rural Liberia remains severely limited, constraining communities' ability to anticipate and respond to climate shocks. The Liberia Meteorological Services (LMS) and the Liberia Hydrological Services (LHS) have been gradually building monitoring capacity since 2010, but the system remains at an early stage of development. The national meteorological network currently consists of 14 manual rainfall stations and one automatic rainfall station, supplemented by water level monitoring at 16 hydrometric stations along rivers. The system provides daily observations, but data gaps are pervasive and there are no detailed countrywide assessments of floods, windstorms, heat waves, or droughts. These gaps are compounded by a lack of digitization, unreliable power supply, and a shortage of qualified technical staff, which limit the capacity of monitoring services to collect, process, and disseminate information. Additionally, Liberia's new National Emergency Warning and Emergency Operations Center (NEWEOC) is expected to serve as the national hub for early warning information, but has not yet operationalized its forecasting and warning system for climate-related disasters.
39. At the community level, the absence of accessible and locally relevant climate information and early warning systems means that rural households struggle to anticipate seasonal variability, shifting rainfall patterns, or incoming extreme events, and must rely primarily on traditional knowledge and local observation to manage climate risk. The translation of climate data into actionable information for rural communities requires dedicated dissemination infrastructure and intermediaries that are largely absent in rural Liberia. Community radio, agricultural extension workers, and local governance structures such as chieftaincy and community committees represent the most viable channels for reaching remote rural populations with climate advisories and seasonal forecasts, but these channels currently operate without systematic linkages to national meteorological services. The result is a critical last-mile gap: climate information generated at the national level does not reach the rural households that need it most.

B3. Economic Vulnerability to Climate Change

40. At a national level, Liberia's economy is projected to grow at an average of 5% per year between 2021 and 2050, with per capita GDP doubling to US\$1,470 and the national poverty headcount falling to 30% by 2050. Climate change poses a serious risk to this development trajectory. Without adaptation, climate change could reduce potential GDP by up to 6% as early as 2030 and by 15% by 2050. These losses

would push an additional 170,000 to 330,000 people into poverty by 2030 and between 830,000 and 1.3 million people (15% and 24% of the country's population) by 2050 (World Bank, 2024).

41. Climate change is projected to impact Liberia's economy primarily through three channels: reduced labor productivity (mostly from heat stress and water- and heat-related illnesses), lower crop yields, and higher costs of repairing and renewing critical infrastructure, including water, sanitation, and hygiene systems. The impact of higher temperatures on labor productivity is projected to generate economic losses of up to 7.5% of GDP by 2050. Reduced crop production is projected to reduce GDP by a further 4.3% by 2050. The impact of sea-level rise and inland flooding on infrastructure account for the remaining projected impact⁸. Extreme heat will also cause infrastructure damage including power outages and increase wildfire risk. The frequency of waterborne disease outbreaks, including cholera and other diarrheal diseases, is also projected to rise.
42. In rural areas, climate models project steady declines in average crop yields across most emissions scenarios, driven primarily by increased rainfall volatility and extremes, and the rise in average and extreme temperatures (as described in Section A2). Climate-related shocks could reduce agricultural output growth by 0.8 to 1.5 percentage points annually by 2050 (World Bank, 2021; IMF, 2025). Flooding is already the most frequent and destructive climate hazard for agriculture in Liberia, while rising temperatures and soil saturation further constrain crop performance. In the absence of targeted adaptation investments, these impacts are expected to translate into higher food insecurity and deeper rural poverty (Liberia NAP, 2020-2030).
43. Women are also structurally more vulnerable to climate shocks than men. Their limited access to land, inputs and other productive assets, and technical support reduces their capacity to absorb and recover from climate shocks. As projected increases in rainfall volatility, flooding, and extreme heat intensify pressure on rural economies (especially agriculture), women's climate vulnerability is expected to worsen.
44. Most of Liberia's agricultural areas are projected to face the impact of climate change. Liberia's key crops, especially rice, are sensitive to climate change. Rain-fed rice is particularly vulnerable to rising temperatures, intense rainfall, and the pests that thrive in these conditions. Rice production is projected to decline by up to 13% from its 2020 baseline by 2050. Cassava is more resilient to higher temperatures than rice, but production may still fall by 8% over the same period. Increased rainfall volatility and flooding, and the rise in average and extreme temperatures will disrupt planting and harvesting calendars, reduce yields, and damage rural livelihoods in multiple ways. For example, increased rainfall and flooding will waterlog fields, destroy standing crops, wash away seeds and fertilizer, and damage storage and processing facilities. The resulting soil erosion will further reduce output through the loss of nutrient-rich topsoil. Rising temperatures and more extreme heat days will accelerate evapotranspiration, increase soil moisture loss, intensify water stress on crops, and shorten growing cycles. As a result, it will reduce farm yields and the window available for planting and harvesting.
45. In response to heightened climate risk, smallholders often reduce input use to limit potential financial loss. Many will also have to sell productive assets and put increased pressure on neighbouring forests for additional food and income. These responses will reinforce low-productivity traps, deepen income instability, and drive further deforestation as households seek to compensate for declining yields. Rising temperatures and changing rainfall patterns are also projected to reduce the suitability of key production zones for staple crops. Lowland rice-growing areas are expected to face more frequent and prolonged flooding, while upland systems will experience greater rainfall variability and erosion (World Bank, 2021; IMF, 2025). Some traditional production zones may become marginal without improved water management, drainage, and soil restoration. Together, these dynamics pose a direct threat to rural food security and livelihoods (IMF, 2025; World Bank, 2021).
46. Climate change poses a triple threat to Liberia's already stressed forest sector. First, rising temperatures, prolonged dry spells, and more intense rainfall events will directly degrade forest health: heat stress and moisture deficits will reduce tree growth and regeneration rates, increase the risk of forest fires, and alter the species composition of forest ecosystems. Second, as forest health declines, so does the productivity of the forest-based activities that rural households depend on, including the collection of fuelwood,

⁸ Nearly 60% of Liberia's population lives along the coast, in areas that are densely settled and growing rapidly. Sea level rise has already increased the frequency of inundation, storm surges, and erosion. The rate of sea level rise is projected to reach 0.24 meters by 2050 and 0.72 meters by 2100 (World Bank, 2024). More than 230,000 people are estimated to be at risk, and 2,150 km² of coastal land could be lost by the end of the century

medicinal plants, bushmeat, and other non-timber forest products that serve as a critical income source and safety net against crop failure and economic shocks. Households facing declining forest productivity are likely to respond by intensifying extraction pressure on remaining forest resources, further accelerating degradation. Third, Liberia's forests serve as a critical regulator of rainfall, soil stability, and microclimate conditions that underpin agricultural productivity across the country. As climate change degrades these regulating functions, agricultural yields will fall further, narrowing the options available to smallholder households and strengthening the incentive to clear new forest land to compensate for losses and pushing the forest frontier further back.

47. The fisheries sector is also vulnerable to climate change, though no detailed sector-specific projections for Liberia were identified and the modelling of the impact of climate change on fisheries, particularly for artisanal and inland fisheries in West Africa, is less developed. However, the pathways through which climate change will affect the sector are well understood:

- Projected rising temperatures will increase sea surface temperatures, shifting fish stocks toward cooler, deeper, or more northerly waters. Artisanal fishers operating from small canoes within the inshore exclusion zone will be exposed to declining catches. Rising CO2 absorption will further degrade marine ecosystems, particularly coral reefs and shellfish habitats that support fish breeding and feeding grounds, and reduce the overall size of fish stocks over time.
- The projected intensification of rainfall events and storm activity will also make fishing more dangerous for small-scale fishers, raising the number of days when fishing is not possible and threatening lives and equipment. These risks extend to inland fisheries, where changes in river flow and flooding intensity will directly affect freshwater fish stocks and fishing conditions.
- Additionally, coastal erosion and sea level rise threaten Liberia's low-lying coastline. Projected sea-level rise is projected to negatively impact fishing communities, landing sites, and shoreside processing and storage infrastructure.

The impact on food security is significant: reduced catches combined with higher post-harvest losses will create a double burden for protein-dependent rural households, deepening food insecurity among Liberia's most vulnerable communities.

C. **Project Target Regions**

48. The project will focus activities in five counties: Montserrado, Grand Bassa, Lofa, Bong, and Sinoe. County selection reflects both national priorities, and climate vulnerability and poverty indicators. EPA identified these counties as national priorities for adaptation investment as reflected in the NAP, consistent with the Adaptation Fund's emphasis on country ownership and alignment with government-led planning processes. This prioritization is corroborated by available vulnerability and poverty data. All five counties are predominantly rural, with high poverty rates and heavy dependence on low productivity smallholder agriculture and artisanal fisheries. Lofa and Bong are heavily dependent on rain-fed agriculture and have never fully recovered from the devastation of civil conflict, leaving rural households with limited assets and adaptive capacity. Sinoe is among Liberia's most isolated counties, with the weakest market linkages, infrastructure, and access to services of any target county. Montserrado and Grand Bassa face acute and growing flood risk driven by low-lying coastal exposure and poor drainage infrastructure. Across all five counties, poverty rates are high, access to extension services and climate information is limited, and communities have few resources to absorb and recover from climate shocks without external support. Within these five counties, the project will apply adaptation principles at the community level, where site and activity selection will be determined through participatory vulnerability assessments and consultation with county authorities, traditional leaders, and community members. This ensures that while geographic

Chart 3: Liberia Counties



targeting reflects national prioritization, the specific adaptation investments within each county are shaped by local knowledge and community-identified priorities.

49. Liberia has four distinct topo-geographical regions.
 - The coastal belt is a low-lying plain on the Atlantic Ocean comprised of mangroves, tidal creeks, and shallow lagoons, up to 40 km wide and between 0–30 m above sea level.
 - The rolling hills form a transitional zone between 60–150 m, comprised of hills, valleys, and fast-moving waterways.
 - The plateau comprises most of Liberia's interior between 200–300 m above sea level, characterized by dense forest cover.
 - The northern highlands comprise mountain ridges near the Guinean border above 300 m altitude, including the Wologisi Range in Lofa, Gbarpolu, and Bong Counties (up to 1,440 m).
50. Together, the proposed counties span all four topo-geographical regions, giving the project national relevance and ensuring its lessons are replicable across Liberia's diverse climate contexts, though each is dominated by one or two zones
 - Montserrado and Grand Bassa are predominantly coastal belt counties, with low-lying Atlantic-facing terrain. Both counties have some rolling hills moving inland, but the coastal zone dominates their geography, livelihoods, and climate exposure.
 - Lofa and Bong are predominantly plateau counties, covering a large share of Liberia's forested interior. Both counties also extend into the northern highlands, with rolling hills forming a minor transitional feature in the south.
 - Sinoe is the most geographically diverse of the five target counties. As one of Liberia's largest counties by area, it combines a coastal belt around its southern coast with an extensive plateau interior further north, covered by some of Liberia's densest remaining rainforest.
51. These counties have a similar rural economic base (i.e., subsistence agriculture dominated by rice and cassava) and rank among Liberia's most climate-vulnerable and underserved counties, with high rates of rural poverty, limited infrastructure, and low adaptive capacity. However, their exposure to the two key climate hazards identified above varies significantly by geography: coastal counties face acute risks from flooding and sea level rise, while interior plateau counties are exposed to flash flooding, soil erosion, and more intense dry seasons amplified by rising temperatures.
52. Montserrado and Grand Bassa have a coastal economic profile in which agriculture, fishing, and trade are the primary rural livelihood activities. Subsistence farming remains the foundation of rural household food security in both counties. Coastal and inland fishing play an important supplementary role, particularly in low-income households for whom fish is the most accessible source of protein. Both counties are most acutely exposed to rainfall volatility and flooding: low-lying coastal terrain makes them highly vulnerable to slow-onset and flash flooding, storm surges, and sea level rise.
53. Lofa and Bong form the heart of Liberia's agricultural interior. Both counties are deeply dependent on smallholder farming. Lofa in particular holds historical significance as Liberia's traditional breadbasket, yet the county has never fully recovered its pre-war productivity. Forestry products also provide an important supplementary income stream for households living in proximity to Lofa and Bong's extensive forest cover. Their inland plateau geography exposes both counties to pronounced climate risks. Steep terrain and fast-moving river systems mean that increasingly intense rainfall events rapidly translate into flash flooding and soil erosion, while more frequent slow-onset flooding threatens lowland agricultural areas. Both counties are also projected to experience significant temperature increases placing growing thermal stress on rural economies. Additionally, both counties face high rates of deforestation driven by slash and burn farming.
54. Sinoe's economy reflects its dual geography. Its southern coastal strip supports fishing as a primary source of livelihood, while its extensive interior is dominated by subsistence farming and forest-dependent activities. Its dual geography also creates dual climate exposure: the coastal strip faces growing risks from rainfall-driven flooding, sea level rise and storm surges, while the interior plateau is exposed to the same rainfall volatility, flash flooding, and rising temperatures that threaten Lofa and Bong.

Historical and projected precipitation trends

55. Both Montserrado and Grand Bassa experience significantly more heavy rainfall days than the national average, reflecting their coastal location and exposure to Atlantic weather systems. Historically, Montserrado averaged approximately 24–25 heavy rainfall days per year over 1950–2014, while Grand

Bassa averaged approximately 15–16 days, as compared with the national average of 11–13 days. Under SSP2-4.5, both counties are projected to see further increases: Montserrado is projected to reach approximately 27.2 heavy rainfall days per year by end of century, and Grand Bassa approximately 19.5 days, representing increases of around 2.5 days above their already elevated 2014 historical baseline.⁹

56. Lofa and Bong present contrasting historical baselines. Lofa averaged approximately 12–13 heavy rainfall days per year over 1950–2014, broadly in line with the national average, while Bong averaged only around 8 days, among the lowest of the five target counties, reflecting its more sheltered inland plateau position. However, both counties are projected to see meaningful increases under SSP2-4.5: Lofa is projected to reach 17.8 heavy rainfall days per year by end of century, an increase of around 3.2 days above its 2014 baseline, while Bong is projected to reach approximately 12.1 days, an increase of around 2.4 days.
57. Sinoe's historical heavy rainfall days averaged approximately 10–11 days per year over 1950–2014, slightly below the national average and consistent with its position between the high-rainfall coastal zone and the drier interior plateau. Under SSP2-4.5, Sinoe is projected to reach approximately 11.9 heavy rainfall days per year by end of century, a small increase over its 2014 baseline.¹⁰

Table 3: Snapshot increased number of days with precipitation > 20mm (historical and projected)

	2014 (Historical)	2050 (SSP2-4.5)		2100 (SSP2-4.5)	
	# days precipit >20mm	# days precipit >20mm	% over baseline	# days precipit >20mm	% over baseline
National	12.26	15.5	26.4%	15.02	22.5%
Montserrado	24.69	27.74	12.4%	27.16	10.0%
Grand Bassa	16.99	20.00	17.7%	19.52	14.9%
Lofa	14.55	17.56	20.7%	17.76	22.1%
Bong	9.74	11.47	17.8%	12.12	24.4%
Sinoe	11.28	14.39	27.6%	11.89	5.4%

Historical and projected temperature trends

58. Montserrado and Grand Bassa are historically among Liberia's warmest counties, with average temperatures of approximately 25.7°C and 25.4°C respectively over the 1950–2014 period, slightly above the national average of 25.3°C. Under SSP2-4.5, both counties are projected to warm to 28.1°C and 27.8°C respectively by end of century, an increase of around 1.75°C above their 2014 baseline, marginally less than the projected national average increase and consistent with the well-documented pattern of coastal areas warming more slowly than interior regions due to the moderating influence of the ocean.
59. Lofa is historically the coolest of the five target counties, with average temperatures of approximately 24.8°C over the 1950–2014 period, reflecting its higher plateau and highland elevation. Bong, at approximately 25.45°C, sits closer to the national average. However, both counties are projected to experience among the largest absolute temperature increases of the five target counties under SSP2-4.5. Lofa is projected to reach approximately 27.6°C by end of century (an increase of around 2.1°C above its 2014 baseline) while Bong is projected to reach nearly 28.0°C, an increase of around 1.9°C.
60. Sinoe's historical average temperature of approximately 25.4°C over the 1950–2014 period sits close to the national average, reflecting its intermediate position between the warmer coast and the cooler interior. Under SSP2-4.5, Sinoe is projected to reach approximately 27.8°C by end of century, an increase of around 1.8°C above its historical baseline and broadly in line with the national trend.

Table 4: Snapshot increased average temperatures (historical and projected)

	2014 (Historical)	2050 (SSP2-4.5)		2100 (SSP2-4.5)	
	Average temperature (°C)	Average temperature (°C)	Increase over baseline (°C)	Average temperature (°C)	Increase over baseline (°C)

⁹ Similar projections and analysis available for other SSP scenarios upon request.

¹⁰ Sinoe's projected value for 2050 (14.4 days) is higher than the 2100 projection (11.9 days), a pattern that likely reflects multi-model ensemble variability rather than a genuine mid-century peak followed by decline, and should be interpreted with caution.

<u>National</u>	<u>25.97</u>	<u>26.94</u>	<u>0.97</u>	<u>27.85</u>	<u>1.88</u>
Montserrado	26.34	27.29	0.95	28.06	1.72
Grand Bassa	26.03	26.97	0.94	27.78	1.75
Lofa	25.55	26.57	1.02	27.60	2.05
Bong	26.09	27.05	0.96	27.97	1.88
Sinoe	25.97	26.91	<u>0.94</u>	27.77	<u>1.80</u>

61. No county-level economic projections aligned with these climate scenarios projections were identified. However, given the rural economies' low adaptive capacity, the five target counties are likely to experience severe climate-related economic losses. As mentioned above, at the national level, rice production is projected to decline by up to 13% from its 2020 baseline by 2050, and cassava by up to 8% over the same period. In the five target counties, where rain-fed rice and cassava cultivation are the primary source of food and income for the majority of rural households, these projected yield declines will translate directly into deeper food insecurity and loss of livelihoods, with limited capacity to compensate through alternative income sources or market access. These impacts will be not be felt equally. Women, who account for approximately 60% of agricultural output in Liberia yet have less access to land, inputs, and extension services than men, will be disproportionately exposed to yield losses and income shocks with fewer resources to recover. Additionally, the deforestation-climate feedback loop, already pronounced in Lofa, Bong, and Sinoe, risks compounding these losses further as households under climate stress clear additional forest land to compensate for declining yields, accelerating land degradation and amplifying future climate risk. For coastal counties, the additional burden of flood damage to infrastructure, fishing livelihoods, and post-harvest facilities will compound agricultural losses and place further pressure on already stretched rural economies.

D. Climate Adaptation Barriers and Solutions

D.1. Proposed Climate Adaptation Solutions for Resilient Livelihoods

62. Liberia faces two major climate hazards: increasing rainfall volatility and extremes, including more frequent and intense flooding, and a rise in average and extreme temperatures. These risks are compounded by rural households' low adaptive capacity, driven by the low productivity of local economy. Climate change is expected to further reduce productivity, increase production volatility, and deepen food insecurity with cascading consequences for rural livelihoods and the national economy.
63. The five target counties (Montserrado, Grand Bassa, Lofa, Bong, and Sinoe) are among Liberia's most climate-vulnerable and underserved areas. All five counties are predominantly rural, with high poverty rates and heavy dependence on low productivity smallholder agriculture and artisanal fisheries. Their climate exposure varies by geography: Montserrado and Grand Bassa face acute flood risk from low-lying coastal terrain. Lofa and Bong, as interior plateau counties, are exposed to flash flooding, soil erosion, and pronounced dry-season intensification amplified by rising temperatures. Sinoe faces dual exposure given its coastal-interior geography, combining the flood risks of the coastal belt with the temperature and dry-season risks of the interior plateau, while its extreme isolation further constrains communities' capacity to absorb and recover from climate shocks.
64. Adaptation solutions in the five target counties must be tailored to their distinct climatic, ecological, and livelihood conditions while addressing the two shared climate hazards that cut across all target areas. The project will advance two complementary sets of solutions. At the household level, adaptation solutions will focus on strengthening the climate resilience and productivity of the rural economy. At the community level, investments in shared physical infrastructure and productive assets will provide the enabling conditions for households to adopt, sustain, and scale climate-resilient practices beyond the project period. Together, these interventions form an integrated response to the climate risks facing each target county, grounded in community-based adaptation principles and delivered through existing community institutions.
65. The list of adaptation solutions below (Tables 5 and 6) has been confirmed in collaboration with EPA Liberia, drawing on their long-standing experience working with rural communities across the target counties. It defines the full range of eligible adaptation solutions to be implemented and will be validated during Full Proposal development, informed by expanded stakeholder and community consultations and a more detailed climate risk assessment. The specific solutions for each community will be confirmed in the Community Adaptation Action Plans (see Component 1), based on each community's local climate vulnerabilities, agroecological conditions, and demand and preferences identified through participatory

processes. This list may also evolve to reflect changing community demand, emerging climate risks, and evolving conditions on the ground during project implementation.

Table 5: Adaptation solutions at the household level in target counties

Climate Risk	Shortlisted Adaptation Solution
Agriculture	
Increased rainfall volatility and flooding	- Adopt flood-tolerant and early-maturing varieties to reduce exposure to waterlogging and shorten the growing period during high-rainfall events, especially for rice. - Diversify into flood-tolerant root crops (cassava, sweet potatoes) as a food security buffer when rice crops fail. - Apply field bunding, raised bed cultivation, and contour farming to control water flow and protect crops during heavy rainfall. - Construct and maintain small-scale drainage infrastructure (furrows, diversion ditches) to channel excess water away from fields, reduce erosion, and retain topsoil. - Apply mulching, cover crops, and vegetative buffers to reduce soil erosion and protect topsoil during intense rainfall events. - Elevate key farm structures (seed stores, drying platforms, livestock pens) above known flood levels using locally available materials.
Rising temperature and extreme heat	- Adopt heat- and drought-tolerant varieties, especially for rice, and diversify into more resilient crops (e.g., sorghum, cassava) to reduce vulnerability to thermal stress and dry-season intensification. - Explore rainwater harvesting household solutions (rooftop tanks, lined field basins) to capture wet-season rainfall for dry-season use. - Integrate shading solutions (shade nets, agroforestry) to protect crops and reduce soil temperatures. - Use low-tech, affordable irrigation systems that do not require electricity (treadle pumps, gravity-fed kits) to extend water availability during dry spells. - Apply reduced or minimum tillage, mulching, and organic ground cover to retain soil moisture and reduce evaporation under heat stress.
Cross-cutting	- Identify and promote indigenous crop varieties with demonstrated flood and heat resilience. - Promote intercropping and crop rotation systems, including legumes such as cowpeas and groundnuts, to enhance soil fertility, diversify income, and reduce the risk of total crop failure from a single climate event. - Provide reliable access to climate information and early warning systems to support seasonal climate forecasts and crop advisories to help adjust planting schedules and crop selection: This includes real-time climate information and early warnings on extreme rainfall and heat events directly to rural households. Where feasible, technology-assisted delivery channels (including SMS, WhatsApp, and voice-based advisories in local languages) will be used to reach low-literacy farmers in remote areas. - Explore geospatial crop suitability mapping under current and projected climate scenarios to inform the selection of locally appropriate crop varieties and farming systems. - Use staggered planting techniques based on seasonal forecasts to reduce exposure to false season starts and dry spells. - Promote hermetic storage bags and metal silos to protect stored crops from pests, mold, moisture, and heat. - Expand access to organic fertilizers, compost, and manure to improve soil health and crop performance under climate stress, and promote traditional and indigenous soil management practices that contribute to long-term sustainability. - Integrate basic on-farm infrastructure such as improved hand tools, protective crop storage, mobile drying racks, and lined compost pits.
Forestry	
Increased rainfall volatility and flooding	- Establish vegetative buffers and riparian strips along waterways to reduce flood peaks, protect agricultural land from erosion, and maintain water quality. - Practice assisted natural regeneration on degraded slopes and riverbanks to restore ecosystem services that buffer against flood impacts. - Restore mangroves and coastal vegetation in low-lying areas to reduce storm surge and flood damage to rural communities.
Rising temperature and extreme heat	- Adopt sustainable charcoal and fuelwood practices (e.g., improved cookstoves) to reduce pressure on forests during dry season when demand for fuelwood increases. - Strengthen community fire management to reduce dry-season bushfire risk in forest-proximate communities. - Maintain and restore forest cover in water catchment areas to sustain seasonal stream flows and groundwater recharge.
Cross-cutting	- Transition from slash-and-burn to more profitable sedentary farming systems through diversified land use, making settled agriculture more financially attractive than clearing new forest land. - Support community-based forest management arrangements to reduce deforestation pressure and maintain ecosystem services that buffer against flooding and drought. - Engage in reforestation and assisted natural regeneration activities on degraded land, restoring ecosystem services, including water retention, soil fertility, and flood buffering. - Diversify household income through sustainable collection of non-timber forest products (e.g., rattan, medicinal plants) to reduce dependence on forest clearing as a livelihood strategy.

	- Participate in landscape monitoring activities, contributing local knowledge to track restoration progress and adjust land management practices based on ecological and livelihood outcomes. Where feasible, leverage technology-assisted and remote sensing tools (e.g., satellite imagery and digital MRV frameworks) to monitor restoration progress, track land cover change, and adaptive management.
Fisheries	
Cross-cutting	- Access and act on climate information and early warning alerts on extreme heat and peak rainfall and storm events to adjust fishing schedules and reduce exposure to dangerous conditions at sea and on inland waterways. - Establish elevated or flood-resilient fish processing facilities to protect equipment and catch from flood damage and heat. - Use improved low-cost preservation methods (smoking, drying racks, salting) to extend shelf life and reduce post-harvest losses as rising temperatures accelerate spoilage. - Adopt selective and low-impact fishing gear to maintain breeding populations as warming waters shift fish stock distribution and reduce inshore catches. - Restore and conserve riverine vegetation, coastal mangroves, and wetlands that serve as fish breeding and nursery grounds while reducing flood and sedimentation impacts. Where feasible, use remote sensing tools to monitor the health and extent of restored coastal and riverine ecosystems and inform adaptive management. - Adopt co-management arrangements to enforce seasonal fishing restrictions during high-flood periods, protecting breeding populations and maintaining long-term stock health.

Table 6: Adaptation solutions at the community level in target counties

Community Productive Hubs and Shared Asset Pools	
- Establish community seed banks and nurseries stocked with flood- and heat- resistant and early-maturing crop varieties (including rice, cassava, and indigenous species) and tree seedlings constructed on elevated ground and/or using flood-resistant materials. - Provide shared pools of flood-resilient farming tools and equipment hand tools, waterproof containers, raised storage racks, and water-saving equipment such as treadle pumps and drip irrigation kits) accessible to community members. - Establish community input agricultural production inputs hubs stocked with certified climate-resilient inputs (e.g., organic fertilizers, manure, and improved seeds). - Establish community clay-brick production facilities to supply affordable, locally produced flood-resilient construction materials for community infrastructure and farm buildings.	
Post-Harvest, Value Addition, and Market Access Infrastructure	
- Set up elevated, flood-resilient community storage facilities (hermetic storage, raised warehouses) to protect harvests from flood damage, pests, and moisture. - Establish cold storage and improved drying facilities (solar dryers, raised drying platforms) to reduce post-harvest losses, especially in coastal fishing communities where fish spoilage is most severe. - Install processing and value addition equipment (milling, sorting, and packaging) to enable year-round processing activity and improve product quality and shelf life. - Establish community market sales points and collection points on elevated ground with flood-resilient construction to maintain trading activity and connect producers to local and regional buyers during and after peak rainfall periods. - Deploy market information systems providing real-time price data and buyer linkages to smallholders and fishers, enabling timely sales decisions and reducing losses from delayed or poorly timed transactions.	
Climate-Resilient Water Management Infrastructure	
- Construct small-scale flood protection works to protect community productive assets, homesteads, and land from flood damage (e.g., drainage channels, embankments, diversion ditches, and riparian buffers). Technology-assisted erosion prediction tools informed by satellite-derived terrain and rainfall data may be used to identify priority sites for flood protection investments. - Rehabilitate and protect natural flood buffers including wetlands, mangroves, and riverside vegetation to reduce peak flood impacts on communities and land. Remote sensing tools may be used to monitor the health and extent of rehabilitated natural buffers and inform adaptive management. - Construct rainwater harvesting systems (community tanks, lined ponds, field basins) to capture wet-season rainfall for dry-season agricultural and domestic use. - Rehabilitate and protect seasonal water sources (springs, streams, shallow wells) that communities depend on for dry-season water supply, including catchment protection and reforestation of water-yielding areas.	
Nature-based Solutions	
- Encourage integration of trees into farming systems and implement agroforestry systems integrating trees into farming landscapes to provide shade, reduce soil and crop temperatures, retain moisture, protect against erosion, and diversify household income. - Implement riparian buffers and community woodlots along waterways and field boundaries to reduce flood peaks, protect topsoil, maintain water quality, and sustain water availability - Implement reforestation and assisted natural regeneration on degraded land to restore ecosystem services. - Rehabilitate and protect wetland buffers, natural waterways, and coastal mangroves to absorb and slow floodwaters, reducing peak flood impacts on communities and productive assets and serving as fish breeding and nursery grounds and providing protection sea level rise and coastal erosion. Remote sensing monitoring tools may be used to track the health and extent of restored coastal and riverine ecosystems.	

66. Rural households in the five target counties depend almost entirely on climate-sensitive agriculture, forestry, and fisheries for food and income, leaving them acutely exposed to climate shocks with few economic buffers. Alternative income opportunities, including value addition to climate-sensitive sectors, (e.g., handicrafts, honey production, and small-scale trade) can help households diversify income, reduce vulnerability to climate shocks, and sustain employment during agricultural off-seasons and periods of climate-induced disruption. Although often informal, these activities offer flexible work opportunities that absorb seasonal and climate-related labour shifts. For women, youth, and marginalized groups targeted support for micro-enterprise development and alternative income pathways is particularly important in building more stable and climate-resilient rural economies.
67. Additionally, without targeted investment in community-level climate information and early warning systems, rural households will continue to face climate shocks with little preparation and few options for reducing their exposure. Closing this last-mile gap does not necessarily require building entirely new infrastructure. Existing and recently installed weather stations, regional climate data platforms, and mobile network coverage in rural Liberia offer a practical foundation for delivering real-time climate information and early warnings directly to rural households.

D.2. Local capacity building providers and MSMEs as agents to deliver adaptation solutions

68. Micro, small, and medium enterprises (MSMEs) and local capacity building providers play a central role in Liberia's rural economy. They provide rural households with inputs, technologies, products, and services. These actors include a wide range of agro-dealers, input retailers, logistics providers, rural extension service providers, and specialized technical service providers. They are integral to rural supply chains distributing inputs and bridging suppliers and buyers. They are also typically locally owned, often operating informally, and embedded in specific geographies.
69. MSMEs are particularly well positioned to provide climate adaptation solutions and drive locally-led adaptation in rural economies due to their local presence, trusted relationships with rural households, and operational flexibility. An adaptation MSME or capacity building provider is broadly defined as any organization providing technologies, products, services, or technical assistance that improves rural households' capacity to understand and respond to climate risks, adopt climate-resilient practices, or reduce their exposure to climate-related losses. Their close proximity to rural communities gives them strong insight into local climatic conditions, rural households' risk perceptions, and other local production challenges. They also often supply affordable, accessible products and services to surrounding communities, including vulnerable groups, and can adapt quickly to shifts in market demand and community needs. In addition, MSMEs often provide valuable extension services to rural households, informing them about the advantages of implementing specific climate-resilient practices.

D.3. Barriers for the adoption of climate adaptation solutions

70. Rural households in the five target counties face a set of mutually reinforcing barriers that prevent them from adopting and sustaining climate adaptation solutions at the household and community level, even where effective solutions exist and climate risks are well understood. They are structural in nature, deeply rooted in the low-productivity rural economies of the target counties, and disproportionately severe for women, youth, and marginalized groups.
71. Low productivity and limited marketable surplus reduce incentives to invest in adaptation. When rural economies have very low productivity and most production goes to subsistence consumption, households have little financial capacity or incentive to invest in new practices, particularly practices with delayed returns. The dominance of low-cost and low-return slash-and-burn agriculture reflects a rational financial response to this situation. Breaking this cycle requires demonstrating that alternative, climate-resilient farming systems can deliver higher and more stable financial returns in the short term.
72. Weak capacity of local capacity building providers and MSMEs. Even where rural households are willing to adopt adaptation solutions, the local service providers and MSMEs needed to deliver them often do not have enough technical know-how. Most MSMEs focus on low-cost inputs rather than climate adaptation solutions, because the latter carry higher upfront costs and are technically less well-known. Few have been trained on adaptation technologies or practices, and limited cooperation with universities and research institutions restricts their ability to upgrade technical skills. Where extension services exist at all, they rarely cover climate-adaptive integrated farm management.

73. Forest degradation undermines the productive base for rural livelihoods and reduces climate resilience. Widespread slash-and-burn farming, illegal logging, and charcoal production drive deforestation across the target counties, degrading the ecosystem services that rural livelihoods depend on. Community participation in sustainable forest management remains low. Without concerted action to restore degraded landscapes and transition households away from forest-destructive practices, climate risks will continue to intensify as the protective functions of forest cover are eroded.
74. Fisheries adaptive capacity is also low. Artisanal fishers face a combination of technology constraints, limited access to post-harvest infrastructure, and growing climate-driven pressure on fish stocks. Post-harvest losses are high due to inadequate cold storage and poor transport infrastructure, reducing the economic returns from fishing and limiting households' ability to invest in more resilient practices. Without targeted investment in the fisheries value chain, climate impacts on fish stocks will translate directly into deeper food insecurity and income loss.
75. The adoption of climate-resilient practices depends critically on access to extension services that can translate climate information and new technologies into practical, locally relevant guidance for rural households. However, rural extension systems in Liberia are severely underfunded and understaffed, with fewer than 5% of rural households accessing extension services. As a result, rural households rely primarily on informal knowledge and traditional experience to manage their farms and natural resources.
76. High upfront costs and limited access to finance. Many adaptation solutions, such as improved seed varieties, small-scale drainage infrastructure, irrigation, and storage, require upfront capital investment that most rural households cannot afford. Affordable credit is rarely available: fewer than 5% of farming households report access to agricultural credit, and community savings groups, while widespread, are typically too small to finance meaningful adaptation investments.
77. Weak producer cooperatives and community institutions. Aggregating smallholder demand through cooperatives and producer associations can significantly improve the economics and logistics of adaptation solution delivery and capacity building. However, most rural cooperatives in the target counties are underdeveloped and lack the technical, financial, and managerial capacity to serve as effective delivery partners. Without strengthening, they are unable to coordinate procurement, organize training, or provide meaningful support to members seeking to adopt climate-resilient practices.
78. Limited access to community infrastructure and productive assets. The absence of basic community infrastructure, including seed banks and tree nurseries, community productive hubs, post-harvest storage, processing facilities, and water management systems, creates a practical barrier to the adoption of many adaptation solutions at scale. Without shared assets and infrastructure, individual households bear the full cost of adaptation alone and the solutions they can afford are typically smaller in scale and less cost-effective than community-level alternatives.
79. Weak market access constrains the financial returns from climate-resilient production. Even where households successfully adopt climate-resilient practices and increase production, weak integration into local and regional value chains prevents them from converting productivity gains into reliable income. Limited access to market information further compounds this challenge: smallholders and fishers often sell at disadvantageous prices, eroding the financial returns that would otherwise incentivize further investment in adaptation. Without improved market access and stronger value chain linkages, the economic case for climate-resilient production remains difficult to make for subsistence-oriented households.
80. Degraded landscapes reduce the effectiveness of adaptation investments. Land degradation driven by deforestation, soil erosion, and unsustainable farming practices reduces the productivity of rural economies and undermines the ecosystem services that buffer communities against climate shocks. Restoring degraded landscapes is a collective challenge that individual households cannot address alone. It requires coordinated community action, technical support, and sustained financing.
81. Women face structural disadvantages across all of the above dimensions: smaller landholdings, limited control over productive assets, lower access to credit and extension services, and time constraints from unpaid care responsibilities. Youth face limited vocational training opportunities, weak business development support, and restricted access to land and finance. Without targeted interventions, these groups risk being systematically excluded from the benefits of adaptation investment, deepening existing inequalities and undermining the long-term sustainability of adaptation outcomes.

82. Limited access to alternative income opportunities constrains economic resilience. Rural households in the five target counties depend almost entirely on climate-sensitive agriculture, forestry, and fisheries, leaving them with few economic buffers when climate shocks reduce yields or disrupt livelihoods. Alternative income opportunities (e.g., value addition, handicrafts, honey production, and small-scale trade) exist but remain largely inaccessible due to low skills, limited vocational training, weak business development support, and restricted access to finance.
83. A key barrier to effective community-level climate information and early warning systems is the limited capacity of national meteorological services to generate localized climate information and forecasts relevant for seasonal and day-to-day decision-making by rural households. There are also no mechanisms for translating national climate data into community-level advisories, or for linking this information with community radio stations or disseminating it through text messages and other low-cost channels. Additionally, rural communities themselves have had limited exposure to climate information services and lack the capacity to interpret and act on forecasts without accompanying training and support.

E. Project components, proposed financing, and calendar

Project/Programme Objectives:

84. The project will strengthen the climate resilience and adaptive capacity of rural communities in five target counties (i.e., Montserrado, Grand Bassa, Lofa, Bong, and Sinoe) by empowering them to identify, adopt, and sustain community-driven adaptation solutions in the face of Liberia's two key climate hazards: increasing rainfall volatility and extremes, including more frequent and intense flooding, and a rise in average and extreme temperatures. These hazards directly threaten the food security and livelihoods of rural households that depend almost entirely on smallholder agriculture, forests, and fisheries for their survival. The specific objectives are to: (1) build the climate risk knowledge, adaptation planning capacity, and community governance structures that rural communities need to identify and prioritize adaptation solutions and oversee their implementation; (2) reduce vulnerability through the delivery of community-prioritized adaptation solutions, including climate-resilient livelihood capacity building, targeted support for women, youth, and marginalized groups, and restoration of degraded landscapes that underpin rural livelihoods; (3) provide the physical infrastructure and productive assets required to implement adaptation solutions at scale, including community productive hubs, post-harvest and market access infrastructure, climate-resilient water management systems, and nature-based infrastructure; and (4) ensure national ownership, long-term sustainability, and scalability of adaptation outcomes by strengthening EPA's institutional capacity for community-driven adaptation delivery, implementing a phased handover of project functions to EPA and subnational authorities by project completion, establishing a knowledge management system, and integrating project learnings into national and subnational adaptation planning frameworks.
85. The project is strategically designed to contribute directly to the Adaptation Fund's (AF) overarching objective of reducing vulnerability and increasing adaptive capacity to respond to the impacts of climate change. Through its four components, the project aligns with the following AF Outcomes:
 - AF Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level. Component 1 will build community climate risk knowledge, co-develop Community Adaptation Action Plans, and establish Community Adaptation Committees. This will ensure that rural households in the five target counties are aware of their climate risks and have the governance structures needed to plan and drive community-driven adaptation responses.
 - AF Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas. Component 2 will deliver community-prioritized adaptation solutions through climate-resilient livelihood capacity building, a targeted capacity building initiative for women, youth, and marginalized groups, and landscape restoration.
 - AF Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets. Component 3 will finance the small-scale community infrastructure and productive assets required to implement adaptation solutions at scale, including community productive hubs, post-harvest and market access facilities, climate-resilient water management systems, and nature-based infrastructure.
 - AF Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses. Component 4 will strengthen EPA's institutional capacity for locally-led adaptation delivery, establish a project knowledge management system, and ensure project learnings are integrated into national and subnational adaptation planning frameworks through a phased handover of project functions.

At the output level, the project specifically targets AF Output 3.2 (strengthened capacity to capture and disseminate knowledge and learning), AF Output 6 (strengthened individual and community livelihood strategies), AF Output 4 (vulnerable infrastructure assets strengthened), and AF Output 2.1 (strengthened capacity of national and subnational institutions).

Project/Programme Components and Financing

Project/ Programme Components	Expected Outcomes	Expected Outputs	Amount (US\$)
1. Community Climate Risk Planning, Governance and Accountability	1. Community capacities strengthened to assess climate risks, define adaptation priorities, and govern locally led adaptation actions through inclusive and accountable mechanisms	Output 1.1 Community-level climate risk and vulnerability assessments completed	1,000,000
		Output 1.2 Community Adaptation Action Plans developed and endorsed by local stakeholders	2,000,000
		Output 1.3 Community Adaptation Committees established and operational, with accountability and grievance mechanisms in place	1,000,000
2. Community-Prioritized Adaptation Solutions for Resilient Livelihoods and Landscapes	2. Vulnerable rural households and community groups adopt climate-resilient livelihood practices, diversify income sources, and restore degraded landscapes	Output 2.1 Climate-resilient livelihood capacity building delivered to target communities to strengthen existing economic activities and diversify livelihoods	3,000,000
		Output 2.2. Inclusive capacity building to support alternative adaptation initiatives and entrepreneurship led by women, youth, and other marginalized groups	2,500,000
		Output 2.3. Degraded landscapes in priority climate-exposed areas restored to sustain community livelihoods and productive land use	2,000,000
3. Climate-Resilient Productive Solutions and Adaptation Infrastructure	3. Climate-resilient productive assets, shared equipment, and adaptation infrastructure available to rural communities	Output 3.1. Community productive hubs and shared asset pools established to provide sustained access to climate-adaptation inputs, tools, and equipment.	3,000,000
		Output 3.2. Infrastructure for climate-resilient value addition, storage, loss reduction after harvest, and market-linkage deployed to reduce climate-driven losses and strengthen livelihood resilience	1,879,279
		Output 3.3 Community water risk management infrastructure deployed to reduce household exposure to climate risks	1,800,000
		Output 3.4 Enable deployment of nature-based adaptation solutions to strengthen ecosystem services, consolidate landscape restoration, and protect community productive assets	1,000,000
4. Institutional Sustainability and Knowledge Management	4. National ownership, long-term sustainability, and scalability of adaptation activities and impacts enhanced	Output 4.1 National and subnational institutional capacity strengthened to lead and sustain community-driven adaptation delivery, including EPA systems, tools, and processes	1,000,000
		Output 4.2 Knowledge management and sharing to support learning and replication of project approaches	500,000
		Output 4.3 Project evidence and learnings integrated into national and county adaptation policy and planning frameworks	1,000,000
5. Project/Programme Execution cost			1,362,196
6. Total Project/Programme Cost			23,041,475
7. Project/Programme Cycle Management Fee charged by the Implementing Entity			1,958,525
Amount of Financing Requested			25,000,000

Table 7: Indicative Budget Allocation by Component

Projected Calendar

Table 8: Project Implementation Milestones

Milestones	Expected Dates
Start of Project/Programme Implementation	June 2028
Mid-term Review (if planned)	June 2031

Project/Programme Closing	May 2034
Terminal Evaluation	September 2034

Project Duration: 6 years (72 months) – including 6 months of project inception and start-up phase, and 6 months of project closure phase including final evaluation. 5 years of project activities.

PART II: PROJECT / PROGRAMME JUSTIFICATION

- A. Describe the project/programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.**

A1. Proposed intervention

86. Rural communities in Montserrado, Grand Bassa, Lofa, Bong, and Sinoe face two major climate risks: increasing rainfall volatility and extremes including more frequent and intense flooding, and rising average and extreme temperatures. Their adaptive capacity is low. Agricultural productivity remains severely constrained by dependence on rain-fed farming, limited access to improved seeds, inputs, and extension services, and widespread reliance on slash-and-burn cultivation that degrades the soil and forest resources households depend on. Artisanal fishers and forest-dependent households face declining yields as warming temperatures, shifting rainfall patterns, and ecosystem degradation reduce the productivity of the natural resource base they rely on for food and income. Rural households have few options to diversify income during climate shocks, with off-farm employment opportunities limited and access to credit near-absent. At the institutional level, producer cooperatives and community savings groups that could serve as vehicles for collective adaptation remain weakly governed and poorly resourced, while community-level climate information and early warning systems are largely absent, leaving rural households to manage growing climate risks with little preparation and no advance notice of extreme events.
87. To build the adaptive capacity of rural communities across the five target counties, the project will strengthen community demand for adaptation solutions, expand the supply of affordable and context-appropriate services and infrastructure, and reinforce adaptive governance at the community and subnational levels. Communities will be equipped with climate risk knowledge, co-developed adaptation plans, and real-time climate information to support day-to-day and seasonal decision-making. Rural households will receive targeted technical assistance to adopt climate-resilient livelihood practices across agriculture, forestry, and fisheries, while women, youth, and marginalized groups will receive dedicated support to access alternative income pathways. Community-prioritized adaptation infrastructure, including productive hubs, post-harvest facilities, water management systems, and nature-based solutions, will be deployed to reduce climate-driven losses, with local MSMEs engaged to ensure efficient day-to-day management. Finally, adaptation gains will be institutionally anchored through capacity building for national and subnational authorities and integration of project learnings into Liberia's adaptation planning frameworks, ensuring sustainability and the conditions for replication beyond the project period.
88. The project will strengthen rural livelihoods and food security by embedding participatory approaches and community ownership throughout design and implementation. From the outset, rural communities will drive the identification of climate risks, prioritize adaptation solutions, and oversee the implementation of adaptation solutions by building on existing local structures and institutions. Community Adaptation Action Plans will be co-developed with communities rather than imposed from outside, ensuring that adaptation solutions reflect local agroecological conditions, livelihood realities, and the differentiated needs of women, youth, and marginalized groups. Delivery of capacity building and infrastructure will be channelled through trusted community institutions to maximize reach, build local ownership, and embed climate adaptation practices within institutions that communities already trust. Together, these approaches will lay the foundation for an inclusive, community-driven, and climate-resilient rural economy across Liberia's most vulnerable counties.

A2. Project Structure

89. The project is structured around four interlinked components that together establish the conditions for rural communities to plan, adopt, and sustain climate adaptation solutions at scale. Component 1 will equip communities with the climate risk knowledge, adaptation plans, and governance structures needed to identify priorities, guide implementation, and oversee adaptation investments over time. Component 2 will deliver the capacity building, financial support, and landscape restoration activities that rural communities need to translate adaptation plans into practice. It will mobilize local MSMEs and capacity building

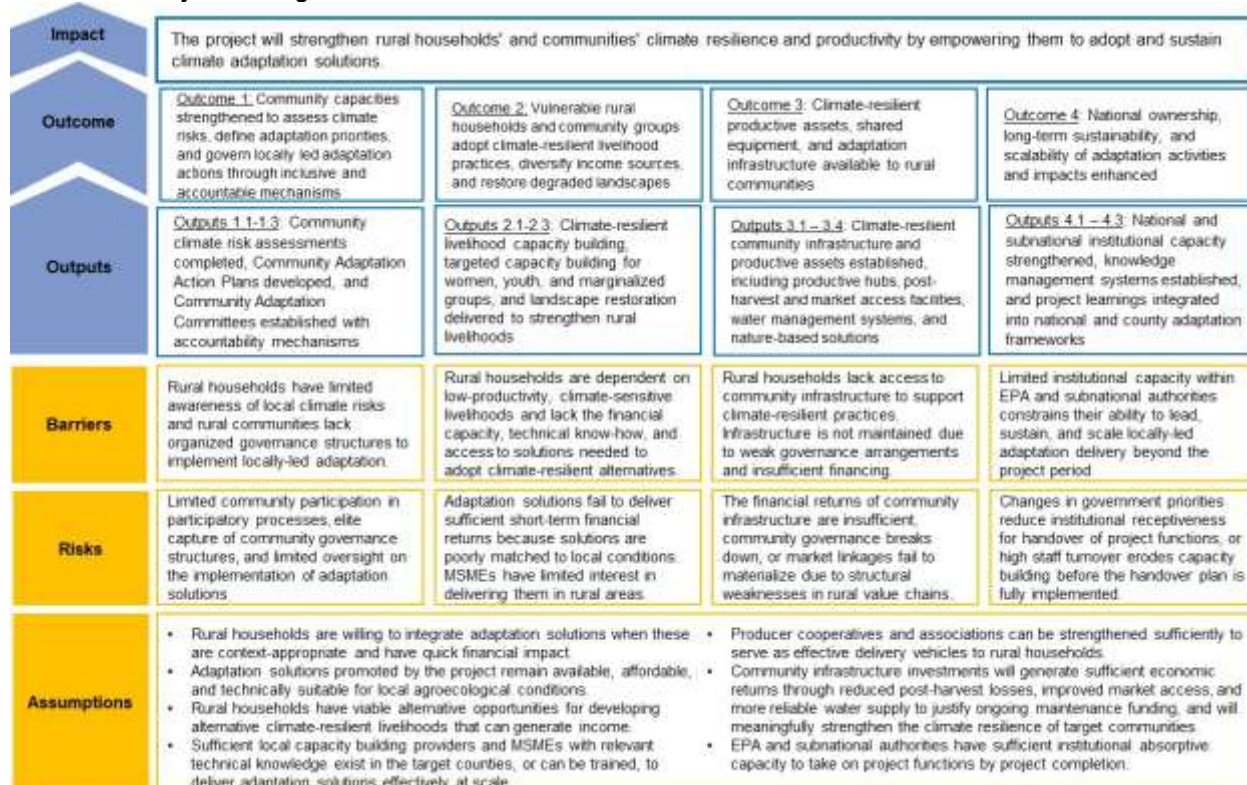
providers to deliver tailored technical assistance on climate-resilient livelihood practices, provide dedicated support for women, youth, and marginalized groups, and restore degraded landscapes to sustain the productive base that rural livelihoods depend on. Component 3 will provide the physical infrastructure and productive assets that communities need to implement adaptation solutions and protect their livelihoods from climate-driven losses, including community productive hubs, post-harvest and value addition facilities, water management infrastructure, and nature-based solutions. Component 4 will ensure that the adaptation gains delivered by the first three components are institutionally anchored, continuously improved, and positioned for replication and scale. Together, these four components create a mutually reinforcing system in which community-driven planning and governance (Component 1), inclusive capacity building and landscape adaptation (Component 2), climate-resilient infrastructure and productive assets (Component 3), and institutional sustainability and knowledge management (Component 4) combine to deliver lasting adaptation outcomes for Liberia's most climate-vulnerable rural communities.

Unidentified Sub-Projects (USP)

90. The project does not include Unidentified Sub-Projects (USPs) as defined in the Adaptation Fund's guidance. The nature of the activities and the environmental and social settings in which they will take place are sufficiently known to permit ESP-compliant risk identification. The full range of eligible adaptation solutions has been defined and confirmed in collaboration with EPA Liberia (see Tables 5 and 6), with the solutions for each community to be validated during the Full Proposal development, informed by expanded stakeholder and community consultations and a more detailed climate risk assessment, and confirmed in the Community Adaptation Action Plans (Component 1). This list may also evolve to reflect changing community demand, emerging climate risks, and evolving conditions on the ground during project implementation. Neither the site selection process nor the CAAP-guided prioritization meets the functional definition of a USP under the updated AF guidance.

Theory of Change

Chart 4: Theory of Change



91. The Theory of Change outlines how the project's four interlinked components jointly create the conditions for rural communities in Liberia to identify, adopt, and sustain climate adaptation solutions, while strengthening the institutional foundations needed to anchor these gains beyond the project period. Component 1 builds the foundational systems for community-led adaptation by equipping communities with climate risk knowledge, co-developed Community Adaptation Action Plans (CAAPs), and Community Adaptation Committees responsible for implementing the CAAPs. Component 1 ensures that adaptation

priorities are community-owned, gender-responsive, and linked to the capacity building and infrastructure investments delivered under Components 2 and 3. Component 2 translates adaptation plans into practice by delivering tailored technical assistance and livelihood capacity building to rural households, channelled through strengthened producer cooperatives and associations. A dedicated capacity building initiative to expand access to alternative income opportunities for women, youth, and marginalized groups, while landscape restoration activities reverse ecosystem decline that undermines the productive base on which rural livelihoods depend. Component 3 provides the physical infrastructure and productive assets that rural communities need to implement adaptation solutions at scale, reducing climate-driven losses and strengthening livelihood resilience. Community productive hubs, post-harvest and market access infrastructure, water management systems, and nature-based infrastructure work together to remove the practical barriers that prevent households from adopting and sustaining climate-resilient production systems. Component 4 ensures that the adaptation gains generated by Components 1 to 3 are institutionally anchored and positioned for replication and scale. By strengthening EPA's capacity to lead locally-led adaptation delivery, implementing a phased handover of project functions to EPA and subnational authorities, and integrating project learnings into national and subnational planning frameworks, Component 4 creates the conditions for sustained climate action beyond the project period. Together, these four components ensure that adaptation solutions are demand-driven by local communities, delivered through trusted local institutions, inclusive of the most vulnerable, and supported by strengthened national systems creating durable and scalable foundations for climate resilience across Liberia's most climate-exposed rural communities.

92. Component 1: Community Climate Risk Planning, Governance and Accountability

- IF rural communities receive support to assess their climate risks and vulnerabilities,
- IF communities are supported to co-develop inclusive Community Adaptation Action Plans (CAAPs) that link identified climate risks with prioritized, community-owned adaptation solutions, and are equipped with real-time climate information and early warning systems to support day-to-day and seasonal decision-making,
- IF Community Adaptation Committees are established with defined mandates to oversee CAAP implementation and underpinned by clear asset ownership and maintenance arrangements for community infrastructure to ensure long-term financial sustainability beyond the project period,
- THEN rural communities will have the climate risk knowledge, adaptation plans, and local governance structures needed to identify priorities, guide implementation across Components 2 and 3, and sustain adaptation activities beyond the project timeline,
- BECAUSE access to localized climate risk information, structured participatory planning processes, and accountable community governance institutions will create the enabling conditions for communities to drive their own adaptation processes and ensure that investments are locally owned, gender-responsive, and sustained beyond the project period.

93. Component 2: Community-Prioritized Adaptation Solutions for Resilient Livelihoods and Landscapes

- IF rural households receive tailored capacity building and technical assistance on climate adaptation solutions identified in their CAAPs, delivered through trained local providers and channelled through strengthened producer cooperatives and associations,
- IF women, youth, and marginalized groups receive targeted capacity building and mentoring support to access alternative climate-resilient employment pathways and develop viable micro-enterprises,
- IF priority degraded landscapes are identified and cost-effective landscape restoration is implemented,
- THEN rural communities will have the skills, income diversification, and restored productive landscapes needed to reduce their dependence on climate-sensitive activities, improve livelihood resilience, and sustain adaptation outcomes beyond the project period,
- BECAUSE access to locally delivered technical assistance, inclusive financial support mechanisms, and restored ecosystems will create the conditions for rural households to profitably adopt climate-resilient practices, diversify income sources, and collectively steward the natural resource base on which their livelihoods depend

94. Component 3: Climate-Resilient Productive Solutions and Adaptation Infrastructure

- IF community productive hubs and shared asset pools are established and stocked with climate-resilient inputs, tools, and equipment,
- IF post-harvest, value addition, and market access infrastructure are established or upgraded to reduce climate-driven losses and strengthen connections between smallholder producers, trader networks, and buyers,

- IF climate-resilient water management infrastructure is built or rehabilitated in priority communities to reduce household exposure to water stress and flooding,
- IF nature-based infrastructure is implemented in priority sites to consolidate landscape restoration activities (from Component 2) and protect community productive assets from land degradation,
- THEN rural communities will have the productive assets, market connections, water security, and protected landscapes needed to implement adaptation solutions, reduce climate-driven losses, and strengthen the long-term resilience of their livelihoods,
- BECAUSE investment in community-owned and community-governed infrastructure will remove the physical and logistical barriers that currently prevent rural households from adopting and sustaining climate-resilient production systems.

95. Component 4: Institutional Sustainability and Knowledge Management

- IF EPA and relevant subnational authorities receive targeted capacity building and institutional strengthening to lead and sustain community-driven adaptation delivery, supported by a phased handover plan that progressively transfers key project functions by project completion,
- IF a knowledge management system is established to consolidate data, evidence, and lessons learned across all components, and targeted knowledge products are developed and disseminated to community, national, and international audiences,
- IF project evidence and learnings are systematically integrated into Liberia's national and subnational adaptation planning frameworks through technical assistance and regular policy dialogues with EPA and county authorities,
- THEN adaptation gains delivered by Components 1 to 3 will be institutionally anchored, continuously improved, and positioned for replication and scale beyond the project period,
- BECAUSE strengthened institutional capacity, a functioning knowledge management system, and evidence-based policy engagement will create the conditions for EPA and subnational authorities to own, sustain, and scale locally-led adaptation approaches without continued external support.

Component Overview

Component 1: Community Climate Risk Planning, Governance and Accountability

96. Component 1 equips rural communities with the climate risk knowledge, adaptation plans, and governance structures needed to identify adaptation solutions (as determined in Tables 5 and 6), guide implementation, and maintain these solutions over time. EPA will serve as the Executing Entity for all activities under Component 1. Output 1.1 tackles the information deficit by conducting community-level climate vulnerability assessments to map local climate exposure and document community adaptation preferences. Output 1.2 converts that knowledge into action by co-developing Community Adaptation Action Plans (CAAPs) for each target community by connecting identified climate risks with prioritized, community-owned adaptation solutions for capacity building under Component 2 and climate-resilient infrastructure under Component 3. CAAPs will be complemented by climate information and early warning systems to support households' day-to-day and seasonal decision-making. Output 1.3 establishes the governance and financial foundations needed to sustain adaptation action over time, including Community Adaptation Committees to oversee CAAP implementation and clear asset ownership and maintenance arrangements for community infrastructure (developed under Component 3) to ensure long-term financial sustainability beyond the project period. Component 1 is expected to directly benefit 75 communities and 5,700 households, who will gain a clearer understanding of their climate exposure and additional support from locally-led governance structures to guide adaptation.

Outcome 1: Community capacities strengthened to assess climate risks, define adaptation priorities, and govern locally led adaptation actions through inclusive and accountable mechanisms.

Output 1.1 Community-level climate risk and vulnerability assessments completed

Activity 1.1.1 - Conduct community-level climate vulnerability assessments in close coordination with local communities. Climate vulnerability assessments will evaluate the exposure, sensitivity, and adaptive capacity of target rural communities to climate hazards, and include a vulnerability mapping and climate risk ranking to identify the most climate-exposed areas to increased rainfall volatility, intensity and flooding, and to rising average and extreme temperatures.

Activity 1.1.2 - Conduct participatory consultations with target communities to document adaptation solution preferences to mitigate local climate risks and identify any relevant gender-responsive and community-based adaptation practices.

Activity 1.1.3 – Identify locally appropriate adaptation solutions to each community (from those shortlisted in Tables 5 and 6) based on vulnerability assessment findings, participatory consultation outcomes, and a

cost-benefit analysis, with priority given to solutions with low implementation cost and quick financial returns. Identification will be done in collaboration with local communities and other relevant local and national stakeholders.

Output 1.2 Community Adaptation Action Plans developed and endorsed by local stakeholders

Activity 1.2.1 - Co-develop Community Adaptation Action Plans (CAAPs) for target communities. Each CAAP will link identified climate risks with prioritized, community-owned adaptation solutions (from those shortlisted in Tables 5 and 6) that reflect local agroecological conditions and livelihood realities. Communities will identify and prioritize these adaptation solutions to improve the productivity and resilience of the rural economy (e.g., agriculture, forestry, fisheries) for capacity building under Component 2 and additional climate-resilient infrastructure under Component 3. The co-development process will apply inclusive participation standards to ensure the CAAP also reflects the priorities and needs of women, youth, and other marginalized groups.

Activity 1.2.2 -Disseminate CAAPs to community members, subnational and national authorities. These materials will cover climate risks and the adaptation solutions and infrastructure identified in the CAAPs and will be delivered in the languages of target communities and through multiple channels and through key local institutions to ensure broad and equitable outreach and empower vulnerable populations to understand climate risks and make informed decisions for climate adaptation.

Activity 1.2.3 - Identify and use existing regional climate data sources to deliver real-time climate information and early warnings to rural households (e.g., by text message or WhatsApp) for quick decision-making. Data sources may include recently installed weather stations and other climate information infrastructure. Information provided will support day-to-day and seasonal planning (including the timing of planting and harvests and water availability) as well as early warnings on extreme weather events such as flooding and heatwaves to take timely protective action.

Output 1.3 Community Adaptation Committees established and operational, with accountability and grievance mechanisms in place

Activity 1.3.1 - Establish Community Adaptation Committees in each target community, with defined mandates to oversee CAAP implementation across Components 2 and 3, and periodically review and update the CAAP as needed. These Community Adaptation Committees will build on existing local structures and civil society organizations (CSOs) with similar mandates to identify synergies with their current activities and avoid duplication. Relevant existing structures may include bodies established by EPA, the Ministry of Agriculture, Non-Governmental Organizations (NGOs), forest management committees, and other tribal or community institutions. Committee composition will ensure fair and meaningful representation of women, youth, and marginalized groups, reflecting the diverse vulnerabilities and capacities within each community.

Activity 1.3.2 - Deliver training to Community Adaptation Committee members on adaptation planning, fiduciary responsibilities, financial management, and inclusive governance.

Activity 1.3.3 - Establish clear asset ownership and maintenance arrangements for community infrastructure developed under Component 3 to ensure long-term financial sustainability beyond the project period. The project will transfer ownership and maintenance responsibility for community assets to relevant national institutions, including the Ministry of Agriculture, the National Fisheries and Aquaculture Authority, and EPA, who will be responsible for their upkeep and management through their county-level offices. Community Adaptation Committees will work in close coordination with these national institutions to support day-to-day oversight, flag maintenance needs, and ensure that infrastructure continues to serve community adaptation priorities. Where possible, additional revenue streams such as user fees or service charges tied to specific assets will be explored during implementation to supplement institutional maintenance budgets and strengthen the long-term financial sustainability of community infrastructure

Activity 1.3.4 - Design and operationalize community-level grievance redress and feedback mechanisms, and establish periodic performance review processes for Community Adaptation Committees. These mechanisms will draw on the authority and legitimacy of local chiefs, tribal leaders, and other community figures to support dispute resolution and strengthen local governance, and also cover the performance of Community Adaptation Committees, the Executing Entities, and the Project Management Unit.

Component 2: Community-Prioritized Adaptation Solutions for Resilient Livelihoods and Landscapes

97. Component 2 delivers the capacity building, financial support, and landscape restoration activities that rural communities need to translate adaptation plans into practice. It addresses three interconnected challenges: limited access to climate-resilient technical assistance; insufficient support for women, youth, and marginalized groups to access alternative income opportunities; and widespread landscape degradation that undermines the productive base on which rural livelihoods depend. EPA will serve as the

Executing Entity for all activities under Component 2. Output 2.1 mobilizes local capacity building providers and delivers tailored technical assistance to rural households on adaptation solutions identified in their CAAPs and channeled through strengthened producer cooperatives and associations to maximize reach and sustainability at scale. A core focus is on promoting climate-resilient farming systems as a financially attractive alternative to slash and burn agriculture. Output 2.2 complements this by providing targeted capacity building to women, youth, and marginalized groups to support access to alternative climate-resilient employment pathways and the development of micro-enterprises. Output 2.3 restores degraded landscapes in priority climate-exposed areas, reversing ecosystem decline that undermines rural economic productivity, and establishing community-based natural resource management arrangements to ensure long-term stewardship. Component 2 is expected to directly benefit 5,700 rural households receiving climate adaptation capacity building, 1,500 women, youth, and marginalized group members receiving capacity building, and 25 local capacity building providers/MSMEs and 30 producer cooperatives and associations mobilized and strengthened to deliver adaptation solutions at scale.

Outcome 2: Vulnerable rural households and community groups adopt climate-resilient livelihood practices, diversify income sources, and restore degraded landscapes.

Output 2.1 Climate-resilient livelihood capacity building delivered to target communities to strengthen existing economic activities and diversify livelihoods

Activity 2.1.1 – Identify, train, and mobilize MSMEs, local capacity building providers, and any rural extension services to provide climate adaptation capacity building to rural households. Where local capacity is limited, develop and deliver train-the-trainer programs in collaboration with local universities and research institutions to build a sustainable pool of qualified facilitators.

Activity 2.1.2 - Deliver capacity building and technical assistance to rural households on climate adaptation solutions identified in the CAAPs and tailored to community economic activities including agriculture, forestry, and fisheries. A core focus will be on promoting climate-resilient farming systems as a financially attractive alternative to slash and burn agriculture, by demonstrating that sustainable land management practices can deliver more stable and higher returns over time. Training will be delivered through a range of approaches, potentially including farmer field schools, group and individualized technical assistance, and peer-to-peer mentoring with champion adopters, and will ensure the inclusive participation of women, youth, and marginalized groups. The capacity building will be complementary to the community infrastructure and productive assets supported under Component 3.

Activity 2.1.3 – Engage and strengthen local producer cooperatives and associations and other relevant community bodies as the primary vehicles for delivering climate adaptation capacity building (under Activity 2.1.2) and inputs, tool and equipment for adaptation solutions (under Activity 3.1.3) at scale. By channelling support through these existing structures, the project will maximize outreach, ensure long-term sustainability beyond the project period, and embed climate adaptation practices within institutions that communities already trust.

Activity 2.1.4 - Improve livelihood diversification by supporting the diversification of income-generating activities by rural households. These activities will be suited to local agroecological conditions and based on local market assessments. The opportunities may include a) value addition (e.g., improved post-harvest storage, processing, packaging, and product quality improvement), and b) locally relevant alternative income activities (e.g., handicrafts, honey production, or small-scale trade).

Output 2.2 Inclusive capacity building to support alternative adaptation initiatives and entrepreneurship led by women, youth, and other marginalized groups

Activity 2.2.1 - Design an inclusive capacity building initiative to support women, youth, and marginalized groups, including selection criteria, simplified application procedures, technical assistance modalities, and fiduciary safeguards. Capacity building will be offered through two windows:

- Training and mentoring to expand access to alternative climate-resilient employment opportunities and the development of climate-resilient skills and employment pathways. This may include apprenticeships, on-the-job learning, and inclusive hiring initiatives.
- Creation of micro-enterprises through technical assistance and mentoring covering business planning, financial literacy, access to finance, and market-relevant skills.

Activity 2.2.2 - Conduct targeted community outreach to ensure potential recipients are aware of the capacity building initiative and its selection process. Deliver capacity building sessions for prospective applicants covering proposal development and climate-resilient economic opportunities.

Activity 2.2.3 - Launch calls for proposals, screen applications against the AF's Environmental and Social Management Plan (ESMP) and Gender Policy (GP), select participating individuals, and establish technical support plans and implementation milestones.

Activity 2.2.4 - Provide tailored technical assistance to recipients during implementation, with regular field monitoring to track progress and peer to peer experience-sharing forums for recipients to exchange lessons and document successful models for replication and scaling.

Output 2.3. Degraded landscapes in priority climate-exposed areas restored to sustain community livelihoods and productive land use

Activity 2.3.1 - Conduct high-level landscape assessments or leverage existing assessments to map priority degraded areas based on their economic impact on rural communities, identify degradation drivers, and determine cost-effective restoration activities suited to local ecological and livelihood conditions.

Activity 2.3.2 - Implement activities for landscape restoration in priority areas. These activities may include reforestation, assisted natural regeneration, and soil and water conservation works. These activities will be complementary to additional nature-based infrastructure supported under output 3.4.

Activity 2.3.3 - Promote community-based natural resource management arrangements to ensure long-term stewardship and productive use of restored landscapes aligned with existing land use planning. This may include governance protocols for shared resources and integration of mixed land use practices such as agroforestry.

Activity 2.3.4 - Monitor restoration progress and livelihood outcomes using agreed ecological and socioeconomic indicators, and adapt management approaches based on findings.

Component 3: Climate-Resilient Productive Solutions and Adaptation Infrastructure

98. Component 3 provides the physical infrastructure and productive assets that rural communities need to implement adaptation solutions and strengthen the long-term resilience of their livelihoods. EPA and UNIDO will be the Executing Entities for all activities under Component 3. Output 3.1 establishes community productive hubs and shared asset pools (including nurseries, seed storage facilities, and shared equipment pools) to provide sustained access to climate-resilient inputs, tools, and equipment. Access to these assets will be designed to reinforce commitment to sustainable land management and incentivize the transition away from slash and burn agriculture, especially for rice farmers. Output 3.2 reduces post-harvest losses and strengthens market linkages by investing in community storage, processing, and value addition facilities, and improving connections between smallholder producers, trader networks, and buyers. Output 3.3 delivers climate-resilient water management infrastructure to reduce household exposure to the growing risks of both water stress and flooding projected under all emissions scenarios. Output 3.4 complements the landscape restoration activities under Output 2.3 by implementing nature-based infrastructure in priority sites. Component 3 is expected to directly benefit 5,700 households with access to climate-resilient productive assets, 4,200 households with reduced post-harvest losses and improved market access, and 5,000 households with improved access to climate-resilient water supply.

Outcome 3: Climate-resilient productive assets, shared equipment, and adaptation infrastructure available to rural communities

Output 3.1. Community productive hubs and shared asset pools established to provide sustained access to climate-adaptation inputs, tools, and equipment.

Activity 3.1.1 - Conduct high-level community-level assessments to identify needs and gaps of productive assets (i.e., inputs, tools, and equipment) for climate-resilient production and determine the scope and design of required investments based on CAAP priorities and local agroecological conditions.

Activity 3.1.2 - Establish or upgrade community productive hubs, such as nurseries and seed storage facilities (including for collecting and planting drought- and heat- resilient rice and indigenous tree species), and community-managed shared equipment pools, including fertilizer, tools and other productive assets, designed to support climate-resilient production throughout the year.

Activity 3.1.3 - Procure and distribute climate-resilient inputs, tools, and equipment to support the adoption of sustainable production practices. Access to these productive assets will be designed to reward and reinforce commitment to sustainable land management to encourage households and transition away from slash and burn agriculture toward more productive and climate-resilient farming systems. Conditions of access to these assets will be determined during implementation in consultation with Community Adaptation Committees.

Activity 3.1.4 – Community Adaptation Committees and local MSMEs will be responsible for the governance and operation of productive hubs and shared asset pools. Train community members and Community Adaptation Committees on the supervision, maintenance, and governance of productive hubs and shared equipment pools to ensure long-term financial sustainability and community ownership. Local MSMEs will

be engaged to manage day-to-day operations as established with the Community Adaptation Committee with capacity building provided where skills gaps are identified.

Output 3.2. Infrastructure for climate-resilient value addition, storage, loss reduction after harvest, and market-linkage deployed to reduce climate-driven losses and strengthen livelihood resilience

Activity 3.2.1 - Conduct high-level community-level assessments to identify opportunities to reduce losses after harvest, improved storage, value addition, and access to market infrastructure opportunities, and determine the scope and design of required investments based on CAAP priorities and local value chains.

Activity 3.2.2 - Establish or upgrade climate-resilient community storage facilities, including hermetic storage, warehouses, clay-brick production facilities, and cold storage where relevant, designed to protect harvests from climate-driven spoilage, pests, and moisture.

Activity 3.2.3 - Establish community-level processing and value addition facilities, including sorting, drying, milling, quality control, and packaging infrastructure, to extend product shelf life, improve quality, and serve as community market sales points to local and regional buyers.

Activity 3.2.4 - Support the development of climate-resilient value chains by improving market access infrastructure. This may include investment in a) physical market infrastructure such as storage facilities and collection points to reduce post-harvest losses and connect producers to local and regional markets; b) market information systems to provide farmers with timely access to price data and buyer linkages; and c) improved connections between smallholder producers, trader networks, and processors potentially through the cooperatives and producer associations strengthened under Activity 2.1.3.

Activity 3.2.5 - Deploy decentralized renewable energy solutions where lack of reliable energy is identified as a binding constraint for any infrastructure under this Output and as enablers of those investments. These solutions may include solar drying systems, solar-powered cold storage, or small-scale biogas.

Activity 3.2.6 – Community Adaptation Committees and local MSMEs will be responsible for the governance and operation of post-harvest, value addition, and market access infrastructure. Train community members and Community Adaptation Committees on the supervision, maintenance, and governance of post-harvest, value addition, and access to market infrastructure to ensure long-term financial sustainability and community ownership. Local MSMEs will be engaged to manage day-to-day operations as established with the Community Adaptation Committee with targeted capacity building provided where skills gaps are identified.

Output 3.3 Community water risk management infrastructure deployed to reduce household exposure to climate risks

Activity 3.3.1 - Conduct community-level assessments to identify water management needs and infrastructure gaps, and determine the scope and design of climate-adaptive water infrastructure investments based on CAAP priorities, projected climate risks, and local hydrology.

Activity 3.3.2 - Construct or rehabilitate climate-resilient water infrastructure. This infrastructure may include rainwater harvesting systems, water storage facilities, irrigation schemes, and flood protection works, based on assessed needs.

Activity 3.3.3 - Community Adaptation Committees and local MSMEs will be responsible for the governance and operation of community water infrastructure. Train community members and Community Adaptation Committees on the supervision, maintenance, and governance of supported water infrastructure to ensure long-term financial sustainability and community ownership. Local MSMEs will be engaged to manage day-to-day operations as established with the Community Adaptation Committee with targeted capacity building provided where skills gaps are identified.

Output 3.4 Enable deployment of nature-based adaptation solutions to strengthen ecosystem services, consolidate landscape restoration, and protect community productive assets

Activity 3.4.1 - Identify nature-based infrastructure needs in local communities by leveraging landscape assessments (under Output 2.3) and identifying potential low-cost, locally proven and operationally simple nature-based solutions based on local ecological conditions and aligned with CAAPs.

Activity 3.4.2 – Enable implementation of nature-based solutions to consolidate landscape restoration outcomes and protect community productive assets from land degradation. This may include the development of monitoring, reporting, and verification frameworks, risk-cost assessments, development of financing models, governance protocols, and long-term maintenance arrangements.

Activity 3.4.3 - Train community members and Community Adaptation Committees on the stewardship, maintenance, and governance of nature-based solutions to ensure long-term financial sustainability and community ownership.

Component 4: Institutional Sustainability and Knowledge Management

99. Component 4 ensures that the adaptation gains delivered by Components 1 to 3 are institutionally anchored, continuously improved, and positioned for replication and scale beyond the project period. UNIDO will serve as the Executing Entity for all activities under Component 4. Output 4.1 strengthens the capacity of EPA and relevant subnational authorities to lead and sustain community-driven adaptation delivery after project completion. A phased institutional handover plan will ensure that key project functions are progressively transferred to EPA and subnational authorities by project completion. Output 4.2 establishes a project knowledge management system to consolidate data, evidence, and lessons learned across all components, and translates these into targeted knowledge products for community, national, and international audiences. Output 4.3 ensures that project evidence and learnings are integrated into Liberia's national and subnational adaptation planning frameworks, including NAP and NDC revision processes, through technical assistance and regular policy dialogues with EPA and county authorities.

Outcome 4: National ownership, long-term sustainability, and scalability of adaptation activities and impacts enhanced

Output 4.1 National and subnational institutional capacity strengthened to lead and sustain community-driven adaptation delivery, including EPA systems, tools, and processes

Activity 4.1.1 - Conduct an institutional capacity assessment of EPA and relevant subnational authorities to identify gaps in systems, tools, processes, and human resources required to lead and sustain community-driven adaptation delivery.

Activity 4.1.2 - Design and deliver targeted capacity building programs about adaptation planning and community-driven adaptation initiatives for EPA and relevant subnational authorities, and support EPA to develop or strengthen their institutional systems, tools, and processes required to sustain these functions at national and subnational levels.

Activity 4.1.3 - Strengthen the national community-driven adaptation coordination platform within EPA, building on EPA's existing network of county-level Environmental Offices and Inspectors, and other existing decentralized governance structures from the Ministry of Agriculture, Land Authority, and local governments. Support will focus on strengthening logistical and operational capacity at the county level, and formalizing links between county offices and community governance bodies, to ensure coherent and locally-led adaptation design and implementation across all counties.

Activity 4.1.4 - Develop and implement a phased institutional handover plan to transfer project-supported functions to EPA and relevant subnational authorities by project completion. Functions subject to transfer may include:

- From Component 1: Community adaptation planning and CAAP review cycles, Community Adaptation Committee oversight and its grievance management.
- From Component 2: Climate-resilient livelihood training delivery through local extension systems and landscape restoration monitoring.
- From Component 3: Long-term ownership and maintenance responsibility for community infrastructure and nature-based solutions, transferred to relevant national institutions in coordination with Community Adaptation Committees.

Output 4.2 Knowledge management and sharing to support learning and replication of project approaches

Activity 4.2.1 - Design and operationalize a project knowledge management system to consolidate data, evidence, and lessons learned from all components and with inputs from local communities. The knowledge management system (and related databases) will be integrated into existing EPA information systems, avoiding parallel platforms and ensuring continued access beyond the project.

Activity 4.2.2 - Develop targeted knowledge products tailored to subnational, national and international audiences. This may include community-facing awareness materials in local languages, implementation guidelines and toolkits for local communities, and policy briefs and technical notes for national government and international climate adaptation actors.

Activity 4.2.3 - Disseminate knowledge products and, where possible, identify opportunities for project scaling and replication. Knowledge products will be shared at the community level through local institutions engaged in Components 1 to 3 (e.g., Community Adaptation Committees, local producer cooperatives and associations, local capacity building providers, etc.) and nationally and internationally through national channels such as EPA platforms and county development forums, the AF Knowledge Management System, UNFCCC adaptation platforms, and other relevant climate knowledge-sharing platforms such as West African Climate Outlook Forum (WACOF), African Group of Negotiators Expert Support (AGNES) networks, and CGIAR climate adaptation knowledge hubs.

Output 4.3 Project evidence and learnings integrated into national and county adaptation policy and planning frameworks

Activity 4.3.1 – Leverage knowledge management system to support the integration of key insights into Liberia’s adaptation planning frameworks (e.g., NAP and NDC revision processes) and engage policymakers through regular technical dialogues and working groups.

Activity 4.3.2 - Provide technical assistance to EPA and county authorities to incorporate project learnings into subnational adaptation plans, county development frameworks, and sectoral strategies.

B. Describe how the project/programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

100. The project is designed to deliver integrated economic, social, and environmental benefits for climate-vulnerable rural communities in Liberia. It is expected to reach approximately 5,700 rural households across in 75 rural communities, with a projected gender distribution of 50:50 and at least 20% youth participation in the counties of Lofa, Sinoe, Grand Bassa, Bong, and Montserrado.
101. Economic benefits: The project will enhance rural household profitability and livelihood resilience by expanding access to affordable, context-specific climate adaptation solutions, including climate and early warning data, technical assistance, and community-owned infrastructure. Household income among participating rural households is projected to increase by 20–35%¹¹ compared with a business-as-usual scenario, based on improved farm profitability, reduced climate-related losses, and additional income from alternative livelihood opportunities. To support this, the project will mobilize 25 local capacity building and MSMEs providers and strengthen 30 producer cooperatives and associations to deliver adaptation solutions at scale. Investment in community productive hubs, post-harvest and market access infrastructure, and climate-resilient water management under Outputs 3.1–3.3 will further reduce climate-driven losses and strengthen the productive base of rural households across the 75 target communities.
102. Social benefits: The project’s participatory approach will ensure women, youth, and marginalized groups are central to decision-making and capacity development. The project will directly benefit an estimated 5,700 rural households, of which at least half will be women, as well as 1,500 women, youth, and marginalized groups through the inclusive capacity building initiative (Output 2.2). Targeted support will promote microenterprise development and expand access to alternative income opportunities.
103. Environmental benefits: The project promotes the sustained adoption of climate adaptation solutions that improve soil health, reduce erosion, and conserve water, thus enhancing environmental sustainability and resilience. It will support the adoption of climate-smart practices across an estimated 8,550 hectares of smallholder cultivated land (assuming every household has on average 1.5 hectares) through improved practices such as minimum soil disturbance, mulching, and improved water management. Investment in post-harvest storage and processing infrastructure will reduce food waste and relieve pressure on natural resources, while climate-resilient water infrastructure will reduce dependence on over-extracted water sources. Landscape restoration and nature-based infrastructure under Outputs 2.3 and 3.4 will further consolidate environmental benefits, including reforestation and soil conservation.
104. Table 9 below outlines tentative impacts by output, acknowledging that successfully executing those activities and their resulting impact is contingent upon the successful delivery of other activities. Precise direct and indirect beneficiary estimates will be determined following the identification of specific target areas in the five target counties of Lofa, Sinoe, Grand Bassa, Bong, and Montserrado.

Table 9: Indicative Direct and Indirect Beneficiaries by Output

Output	Direct Beneficiaries	Indirect Beneficiaries
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¹¹ Indicative projection based on evidence from comparable interventions in West Africa and Sub-Saharan Africa. Adoption of combined packages of climate-smart agricultural technologies (including improved seeds, agroforestry, and conservation agriculture) can increase smallholder productivity by 30–60% compared to business-as-usual scenarios. No Liberia-specific income impact data was identified (Frontiers in Climate, 2025, <https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2025.1692929/full>).

Output 1.1 Community-level climate risk and vulnerability assessments completed	75 communities gaining a clearer understanding of their climate exposure and vulnerability.	Subnational and national authorities benefiting from improved local climate risk evidence to inform adaptation planning
Output 1.2 Community Adaptation Action Plans developed and endorsed by local stakeholders	- 75 communities with CAAPs - 5,700 households receiving real-time local climate and early warning data.	Broader district populations and local authorities benefiting from improved climate risk awareness and early warning coverage
Output 1.3 Community Adaptation Committees established and operational, with accountability and grievance mechanisms in place	75 communities with Community Adaptation Committees to oversee the implementation of CAAPs	Broader community members benefiting from improved local governance, accountability, and grievance mechanisms
Output 2.1 Climate-resilient livelihood capacity building delivered to target communities to strengthen existing economic activities and diversify livelihoods	- 25 local capacity building providers and MSMEs receiving technical assistance to deliver adaptation solutions - 5,700 rural households receiving capacity on climate adaptation solutions and livelihood diversification of income-generating activities - 30 local producer cooperatives and associations receiving technical assistance for the delivery adaptation solutions at scale	Local labour hired by strengthened capacity building providers and MSMEs to meet expanding rural demand. Cooperative members benefiting from expanded rural economic activity and strengthened producer organizations
Output 2.2 Inclusive capacity building to support alternative adaptation initiatives and entrepreneurship led by women, youth, and other marginalized groups	1,500 women, youth, and marginalized groups receiving capacity building for alternative adaptation initiatives and entrepreneurship.	Household members of recipients who benefit from improved income stability.
Output 2.3. Degraded landscapes in priority climate-exposed areas restored to sustain community livelihoods and productive land use	Number of hectares impacted to be determined based on priority landscapes in selected communities	Downstream and neighbouring communities benefiting from improved landscape ecosystem services
Output 3.1. Community productive hubs and shared asset pools established to provide sustained access to climate-adaptation inputs, tools, and equipment.	5,700 households with access to climate-resilient inputs, tools and equipment	Broader community members benefiting from improved food security and local economic activity generated by more productive rural households
Output 3.2 Infrastructure for climate-resilient value addition, storage, loss reduction after harvest, and market-linkage deployed to reduce climate-driven losses and strengthen livelihood resilience	4,200 households with reduced post-harvest losses and improved market access	Broader community members benefiting from improved food security and local economic activity generated by more productive rural households
Output 3.3 Community water risk management infrastructure deployed to reduce household exposure to climate risks	5,000 households with improved access to climate-resilient water supply	Broader community members benefiting from improved water security and reduced waterborne disease risk
Output 3.4 Enable deployment of nature-based adaptation solutions to strengthen ecosystem services, consolidate landscape restoration, and protect community productive assets	Number of hectares impacted to be determined based on priority landscapes in selected communities	Downstream and neighbouring communities benefiting from improved landscape ecosystem services
Outputs 4.1-4.3 National and subnational institutional adaptation capacity strengthened	National and subnational institutions and community representatives trained in community-driven adaptation delivery and project's lessons learned.	Broader civil society and development partners benefiting from national ownership, long-term sustainability, and scalability of adaptation activities. Future project beneficiaries in non-target communities receiving scaled and replicated adaptation approaches

105. Environmental and social risk management: Implementation will follow a comprehensive ESMP consistent with the AF's ESP and GP. This includes the screening of all activities against AF safeguard principles including: site-specific screening once locations are confirmed for adaptation solutions (from those shortlisted under Tables 5 and 6 in collaboration with Liberia's EPA); application of gender and vulnerability analysis during design and implementation; deployment of grievance redress mechanisms accessible at

the community level; and continuous monitoring of environmental and social indicators, disaggregated by gender and youth. These systems will ensure the project avoids, minimizes, or mitigates negative impacts and that any residual risks are managed adaptively throughout implementation.

C. Describe or provide an analysis of the cost-effectiveness of the proposed project/programme.

106. The project is designed to deliver cost-effective, high-impact, community-driven adaptation outcomes in a context where public resources are severely constrained, extension services are underdeveloped, community infrastructure is limited, and rural communities have historically been underserved by top-down development approaches. Cost-effectiveness is ensured through a combination of strategic design choices, including community-driven demand, decentralized service delivery through existing local institutions and MSMEs, nature-based infrastructure, and technology-enabled systems, that together maximize adaptation impact per dollar invested while minimizing recurrent financing needs. The table below compares the project's approach against business-as-usual alternatives commonly used in comparable development contexts.

Table 10: Cost-Effectiveness Comparison: Proposed Project vs. Business-as-Usual (BAU) Approach

Cost-effectiveness driver	Proposed Project	BAU Alternative
Community defined demand drives adoption	Adaptation priorities are identified through bottom-up participatory planning and community co-design, ensuring solutions respond to local livelihood realities, climate risks, and ecological conditions. This strengthens local ownership, accelerates uptake, and guarantees sustained long-term use.	Centrally designed, top-down interventions often fail to reflect local needs, resulting in weak adoption, high retrofitting costs, and frequent abandonment after project closure.
Building on existing local structures	The project channels support through existing community institutions, including producer cooperatives, tribal governance structures, and EPA's county-level offices, rather than creating parallel delivery systems. This reduces start-up costs, leverages established trust and legitimacy, and strengthens institutions that will outlast the project.	Establishment of project-specific institutional structures duplicates existing mandates, increases bureaucratic friction and start-up costs, and undermines local ownership and sustainability.
Leveraging local MSMEs and capacity building providers as adaptation service providers	Financial and technical resources are channeled through existing Liberian MSMEs and local capacity building providers selected competitively to deliver climate solutions. This enables rapid scaling, local job creation, and lower last-mile delivery costs. Where local capacity is limited, train-the-trainer programs build a sustainable pool of local facilitators, reducing long-term dependence on external expertise.	Project-specific delivery structures or reliance on overstretched public extension services create high recurrent costs and typically collapse once external financing ends, requiring repeated external investment to sustain results.
Competitive, performance-based resource allocation	Solution providers are selected through open, results-based processes that prioritize technical feasibility, local relevance, and community endorsement. Funding is released against verified performance milestones rather than upfront, minimizing leakage, promoting accountability, and ensuring resources flow only to interventions that demonstrate results.	Non-competitive procurement and standardized solutions (not accounting for Liberia's diverse agro-ecological zones) lead to inefficient spending and weak technical performance, and limited community buy-in.
Technology and data-enabled efficiency	Existing regional climate data and early warning systems improve adaptive decision-making at community, county, and national levels. The delivery of real-time climate information and early warnings directly to rural households via low-cost channels such as SMS and WhatsApp is a highly cost-effective alternative to in-person extension visits, extending reach significantly at marginal additional cost.	Manual surveys and outdated data systems create long delays, high costs, and information that is often obsolete by the time it reaches households or communities.
Community-owned production and market infrastructure	Investment in community productive hubs, post-harvest, storage and market access facilities, and water management infrastructure will be transferred to relevant national institutions (including the Ministry of Agriculture, the National Fisheries and Aquaculture Authority, and EPA) who will be responsible for their upkeep and management through their county-level offices, in coordination with Community Adaptation Committees.	Project-managed infrastructure maintenance arrangements can often degrade due to limited maintenance and use after project closure, requiring repeated investment to sustain benefits and creating dependency on continued external financing.
Landscape restoration and nature-based infrastructure	Investment in landscape restoration and nature-based infrastructure (including reforestation, agroforestry, riparian buffers, and community woodlots) delivers multiple adaptation, food security, and livelihood benefits simultaneously from a single investment. These approaches cost significantly less than	Engineered infrastructure solutions carry higher capital and maintenance costs, and project-managed maintenance arrangements typically wind-down after project closure or require repeated

	engineered alternatives while generating co-benefits for ecosystem services, soil conservation, water regulation, and long-term agricultural productivity.	investment to sustain benefits, with fewer co-benefits and higher long-term maintenance burdens.
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107. The project's cost-effectiveness is further enhanced through systematic incorporation of lessons learned from relevant completed and ongoing programs in Liberia and comparable contexts in West Africa (see Section F). In a country where public extension infrastructure is severely underdeveloped and overstretched, the project's model of channelling support through local MSMEs, producer cooperatives, local capacity building providers and existing community institutions is particularly well-suited to Liberia's context and delivers adaptation services at scale without the high recurrent costs associated with parallel delivery systems. During full project preparation, a comprehensive cost-benefit analysis will be conducted to ensure efficient use of Adaptation Fund resources. This analysis will compare proposed interventions against business-as-usual and alternative delivery options, assessing implementation and maintenance costs, scalability, and long-term sustainability, with the objective of maximizing durable adaptation benefits and minimizing transaction and recurrent financing costs.

D. Describe how the project/programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

108. The project is fully aligned with Liberia's key national development and climate policy frameworks, including the ARREST Agenda for Inclusive Development 2025–2029, the National Adaptation Plan 2020–2030, the Nationally Determined Contribution 3.0 (2025), the National Agriculture Development Plan 2024–2030, and the National Climate Change Policy and Response Strategy (2018). It advances national objectives on poverty reduction, food security, inclusive economic transformation, and climate-resilient livelihoods. It also strengthens institutional capacities for locally-led adaptation delivery in the climate-sensitive sectors these frameworks prioritize. Table 11 below details the alignment across each policy and strategy.

Table 11: Alignment of Project to Liberia National Policies and Strategies:

Policy/Strategy and years covered	Description Policy Document Objectives	Project complementarity consistent with Liberia's development plans and policies
National Adaptation Plan (NAP) 2020-2030	Liberia's NAP 2020–2030 provides a strategic framework to address the country's high vulnerability to climate change and to safeguard progress toward Vision 2030. The NAP recognizes that climate risks, such as increased flooding, unpredictable rainfall, rising temperatures, and coastal erosion, pose direct threats to Liberia's natural-resource-dependent economy, food security, infrastructure, and community livelihoods. It mainstreams climate change adaptation into national, sectoral, and local development planning, ensuring that adaptation efforts reinforce economic resilience, poverty reduction, and sustainable development.	The project directly implements NAP priorities at the community level. It targets the NAP's priority sectors of agriculture, forestry, and fisheries through community-led adaptation planning, capacity building, and climate-resilient infrastructure. The project also strengthens institutional capacity for adaptation delivery at the local level, building on existing community governance structures to embed climate adaptation into local planning and decision-making in the five target counties.
ARREST Agenda for Inclusive Development (AAID) ¹² 2025-2029	AAID establishes a national framework for building a more resilient, inclusive, and sustainable economy, with climate adaptation embedded as a cross-cutting driver of development. The agenda recognizes climate change as a systemic risk to economic transformation, food security, infrastructure, and livelihoods, particularly for vulnerable communities. Capacity building is a central enabler of the ARREST Agenda's adaptation ambition. It emphasizes strengthening institutional, technical, and local governance capacities to mainstream climate adaptation into	The project aligns with the AAID by targeting adaptation solutions from the perspective of vulnerable rural communities, strengthening local governance capacities, and by delivering support through a bottom-up approach. As a result, community-level adaptation initiatives at village and town level improve economic livelihoods and feed directly into county and national development ambitions.

¹² ARREST Agenda for Inclusive Development ([AAID](#)) 2025-2029

	planning, budgeting, implementation, and monitoring at national and subnational levels.	
Liberia's National Determined Contributions (NDC) 3.0 Published in 2025	NDC 3.0 prioritizes agriculture and food systems adaptation to protect livelihoods and national food security. It emphasizes water security, livelihoods, and systemic resilience through integrated adaptation actions across communities and institutions. Priority measures include climate resilient water supply and WASH systems in vulnerable areas. Priority measures include climate-resilient water supply systems, community-level adaptation planning, and scaled climate-smart agriculture in vulnerable areas.	The project directly implements NDC adaptation priorities through climate-smart agriculture capacity building, improved soil and water management, climate-resilient seed systems, and irrigation infrastructure thus enabling communities to strengthen their economic resilience in response to projected climate conditions.
National Agriculture Development Plan (NADP ¹³) 2024-2030	The NADP 2024–2030 provides a six-year blueprint to transform Liberia's agricultural sector, reduce dependence on food imports, and achieve food security. Key priorities include strengthening smallholder productivity, expanding farmer cooperatives with climate-resilient practices, improving post-harvest storage and value addition infrastructure, and developing agricultural value chains. The NADP explicitly recognizes climate change as a threat to food security and agricultural transformation.	The project is strongly aligned with the NADP and directly contributes to its targets on food security, import reduction, and cooperative development through community-level action. It strengthens smallholder productivity through climate-resilient capacity building, formalizes and strengthens producer cooperatives, improves post-harvest storage and processing infrastructure, and develops value chain linkages between smallholders, traders, and markets.
National Climate Change Policy and Response Strategy Published in 2018	The National Climate Change Policy and Response Strategy 2018 provides the overarching policy framework for Liberia's response to climate change, outlining thirteen adaptation interventions across priority sectors. It establishes the mandate for mainstreaming climate adaptation into all key socio-economic programs and calls for integrated, cross-sectoral responses that engage local communities, the private sector, and national institutions.	The project operationalizes the Policy's adaptation mandate at the community level. It delivers integrated climate adaptation interventions across the priority sectors identified in the Strategy, including agriculture, forestry, fisheries, and water management while strengthening EPA's institutional capacity to coordinate and sustain adaptation delivery at national and subnational levels.

E. Describe how the project/programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

109. The project will be implemented in full compliance with applicable national technical standards, regulations, and policies. All project activities will adhere to Liberia's environmental, land, forestry, fisheries, and agricultural legal frameworks, ensuring that interventions are environmentally sound, legally compliant, and consistent with national regulatory requirements. By complying with these standards, the project will safeguard ecosystems, protect community land and resource rights, prevent maladaptation, and strengthen the legitimacy of project interventions in the eyes of national authorities and local communities. The project's Environmental and Social Management Plan (ESMP), to be developed during the Full Proposal phase, will be compliant with the Environment Protection and Management Law (EPML, 2003) and with EPA's Environmental and Social Impact Assessment Guidelines (2017), ensuring systematic screening, monitoring, and mitigation of environmental and social risks across all components.

Table 12: Compliance with Liberia National Technical Standards and Legal Frameworks

Policy / Standard	Purpose of the Policy	Relevance to the project
Environment Protection and Management Law (EPML, 2003)	Establishes the legal framework for the sustainable management and protection of Liberia's environment and natural resources. It empowers EPA to set and enforce environmental quality standards across sectors, including pollution control,	Guides environmental due diligence for all project activities. The project's ESMP will be developed in full compliance with the EPML, ensuring that all activities respect environmental quality standards and that any negative environmental impacts are avoided, minimized, or mitigated.

¹³ National Agriculture Development Plan "Liberians Feed Yourself Agenda" 2024-2030

	biodiversity protection, and natural resource management	
EPA Environmental and Social Impact Assessment Guidelines (2017)	Provides the operational procedures and standards for conducting Environmental and Social Impact Assessments in Liberia, including screening criteria, public consultation, and monitoring obligations.	The project's ESMP and activity-level screening processes will follow these Guidelines, ensuring consistent and transparent environmental and social due diligence across all components.
Land Rights Act (2018)	Grants rural communities formal legal recognition of their customary land rights, including women's land rights. It requires Free, Prior and Informed Consent (FPIC) for any activities undertaken on community land.	The project's community-level infrastructure, landscape restoration, and nature-based infrastructure activities will be implemented in full compliance with the Land Rights Act, ensuring FPIC is obtained and that community land rights are respected and protected throughout.
National Forestry Reform Law (2006) and Community Rights Law with Respect to Forest Lands (2009)	These two laws establish the legal framework for sustainable forest management in Liberia. The National Forestry Reform Law 2006 governs the use and conservation of forest resources, and the Community Rights Law 2009 recognizes communities' rights to self-manage their forests and establishes the framework for Community Forest Management Agreements.	The project's landscape restoration, agroforestry, and nature-based infrastructure activities will be implemented in compliance with both laws. Community-based natural resource management arrangements will build on the Community Forest Management Agreement framework established by the Community Rights Law.
Fisheries and Aquaculture Management Law (2019)	Provides the comprehensive legal framework for the sustainable management, conservation, and development of Liberia's marine and inland fisheries resources.	The project's fisheries-related livelihood activities in coastal and riverine communities will be implemented in compliance with this Law, including respect for artisanal fishing rights within the inshore exclusion zone and applicable post-harvest handling standards.
Agriculture Law (1973)	Constitutes the foundational legal framework governing agricultural activities in Liberia, including provisions on cooperative formation, land use for agriculture, and agricultural inputs. It is complemented by the NADP, 2024–2030.	The project's agricultural capacity building, cooperative strengthening, and input distribution activities will be implemented within the legal framework established by this Law and the NADP 2024–2030.
Liberia Seed Development and Certification Agency Act (2019)	Governs the development, certification, and distribution of seeds in Liberia, establishing quality and safety standards for seed varieties made available to farmers.	The project's procurement and distribution of climate-resilient and drought-tolerant seed varieties will comply with the certification and quality standards established by this Act, ensuring that seeds distributed to rural households meet national regulatory requirements.
Liberia Fertilizer Regulatory Division Act (2019)	Governs the importation, distribution, and use of fertilizers in Liberia, establishing quality and safety standards for agricultural inputs.	Where fertilizers are distributed the project will comply with the standards and procedures established by this Act. The project will not involve the procurement or distribution of pesticides so the Liberia Plant Pesticide Regulatory Services Bureau Act 2019 is not applicable.

F. Describe if there is duplication of project/programme with other funding sources, if any.

110. The project has been designed to complement and build on existing climate adaptation and rural development initiatives in Liberia, rather than duplicate them. A review of ongoing projects financed by the Adaptation Fund, GEF, GCF, World Bank, IFAD, and the European Union confirms that no existing initiative covers the same combination of community-level adaptation planning, locally-led governance, and multi-sector livelihood resilience across the five target counties. Where thematic or geographic overlap exists, active coordination mechanisms will be established through relevant national institutions to maximize synergies, avoid duplication, and ensure that project investments are additive. Liberia's EPA, as one of the project's Executing Entities and a common institutional anchor across several complementary initiatives, and the Ministry of Agriculture, which oversees key agricultural development projects, will play a central role in facilitating this coordination.

Table 13: Overview of complementary programs

Project title	Time- frame / Financiers	Description	Synergy Opportunities
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Building Climate Resilience in Liberia's Cocoa and Rice Sectors (BCRP)	2022–2027. Adaptation Fund through IFAD	Addresses key climate vulnerabilities in agriculture and water resources management in the rice and cocoa value chain for poor vulnerable smallholder farmers.	BCRP's sector-specific focus on rice and cocoa in Bong County is distinct from the project's broader multi-county, multi-sector scope and explicit community governance focus. The project offers strong opportunities for synergy, particularly on agricultural value chain resilience and smallholder capacity building. Coordination mechanisms between the two projects will be established through EPA as the common Executing Entity.
Food Systems Land Use and Restoration Project (FOLUR)	2021–2027. GEF through Conservation International and EPA	Promotes biodiversity conservation and sustainable food systems in northwest Liberia through land use planning, restoration of degraded lands, and strengthening governance for deforestation-free cocoa and palm oil value chains.	FOLUR's focus on landscape governance and deforestation-free commodity value chains at landscape scale is distinct from the project's community focus. Shared geographic presence in Lofa and Bong Counties and common interest in landscape restoration and institutional strengthening offer strong opportunities for coordinated community engagement and shared lessons learned. Project is executed through EPA, which will facilitate coordination.
Smallholder Agriculture Transformation and Agrib. Revitalization Project (STAR-P) and Rural Economic Transformation Project (RETRAP)	Ongoing to 2029. World Bank and IFAD	STAR-P increases agricultural productivity and commercialization of smallholder farmers in rice, horticulture, and palm oil value chains across all 15 counties. RETRAP develops competitiveness and market access through productive alliances in cassava, rubber, vegetable, and poultry value chains.	STAR-P and RETRAP are primarily productivity and commercialization projects and do not address climate adaptation planning or community governance. The project can build directly on STAR-P and RETRAP's commercial agriculture investments by adding the climate resilience and adaptation planning dimensions. Both projects operate under the Ministry of Agriculture, facilitating coordination.
Strengthening Agric. Resilience through Transformational Livelihood Adaptation in Liberia (SARTLA)	2025–2030 GEF/LDCF through UNDP and EPA	The project boosts resilience among smallholder farmers and fishers by restoring degraded land and coastal ecosystems, supporting regenerative agricultural and fisheries practices, and expanding access to finance and extension services.	SARTLA's integrated ecosystem and landscape approach centred on nature restoration is distinct from the project's community-level adaptation planning. Potential for cooperation on landscape restoration, nature-based solutions, MSME strengthening, and fisheries in shared target counties. The project is executed through EPA, which will facilitate coordination.
GROW-2 (Markets and Value Chains in Agriculture — Phase 2)	2023–2028. Sida through UNIDO	Aims to increase income and employment opportunities through MSME development in priority agro-based value chains in Liberia, with a focus on cocoa (international market access and EU deforestation regulation compliance), cassava, and horticulture (food security and rural income).	GROW-2's value chain and MSME development focus is distinct from the project's community-level adaptation planning and governance approach. Synergy potential on MSME strengthening, agricultural value chain resilience, and support to rural smallholder farmers including women and youth in shared target counties. Project is implemented through UNIDO, which will facilitate coordination.
NaturAfrica Programme	2021–2027. European Union through the Forestry Development Authority (FDA)	Regional programme supporting biodiversity conservation across key landscapes in Africa, including the Guinea, Liberia, and Sierra Leone. In Liberia, the programme recently launched the TGKS transboundary project (2025–2029) focused on the forest complex shared between Liberia and Côte d'Ivoire	NaturAfrica's focus on biodiversity and protected area management is distinct from the project's community-level climate adaptation approach. Synergy potential on linking conservation of degraded landscapes to resilient community livelihoods, and aligning restoration interventions with local community priorities.
FP212: &Green Fund: Investing in Inclusive Agriculture and Protecting Forests	2024–ongoing. Green Climate Fund (GCF) through FMO	Global programme promoting sustainable commodity production in tropical forest countries by financing the transformation of agricultural commodity supply chains (palm oil, rubber, and cocoa) from	Synergy potential on promoting sustainable agricultural practices including agroforestry, afforestation, and landscape restoration, and strengthening livelihood resilience in local communities.

		extractive to sustainable practices through commercial lending to agribusinesses.	
Programme for the Preservation of Forest Ecosystems in W. Africa (PAPFor)	2019-2025 European Union through UNIDO	Regional programme promoting sustainable and inclusive development of West African forest areas, addressing climate change challenges and biodiversity maintenance.	Synergy potential on addressing climate risks in forested areas and delivering resilient adaptation support to vulnerable forest communities.
Financing LLA and Nature-based Solutions for Catchment Resilience in Southern Africa	2026–ongoing. Adaptation Fund through UNDP	Regional programme (Eswatini, Zambia, and Zimbabwe) to scale locally led adaptation and nature-based solutions designed and implemented by local communities to strengthen water security and restore ecosystems	While operating in a different region, this AF-funded programme shares RESILIA's emphasis on community-driven planning and nature-based solutions. Potential for cross-regional knowledge exchange on rural adaptation delivery models.

G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

111. The project embeds learning and knowledge management across all four components, ensuring that evidence and experience from implementation inform continuous improvement, scaling, and replication of RESILIA's rural adaptation approaches in Liberia and beyond. Adaptive learning cycles will be institutionalized across all components, creating a continuous feedback link between evidence generation, adaptive management, and decision-making at community, county, and national levels.
112. A structured learning agenda will guide this process, focusing on four core themes:
- Effectiveness of community-based adaptation planning mechanisms, including the design, implementation, and periodic review of Community Adaptation Action Plans (CAAPs) and the performance of Community Adaptation Committees as community governance structures.
 - Delivery models for climate-resilient livelihood capacity building and their effectiveness in promoting the adoption of climate adaptation solutions by rural households.
 - Gender and social inclusion outcomes, tracking the extent to which women, youth, and marginalized households benefit from adaptation capacity building, infrastructure investments, and community governance structures.
 - Sustainability and community ownership of climate-resilient infrastructure, including their effectiveness in reducing climate-driven losses and their long-term financial sustainability.
113. Robust data collection methods will include field missions, participatory monitoring sessions, and community scorecards to document user experiences, track adoption of adaptation solutions, and assess changes in adaptive capacity at the household and community level. These insights will be consolidated into practical knowledge products under Component 4 tailored to community, national, and international audiences. Tracking will be continuous, with reporting expected bi-annually to align with Project Steering Committee meetings and annual reporting to the Adaptation Fund. Capacity building for monitoring and evaluation will strengthen national and local capabilities in data collection, analysis, and documentation, supporting evidence-based adaptive management throughout implementation.
114. Knowledge dissemination will be tailored to different audiences through multiple channels. At the community level, capacity building may include farmer field schools, demonstration plots, and extension materials in local languages to encourage peer learning and adoption. At the subnational and national level, findings will be shared through EPA platforms, county development forums, and regular technical dialogues with policymakers. At the regional and international level, knowledge products will be contributed to the AF Knowledge Management System, relevant UNFCCC adaptation platforms, and global adaptation networks including WeADAPT and the Africa Adaptation Knowledge Network.
115. After the project ends, knowledge will be institutionalized within EPA and subnational authorities under the phased handover plan developed in Component 4. To maximize efficiency and long-term sustainability, project knowledge products and databases will be integrated into existing EPA information systems, avoiding parallel platforms and ensuring continued access beyond the project period. Communities, producer cooperatives, local capacity building providers, and MSMEs strengthened during the project will continue to apply and transmit climate-resilient adaptation practices. This ensures that the models and

approaches pioneered in Liberia's five target counties remain accessible for replication and scaling nationally and internationally.

H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

116. As part of the concept note development, UNIDO and EPA have engaged in consultations with Liberia's Designated Authority (DA) and key national stakeholders to understand national priorities and explore stakeholder interest. Consultations conducted in May 2026 through in-person meetings, phone calls, and email exchanges have been highly positive, with stakeholders viewing the project as an innovative, community-driven model that advances national priorities for climate-resilient rural economies and adaptation delivery.
117. Overall, the feedback from consultations has confirmed that the proposed interventions are closely aligned with national adaptation and development priorities and will be further refined through more detailed and locally grounded consultations during Full Proposal development. Several key findings have been incorporated into the Concept Note, including the prioritization of climate-smart agriculture, fisheries, and alternative livelihoods as core intervention areas, the centrality of cooperatives and local CSOs for the implementation of adaptation solutions, and the importance of a strong gender approach that addresses structural barriers to women's participation.

Table 14: Summary of Stakeholder Consultations and Inputs

Name	Role / Mandate	Institution	Cons. date	Gender	Topics discussed and key inputs for Concept Note
Dr. Emm. Yarkpawolo	ED and national focal point for GEF, GCF, and AF	EPA	May 27	M	Confirmed key climate hazards focus. Highlighted SARTLA and BCRP projects for potential synergies.
Elijah Whapoe	National Coordinator	National Climate Change Secretariat	May 28	M	Rice, cassava and coastal fisheries as main adaptation focus in rural areas. Importance of cooperatives and CSO networks as key for community governance and capacity building.
Arthur Becker	Director, Multilateral Environmental Agreements	EPA	May 28	M	Stressed the importance of community participation, climate-smart agriculture, and agroforestry as proven adaptation approaches. Cited West Point's ongoing coastal initiative as a successful example.
Asa David Chon	Manager	ForumCIV Liberia	May 29	M	Emphasized that women and youth face systemic barriers that limit their participation in adaptation initiatives.
J Cyrus Saygbe Sr	Director General	National Fisheries and Aquaculture Authority	May 29	M	Recommended focus on filling institutional gaps for climate adaptation, strengthening coordination between regional institutions, and identifying local pilots for scaling.
Fatumata Sheriff	Project Officer	Safer Community Initiative of Liberia	May 31	F	Stressed that community receptiveness and participatory planning are high, and that local NGOs and CSOs are the essential delivery channel for adaptation solutions.
Ansu Dulleh	Executive Director	National Disaster Management Authority	June 1	M	Noted NDMA's focus in farmer training, seed distribution, and flood response. Highlighted climate-smart agriculture and seafood bycatch-reduction as successful adaptation initiatives.
Augustine Saah Korkor	Manager, Environmental Social Impact Assessment	Forestry Development Authority	June 1	M	Identified locally-led, ecosystem-based solutions and decentralized early warning systems as the most successful adaptation approaches in his experience.
Saliho A. Donso	Director	Ministry of Finance and Development Planning	June 1	M	Identified climate-resilient storage as the most urgent infrastructure need, with inadequate maintenance funding and weak management as the main challenges. Noted that projects

					incorporating women and youth up achieve the best results.
Ellen Ziah – Nimely	Director	National Disaster Management Authority	June 1	F	According to the NDMA Flood Assessment Report (2025), most affected crops are rice and cassava. Emphasized multi-stakeholder project design as the key success factor.
Francis Mulbah	Assistant Minister for Planning	Ministry of Agriculture	June 1	M	High upfront costs and limited extension services are the primary barriers to integrating adaptation solutions. Transitioning from slash-and-burn requires economic incentives, institutional support, and cultural change.
Steven B. Jones	Meteorologist	Ministry of Transport	June 1	M	Recommended adaptation strategies that combine weather information, mapping of most vulnerable households, local capacity building, and environmental sustainability.
David S. Kollah	Agronomist, Component Lead	Ministry of Agriculture	June 1	M	Local MSMEs, cooperatives, and NGOs as natural implementation partners because they already have community trust but lack technical depth and working capital to deliver adaptation solutions at scale.
Albert Sherman	Director, Liberia Meteorological Survey	Ministry of Transport Hydromet Department	June 1	M	Flagged the lack of long-term capacity building for service providers as key weaknesses in previous projects. Recommended support for national meteorological entities to deliver information locally.
Samuel Ekinamah	Director for Research & Statistics	Ministry of Gender, Children, and Social Protection	June 2	M	Outlined women's disproportionate vulnerability to climate risks. Recommended gender- and youth-responsive training and promoting inclusive decision-making structures.
Willet L. Salue	Program & Business Development Manager	ActionAid Liberia	June 2	F	Combining grants, financial literacy, and collective action platforms is the most effective way to increase women's participation and resilience.

118. During the Full Proposal phase, the project team will conduct an inclusive consultative process to ensure that the project design reflects the priorities, needs, and preferences of stakeholders across the five target counties. The process will identify barriers that prevent rural households from adopting climate adaptation solutions, assess the capacity of local MSMEs and capacity building providers to deliver them, and explore how existing community institutions can be strengthened to support adaptation planning and delivery. All findings will be documented and will serve as the foundation for the finalized project design, Gender Action Plan (GAP), and Environmental and Social Management Plan (ESMP), making the consultation process an integral part of the project's safeguard, gender, and inclusion architecture.
119. At the community level, consultations will be held with a representative sample of vulnerable rural households, women's and youth associations, and other marginalized groups in the five target counties. Through focus group discussions and key informant interviews, consultations will map livelihood challenges, capture adaptation priorities, and identify barriers to accessing climate solutions, including affordability, availability, awareness, and technical capacity. Feedback will also inform the prioritization of adaptation solutions and guide how they can be delivered through existing community institutions for community uptake. The results will feed directly into the development of the GAP and ESMP, ensuring that community voices shape gender-responsive programming and safeguard provisions.
120. To ensure that gender dynamics are meaningfully addressed based on local contexts, a comprehensive gender assessment will be conducted to capture the differentiated experiences, needs, and barriers faced by women and men. Separate women-led focus groups will be organized to encourage open dialogue, particularly in contexts where gender norms, social expectations, or customary law may restrict women's participation in mixed settings. Consultations will be scheduled and located to reduce logistical barriers to women's attendance, including time of day, distance, and childcare needs. The consultations will specifically assess how gender dynamics should inform project design, including time burdens from unpaid care work, unequal access to land and finance, and limited decision-making power. The consultation process will also explore structural constraints to women's entrepreneurship and access to alternative income opportunities, with findings used to inform targeted support under Output 2.2 and the project's GAP.

121. At the county and national levels, consultations will be held through bilateral meetings and multi-stakeholder workshops with relevant public institutions, including EPA, the Ministry of Agriculture, the National Fisheries and Aquaculture Authority, the Forestry Development Authority, and county-level authorities, as well as research organizations, NGOs, and traditional authorities. These sessions will validate proposed interventions, identify delivery pathways for adaptation solutions, assess coordination mechanisms between national and community-level institutions, and confirm asset ownership and maintenance arrangements.
122. A national validation workshop will be convened during the Project Formulation Grant (PFG) phase for representatives from EPA, relevant line ministries, county authorities, and civil society organizations. This forum will confirm alignment with Liberia's national adaptation and development frameworks, including the NAP 2020–2030, the ARREST Agenda, and the NADP 2024–2030, validate the GAP and ESMP at the policy level, and identify opportunities for coordination with complementary initiatives.
123. The consultation process will also introduce and promote the project's grievance mechanism to ensure transparency, accountability, and trust from the outset. All findings will be consolidated in consultation reports annexed to the final project proposal, detailing stakeholders consulted, consultation dates, key discussion topics, and how inputs have informed project planning and design.

I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

124. Liberia is among the countries most vulnerable to the impacts of climate change due to its high dependence on climate-sensitive livelihoods, widespread poverty, fragile infrastructure, and limited adaptive capacity. The two key climate hazards facing the country are increasing rainfall volatility and extremes, including more frequent and intense flooding, and a rise in average and extreme temperatures. Rural households are especially exposed: approximately 80% of the rural population depends on rain-fed agriculture and natural resources for food and income. Women, youth, and marginalized groups are especially vulnerable due to structural inequalities in access to resources, finance, land, and decision-making.
125. Baseline Scenario (without AF intervention): In the absence of targeted adaptation support, rural communities in the five target counties will continue to face escalating climate risks with limited capacity to respond:
 - Communities lack the capacity to systematically assess climate risks or plan adaptation actions, and weak mechanisms for locally-led identification of adaptation priorities persist.
 - Rural households continue to rely on climate-vulnerable livelihood practices, with low adoption of climate-resilient alternatives.
 - Landscape degradation and declining ecosystem services continue to erode the productive base on which rural livelihoods depend.
 - Rural households lack access to the basic infrastructure and productive assets (e.g., water systems, storage, processing facilities, and equipment) required to make climate-resilient practices viable.
 - Institutional and technical capacity at subnational level remains insufficient to sustain adaptation efforts over time, leaving communities without the governance structures needed to drive and maintain locally-led adaptation.
126. Adaptation alternative enabled by AF resources through this project:
 - Outputs 1.1 and 1.2: Community-level climate risk and vulnerability assessments completed, and Community Adaptation Action Plans developed and endorsed by local stakeholders.
 - Output 1.3: Community Adaptation Committees established and operational, with accountability and grievance mechanisms in place.
 - Output 2.1: Climate-resilient livelihood capacity building delivered to target communities to strengthen existing economic activities and diversify livelihoods.
 - Output 2.2: Inclusive capacity building to support alternative adaptation initiatives and entrepreneurship led by women, youth, and other marginalized groups.
 - Output 2.3: Degraded landscapes in priority climate-exposed areas restored to sustain community livelihoods and productive land use.
 - Output 3.1: Community productive hubs and shared asset pools established to provide sustained access to climate-adaptation inputs, tools, and equipment.

- Output 3.2: Infrastructure for climate-resilient value addition, storage, loss reduction after harvest, and market-linkage deployed to reduce climate-driven losses and strengthen livelihood resilience.
- Output 3.3: Community water risk management infrastructure deployed to reduce household exposure to climate risks.
- Output 3.4: Nature-based adaptation solutions enabled to strengthen ecosystem services, consolidate landscape restoration, and protect community productive assets.
- Outputs 4.1–4.3: National and subnational institutional capacity strengthened, knowledge management systems established, and project evidence integrated into national and county adaptation planning frameworks, ensuring sustainability and replication beyond the project period.

127. Incremental reasoning: Adaptation Fund resources are essential to finance the incremental costs of adaptation that would not be supported under a development-only baseline. Specifically:

- Development financing may support climate-related interventions but does not systematically finance the additional costs of locally-led adaptation, including community-level climate risk assessments, Community Adaptation Action Plans, and community governance structures such as Community Adaptation Committees.
- Development financing may support improved productivity in rural economies, but it does not cover the incremental costs of climate-proofing production systems, restoring degraded landscapes, or promoting climate-resilient practices specifically designed to protect food security under projected climate conditions.
- Development financing often does not cover the costs of building institutional capacity specifically for climate adaptation delivery, including strengthening EPA's systems and processes for locally-led adaptation, establishing knowledge management frameworks, or creating phased handover mechanisms to sustain adaptation functions beyond the project period.

128. No co-financing is being considered for the project. The project has been intentionally designed as a self-contained intervention, with all core activities required to achieve the stated objectives and results fully financed through AF resources. The project prioritizes locally led adaptation solutions, focusing on increasing livelihood resilience, enhancing food security and providing adaptation focused community infrastructure without the need for large-scale investments. AF funding will cover the full incremental costs of adaptation, including community-level vulnerability assessments, CAAP development, community governance structures, climate-resilient capacity building, and adaptation-focused infrastructure. Sustainability beyond the project period will be ensured through a phased institutional handover to EPA and subnational authorities, which will assume ongoing operational responsibility for community governance structures and infrastructure maintenance..

129. The risk of maladaptation (including solutions poorly matched to local climate risks, capacities, or maintenance conditions) will be mitigated through multiple safeguards embedded across the project. Adaptation solutions will be selected based on community-level vulnerability assessments (Component 1), screened against the project's ESMP, which will include defined eligibility and exclusion criteria and risk-based categorization (see Section K below). Knowledge management and lessons learned will be fully financed under AF resources and integrated into EPA's existing systems, avoiding parallel platforms and ensuring continued access beyond the project period.

J. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project/programme.

130. Sustainability has been embedded in the project design to ensure that outcomes continue to generate adaptation benefits beyond the life of the project. The approach is built around mutually reinforcing dimensions: local ownership, financial sustainability, institutional and policy sustainability, social and environmental sustainability, learning and adaptive management, and replication and scaling. Together, these dimensions ensure that project investments are not treated as stand-alone interventions, but as part of a locally owned and institutionally anchored adaptation system that can be sustained, replicated, and scaled over time.

131. Local ownership is embedded from the outset through the locally led adaptation planning process. Under Component 1, community-level climate risk and vulnerability assessments will provide the evidence base for locally defined adaptation priorities, which will be translated into Community Adaptation Action Plans developed and endorsed by local stakeholders. Community Adaptation Committees will be established and operationalized with accountability and grievance mechanisms, providing communities with a

structured role in guiding implementation, monitoring delivery, and raising concerns during and beyond the project period. Local ownership will be reinforced through Components 2 and 3. Component 2 will support communities to act on their priorities through climate-resilient livelihood practices, livelihood diversification, inclusive adaptation initiatives, entrepreneurship, and restoration of degraded landscapes. Component 3 will ensure that productive assets, shared adaptation asset pools, infrastructure, and deployed solutions respond to community-prioritized needs and are accompanied by appropriate operation, stewardship, and maintenance arrangements. Where infrastructure complexity or revenue-generating potential warrants it, local MSMEs will be engaged to manage day-to-day operations under governance arrangements established with Community Adaptation Committees. By embedding decision-making, accountability, and asset stewardship at community level, the project reduces the risk of externally driven interventions and strengthens the likelihood that adaptation benefits will be sustained after project completion.

132. Financial sustainability is supported by strengthening local capacities, incentives, and delivery systems needed to maintain adaptation benefits over time. Under Component 2, the project will support vulnerable rural households to strengthen existing economic activities and develop complementary sources of income. Under Component 3, financial sustainability will be supported through productive assets, post-harvest and value retention solutions, market-linkage infrastructure, water-related climate risk reduction solutions, nature-based adaptation solutions. These investments are designed to reduce climate-driven losses, improve productive resilience, and generate practical economic benefits for communities, while mobilizing local enterprises and MSMEs, cooperatives, and community-based actors to help operate, service, and maintain supported assets and infrastructure where appropriate.
133. Institutional and policy sustainability is built into the project through EPA's leadership of the locally led adaptation planning and community action components, and through dedicated support under Component 4. Components 1 and 2 will ensure that community-level planning, governance, livelihood adaptation, inclusive local initiatives, and landscape restoration remain nationally anchored and aligned with Liberia's adaptation priorities. Component 4 will strengthen national and subnational institutional capacity to lead and sustain locally led adaptation delivery, including EPA systems, tools, and processes, and will support EPA and relevant county-level actors to maintain, update, and use project-generated tools, evidence, and planning approaches beyond the project period. A phased institutional handover plan will ensure that key project functions are progressively transferred to EPA and subnational authorities by project completion. Project evidence and learning will also be integrated into national and county adaptation policy and planning frameworks, helping to ensure that successful approaches are embedded in Liberia's wider adaptation planning architecture rather than remaining isolated project activities.
134. Social and environmental sustainability is supported through locally led adaptation principles, inclusion, and ecosystem-based resilience measures. Community assessments, Community Adaptation Action Plans, and Community Adaptation Committees will help ensure that interventions are responsive to local needs and accountable to the communities they are intended to benefit. The inclusive capacity building under Component 2 will support alternative adaptation initiatives and entrepreneurship led by women, youth, and marginalized groups, helping to broaden participation in adaptation benefits and strengthen social ownership. Environmental sustainability will be advanced through restoration of degraded landscapes, nature-based adaptation solutions, and protection of ecosystem services that underpin rural livelihoods, helping to reduce land degradation, strengthen water regulation, protect community productive assets, and sustain the natural resource base on which vulnerable rural households depend.
135. Learning and adaptive management are embedded through Component 4, which will systematically document and share project evidence, lessons, and implementation experience to support adaptive management during implementation and improve future adaptation programming. This will allow the project to identify what works, adjust delivery approaches where needed, and generate practical learning on locally led adaptation in Liberia. Knowledge products will be tailored to community, national, and international audiences and disseminated through EPA platforms, county development forums, the AF Knowledge Management System, and relevant regional and global climate adaptation networks, maximizing the reach and impact of project learnings. Knowledge management will also support EPA and county-level actors by providing tools, evidence, and guidance that strengthen their capacity to lead, fund, and replicate locally led adaptation programming beyond the project period.
136. Replication and scaling will be supported through institutional integration and knowledge dissemination. The project's locally led, MSME-enabled delivery model combining community governance, technical

assistance, and climate-resilient infrastructure will generate a replicable blueprint for adaptation programming in rural Liberia. Under Component 4, project evidence and learning will be incorporated into national and county adaptation policy and planning frameworks, helping EPA and other national and subnational actors use the project experience to inform future adaptation initiatives. Together, these measures ensure that the project is not designed as a one-off investment, but as a blueprint for sustained, locally owned, and scalable adaptation across Liberia.

K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project/programme.

137. The project will fully comply with the Adaptation Fund's Environmental and Social Policy and Gender Policy, as well as UNIDO's Environmental and Social Safeguards Policies and Procedures. At concept note stage, the project is classified as Category B. It includes community-level livelihood, restoration, productive asset, and small-scale adaptation infrastructure interventions with potential environmental and social risks that are expected to be site-specific, limited, and manageable. No activities are expected to result in irreversible, large-scale, or significant adverse environmental or social impacts.
138. An Environmental and Social Management Plan (ESMP) will be developed during the full proposal stage to guide the screening, assessment, mitigation, monitoring, and reporting of environmental and social risks and will include responsibilities, timelines, and location-specific considerations. The ESMP will also establish a screening and risk management approach to be applied once specific sites are selected for the adaptation solutions already identified with Liberia's EPA (see Tables 5 and 6), with the ESMP updated accordingly during implementation to include site-specific management measures. The ESMP will ensure that all project-supported solutions are environmentally sound, socially inclusive, gender-responsive, and compliant with Liberian laws and regulations, Adaptation Fund requirements, and UNIDO safeguards requirements. Interventions will be categorized by risk level, and higher-risk activities will undergo more detailed assessment, possible redesign, or exclusion. The ESMP will:
 - Provide tools for systematic safeguards screening of all project activities.
 - Include clear eligibility and exclusion criteria to prevent activities with unacceptable risks.
 - Screen adaptation solutions to prevent maladaptation, ensuring that interventions are matched to local climate risks, community capacities, and long-term maintenance conditions.
 - Require inclusive stakeholder consultations, ensuring that Free, Prior, and Informed Consent (FPIC) is obtained where relevant.
 - Outline grievance redress mechanisms accessible at the community level.
 - Integrate gender-responsive and youth-inclusive safeguards measures.
 - Establish monitoring and reporting mechanisms for adaptive risk management, including a defined process for updating the ESMP as site-specific details are confirmed during implementation.
139. The project is expected to generate positive environmental and social benefits by strengthening locally led climate risk planning, supporting climate-resilient livelihoods and income diversification, restoring degraded landscapes, and increasing access to productive adaptation solutions, shared assets, water-related climate risk reduction measures, nature-based infrastructure, and optional enabling renewable energy solutions where needed. These measures are expected to reduce climate-driven losses, strengthen livelihood resilience, improve ecosystem services, and enhance the adaptive capacity of vulnerable communities.
140. The main environmental and social risks identified at this stage relate to the design, implementation, operation, and maintenance of community-level productive assets, restoration activities, and adaptation infrastructure. Particular attention will be given to land and resource access, inclusion of women, youth and marginalized groups, labor and community safety, public health, pollution prevention, natural habitats, biodiversity, soil and water resources, and physical or cultural heritage where relevant. These risks will be further assessed during full proposal development. The ESMP and grievance redress mechanism will be developed to ensure robust safeguards compliance throughout implementation. Any adaptation solutions with non-minimal E&S risks will conduct an Environmental and Social Impact Assessment (ESIA) prior to the development of the ESMP.

Table 15: Checklist of environmental and social principles: Risk Screening and Potential Impact

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks
Compliance with the Law	-	LOW RISK – The project will be designed and implemented in compliance with applicable Liberian laws and regulations, the Adaptation Fund Environmental and Social Policy and Gender Policy, and UNIDO safeguards requirements. Community-level livelihood, restoration, productive asset, water-related, nature-based, and optional enabling energy interventions, relevant legal and regulatory requirements will be reviewed during full proposal development and reflected in the ESMP.
Access and Equity	-	LOW RISK – The project is designed to benefit vulnerable rural households and community groups. Women, youth, and other marginalized groups may face barriers to participation or access to project benefits if inclusion measures are not applied consistently or due to elite capture where traditional governance dynamics limit participation of marginalized households. The project will address this through inclusive community consultations, transparent targeting, Community Adaptation Action Plans, Community Adaptation Committees, and an inclusive capacity building initiative.
Marginalized and Vulnerable Groups	-	MEDIUM RISK – Vulnerable groups may have more limited access to land, finance, information, productive assets, services, or decision-making processes. The project will proactively include marginalized and vulnerable groups in climate risk assessments, adaptation planning, livelihood capacity building, targeted capacity building, and access to adaptation solutions.
Human Rights	-	LOW RISK – The project is expected to strengthen participation, access to adaptation benefits, livelihood resilience, and community accountability. Potential risks relate mainly to exclusion from decision-making, unequal benefit distribution, or unresolved grievances. These risks will be addressed through locally led planning, Community Adaptation Committees, accountability mechanisms, and community-level grievance arrangements. Information will be provided in local languages and participation will be voluntary and inclusive, anchored in locally led adaptation principles.
Gender Equality and Women's Empowerment	-	MEDIUM RISK – Women in rural Liberia face structural barriers to land, finance, services, productive assets, and decision-making. Without proactive measures, women may not fully benefit from livelihood support, productive assets, or adaptation infrastructure. The project will address this through gender-responsive planning, women's participation in local governance structures, targeted capacity building, and safeguards and gender measures to be developed at full proposal stage, including a Gender Action Plan with specific targets and monitoring indicators.
Core Labour Rights	-	LOW RISK – Some project activities may involve small-scale works, productive assets, shared facilities, equipment, water-related infrastructure, or optional enabling energy solutions. These may create labour and occupational safety risks if not properly managed. To address this risk the project will promote compliance with international labour standards, provide training on safe practices, and ensure occupational health and safety measures are enforced.
Indigenous Peoples	-	LOW RISK – The project does not identify Indigenous Peoples as a legally distinct affected group under Liberian law. The project will work in rural communities where customary governance structures, traditional authorities, and community-based resource management systems are central to resource allocation. Culturally appropriate and inclusive engagement will be applied throughout the project and FPIC principles will be applied where relevant. Full proposal development will confirm whether any additional safeguards measures are required.
Involuntary Resettlement	✓	NO RISK– The project will not finance activities requiring physical displacement, involuntary land acquisition, or resettlement. Any land or resource-use arrangements required for project activities will need to be voluntary, transparent, documented, and based on consultation with affected communities and local authorities.
Protection of Natural Habitats	-	MEDIUM RISK – The project includes landscape restoration, nature-based infrastructure, water-related interventions, and activities that may take place in or near forests, wetlands, riverine areas, coastal areas, degraded landscapes, or other climate-exposed ecosystems. These interventions are expected to generate positive environmental benefits, but poorly designed or poorly sited activities could affect natural habitats. All activities will be screened during full proposal development and implementation to avoid protected or critical habitats, and ecosystem-based approaches will be prioritized.
Conservation of Biological Diversity	-	LOW RISK – Restoration, nature-based solutions, and ecosystem-related activities are expected to support biodiversity and ecosystem services. However, risks may arise if activities are not appropriately designed for local ecological conditions. The project will screen proposed interventions to ensure that they support, rather than undermine, biodiversity and ecosystem resilience, and will prioritize locally appropriate and biodiversity-positive species and practices.
Climate Change	-	LOW RISK – The project is designed to reduce vulnerability to climate change through locally led adaptation planning, livelihood resilience, landscape restoration, productive adaptation solutions, and climate-resilient infrastructure. . The project is not expected to generate

		significant greenhouse gas emissions. A potential risk is maladaptation if solutions are not well matched to local climate risks, capacities, or maintenance conditions. This will be mitigated through community-level climate risk assessments, Community Adaptation Action Plans, technical screening, and adaptive management.
Pollution Prevention and Resource Efficiency	-	LOW RISK – Productive hubs, shared assets, storage and processing facilities, water-related infrastructure, and optional enabling energy solutions may generate localized pollution, waste, or resource-use risks if not properly designed, operated, or maintained. However, the risk is considered low given the small-scale nature of infrastructure investments and the absence of energy generation activities. The project will minimize waste, promote efficient resource use, and include appropriate waste management and maintenance measures in the ESMP.
Public Health	✓	NO RISK – The project is expected to generate positive health and wellbeing benefits by strengthening food, livelihood, and climate resilience. Health safeguards will ensure that no supported solutions negatively affect local health, and appropriate design and maintenance standards will be included in the ESMP.
Physical and Cultural Heritage	✓	NO RISK – The project will not impact cultural heritage sites. Screening and community consultations will ensure protection of culturally significant areas.
Lands and Soil Conservation	-	LOW RISK – The project will improve soil conservation through climate-resilient livelihood practices, restoration of degraded landscapes, nature-based infrastructure, and protection of ecosystem services. However, poorly designed water-related works, productive activities, or restoration measures could create localized land or soil risks. These risks will be managed through site screening, sustainable land management measures, and community training.

PART III: IMPLEMENTATION ARRANGEMENTS

141. The project will be implemented by the United Nations Industrial Development Organization (UNIDO) as the accredited Multilateral Implementing Entity of the Adaptation Fund. The Environmental Protection Agency (EPA) of Liberia will serve as the main national Executing Entity (EE), responsible for overall coordination of field-level execution and alignment with national adaptation priorities. An additional national EE may be identified during the Project Formulation Grant (PFG) phase in consultation with EPA and in accordance with UNIDO's Grant Manual rules and procedures, to ensure the optimal mix of technical expertise and institutional mandate. If a second EE is identified in consultation with the EPA, the distribution of roles and responsibilities between the EEs will also be discussed during PFG phase and captured in the full proposal. Confirmation of the EEs are conditional upon results of institutional capacity assessment, to be conducted during the PFG phase, in accordance with UNIDO's Grant Manual.
142. The project's governance design ensures that adaptation decisions remain anchored at the community level throughout implementation. Community Adaptation Action Plans, co-developed and prioritized by communities under Output 1.2, determine the adaptation solutions selected for implementation, subject only to the technical and safeguards screening described in Part II, Section K. The selection of target communities and allocation of resources across the target communities will follow defined, transparent criteria. Community Adaptation Committees, established under Output 1.3 with fair representation of women, youth, and marginalized groups, provide ongoing oversight of implementation. This is reinforced by a community-level grievance redress mechanism covering the performance of the Executing Entities and the Project Management Unit, with unresolved grievances escalated to the Project Steering Committee, which includes representatives of beneficiary communities. UNIDO's overall oversight of project implementation, described above, further ensures that EPA's engagement with communities remains consistent with the Adaptation Fund's Environmental and Social Policy and Gender Policy. Together, these mechanisms embed downward accountability and community ownership into the project's institutional architecture.
143. EPA will be Executing Entity for Components 1 and 2. EPA's mandate as Liberia's national environmental authority, its established presence across all five target counties through its network of county-level Environmental Offices and Inspectors, and its existing relationships with local communities and government institutions make it the natural institutional anchor for community-level adaptation planning, governance, livelihood capacity building, and landscape restoration. UNIDO will execute Component 3 under EPA's guidance. No decision will be made without EPA's approval. . This arrangement reflects UNIDO's comparative advantage in deploying climate-resilient productive solutions and infrastructure, bringing technical expertise in MSME development, value chains, market access, and technology deployment to support the delivery of community productive assets and adaptation infrastructure.

Coordination with EPA will ensure that all infrastructure is nationally anchored, aligned with Liberia's adaptation priorities, and coordinated with county-level regulatory frameworks. UNIDO and EPA together will ensure that infrastructure and shared assets are technically appropriate, economically viable, responsive to locally identified priorities, and supported by the capacities and systems needed for long-term use and maintenance.

144. UNIDO will also execute Component 4, drawing on its experience in institutional capacity strengthening, knowledge management, policy learning and replication of climate innovation and adaptation approaches. Through this role, UNIDO will support the systematic capture of project evidence and lessons, the development of tools and guidance for EPA and county-level actors, and the integration of project learning into national and subnational adaptation planning frameworks. This will complement EPA's leadership of the community-facing planning and delivery components, while strengthening national ownership, long-term sustainability and the potential for replication and scaling beyond the target communities.
145. A Project Steering Committee (PSC) will be established to provide strategic guidance and ensure alignment with national and local priorities. The PSC will be chaired by UNIDO and include representatives from EPA, other relevant government ministries, local authorities in target districts, and representatives of beneficiary communities. The final composition of the PSC will be confirmed during full proposal development in consultation with national stakeholders.
146. UNIDO will retain overall oversight of project implementation, ensuring that activities are carried out in line with the Adaptation Fund's Environmental and Social Policy, Gender Policy, and agreed implementation standards. UNIDO will be accountable to the Adaptation Fund for all financed activities and will manage project cycle services, including financial oversight, monitoring of delivery, and consolidated reporting to the Adaptation Fund. UNIDO will also oversee the commissioning of the project's mid-term and terminal evaluations. At the operational level, a Project Management Unit (PMU) will be established in Liberia to manage the day-to-day execution of project activities. The Terms of Reference and the modus operandi of the PMU will also be determined during the PFG phase.
147. The Government of the Republic of Liberia agrees to apply to the present project, *mutatis mutandis*, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed on 27 April 1977 and entered into force on 17 April 1978.

A. Demonstrate how the project/programme aligns with the Results Framework of the Adaptation Fund

148. The project is aligned with the AF Strategic Results Framework. Component 1 supports AF Outcome 3 by strengthening awareness and ownership of adaptation and climate risk reduction processes at the community level. It builds community understanding of local climate risks through participatory vulnerability assessments and consultations (Output 1.1), converts that knowledge into action through the co-development of CAAPs and real-time climate information and early warning systems (Output 1.2), and establishes Community Adaptation Committees to ensure community-driven governance (Output 1.3). Component 2 aligns with AF Outcome 6 by delivering community-prioritized adaptation solutions that diversify and strengthen rural livelihoods. It mobilizes local capacity building providers and strengthens producer cooperatives to deliver tailored technical assistance on climate-resilient livelihood practices (Output 2.1), operationalizes a targeted capacity building initiative to expand access to alternative income opportunities and micro-enterprise development for women, youth, and marginalized groups (Output 2.2), and restores degraded landscapes in priority climate-exposed areas (Output 2.3). Component 3 supports AF Outcome 4 by financing the small-scale infrastructure and productive assets required for rural communities to implement adaptation solutions at scale. It establishes community productive hubs and shared asset pools to provide sustained access to climate-resilient inputs and equipment (Output 3.1), invests in post-harvest, value addition, and market access infrastructure to reduce climate-driven losses and strengthen value chain linkages (Output 3.2), delivers climate-resilient water management infrastructure to reduce household exposure to water stress and flooding (Output 3.3), and implements nature-based infrastructure to consolidate landscape restoration and protect community productive assets (Output 3.4). Component 4 supports AF Outcome 2 by strengthening the institutional capacity of EPA and relevant subnational authorities to lead and sustain community-driven adaptation delivery beyond the project period. It conducts institutional capacity assessments and delivers targeted capacity building programs to strengthen EPA systems and processes (Output 4.1), develops targeted knowledge products for community, national, and international audiences (Output 4.2), and supports the integration of project

evidence and learnings into Liberia's national and subnational adaptation planning frameworks (Output 4.3).

Table 16: Alignment of Project Objectives, Outcomes, and Grant Allocation with the Adaptation Fund Results Framework

Project Objective(s)	Project Objective Indicator(s)	Adaptation Fund Outcome	Adaptation Fund Outcome Indicator	Grant Amount (USD)
Objective 1: Community Climate Risk Planning, Governance and Accountability	Percentage of communities reporting improved capacity to plan and respond to climate risks collectively	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	Indicator 3.1: Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	2,000,000
			Indicator 3.2: Percentage of targeted population applying appropriate adaptation responses	2,000,000
Objective 2: Community-Prioritized Adaptation Solutions for Resilient Livelihoods and Landscapes	Percentage of participating households reporting improved livelihood resilience against climate change	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Indicator 6.1: Percentage of households and communities having more secure access to livelihood assets	7,500,000
Objective 3: Climate-Resilient Productive Solutions and Adaptation Infrastructure	Percentage of target households reporting improved ability to withstand climate shocks due to access to community infrastructure	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	Indicator 4.2: Physical infrastructure improved to withstand climate change and variability-induced stress	7,679,279
Objective 4: Institutional Sustainability and Knowledge Management	- Number of project-supported adaptation initiatives institutionalized within EPA and subnational systems at project completion	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	Indicator 2.1: Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	2,500,000
Total objective level grant amount				21,679,279

Project Outcome(s)	Project Outcome Indicator(s)	Adaptation Fund Output	Adaptation Fund Output Indicator	Grant Amount (USD)
Outcome 1: Community capacities strengthened to assess climate risks, define adaptation priorities, and govern locally led adaptation actions through inclusive and accountable mechanisms	- Percentage of rural households in target communities with improved awareness of local climate risks and appropriate adaptation responses (disaggregated by gender and youth) - Number of target communities with a completed and endorsed CAAP - Number of Community Adaptation Committees established and operational	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	Indicator 3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge	2,000,000
			Indicator 3.2.2: No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	2,000,000
Outcome 2: Vulnerable rural households and community groups adopt climate-resilient livelihood practices, diversify income sources, and restore degraded landscapes	- Number of rural households that have adopted at least one climate adaptation solution identified in their CAAP (disaggregated by gender and youth) - Number of women, youth, and marginalized group members receiving capacity building - Number of hectares of degraded landscape restored and under community-based natural resource management	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Indicator 6.1.1: No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	7,500,000
Outcome 3: Climate-resilient productive	- Number of community infrastructure assets constructed	Output 4: Vulnerable development sector	Indicator 4.1.2. No. of physical assets	7,679,279

assets, shared equipment, and adaptation infrastructure available to rural communities	or upgraded to withstand climate variability and change (by type) - Number of households with improved access to at least one category of climate-resilient infrastructure (disaggregated by gender and youth)	services and infrastructure assets strengthened in response to climate change impacts, including variability	strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	
Outcome 4: National ownership, long-term sustainability, and scalability of adaptation activities and impacts enhanced	- Number of EPA and subnational staff with strengthened capacity to lead community-driven adaptation delivery - Number of knowledge products developed and disseminated to community, national, and international audiences	Output 2.1: Strengthened capacity of national and sub-national centres and networks to respond rapidly to extreme weather events	Indicator 2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events (by gender)	1,250,000
			Indicator 2.1.2 No. of targeted institutions with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)	1,250,000
Total outcome level grant amount				21,679,279

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government²

Dr. Emmanuel King Urey Yarkpawolo, Executive Director/CEO, Environmental Protection Agency, Liberia	Date: March 23, 2026
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B. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

Ganna Onysko
Ms. Ganna Onysko
 Senior GEF, GCF, AF Coordinator
 Division of Funding Partner Relations
 Directorate of Global Partnerships and External Relations
 United Nations Industrial Development Organization - UNIDO
 Implementing Entity Coordinator

Date: 24 July 2026

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 Ms. Advika Pandey, Project Associate, IET/CMP (a.pandey@unido.org)
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23 March 2026

ED/EPA-01/1015/26/RL

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for "Resilient Livelihoods and Inclusive Adaptation for Liberia (RESILIA - Liberia)"

In my capacity as designated authority for the Adaptation Fund in Liberia, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Liberia.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the United National Industrial Development Organization (UNIDO) and executed by the Environmental Protection Agency of Liberia and UNIDO.

Sincerely,


Emmanuel King Urey Yarkpawolo
Executive Director/CEO
Environmental Protection Agency, Liberia

Attention:

Mr. Arthur R.M. Becker, Director, Multilateral Environmental Agreements (MEAs), EPA Liberia
Ms. Sunyoung Suh, Climate Technology Innovation, UNIDO
Mr. Alvin Togba, Climate Technology and Partnerships, UNIDO

"Ensuring environmental protection & conserving biodiversity."



Project Formulation Grant (PFG)

Submission Date: 17 July 2026

Adaptation Fund Project ID: N/A

Country: Liberia

Title of Project: Resilient Livelihoods and Inclusive Adaptation for Liberia

Type of IE (NIE/MIE): MIE

Implementing Entity: United Nations Industrial Development Organization (UNIDO)

Executing Entity/ies: United Nations Industrial Development Organization (UNIDO)¹

A. Project Preparation Timeframe

Start date of PFG	December 2026
Completion date of PFG	November 2027

B. Proposed Project Preparation Activities (\$)

Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount	Budget note
1a. Stakeholder and community consultations in target counties 1b. National validation workshop	1. Stakeholder validation report	43,000.00	Indicative cost estimates \$15,000.00 - Costs for engagement of local expert(s) and/or service provider(s) to conduct stakeholder and community consultations \$12,000.00 - Travel costs for local consultations in target regions \$4,000.00 - Costs for engagement of local expert(s) and/or service provider(s) to conduct validation workshop \$5,000.00 - Costs for organizing national validation workshop \$7,000.00 - Travel costs for national validation workshop

¹ The PFG will be executed by UNIDO, and the Environmental Protection Agency (EPA) Liberia may potentially be engaged through a service provider contract for support activities as relevant.

2a. Community-level vulnerability assessment for target districts 2b. Environmental and Social Management Plan (ESMP) development 2c. Gender analysis and action plan development 2d. EPA institutional capacity assessment 2e. Project budget, disbursement schedule, workplan and institutional arrangements development, including draft TORs for the Executing Entity and PMU 2f. Writing and revision of the main proposal document 2g. Coordination for proposal writing and revisions among all stakeholders during development and review	2. Fully developed proposal document and associated annexes in compliance with UNIDO and AF guidelines and policies	95,249.00	Indicative cost estimates \$13,243.00 - Costs for engagement of climate risk assessment expert(s) and/or service provider(s) \$5,500.00 - Costs for engagement of ESS expert(s) and/or service provider(s) \$5,500.00 - Costs for engagement of gender expert(s) and/or service provider(s) \$15,000.00 - Costs for engagement of service provider(s) for the institutional capacity assessment. \$5,500.00 - Costs for engagement of expert(s) for preparing project budget, workplan and institutional arrangements \$40,000.00 - Costs for engagement of international expert(s) and/or service providers for writing and finalization of Full Proposal \$5,000.00 - Costs for engagement of local expert(s) and/or service providers for writing and finalization of Full Proposal \$5,506.00 - Costs for engagement of expert(s) for proposal development coordination
Sub-total		138,249.00	
Implementing Entity Fee	IE administrative and technical support for project development	11,751.00	
Total Project Formulation Grant		\$150,000.00	

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Ms. Ganna Onysko Senior GEF, GCF, AF Coordinator Division of Funding Partner Relations Directorate of Global Partnerships and External Relations United Nations Industrial Development Organization - UNIDO Implementing Entity Coordinator	
Signature		Date: 17 July 2026
Project Contact Person	Sunyoung Suh +43 1 26026 3956 s.suh@unido.org	
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Annex I: Initial Gender Assessment

1. Purpose and Scope

This initial gender assessment provides an overview of gender-differentiated vulnerabilities, constraints, and opportunities relevant to RESILIA in Liberia. It informs project design at the Concept Note stage by identifying key gender gaps related to climate risk exposure, access to productive resources, and decision-making at the community level. The assessment draws on national statistics and existing literature. A more detailed gender analysis will be undertaken during the Full Proposal phase, informed by stakeholder consultations and participatory assessments in the target counties.

2. Gender-Differentiated Climate Vulnerability

Liberia ranked 164 out of 191 countries on the UNDP Gender Inequality Index in 2021, reflecting deep and persistent structural inequalities and strong social norms that affirm women's role as caretakers and homemakers, significantly limiting their time for education, training, and more productive employment. Female labor force participation stands at approximately 73%, compared to 83% for men, but almost all women (94%) are informally employed, compared to 79% of men, and are overwhelmingly concentrated in agriculture and the trade sector. Within these sectors, women are often engaged in the lowest-productivity activities. Closing gender gaps in economic participation alone is estimated to potentially increase Liberia's GDP by up to 30%.

Women constitute a significant share of the rural agricultural labor force. They account for 60% of agricultural output and carry out 80% of trading activities in rural areas. However, customary law undermines women's economic position: despite statutory provisions guaranteeing land rights, customary land tenure systems remain dominant in rural areas, restricting women's formal ownership and control over land. Female-headed farming households tend to work on smaller plots and have less diversified income streams. In 2006, just 16% women were estimated to own land compared to 33% men, and only 11% women held land titles compared to 20% men. Women are also less likely than men to work in cash crop production (31.5% for women vs 48.5% for men) and less likely to benefit from value chain linkages or market development opportunities. Women's access to financial capital is similarly constrained: only 28% women had a bank account in 2017, compared to 44% men.

Women are structurally more vulnerable to climate shocks than men, owing to these compounding inequalities in access to productive assets, services, and decision-making power. Their limited access to land, inputs, and technical support reduces their capacity to absorb and recover from climate shocks. As projected increases in rainfall volatility, flooding, and extreme heat intensify pressure on rural economies (especially agriculture), women's climate vulnerability is expected to worsen.

3. Gender Gaps in Access to Resources, Services, and Participation

Key structural constraints the project will address include:

- Decision-making and participation: Women are systematically underrepresented in community-level planning processes, including those related to climate adaptation and local development. Community governance structures tend to include women as members but rarely as leaders, limiting the gender-responsiveness of locally determined adaptation priorities.
- Access to extension services and climate information: Public extension services in Liberia are severely underfunded and understaffed, and systematically fail to reach women. Fewer than 5% of farming households access extension services overall, and women face additional barriers due to traditional gender roles and unpaid care responsibilities that restrict their time, mobility, and participation in training and information-sharing activities.
- Entrepreneurship and livelihood diversification: Women-led micro and small enterprises face compounded barriers, including limited start-up capital, weaker business networks, restricted mobility, and lower access to technical assistance. Women also have more limited access to skills training and livelihood diversification opportunities, reducing their ability to transition into more productive and climate-resilient economic activities.
- Access to finance: Women in Liberia have limited access to formal credit due to lack of collateral. Community savings groups remain the primary financial mechanism available to rural women, but are often informal and under-resourced.

4. Gender Relevance of the Project Design

Component 1: Community Climate Risk Planning, Governance and Accountability: The community-level climate vulnerability assessments under Output 1.1 will apply gender-disaggregated analyses to ensure

that women's specific climate exposures and adaptive constraints are captured alongside those of men. The Community Adaptation Action Plans (CAAPs) developed under Output 1.2 will apply participatory processes that create structured space for women to articulate climate priorities and influence the selection of adaptation solutions. The dissemination of CAAPs and real-time climate information under Activity 1.2.2 and 1.2.3 will seek to specifically target women through multiple channels, recognizing women's more limited access to information networks. Under Output 1.3, Community Adaptation Committees will be required to ensure fair and meaningful representation of women, reflecting the differentiated vulnerabilities and capacities within each community.

Component 2: Delivery of Community-Prioritized Adaptation Solutions for Resilient Livelihoods and Landscapes: Component 2 directly targets the structural barriers that prevent women from accessing and benefiting from climate adaptation solutions. Under Output 2.1, capacity building and technical assistance will prioritize reaching women smallholders, with delivery approaches designed to accommodate women's time constraints and mobility limitations. Output 2.2 establishes a dedicated capacity building initiative targeting women, youth, and marginalized groups, offering support across two windows: access to climate-resilient employment pathways and the co-development of micro-enterprises, and addresses women's constrained access to capital and business development.

Component 3: Climate-Resilient Infrastructure and Productive Assets: Component 3 investments will be designed and prioritized through the gender-responsive CAAP process, ensuring that climate resilient infrastructure and productive assets reflects women's specific needs and priorities. Post-harvest, value addition, and market access infrastructure under Output 3.2 is of particular relevance to women, given their central role as processors and traders in Liberia's fisheries and agriculture sectors. Community productive hubs under Output 3.1 and water management infrastructure under Output 3.3 will also reduce women's time burdens, particularly the time spent collecting water and managing food storage, freeing capacity for more productive economic activities.

Component 4: Sustainability and Knowledge Management: Component 4 will integrate gender into the project's knowledge management. Gender-disaggregated monitoring and learning will track differential outcomes by gender across all components, informing adaptive management and ensuring that gender gaps are not inadvertently widened during implementation.

5. Approach to Gender Equality and Inclusion

The project takes a gender-responsive approach, in line with the Adaptation Fund Gender Policy. This approach is organized around four pillars:

- Equitable access to adaptation solutions, financial mechanisms, capacity building, and climate information, with delivery modalities designed to overcome women's specific access constraints.
- Participation and voice through inclusive processes enabling women to influence decisions in CAAPs, Community Adaptation Committees, and producer associations.
- Economic empowerment through the capacity building initiative and support to women-led micro-enterprises.
- Risk reduction by avoiding increased time burdens, exclusion, or unintended negative impacts on women in project delivery, and by monitoring for adverse gender outcomes throughout implementation.

Specific gender targets, a gender action plan, and a gender-responsive results framework will be developed during the Full Proposal. The project is expected to deliver significant gender benefits. Women will represent at least 50% of the approximately 5,700 direct household beneficiaries. The inclusive capacity building initiative under Output 2.2 will directly target 1,500 women, youth, and marginalized groups, with a focus on enterprise development and access to alternative income opportunities. Gender-sensitive training, financial literacy support, and flexible delivery models will be used to expand women's equitable participation in climate adaptation and extension services.

6. Conclusion

Gender inequality is a structural driver of climate vulnerability in Liberia's target counties. Women face compounded disadvantages in access to land, finance, extension services, and decision-making that directly constrain their capacity to adopt climate adaptation solutions and recover from climate shocks. The project's design is grounded in locally-led adaptation principles, participatory planning, community financial mechanisms, and targeted support for women's economic empowerment and will provide a strong platform for gender-responsive outcomes.

1. As part of the concept note development, UNIDO and EPA have engaged in consultations with Liberia's Designated Authority (DA) and key national stakeholders to understand national priorities and explore stakeholder interest. Consultations conducted in May 2026 through in-person meetings, phone calls, and email exchanges have been highly positive, with stakeholders viewing the project as an innovative, community-driven model that advances national priorities for climate-resilient rural economies and adaptation delivery.
2. Overall, the feedback from consultations has confirmed that the proposed interventions are closely aligned with national adaptation and development priorities and will be further refined through more detailed and locally grounded consultations during Full Proposal development. Several key findings have been incorporated into the Concept Note, including the prioritization of climate-smart agriculture, fisheries, and alternative livelihoods as core intervention areas, the centrality of cooperatives and local CSOs for the implementation of adaptation solutions, and the importance of a strong gender approach that addresses structural barriers to women's participation.

Table 14: Summary of Stakeholder Consultations and Inputs

Name	Role / Mandate	Institution	Cons. date	Gender	Topics discussed and key inputs for Concept Note
Dr. Emm. Yarkpawolo	ED and national focal point for GEF, GCF, and AF	EPA	May 27	M	Confirmed key climate hazards focus. Highlighted SARTLA and BCRP projects for potential synergies.
Elijah Whapoe	National Coordinator	National Climate Change Secretariat	May 28	M	Rice, cassava and coastal fisheries as main adaptation focus in rural areas. Importance of cooperatives and CSO networks as key for community governance and capacity building.
Arthur Becker	Director, Multilateral Environmental Agreements	EPA	May 28	M	Stressed the importance of community participation, climate-smart agriculture, and agroforestry as proven adaptation approaches. Cited West Point's ongoing coastal initiative as a successful example.
Asa David Chon	Manager	ForumCIV Liberia	May 29	M	Emphasized that women and youth face systemic barriers that limit their participation in adaptation initiatives.
J Cyrus Saygbe Sr	Director General	National Fisheries and Aquaculture Authority	May 29	M	Recommended focus on filling institutional gaps for climate adaptation, strengthening coordination between regional institutions, and identifying local pilots for scaling.
Fatumata Sheriff	Project Officer	Safer Community Initiative of Liberia	May 31	F	Stressed that community receptiveness and participatory planning are high, and that local NGOs and CSOs are the essential delivery channel for adaptation solutions.
Ansu Dulleh	Executive Director	National Disaster Management Authority	June 1	M	Noted NDMA's focus in farmer training, seed distribution, and flood response. Highlighted climate-smart agriculture and seafood bycatch-reduction as successful adaptation initiatives.
Augustine Saah Korkor	Manager, Environmental Social Impact Assessment	Forestry Development Authority	June 1	M	Identified locally-led, ecosystem-based solutions and decentralized early warning systems as the most successful adaptation approaches in his experience.
Saliho A. Donso	Director	Ministry of Finance and Development Planning	June 1	M	Identified climate-resilient storage as the most urgent infrastructure need, with inadequate maintenance funding and weak management as the main challenges. Noted that projects incorporating women and youth up achieve the best results.

Ellen Ziah – Nimely	Director	National Disaster Management Authority	June 1	F	According to the NDMA Flood Assessment Report (2025), most affected crops are rice and cassava. Emphasized multi-stakeholder project design as the key success factor.
Francis Mulbah	Assistant Minister for Planning	Ministry of Agriculture	June 1	M	High upfront costs and limited extension services are the primary barriers to integrating adaptation solutions. Transitioning from slash-and-burn requires economic incentives, institutional support, and cultural change.
Steven B. Jones	Meteorologist	Ministry of Transport	June 1	M	Recommended adaptation strategies that combine weather information, mapping of most vulnerable households, local capacity building, and environmental sustainability.
David S. Kollah	Agronomist, Component Lead	Ministry of Agriculture	June 1	M	Local MSMEs, cooperatives, and NGOs as natural implementation partners because they already have community trust but lack technical depth and working capital to deliver adaptation solutions at scale.
Albert Sherman	Director, Liberia Meteorological Survey	Ministry of Transport Hydromet Department	June 1	M	Flagged the lack of long-term capacity building for service providers as key weaknesses in previous projects. Recommended support for national meteorological entities to deliver information locally.
Samuel Ekinamah	Director for Research & Statistics	Ministry of Gender, Children, and Social Protection	June 2	M	Outlined women's disproportionate vulnerability to climate risks. Recommended gender- and youth-responsive training and promoting inclusive decision-making structures.
Willet L. Salue	Program & Business Development Manager	ActionAid Liberia	June 2	F	Combining grants, financial literacy, and collective action platforms is the most effective way to increase women's participation and resilience.

3. During the Full Proposal phase, the project team will conduct an inclusive consultative process to ensure that the project design reflects the priorities, needs, and preferences of stakeholders across the five target counties. The process will identify barriers that prevent rural households from adopting climate adaptation solutions, assess the capacity of local MSMEs and capacity building providers to deliver them, and explore how existing community institutions can be strengthened to support adaptation planning and delivery. All findings will be documented and will serve as the foundation for the finalized project design, Gender Action Plan (GAP), and Environmental and Social Management Plan (ESMP), making the consultation process an integral part of the project's safeguard, gender, and inclusion architecture.
4. At the community level, consultations will be held with a representative sample of vulnerable rural households, women's and youth associations, and other marginalized groups in the five target counties. Through focus group discussions and key informant interviews, consultations will map livelihood challenges, capture adaptation priorities, and identify barriers to accessing climate solutions, including affordability, availability, awareness, and technical capacity. Feedback will also inform the prioritization of adaptation solutions and guide how they can be delivered through existing community institutions for community uptake. The results will feed directly into the development of the GAP and ESMP, ensuring that community voices shape gender-responsive programming and safeguard provisions.
5. To ensure that gender dynamics are meaningfully addressed based on local contexts, a comprehensive gender assessment will be conducted to capture the differentiated experiences, needs, and barriers faced by women and men. Separate women-led focus groups will be organized to encourage open dialogue, particularly in contexts where gender norms, social expectations, or customary law may restrict women's participation in mixed settings. Consultations will be scheduled and located to reduce logistical barriers to women's attendance, including time of day, distance, and childcare needs. The consultations will specifically assess how gender dynamics should inform project design, including time burdens from unpaid care work, unequal access to land and finance, and limited decision-making power. The consultation process will also explore structural constraints to women's entrepreneurship and access to alternative

income opportunities, with findings used to inform targeted support under Output 2.2 and the project's GAP.

6. At the county and national levels, consultations will be held through bilateral meetings and multi-stakeholder workshops with relevant public institutions, including EPA, the Ministry of Agriculture, the National Fisheries and Aquaculture Authority, the Forestry Development Authority, and county-level authorities, as well as research organizations, NGOs, and traditional authorities. These sessions will validate proposed interventions, identify delivery pathways for adaptation solutions, assess coordination mechanisms between national and community-level institutions, and confirm asset ownership and maintenance arrangements.
7. A national validation workshop will be convened during the Project Formulation Grant (PFG) phase for representatives from EPA, relevant line ministries, county authorities, and civil society organizations. This forum will confirm alignment with Liberia's national adaptation and development frameworks, including the NAP 2020–2030, the ARREST Agenda, and the NADP 2024–2030, validate the GAP and ESMP at the policy level, and identify opportunities for coordination with complementary initiatives.
8. The consultation process will also introduce and promote the project's grievance mechanism to ensure transparency, accountability, and trust from the outset. All findings will be consolidated in consultation reports annexed to the final project proposal, detailing stakeholders consulted, consultation dates, key discussion topics, and how inputs have informed project planning and design.

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