

Mangroves for climate: Public, private and community partnerships for mitigation and adaptation in Ecuador

Annex 11. Monitoring and Evaluation plan

Introduction

This document is the initial Monitoring and Evaluation Plan for the proposed GCF Project “Mangroves for climate: Public, Private and Community Partnerships for Mitigation and Adaptation in Ecuador”. This Monitoring and Evaluation Plan is a living document and follows the templates specified by GCF and focuses on measuring the delivery of outputs, outcomes and broader paradigm shift impact of the project. More detail will be added to the M&E Plan during the inception stage of the project (within the first 6 months of implementation) by an M&E staff member to be hired by the project and in collaboration with government agencies and local partners. Development of the full M&E plan by the newly hired M&E will ensure that the M&E requirements are fully assimilated and that the plan is owned by the project staff. The full M&E plan will build on the information provided in this document but elaborate in more detail on the roles and responsibilities for data collection and management, information flows and reporting systems, finalized indicators and means of verification, monitoring protocols and tools, implementation plans and schedules, alignments and collaborations with existing national M&E systems. The detailed M&E plan will also include participatory methods for data collection and learning and an impact evaluation plan that builds on the summary evaluation plan included in this document.

The Project Theory of Change

The Project Theory of Change and Logframe is set out in the Feasibility Study and Funding Proposal. The goal, outcomes and outputs are stated as follows. This M&E plan is designed to monitor indicators relevant to each of the outcomes and outputs stated in the Theory of Change and Logframe.

Goal Statement:

If local communities are provided with knowledge and resources, and if the private sector and government actively collaborate on mangrove protection and restoration **then** coverage and quality of mangrove ecosystems will be increased, resulting in reduced climate change impacts on vulnerable coastal populations, increased economic resilience, and reduced GHG emissions **because** healthy and more extensive mangroves reduce flood impacts and sequester carbon.

Project Outcomes, Components and Project Outputs

Outcomes and Co-benefits:

Outcome 1. The area of mangroves under effective climate-adapted management is increased.

Outcome 2. Flood risks associated with climate change are reduced by expanding mangrove areas under effective climate-adapted management.

Outcome 3. GHG emissions from deforestation are reduced and carbon sequestered by expanding mangrove areas under effective climate-adapted management, including mangrove restoration.

Outcome 4. Institutional framework for mangrove protection and coastal planning is strengthened.

Co-benefit 1. Biodiversity and ecosystem service benefits are increased.

Co-benefit 2. Economic resilience of coastal communities is increased.

Co-benefit 3. Uptake of sustainable shrimp production practices is increased.

Co-benefit 4. Economic value of fisheries for artisanal fishers is increased.

Project Component 1: Mangrove areas under effective and climate-adapted management increased, including through community-based management (AUSCEMs) and protected areas implementing climate adaptation plans.

Project Output 1.1 Reduced exposure to flood risk for vulnerable people and reduced GHG emissions from mangrove restoration are achieved by strengthening community-based management through AUSCEMs and protected areas.

Project Output 1.2 Improved livelihood activities and more economically productive community businesses enable local people to become more resilient to climate change and incentivized to participate in, and maintain, mangrove conservation and restoration.

Project Component 2: The private sector becomes a transformational agent for change by reducing GHG emissions and providing financial support to conserve and restore mangroves that increase climate resilience for other coastal populations.

Project Output 2.1 Shrimp aquaculture farms adopt practices and production standards that require elimination of deforestation and active reforestation in coastal and mangrove areas.

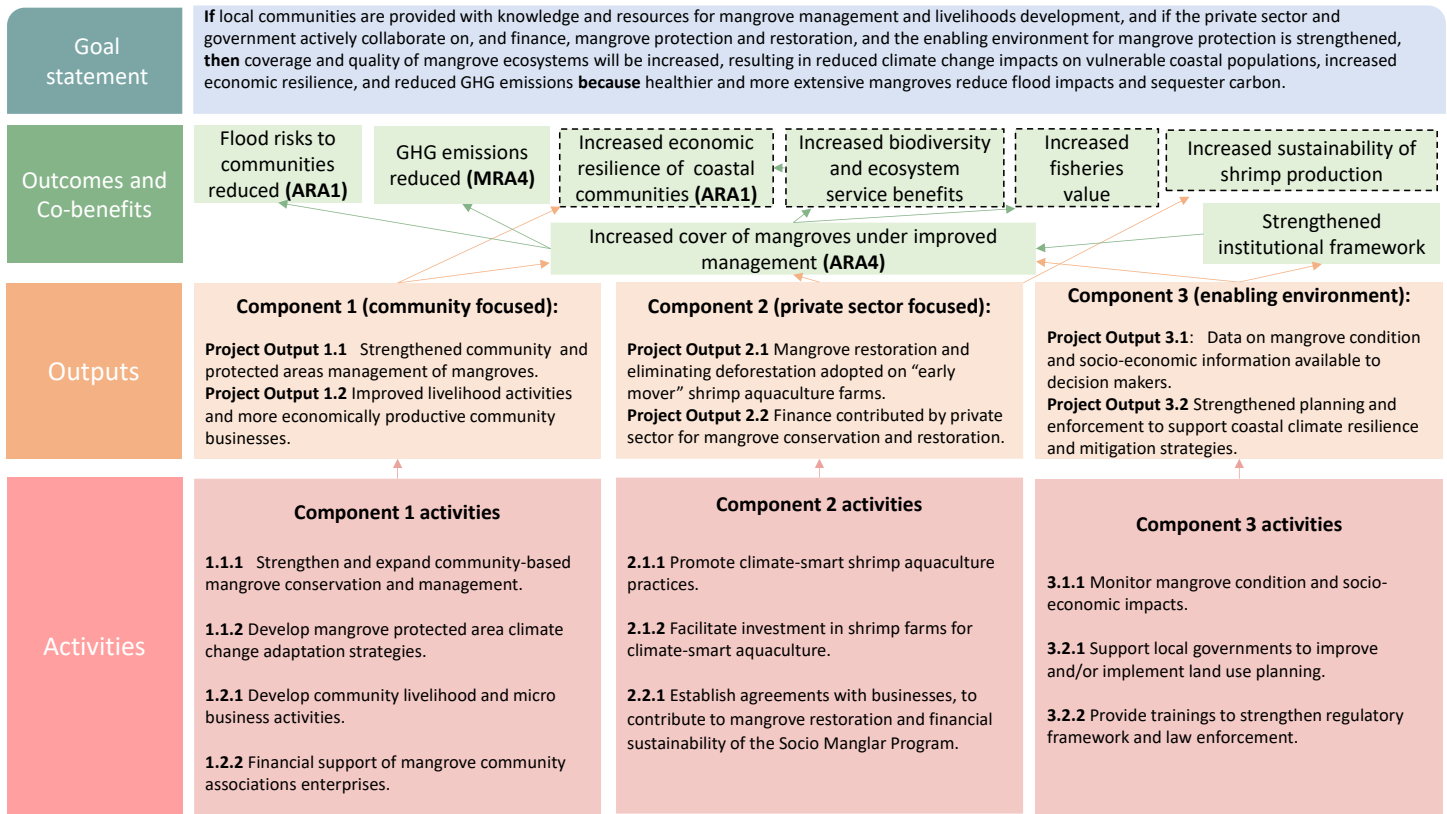
Project Output 2.2 Sustainable management of mangroves is improved through agreements with the private sector, including direct financial support for mangrove conservation and restoration.

Project Component 3: Create the enabling conditions for sustaining reductions in mangrove deforestation and increased mangrove restoration by strengthening governance, climate change adaptation strategies, coastal management policies, and legal enforcement.

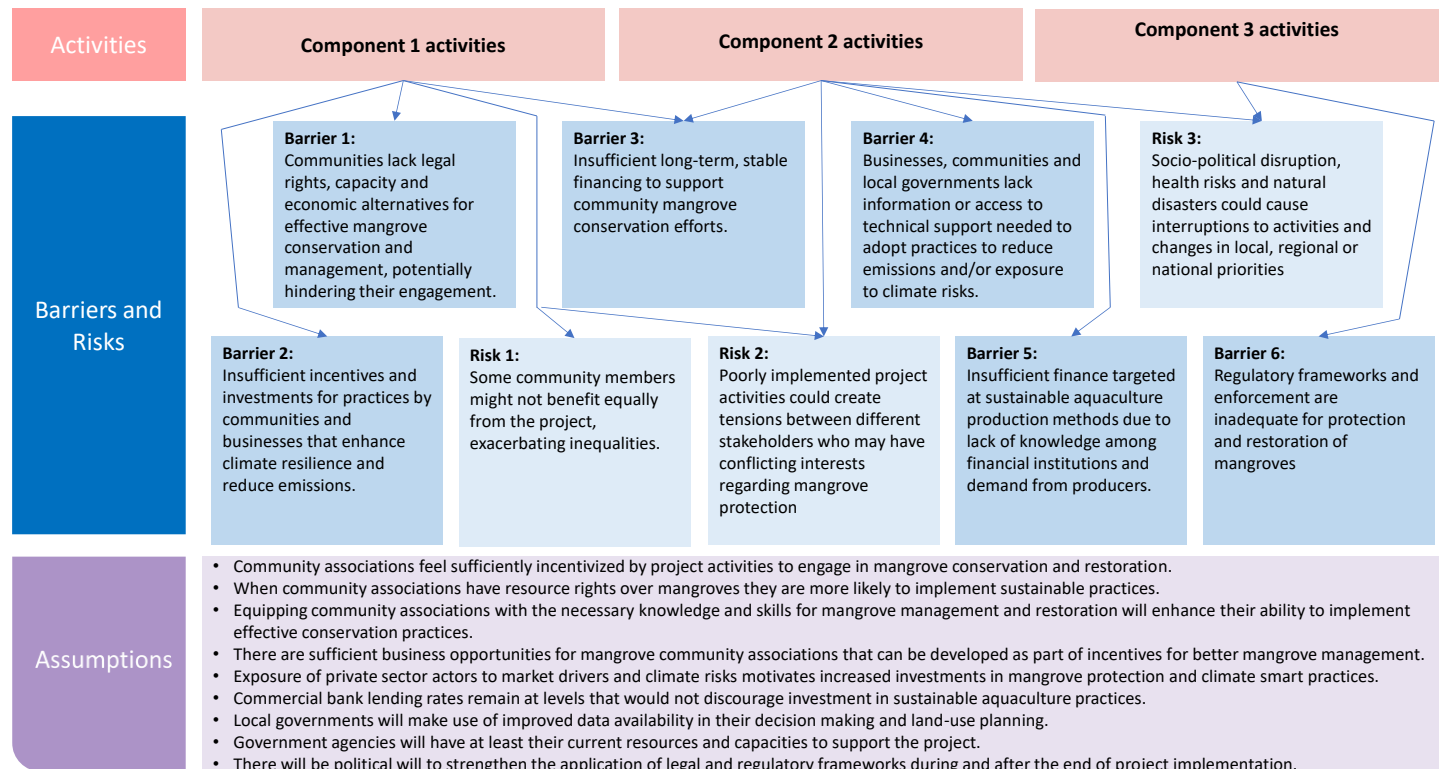
Project Output 3.1 Decision making for mangrove management by national government agencies and local governments is based on generation and provision of accurate and up-to-date data on mangrove condition and socio-economic information on mangrove dependent communities.

Project output 3.2 Legal and regulatory frameworks at local and sectoral level are harmonized and include climate resilience and mitigation strategies and enforcement.

The Project Theory of Change



Activities, barriers, risks and assumptions



Contributions to GCF's Integrated Results Management Framework

A detailed description of project impacts and outcomes with regards to the GCF IRMF is included in sections E.3 and E.4 of the Log Frame within the Funding Proposal, but are briefly summarized here in relationship to the 3 main project components:

ARA1 Most vulnerable people and communities

Component 1 specifically targets work with 41,500 people whose livelihoods directly depend on mangroves, primarily through artisanal fisheries. All three components, by working synergistically to conserve and expand mangrove cover as a means to reduce flood risk, contribute to reducing the impact of coastal flooding for 89,600 vulnerable people, 68% of whom live in poverty. Avoided loss of lives is difficult to estimate *ex ante*, but based on modelled values for economic benefits of mangroves for flood protection in Ecuador, project activities, by increasing mangrove cover by 8917 ha during the 7-year project implementation period (4850 ha from restoration activities and an estimated 4067 ha of reduced deforestation by comparison to the baseline¹) and by strengthening the management of existing mangroves, will result in avoided loss of economic assets of USD281.0 M (increased from a baseline of USD250.6 M).

ARA4 Ecosystems and ecosystem services

All three components of the project, with convergent activities reinforcing sustainable management, conservation and restoration of mangroves, contribute to improved resilience of 156,633 ha mangrove ecosystems, by ensuring maximum contiguous coverage and sustainable practices that do not undermine the ecological and structural integrity of the ecosystem.

MRA4 Forestry and land use

All three components converge on a primary goal of reducing mangrove deforestation from anthropogenic sources (mostly shrimp farming) by 50% from baseline levels (equivalent to a reduction of 125ha in year 2 and 250ha each year from year 3). Components 1 and 2 will result directly in 4,850 ha of mangrove reforestation in priority areas, which also reduce risk for populations in their areas of influence. These combined mangrove-based mitigation activities will result in 4.6 MtCO₂e in emissions reductions over 20 years (732,000 tCO₂e during the 7-year project implementation period) by comparison to the baseline². Various activities and outputs contribute to achieving the project's expected mitigation potential. The contributions of activities in Components 1 and 2 to achieving these GHG mitigation impacts are summarized in Table 1 below and detailed calculations and assumptions are provided in Annex 22 of the Funding Proposal.

¹ See Annex 22 of the Funding Proposal for detailed calculations. Total overall additional mangrove forest expected over the 20-year project lifetime is 26,684 ha from 4,850 ha of restoration and 21,834 ha of reduced deforestation with respect to the baseline. Note that these calculations assume: 1) that the 4,850 ha of restored area is considered mangrove forest by year 6 even though it will still be growing and 2) that the baseline deforestation rate remains constant.

² See Annex 22 of the Funding Proposal for detailed calculations.

Table 1. GHG mitigation potential contribution by Components 1 and 2 of the project

Component and activity	GHG mitigation potential (tCO ₂ e) over project lifetime (20 years)	GHG mitigation potential (tCO ₂ e) over project implementation period (7 years)
Component 1. Activities leading to reduced deforestation	2,855,580	467,075
Component 1. Mangrove restoration activities by communities	1,665,001	252,495
Component 2. Mangrove restoration activities by the private sector	88,888	12,541
	4,609,470	732,111

The Project Logical Framework is provided in the Funding Proposal. Table 11.1, the Monitoring Plan provides information on how the indicators at the Outcome (and co-benefit) and Output levels in the Logical Framework will be monitored. Indicators are presented in the same order as in the Logframe (sections E.3-E.5) in the Funding Proposal.

Table 11.1 Monitoring Plan

Monitoring				
Data/Source	Collection Tool	Frequency	Indicator	Indicative Budget (USD)
ARA1. Most vulnerable people and communities				
Co-benefit 2. Economic resilience of coastal communities is increased.				
<p>Direct: Calculated based on the number of people expected to have more climate resilient livelihoods and people with reduced exposure to flooding due to mangroves conserved or restored by the project, over and above the baseline scenario</p> <p>Indirect: based on the population of the municipalities where mangroves occur and the project works (census data)</p> <p>Government data: Official records (contracts, agreements, management plans, local development and zoning plans) for mangrove areas under improved management. With areas confirmed by assessment of mangrove forest cover by remote sensing.</p>	<p>Extracted from project reports on support given, household surveys to evaluate impact of support using the Socio-economic impact evaluation methodology as described in Activity 3.1.1 in the Funding Proposal and the Feasibility Study</p> <p>Extraction of data from the most recent national census data for the municipalities where the project works</p>	<p>Annual</p> <p>Mid-term (Year 4) and Final (Year 7)</p>	<p>Core 2: Direct beneficiaries reached</p> <p>Baseline: 86,200 Midterm: 87,900 (43,950 female and 43,950 male) Final: 89,600 (44,800 female and 44,800 male) <i>Note that in this project we assume that the beneficiaries recorded in Supp. 2.1 below are also part of the beneficiaries of flood protection and therefore we do not sum them to get Core 2.</i></p> <p>Core 2: Indirect beneficiaries reached (related to Core 5; this is the population in areas covered by improved planning instruments)</p> <p>Baseline: 0 Midterm: 0</p>	<p><i>M&E staff time; field staff time to report on field activities</i></p>

			Final: 3.4 million (1.7 M female and 1.7 M male)	
Project data: Project records on number of people supported through community associations	Extracted from project reports on support given, household surveys to evaluate impact of support	Annual	Supplementary 2.1: Beneficiaries (female/male) adopting improved and/or new climate resilient livelihood options Baseline: 0 Midterm: 20,750 (10,375 female and 10,375 male) Final: 41,500 (20,750 female and 20,750 male)	M&E staff time; field staff time to report on field activities
Outcome 2. Flood risks associated with climate change are reduced by expanding mangrove areas under effective climate-adapted management.				
Project data: Analysis of reduced deforestation/mangrove coverage by remote sensing. Records of area of mangrove restoration by the project (mapped and recorded in GIS). Indicator is derived from area of mangrove based on flood modelling at time of project design.	Data extraction from project records on areas restored and from national forest cover monitoring Reduced deforestation calculated using same method as used for Annex 22 during project preparation	Mid-term (Year 4) and Final (Year 7)	Number of people with reduced flooding risk because of the project³ Baseline: 86,200 Midterm: 87,900 (43,950 female and 43,950 male) Final: 89,600 (44,800 female and 44,800 male)	See Supplementary indicator 4.1
Project data: Analysis of reduced deforestation/mangrove coverage by remote sensing. Records of area of mangrove restoration by the project (mapped and recorded in GIS).	Project records on areas restored and national forest cover monitoring	Mid-term (Year 4) and Final (Year 7)	Supplementary 3.1 Change in expected losses of economic assets due to the impact of extreme climate-related disasters in the geographic	See Supplementary indicator 4.1

³ This indicator will be tracked but it is derived, using a model, from the additional number of hectares of mangrove expected under the project scenario. As such, it is not possible to identify the individuals whom would benefit from reduced flooding risk. We conservatively assume that these people would be included within the group benefitting from improved and/or new climate resilient livelihood options (Supplementary indicator 2.1 above)

Indicator is derived from area of mangrove based on flood modelling at time of project design.			<p>area of the GCF intervention (value in USD)</p> <p>Baseline: USD 250.6 Midterm: USD 256.7 M in avoided property loss Final: USD 281.0 M in avoided property loss</p>	
Project records of reduced deforestation and area of mangrove restoration. Indicator is derived from area of mangrove based on flood modelling at time of project design				
Calculated based on economic value of avoided damages (in USD) per ha of mangrove restored or conserved by project, over projected baseline scenario.				
ARA4 Ecosystems and ecosystem services				
Project Outcome 1: The area of mangroves under effective climate-adapted management is increased.				
Co-benefit 1. Biodiversity and ecosystem service benefits are increased (as explained in the Funding Proposal, this won't be measured directly but area of mangroves under improved management is assumed to provide a proxy measure of this co-benefit)				
<p>Government: Official records (contracts, agreements, management plans, local development and zoning plans) for mangrove areas under improved management.</p> <p>Project data: Areas confirmed by assessment of mangrove forest cover by remote sensing.</p>	Extraction of data from official records, remote sensing, GIS	Mid-term (Year 4) and Final (Year 7)	<p>Core 4. Hectares of natural resources brought under improved low-emission and/or climate resilient management practice</p> <p>Baseline: 0 ha Midterm: 60,000 ha Final: 156,633 ha⁴</p>	<p>120,000 through a subgrant for remote sensing (results used for multiple indicators included in the M&E plan)</p>

⁴ Total area of mangroves within priority subnational government areas targeted by project. This area encompasses areas of AUSCEM and protected areas targeted for management improvements (120,000 ha, Project Result 1.1) as well as the portion of total shrimp farm area targeted by project (22,000 ha, Project Result 2.1) comprised of mangrove cover, as well as additional areas outside of these categories or formal protection with improved coverage and strengthened by project interventions at scale of national and subnational government policies and activities.

<p>Project data: Areas confirmed as restored during site visits to habitat restoration activities.</p>	<p>Project reports, including GPS mapping</p>	<p>Mid-term (Year 4) and Final (Year 7)</p>	<p>Supplementary 4.1: Hectares of terrestrial forest, terrestrial non-forest, freshwater and coastal marine areas brought under restoration and/or improved ecosystems by the project</p> <p>Baseline: 0 ha Midterm: 2,200 ha Final: 4,850 ha</p>	<p>Staff time and travel already associated with reporting on habitat restoration activities</p>
<p>Co-benefit 4. Economic value of fisheries for artisanal fishers is increased (refers to increase due to the project)</p>				
<p>Project data: Areas confirmed by assessment of mangrove forest cover by remote sensing. Economic value to artisanal fisheries of a hectare of mangrove is USD 2,213/ha/year (see Annex 3 of the Funding Proposal, the Economic and Financial Analysis (EFA))</p>	<p>Extraction of data from remote sensing analysis using GIS</p>	<p>Mid-term (Year 4) and Final (Year 7)</p>	<p>Baseline due to project: 0 Midterm: USD 4.8 million / year Final: USD 13.2 million / year</p> <p>Note that current/baseline economic value of mangroves to fisheries is estimated as USD 203.9 million per year – see Annex 3, the EFA. i.e. figures above will be the additional co-benefit contribution of the project to this.</p>	<p>Included in remote sensing analysis budget</p>
<p>MRA4 Forestry and land use</p>				
<p>Outcome 3. GHG emissions from deforestation are reduced and carbon sequestered by expanding mangrove areas under effective climate-adapted management, including mangrove restoration.</p>				
<p>Government data: Records of reduced deforestation derived from national forest monitoring data</p> <p>Project data: Records of area of mangrove restoration by the project (mapped and recorded in GIS).</p>	<p>Remote sensing</p> <p>Verified through satellite monitoring of mangrove cover and forest inventory plots</p>	<p>Mid-term (After Year 4) and Final (Year 7)</p>	<p>Core 1. GHG emissions reduced, avoided or removed/sequestered by the project</p> <p>Baseline: 0 tCO₂e Midterm: 195,186 tCO₂e</p>	<p>300,000 through a subgrant for 'blue carbon' monitoring. Data (and budget) from</p>

<p>Target indicator is derived from analysis of changes in mangrove forest cover and data on mangrove restoration using the method and assumptions described in Annex 22.</p> <p>Project monitoring will also include collection of blue carbon measurement data for a sample of project sites to refine and improve assumptions used in the initial calculation method</p>			<p>Final (7-year implementation period): 732,111 tCO₂e</p>	<p>Supplementary indicator 4.1 above also contributes to the indicator calculation</p>
<p>Enabling Environment</p> <p><i>Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low emission climate-resilient development pathways in a country-driven manner</i></p> <p>The project will create the enabling conditions for sustaining the reductions in mangrove deforestation by strengthening governance, climate change adaptation strategies, coastal management policies and legal enforcement (see description of Outcome 3 in the Funding Proposal and/or Feasibility Study for details)</p>				
<p>Outcome 4. Institutional framework for mangrove protection and coastal planning is strengthened.</p>				
<p>Project reports on activities to include improved regulatory systems or incentives for climate resilience and their implementation into the activities of subnational governments and mangrove management groups (AUSCEMs).</p>	<p>Extraction of data from project reports and assessment of PDOTs and AUSCEM management plans (assessment tool and criteria to develop)</p>	<p>Midterm (Year 4) and Final (Year 7)</p>	<p>Core Indicator 5. Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low emission climate-resilient development pathways in a country-driven manner</p> <p>Baseline context: National government, 9 subnational governments and 60 artisanal fisheries and mangrove management groups</p>	<p><i>M&E staff time; field staff time to report on field activities</i></p>

			<p>with limited or no regulatory systems or incentives for climate resilience and their effective implementation</p> <p>Rating: low</p> <p>Target scenario: National government, 9 subnational governments and 60 artisanal fisheries and mangrove management groups include improved regulatory systems or incentives for climate resilience and their effective implementation</p>	
<p><i>Degree to which GCF investments contribute to market development/transformation at the sectoral, local, or national level</i></p> <p>The project will be working with the shrimp aquaculture sector to encourage the adoption of standards that include commitments to no mangrove deforestation and practices that include restoring mangroves (see Outcome 2 in Funding Proposal and/or Feasibility Study for details of activities).</p>				
Co-benefit 3. Uptake of sustainable shrimp production practices is increased.				
<p>Private sector data: Data on the number of firms accredited with ASC (data from ASC), following SSP guidelines (data from Ecuador's National Council of Aquaculture).</p> <p>Project data: Aquaculture companies adopting CSS practices.</p>	<p>Extraction of data from ASC and SSP databases and project reports (for CSS)</p> <p>GIS data for mapping of farms to calculate area</p>	Annual	<p>Core Indicator 7. Degree to which GCF investments contribute to market development/transformation at the sectoral, local, or national level</p> <p>Baseline context: 93 farms⁵ have ASC certification, 39 companies ASC certified, 10 companies are members or</p>	<p>M&E staff time and GIS staff time</p>

⁵ According to ASC online searchable database, <https://www.asc-aqua.org/find-a-farm/>; accessed 28 Feb 2023

			<p>associates of the SSP initiative⁶ and 1 company is experimenting with CSS practices⁷.</p> <p>Rating: Low</p> <p>Target scenario: Increased adoption of nationally and internationally recognized aquaculture standards and/or improved practices by shrimp farms (e.g. ASC/SSP or CSS practices) that include commitments to no mangrove deforestation to cover at least 20,000 ha of shrimp farms.</p>	
<p><i>Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methods and standards</i></p> <p><i>The project includes three main interventions that encourage adoption of better practices, methods and standards. First is the work with the shrimp aquaculture sector covered also in the indicator above. The second is the improved management of mangroves by community associations through the AUSCEM mechanism. The third is through trainings to integrate adaptation to climate change into the protected areas that include mangroves. See details of activities in the Funding Proposal and/or Feasibility Study.</i></p>				
<p>Private sector data: ASC and SSP databases as above</p> <p>Project data: project reports on adoption of CSS practices, as indicator above.</p>	<p>Extraction of data from ASC and SSP databases and project reports (for CSS)</p> <p>GIS data for mapping of farms to calculate area</p>	Annual	<p>Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methods and standards</p>	<p><i>M&E staff time and GIS staff time</i></p>

⁶ According to the SSP website, <https://www.sustainableshrimppartnership.org/ssp-members/>; accessed 28 Feb 2023

⁷ In collaboration with CI-Ecuador

<p><i>Project reports on trainings to AUSCEMs, evaluations of AUSCEMs, reports on trainings in protected areas, follow-up surveys on the integration of climate planning within protected areas.</i></p>	<p>Extraction of data from project reports</p> <p>Evaluations of AUSCEMs</p> <p>Surveys of protected area integration of climate change adaptation measures</p>	<p>Mid term (Year 4) and Final (Year 7)</p> <p>Mid term (Year 4) and Final (Year 7)</p>	<p>Baseline context: Low adoption of improved standards and practices in shrimp farms but there is an emerging interest.</p> <p>Rating: Low</p> <p>Target scenario: See indicator above for shrimp farms. Improved management in 60,000 ha of existing mangrove AUSCEMs and good management in 10,000 ha of new AUSCEMs to put in place. Integration of climate change adaptation measures into the management plans and practices of the 4 protected areas targeted by the project (which cover the majority of protected mangroves in the country).</p>	
Project specific indicators (Project Components and Outputs)				
Project Component 1: Mangrove areas under effective and climate-adapted management increased, including through community-based management (AUSCEMs) and protected areas implementing climate adaptation plans.				
Project Output 1.1 Reduced exposure to flood risk for vulnerable people and reduced GHG emissions from mangrove restoration are achieved by strengthening community-based management through AUSCEMs and protected areas.				
<p>Government: Registry of active AUSCEMs</p> <p>Project: management capacity assessment of communities and protected areas</p>	<p>Surveys/capacity assessment. Field reports on capacity assessments</p>	<p>Midterm (Year 4) Final (Year 7)</p>	<p>Number of hectares of mangroves under community stewardship and protected areas with management capacity assessment scores increasing by 50% or more</p> <p>Baseline: 0</p>	<p><i>M&E staff time; field staff time to report on field activities</i></p>

			Midterm: 60,000 ha Final: 120,000 ha	
Project: Forest monitoring data with ground truthing	Remote sensing, GIS	Midterm (Year 4) Final (Year 7)	tCO ₂ e emissions reduced through restoration in areas under community stewardship or protected areas Baseline: 0 Midterm: 52,673 tCO ₂ e Final: 252,495 tCO ₂ e	See <i>Supplementary indicator 4.1</i>
Project: Forest monitoring data with ground truthing	Derived from mangrove coverage and areas restored	Midterm (Year 4) Final (Year 7)	tCO ₂ e emissions reduced from avoided deforestation over 7-year project period Baseline: 0 Midterm: 140,005 tCO ₂ e Final: 467,075 tCO ₂ e	See <i>Supplementary indicator 4.1</i>
Project: Forest monitoring data. Number of beneficiaries is derived from mangrove coverage using the model used to make the initial estimates (see Feasibility Study for details)	Derived from mangrove coverage and areas restored	Midterm (Year 4) Final (Year 7)	People with reduced exposure to climate change related flooding events Baseline: 86,200 Midterm: 87,900 (43,950 female and 43,950 male) Final: 89,600 (44,800 female and 44,800 male)	See <i>Supplementary indicator 4.1</i>
Project Output 1.2 Improved livelihood activities and more economically productive community businesses enable local people to become more resilient to climate change and incentivized to participate in, and maintain, mangrove conservation and restoration.				

Project: Monitoring system for assessment of livelihoods ⁸	Surveys	Midterm (Year 4) Final (Year 7)	Number of people in mangrove areas benefiting from the adoption of diversified, climate resilient livelihood options and business practices linked to mangrove promoted by project Baseline: 0 Midterm: 20,000 (10,000 female and 10,000 male) Final: 41,500 (20,750 female and 20,750 male)	360,000 through a subgrant to a local university (see Activity 3.1.1)
Project Component 2: The private sector becomes a transformational agent for change by reducing GHG emissions and providing financial support to conserve and restore mangroves that increase climate resilience for other coastal populations.				
Project Output 2.1 Shrimp aquaculture farms adopt practices and production standards that require elimination of deforestation and active reforestation in coastal and mangrove areas.				
Project: Mapping of shrimp aquaculture areas that have adopted climate resilient approaches, ASC database, SSP database, surveys and site visits with those adopting CSS.	GIS/mapping Follow-up surveys of farms following trainings	Annual	Hectares of shrimp farms contributing to mitigation and adaptation goals through mangrove conservation Baseline: 0 Midterm: 8,000 ha Final: 20,000 ha	M&E staff time and GIS staff time
Project: Forest monitoring data with ground truthing	Surveys and ground-truthing	Midterm (Year 4) and Final (Year 7)	Hectares of mangrove restoration achieved on shrimp farms Baseline: 0 Midterm: 100 ha Final: 250ha	See Supplementary indicator 4.1

⁸ See Activity 3.1.1 described in Funding Proposal

Project: Forest monitoring data with ground truthing (same as above)	Forest monitoring data with ground truthing	Midterm (Year 4) and Final (Year 7)	tCO ₂ e emissions reduced through restoration in areas by shrimp farms Baseline: 0 Midterm: 22,574 tCO ₂ e Final: 112,870 tCO ₂ e	See Supplementary indicator 4.1
Project Output 2.2 Sustainable management of mangroves is improved through agreements with the private sector, including direct financial support for mangrove conservation and restoration.				
Project: Surveys with private sector companies following trainings on CSS practices.	GIS data and project reports	Midterm (Year 4) and Final (Year 7)	Hectares of shrimp farms adopting practices and production standards that eliminate deforestation (e.g. ASC or CSS) Baseline: 0 Midterm: 8,000 ha Final: 20,000 ha	M&E staff time; Component 2 staff time to report on activities
Project: Reports on financial contributions made by the private sector for mangrove conservation or restoration	Financial reports from FIAS	Annual	Amount of funding provided by the private sector to support mangrove conservation (disaggregate by AUSCEMs support, restoration support, direct Socio Manglar program support and contributions to the Socio Manglar subaccount) Baseline: 0 Mid-term: USD 150,000/year Final: USD 300,000/year (or equivalent levels of funding to achieve projections in Appendix 12 of Annex 2; note there are different ways of achieving this).	M&E staff time
Project Component 3: Create the enabling conditions for sustaining reductions in mangrove deforestation and increased mangrove restoration by strengthening governance, climate change adaptation strategies, coastal management policies, and legal enforcement.				

Project Output 3.1 Decision making for mangrove management by national government agencies and local governments is based on generation and provision of accurate and up-to-date data on mangrove condition and socio-economic information on mangrove dependent communities.				
Project: Annual reports on mangrove condition and socio-economic information on mangrove dependent communities	Remote sensing/GIS for mangrove coverage Surveys for socio-economic information	Annual for mangrove coverage and at midterm and final for socio-economic information	Number of annual reports on mangrove cover and socio-economic data shared with national government agencies and local government Baseline: 0 Midterm: 4 Final: 8	See Supplementary indicator 4.1 and indicator for output 1.2
Project output 3.2 Legal and regulatory frameworks at local and sectoral level are harmonized and include climate resilience and mitigation strategies and enforcement.				
Government: Planning and zoning instruments, officially adopted	Assessment of whether plans include climate change mitigation	Midterm (Year 4) and Final (Year 7)	Number of local and municipal governments with zoning and development plans including criteria and indicators relating to mangrove protection, climate change mitigation or adaptation Baseline: 2 local governments (Guayas province and Guayaquil municipality) have updated planning instruments but not yet included climate change measures related to mangroves Midterm: 2 Final: 9	M&E staff time; Component 3 staff time
Government: Census data, zoning/development plans	Official census data Assessment of whether	Midterm (Year 4) and Final (Year 7)	Number of people living in jurisdictions of local and municipal governments with zoning and development plans including criteria and indicators	M&E staff time; Component 3 staff time

	jurisdictions have zoning/development plans including the criteria and indicators		relating to mangrove protection, climate change mitigation or adaptation (indirect beneficiaries) Baseline: 0 Midterm: 1.0 M (50%F/50%M) Final: 3.4 M (50%F/50%M)	
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Note: As indicated in the table, many of the indicators are derived from information on mangrove coverage changes and so the costs have only been budgeted once (under *Supplementary 4.1: Hectares of terrestrial forest, terrestrial non-forest, freshwater and coastal marine areas brought under restoration and/or improved ecosystems by the project*).

Further, results of indicators involving socio-economic behavior change will be triangulated using focus group discussions in coastal communities, official reports in the area, and actual surveys on the adoption of sustainable production practices and effects on economic capacity and livelihood (see activity 3.1.1.)

A summary of costs for Project M&E activities is below; details can be found in Annex 04. Additional staff time and travel for other project activities, not listed here, will also support project M&E.

A summary of costs for Project M&E activities

Cost category	Description	Amount (USD)
Staff Costs	M&E staff, Safeguards & Gender staff	836,332
Local consultant	Assessment of Grievance Mechanism	29,513
Equipment & Supplies	M&E software, IT equipment for M&E staff, and supplies related to M&E activities	23,142
Travel, Meetings, and Workshops	M&E staff, Safeguards & Gender staff, and Project Director travel related to M&E, and M&E planning meeting	66,580
Professional Services	Translation and staff recruitment services related to M&E activities	11,437
Other	Other Direct Costs related to M&E activities	105,234
Indirect costs (co-financing)	Indirect costs related to M&E activities	161,478
Total		1,233,715

Table 11.2: Evaluation plan

Evaluation			
Type	Timing	Independent/Self-evaluation	Indicative Budget (USD)
<i>Process</i>	Local government training. Year 2,3,4	Self-Assessment	0
<i>Process</i>	MPA training. Year 2, 3,4	Self-Assessment	0
<i>Impact</i>	Impact on training to MPA & local gov. Year 5	Self-Assessment	0
<i>Process</i>	Climate management practices in AUSCEMs. Year 2, 3	Self-Assessment	0
<i>Impact</i>	Climate management practices in AUSCEMs. Year 5,6	Self-Assessment	0
<i>Formative</i>	CSS self-evaluation. Year 2	Self-Assessment	0
<i>Impact</i>	CSS self-evaluation. Year 5	Self-Assessment	0
<i>Process</i>	Mid-term evaluation report. Year 4	Independent	Covered by AE Fees
<i>Impact</i>	Impact assessment on livelihoods Year 1	Self-Assessment	180,000
<i>Impact</i>	Impact assessment on livelihoods Year 6	Self-Assessment	180,000
<i>Process</i>	Annual Project Financial Audit	Independent	71,420
<i>Summative</i>	Final: After year 6	Independent	Covered by AE Fees

Note: costs related to self-assessment are indicated as 0 as they are included within the training budgets of the activities