



Malawi-climate resilient and sustainable capture fisheries, aquaculture development and watershed management project

Part I: Project Information

GEF ID

10411

Project Type

FSP

Type of Trust Fund

LDCF

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Malawi-climate resilient and sustainable capture fisheries, aquaculture development and watershed management project

Countries

Malawi

Agency(ies)

AfDB

Other Executing Partner(s)

Ministry of Agriculture Irrigation and Water Development (MoAIWD)

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Focal Areas, Restoration and Rehabilitation of Degraded Lands, Sustainable Land Management, Land Degradation, Drought Mitigation, Sustainable Agriculture, Sustainable Forest, Integrated and Cross-sectoral approach, Improved Soil and Water Management Techniques, Ecosystem Approach, Sustainable Livelihoods, Community-Based Natural Resource Management, Community Based Natural Resource Mngt, Protected Areas and Landscapes, Biodiversity, Fisheries, Mainstreaming, Agriculture and agrobiodiversity, Lakes, Biomes, Rivers, Invasive Alien Species, Species, Climate Change, Livelihoods, Climate Change Adaptation, National Adaptation Plan, Least Developed Countries, National Adaptation Programme of Action, Climate information, Disaster risk management, Climate resilience, Community-based adaptation, Public Campaigns, Communications, Stakeholders, Awareness Raising, Local Communities, Type of Engagement, Participation, Information Dissemination, Beneficiaries, Gender Mainstreaming, Gender Equality, Women groups, Access to benefits and services, Gender results areas, Capacity Development, Participation and leadership, Knowledge Exchange, Capacity, Knowledge and Research, Knowledge Generation, Ecosystem-based Adaptation, Mainstreaming adaptation, Complementarity, Strengthen institutional capacity and decision-making, Influencing models, Demonstrate innovative approach

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 2

Submission Date

10/11/2019

Expected Implementation Start

9/30/2021

Expected Completion Date

8/31/2026

Duration

60In Months

Agency Fee(\$)

419,540.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCA-1	Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation	LDC F	2,190,204.00	6,720,301.00
CCA-2	Strengthen institutional and technical capacities for effective climate change Adaptation	LDC F	2,226,006.00	7,849,699.00
Total Project Cost(\$)			4,416,210.00	14,570,000.00

B. Project description summary

Project Objective

To improve the sustainability of fisheries in Malawi lakes through improved community led and climate smart catchment management.

Project Component	Financi ng Type	Expected Outcomes	Expected Outputs	Tru st Fun d	GEF Project Financing(\$)	Confirmed Co- Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 1: Strengthening the capacity of Village level natural resource committees for climate resilient, watershed planning and management for lake protection	Technical Assistance	1.1 Strengthened capability of Village level natural resource committees for climate resilient watershed planning and management and reduced climate vulnerability of riverine communities	1.1.1 At least 40 Village level natural resource committees (BVCs and VNRMCs) are trained in climate resilient lake protection and watershed planning and management	LDC F	790,150.00	2,200,518.00
		1.2 Improved community awareness raising and communication about watershed management and lake protection at local level	1.1.2 Climate vulnerability assessment and identification of actions for climate-sensitive catchment management are community-driven			
			1.1.3 40 Village level NRM Committees are strengthened and their gender sensitive and climate smart community based micro-catchment managements plans / Village level Actions Plans are prepared			
			1.1.4 Community Environment Conservation Fund extended and established in project area to support the implementation of micro-catchment plans /			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 2: Strengthening the capacity of local and district-level institutions for watershed planning and management and lake protection	Technical Assistance	2.1 Institutional Capacity for climate sensitive ecosystem based watershed planning and monitoring developed	2.1.1 Priority catchments are identified and mapped based on climate risk assessment(s) in the fisheries and fish-farming sector	LDC F	909,985.00	2,993,083.00
		2.2 Improved fisheries and watershed management through knowledge generation about climate risks and vulnerability in the fisheries sector at district level	2.1.2 District Council Staff trained in climate sensitive lake protection and watershed management including climate change preparedness and resilience building			
			2.1.3 Fish farmers? and small-scale fishermen? vulnerability to climate change assessed in the prioritized catchments			
			2.1.4 District level Catchment Management Plans, which incorporate fisheries and aquaculture climate risks as well as adaptation measures, prepared in the prioritized catchments			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 3: Aquatic ecosystems, especially wetland areas, riverbanks and other key habitats rehabilitated with climate-sensitive measures for improved lake protection and resilient community livelihood	Investment	<p>3.1 Community-based soil and water conservation and improved fallow and agroforestry.</p> <p>3.2 Spawning grounds for capture fisheries are restored, including invasive aquatic weeds control</p> <p>3.3 Fisheries and aquaculture adaptation to climate change and resilience is supported</p> <p>3.4 Alternative and complementary rural livelihoods strengthened in selected watersheds</p> <p>3.5 Community based early warning and disaster preparedness system strengthened</p> <p>3.6 Adapt financial mechanisms related to climate risk reduction to fisheries and</p>	<p>3.1.1 At least 2,000 ha of community forested area (woodlots and natural afforestation) established in project areas</p> <p>3.1.2 Inclusive agroforestry and conservation farming practices implemented in 3,000 ha of farming areas</p> <p>3.1.3 "Priority sub-watersheds" are rehabilitated through a community driven process</p> <p>3.1.4 Conservation program for Lake Chilwa implemented and fisheries management plan updated with communities</p> <p>3.2.1 Fish breeding/spawning grounds project are restored through a community driven process</p> <p>3.2.2 Invasive weeds are</p>	LDC F	2,190,204.00	6,720,301.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 4: Project-specific improved knowledge management and M&E	Technical Assistance	<p>4.1 Project results monitored and project contributions to climate resilient and sustainable fisheries & watershed management effective.</p> <p>4.2 Project results documented and gender-sensitive/responsive community learning actions and outreach support replication and scaling up of best practices</p>	<p>4.1.1 Effective project coordination and gender-sensitive/responsive monitoring and evaluation</p> <p>4.1.2 Synergies with other key programs (REFRESH, AVCP, M-CLIMES, ERASP) ensured through continuous collaboration, thematic exchange, and knowledge sharing.</p> <p>4.2.1 Lessons learned and best practices from pilot activities, capacity development initiatives and policy changes documented, shared and disseminated at local level</p> <p>4.2.2 Lessons learned and best practices mainstreamed at national level</p>	LDC F	315,575.00	1,762,824.00

Project Compone nt	Financi ng Type	Expected Outcomes	Expected Outputs	Tru st Fun d	GEF Project Financing(\$)	Confirmed Co- Financing(\$)
				Sub Total (\$)	4,205,914. 00	13,676,726. 00
Project Management Cost (PMC)						
LDCF			210,296.00	893,274.00		
Sub Total(\$)			210,296.00	893,274.00		
Total Project Cost(\$)			4,416,210.00	14,570,000.00		

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	AfDB	Loans	Investment mobilized	8,980,000.00
GEF Agency	AfDB	Grant	Investment mobilized	4,210,000.00
Recipient Country Government	Ministry of Forest and Natural Resources	In-kind	Investment mobilized	1,380,000.00
Total Co-Financing(\$)				14,570,000.00

Describe how any "Investment Mobilized" was identified

The investment mobilized was identified from a baseline project undertaken by the AfDB titled "Malawi-Sustainable Fisheries, Aquaculture Development and Watershed Management Project".

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
AfDB	LDC F	Malawi	Climate Change	NA	4,416,210	419,540
Total Grant Resources(\$)					4,416,210.00	419,540.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)
PPG Required **false**

PPG Amount (\$)
150,000

PPG Agency Fee (\$)
14,250

Agency	Trust Fund	Country	Focal Area	Programmin g of Funds	Amount(\$)	Fee(\$)
AfDB	LDC F	Malawi	Climat e Change	NA	150,000	14,250
Total Project Costs(\$)					150,000.00	14,250.00

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	4000.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	2,000.00		

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	2,000.00		

Documents (Please upload document(s) that justifies the HCVF)

Title

Submitted

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		1,963,848		
Male		1,797,822		
Total	0	3761670	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Concerning indicator 11 on the number of direct beneficiaries disaggregated by gender as cobenefit of GEF investment, to avoid any double counting, it was left blank since the CCA core indicator and metadata Excel sheet was already filled and attached to this submission. Numbers were estimated based on the 2018 population census.

Part II. Project Justification

1a. Project Description

MAIN CHANGES FROM THE PIF

During the PPG phase, changes to the PIF were proposed and approved by national stakeholders. These changes reflect new information gathered during consultations with various stakeholders, and do not alter the overall objective of the project. Rather, the changes ensure that the project can be effectively implemented in select catchments, provides complementarity rather than duplication with baseline projects, and provides means and incentives to encourage the sustainability of actions, strategies and institutions after project closure. The table below summarizes the main changes made.

Topic	Main changes from PIF
Core indicator targets	<p>The targets from the PIF have been revised downwards. The total population has been revised from 5 734 000 covering the entire population of the project districts to 3 751 770 only in the project areas.</p> <p>The area of land managed for climate resilience has been reduced from 8000 ha project for all potential project sites proposed at PIF stage to 4000 ha covering only the agreed project sites after stakeholder consultations.</p> <p>The number of trained people has also been revised slightly downwards from 1300 to 1200 based on stakeholder feedback. The total number of polices that will mainstream climate change have been increased from 3 covering only the national level to 47 covering district and sub-district plans in the project area.</p>

Revised outcomes and outputs	<p>Wording for all outcomes and outputs has been made clearer and more concrete, based on consultations with stakeholders. The changes include modifying the targets in order to better reflect the budget and enforce a more targeted approach, These changes are detailed below by component.</p> <p>In some cases, additional outputs/outcomes were added. These additions were based on consultations with stakeholders, as well as responding to comments raised by the STAP during the PIF phase. These include:</p> <ul style="list-style-type: none"> ? Creation of output 1.1.4 (CECF) in order to promote the sustainability of the implementation of community level catchment management plans ? Creation of output 1.1.2 which focuses on bringing in catchment management planning and climate change risk awareness in school children, who are important agents of change and vectors for sustainability in local communities <p>All in all, changes found here do not change the overall purpose or objective of the proposed project, and were approved by stakeholders during the validation workshop.</p>
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<p>Component 1</p> <p>Strengthening the capacity of Beach Village Committees (BVCs) for climate resilient, watershed planning and management for lake protection.</p> <p>Revision:</p> <p>Strengthening the capacity of Village level natural resource committees for climate resilient, watershed planning and management for lake protection</p>	<p>The component wording was changed in order to reflect the inclusion of community level institutions for natural resource management other than BVCs, as the latter are only present at lake shores and not throughout catchments. This is seen also in Outcome 1.1 and Output 1.1.1.</p> <p>In addition, certain outputs were changed to reflect changes in targets (e.g. Output 1.1.3; 1.1.1).</p> <p>Finally, two additional outputs were added, both to respond to the need to ensure the sustainability of the project, a concern for the GEF, but also an issue brought forth by numerous stakeholders during the PPG.</p> <p>The first is the introduction of a community environmental conservation fund (Output 1.1.4), which allows to incentivize communities to engage in long-term land mangament change. Similarly, output 1.2.4 includes a children training element, as children can be powerful agents of change.</p> <p>Previous outcome/output wording:</p> <p>Outcome 1.1 Strengthened capability of BVCs for watershed planning and management for lake protection and climate resilience.</p> <p>Output 1.1.1 Beach village committees (BVCs) are trained in climate resilient lake protection and watershed planning and management.</p> <p>Output 1.1.2 Community awareness and capacity for climate-sensitive catchment management is improved.</p> <p>Output 1.1.3 At least 7 Gender sensitive and climate smart community-based watershed management plans are prepared (1 per catchment).</p> <p>Output 1.1.4 Climate sensitivity of the Lake is reduced through community led protection of river channels and riverbanks.</p> <p>Outcome 1.2 Improved communication in watershed management and lake protection.</p> <p>Output 1.2.1 Local language comunication tools produced</p> <p>Output 1.2.2 Impact Infor grams shared bi-annually</p> <p>Output 1.2.3 Pamphlet on indigenous knowledge prepared and distributed.</p> <p>New outcome/output wording:</p> <p>Outcome 1.1 Strengthened capability of Village level natural resource committees for climate resilient watershed planning and management and reduced climate vulnerability of riverine communities</p> <p>Output 1.1.1 At least 40 Village level natural resource committees (BVCs and VNRMCs) are trained in climate resilient lake protection and watershed planning and management</p>
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<p>Component 2:</p> <p>Strengthening the capacity of Local Government institutions for watershed planning and management and lake protection</p> <p>Revision: Strengthening the capacity of local and district-level institutions for watershed planning and management and lake protection</p>	<p>Like in component 1, the wording of the component itself was honed in order to better reflect its overall objective.</p> <p>In terms of the outputs and outcomes, the wording was changed to reflect the refining of the target areas compared to the PIF, notably the scaling down on catchments in order to better deliver the project activities, provide adequate support to beneficiaries throughout the project duration, and ensure complementarity with baseline projects. This is particularly visible in Outcome 2.1 and associated outputs.</p> <p>Similarly, Output 2.2 and output 2.2.1 were refined in order to ensure that the activity remains complementary to the associated baseline projects, rather than a duplication of them. These changes were made through consultation and approval of stakeholders, particularly the baseline projects.</p> <p>Previous outcome/output wording:</p> <p>Outcome 2.1 Developed institutional Capacity for Ecosystem based watershed planning and monitoring (including development of 3 watershed management plans for Chirwa, Zomba, and Lower Shire basin)</p> <p>Output 2.1.1 "Priority watersheds are identified and mapped based on climate risk assessment(s) in the fisheries sector</p> <p>Output 2.1.2 Detailed vulnerability assessment of fish farmers and small-scale fishermen along Lake Malawi</p> <p>Output 2.1.3 District Council Staff trained in climate sensitive lake protection and watershed management including climate change preparedness and resilience building</p> <p>Output 2.1.4 District level Watershed Management Plans which incorporate fisheries and aquaculture climate risks as well as adaptation measures are prepared for Chirwa, Zomba and the Lower Shire basins</p> <p>Output 2.1..5 Climate Change is mainstreamed in National or sub-national policies around watershed and fisheries management</p> <p>Outcome 2.2 Improved fisheries and watershed management record-keeping at the district level</p> <p>Output 2.2.1 Fish capture records improved and maintained at district level.</p> <p>New outcome/output wording:</p> <p>Outcome 2.1 Institutional Capacity for climate sensitive ecosystem based watershed planning and monitoring developed</p> <p>Output 2.1.1 Priority catchments are identified and mapped based on climate risk assessment(s) in the fisheries and fish-farming sector</p> <p>Output 2.1.2 District Council Staff trained in climate sensitive lake protection and watershed management including climate change preparedness and resilience building</p> <p>Output 2.1.3 Fish farmers? and small-scale fishermen? vulnerability to climate change assessed in the prioritized catchments</p>
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Component 3 Aquatic ecosystems, especially wetland areas, riverbanks and other key habitats rehabilitated with climate-sensitive measures for improved lake protection and resilient community livelihood

The outcomes and outputs under Component 3 were reworded in order to reflect the changes in geographical scope of the project (a more focused approach, with less catchments targeted), changes in certain targets (e.g. output 3.2.3 or 3.3.1) or to better reflect the complementarity of the proposed project with baseline projects.

In addition, new outcomes and outputs were integrated. Outcome 3.5, were taken from other components (see below) as they were deemed better suited to this investment component, rather than technical assistance; the other, Outcome 3.6 was added to better address the element of sustainability as this is not only key to all GEF projects, but an element that was brought forth by numerous stakeholders during the consultation process.

Previous outcome/output wording:

Outcome 3.1 Pilot community-based soil and water conservation and improved fallow and agroforestry in the Lake Chilwa catchment (with Chambo Restoration Plans), the lower Shire River, Bua River and the Nkhata Bay river basins.

Output 3.1.1 Over 2000 ha of community woodlots established in "priority" watersheds.

Output 3.1.2 Agroforestry and conservation farming practices implemented in 3 000 ha of farming areas.

Output 3.1.3 "Priority sub-watersheds" rehabilitated

Output 3.1.4 Conservation program for Lake Chilwa implemented

Outcome 3.2 Restoration of spawning grounds for capture fisheries, including invasive aquatic weeds control (Songwe River, Bua River, Dwanga River)

Output 3.2.1 Fish breeding/spawning grounds restored

Output 3.2.2 Invasive weeds removed

Output 3.2.3 Over 100km of vegetation is planted for lake shoreline protection

Output 3.2.4 Water supply and sanitation services provided at fish landing sites

Outcome 3.3 Alternative and complementary rural livelihoods strengthened in selected watersheds

Output 3.3.1 Over 50 integrated household fish farming units developed

Output 3.3.2 Non-fisheries based enterprises are promoted

Output 3.3.3 A plastic collection and disposal system is in place in at least 3 districts

New outcome/output wording:

Outcome 3.1 Community-based soil and water conservation and improved fallow and agroforestry.

Output 3.1.1 At least 2,000 ha of community forested area (woodlots

<p>Component 4:</p> <p>Improved Knowledge management, M&E and access to climate information and early warning systems at national, watershed and local levels</p> <p>Revision: Project-specific improved knowledge management and M&E</p>	<p>Component 4 was revised to focus solely on knowledge management, M&E and lesson sharing; outcome 4.1, and particularly outputs 4.1.1 and 4.1.2, were integrated under Component 3, which is the main investment component of this project.</p> <p>The remaining outcome and outputs were reworded, and elements added, notably output 4.1 2, in order to better achieve the crucial knowledge management, project coordination and lesson learning protions of the project, all of which are crucial elements ensuring the complementarity with other projects and scaling up and out.</p> <p>Previous outcome/output wording</p> <p>Outcome 4.1 Strengthened community based early warning and disaster preparedness system</p> <p>Output 4.1.1 Pilot weather and water quality observing network established</p> <p>Output 4.1.2 Climate change and fisheries monitoring datasets are comiled and shared with all stakeholders</p> <p>Output 4.1.3 A participatory M&E plan is designed and implemented at all levels</p> <p>Output 4.1.4 M&E project reports, briefs and other documents are shared with all stakeholders</p> <p>Output 4.1.5 Project good practices and lessons learned documented and disseminated</p> <p>Outcome 4.2 Lessons learned and best practices from pilot activities, capacity development initiatives and policy changes are disseminated</p> <p>Output 4.2.1 Annual community level lesson learning workshops organized</p> <p>Output 4.2.2 Quarterly lesson learning workshops held at district level</p> <p>Output 4.2.3 Annual national ?Lake protection and watershed management? symposia helf</p> <p>Output 4.2.4 Regional study tour organized for key national staff</p> <p>New outcome/output wording:</p> <p>Outcome 4.1 Project results monitored and project contributions to climate resilient and sustainable fisheries & watershed management effective</p> <p>Output 4.1.1 4.1.1 Effective project coordination and gender-sensitive/responsive monitoring and evaluation</p> <p>Output 4.1.2 Synergies with other key programs (REFRESH, AVCP, M-CLIMES, ERASP) ensured through continuous collaboration, thematic exchange and knowledge sharing</p> <p>Outcome 4.2 Project results documented and gender-sensitive/responsive community learning actions and outreach support replication and scaling up of best practices</p>
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Co-financing amounts	<p>Co-financing amounts from PIF</p> <p>AfDB-Loans: USD 9,556,803</p> <p>AfDB-Grants: USD 4,839,750</p> <p>Co-financing at PPG stage</p> <p>AfDB-Loans: USD 9,556,803</p> <p>AfDB-Grants: USD 4,839,750</p> <p>Ministry of Forest and Natural Resources: USD 1,000,000</p>
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Global environment problem

Freshwater resources are a precious and finite resource. Representing just 3% of all water on the planet, freshwater is a vital resource for all life, and provides humans with innumerable ecosystem services: provisioning (crops, fisheries, energy, transport), regulatory (flood control, water quality), supporting (nutrient cycling) and cultural (tourism, recreation, spiritual). Malawi is well-endowed in terms of freshwater resources: aquatic ecosystems cover 20% of Malawi's national territory. These include large perennial rivers (Songwe, North and South Rukuru, Dwanga, Bua and Shire), lakes (Malawi, Malombe, Chilwa and Chiuta), wetlands, other water bodies as well as innumerable seasonable waterways. Lake Malawi, one of the African Great Lakes, represents the largest body of water in this landlocked country, and the Shire River is its major outlet, eventually joining the Zambezi. With a high reliance on subsistence agriculture, these resources are of particular importance for Malawian population. This importance is only increased when fisheries are considered alongside of agriculture.

Despite their importance, freshwater systems are also some of the most threatened in the world. There are great anthropogenic pressures on freshwater resources; these include overharvesting of resources (e.g. overfishing), poor land management practices which promote erosion (e.g. unsustainable agriculture, deforestation), conversion of wetlands (e.g. for agriculture or settlement), pollution (e.g. domestic, agricultural or industry waste), to name a few. Furthermore, these impacts are only compounded by climate change ? changes in weather patterns and extreme events disrupt typical water availability and water related natural catastrophes (e.g. floods, droughts). With land degradation ? namely deforestation and river bank degradation ? freshwater systems are less resilient to such changes and, ultimately, further stressed and degraded. Malawi is no exception ? anthropogenic activities coupled with climate change have put severe pressure on its water resources. This in turn feeds back into a negative feedback cycle as communities heavily rely on these systems for their livelihoods. Only through an integrated and landscape level approach to management and use can ecosystems and communities alike be restored and hope for a more sustainable and prosperous future.

Threats, root causes and barrier analysis

The table below provides an overview of the main threats, root causes and barriers that contribute to the environmental problem of freshwater system degradation and associated impacts on fisheries in Malawi.

Table 1: Threats, root causes and barrier analysis

Threats	Root causes	Barrier analysis
? Deforestation	? Inappropriate and unsustainable agricultural practices	? Limited local capacity for environmental and natural resource management
? Land degradation and erosion		
? Overuse/harvesting of natural resources	? Population pressure	? Weak institutional and coordinating mechanisms of climate change adaptation initiatives
? Pollution	? Rural poverty and dependence on primary sector	
	? Energy poverty	? Limited economic choices for alternative livelihoods in communities
	? Climate change and variability	? Inadequate or unreliable climate change and hydro meteorological information

Threats

? **Deforestation:** deforestation is rampant in Malawi and arguably the biggest environmental challenge faced by the country due to its many direct and indirect drivers and impacts. Since the 1980s, Malawi has lost 3.2 million hectares of forest cover (34% of the national area), with a deforestation rate estimated between 1-2.8% (Wilson 2018). Even the lower estimates place it as one of the highest deforestation rates in eastern Africa (Winthrop, Kajumba and McIvor 2018). The causes for deforestation are multiple: demand for firewood/charcoal, agricultural/urban expansion, and brick-making. The implications of deforestation include increased soil erosion (see below) and reduced infiltration of rainwater, exacerbating low flows/droughts and flooding events, putting rural populations even more at risk to climate change related impacts.

? **Land degradation and erosion:** land degradation is an omnipresent issue in Malawi. A national soil study found that the national average soil loss rate was 29 ton/ha/yr (Vargas and Omuto 2016). Within this study, they identified a number of direct and indirect drivers for soil loss. The direct drivers include poor agricultural practices (cultivation on steep slopes, in structurally unstable shallow soils, continuous expansion into vulnerable soils, and cultivation of riverbanks), lack of sustainable soil and water conservation measures, loss of vegetation and high erosive rainfall.

Land degradation and erosion ultimately also affect sedimentation in waterways and bodies: sedimentation rates in sediment cores recovered from southern Lake Malawi have increased two to three fold since 1970. This sedimentation can negatively impact fish populations greatly, altering

habitats, destroying spawning areas and nurseries and impacting behaviour. It also affects water quality and water flows, putting stress on both human and fish populations.

? **Overuse/harvesting of natural resources:** Overuse/harvesting of natural resources is driven by high and increasing demand for natural resources and the weak enforcement of regulations pertaining to sustainable management. In Malawi, this is particularly illustrated through deforestation (see above), but also fisheries due to overfishing and poor regulation of the sector.

? **Pollution:** Pollution is present in many forms. In Malawi, domestic and agriculture waste prevails, whether organic (human and animal waste, agricultural run-off) or inorganic (wastewater, plastic). Waste management is poorly implemented at a national scale, as is policy and legislation related to it. Plastic pollution, for instance, is becoming an increasingly large problem. While Malawi was the first country in Africa to impose a thin plastics ban in 2015, it was first contested in court for over 3 years. Upheld in 2019, it is implemented, leading to increasing plastic waste in the land and waterways. Mining, while localized (mainly in the Northern region), can also be source of important pollution and is poorly regulated, leading to chronic and acute pollution, especially of waterways.



Figure 1: Unmanaged waste, including (illegal) thin plastics (Chikwawa district) [BRLi, November 2020]

Root causes

? **Inappropriate and unsustainable agricultural practices:** Agricultural practices are not adequately responding to the new challenges linked to environmental degradation, climate change, including lower soil quality and variable weather patterns and increased extreme events. Faced with decreasing yields, low access to inputs, farmers often turn to clearing more land, which only negatively feeds back into the main issues (e.g. soil loss, soil degradation, reduced infiltration, etc). The adoption of conservation agriculture, climate-smart practices and other sustainable agriculture practices is slow at best, despite promising results; there are examples of them being undertaken in private and community land, but they are too far and few between to provide the necessary change at catchment, let alone national, level.



Figure 2: Deforestation on slopes for agricultural land (including burning) (Rumphi District, South Rukuru Catchment) [BRLi, November 2020]



Figure 3: Brick-making and agriculture in the Mpoto Lagoon (Phalombe district, Lake Chirwa catchment) [BRLi, November 2020]

? **Population pressure:** Based on the latest census results (2018), the 2018 population stood at over 17.5 million, with an annual growth rate of 2.9%. By 2025, it is estimated that Malawi's population will be over 23 million. The density of people varies not only by Region (Northern: 84 people/km²; Central: 211 people/km², Southern: 244 people/km²), but also by district (lowest: Rumphi - 50/km², highest: Likoma - 726/km²) due to various population trends and growths. However, the increase is universal throughout the country putting increased anthropogenic pressure on natural resources.

? **Rural poverty and dependence on primary sector:** Malawi remains one of the poorest countries in the world with a large rural population (84% in 2018), a high incidence of poverty (~50%), and a heavy dependence on the primary sector (76.9%). The agricultural sector is predominantly led by smallholder farmers and largely relies on rainfall. This significantly exposes local communities to the vagaries of the weather which render their livelihood very vulnerable, especially for households with very few alternative sources of food and income in the event of poor rains. With climate change, droughts and floods are and will become more frequent, further exposing smallholder farmers and their dependents to loss of income, food insecurity and poor nutrition which in turn increases poverty levels. The fishing sector, despite a decrease in catches, has been seeing a rise in people engaged in it: from less than 45,000 fishers in 2003, the latest numbers show over 65,000 in 2020. Fish populations are decreasing significantly, while important water bodies (e.g. Lake Malawi, Lake Chilwa, Mpoto Lagoon) are being degraded and impacted by climate change.

? **Energy poverty:** Access to reliable and affordable energy is a monumental issue in Malawi. The electrification rate stands at approximately 46% in urban areas, but only 1% in rural areas. Energy poverty in rural areas accounts for much of the demand for firewood, but an inflated rate of charcoal use in urban settings is increasingly driving deforestation: charcoal production and sales destined to urban centres provide a lucrative livelihood to rural populations (National Charcoal strategy 2017).

? **Climate change and variability:** Climate variability and change are already affecting Malawi, which has experienced greater incidences of dry spells and intense rainfall events over the last two decades. These changes have led to an increase in the frequency of floods, droughts, pest and disease outbreaks, with severe economic and social consequences. Historical observations indicate the average annual temperatures have risen by 0.9°C since 1960, with changes in patterns of El Niño and La Niña, thus increasing climate variability and uncertainty. Climate projections indicate an increase in average annual temperatures. Even with an estimated increase in total annual rainfall, the number of rainfall events is likely to decrease, with significant increases in the intensity of each episode. Frequency of droughts and floods is likely to increase under the projected scenarios.

Barrier analysis

Ensuring the sustainability of fisheries through watershed management, in a climate adaptive manner, requires addressing a number of barriers. Some key ones are presented below:

? **Limited local capacity for environmental and natural resource management.** Both the Malawi Vision 2063 (2020) and Malawi Growth and Development Strategy III (20 recognize that Malawi must better respond to climate change and promote integrated and sustainable rural development in order to achieve its development potential and goals. The MGDS III specifically acknowledges the need to i) enhance integrated water resource management at all levels; ii) enhance community resilience to climate change impacts; iii) further develop climate change research and technology; iv) strengthen policy operating environment for climate change and meteorological services. Similarly, Vision 2063 recognizes that the agricultural sector has not developed to its potential in part due to low adoption of climate smart agriculture and high environmental degradation; these are limited by i) weak institutional capacity and coordination exacerbated by political interference in regulation and enforcement, ii) limited awareness of environmental best practices.

In particular, the decentralization process has meant that local populations are to be fully involved in the management of their natural resources, the reality on the ground is that many of these local institutions ? Beach Village Committees, Village Natural Resource Management Committees ? struggle for a variety of reasons, most notably lack of regular engagement with and support of district officials, lack and/or inadequate capacity/training/skill set. There is a need to homogenize capacity at a local level, among districts and government departments.

Another example is the slow uptake and implementation of integrated water management principles, and the catchment management approach, as outlined in the 2013 Water Resources Act.

? **Weak institutional and coordinating mechanisms of climate change adaptation initiatives.** Malawi has a strong policy base regarding climate change, including its National Adaptation Plan of

Action (2006, updated 2015), the National Resilience Strategy (2017), Intentional Nationally Determined Contributions (INDCs; 2015), and the National Climate Change Management Policy (2016). In addition, its National Adaptation Plan process is well under way, with a stocktaking report and Roadmap produced in 2016, and a NAP Framework in 2020. Awareness is present in communities thanks to national and project-led campaigns. However, when it comes to cohesive action and implementation of adaptation initiatives from policy to local level, there is still much to be done. Many of the efforts are project or disaster response led, rather than a systematic incorporation and roll-out at a local level, which involves the input and participation of local stakeholders.

? **Limited economic choices for alternative livelihoods in communities:** as seen earlier, the ever-growing population relies heavily on the natural resources around it. While there have been a number of government and project led efforts to provide communities with both climate change awareness and strategies, there is a lack of uptake of these in the long term and at a larger scale. Much of the reluctance to adopt climate smart approaches are due to the lack of proof of their economic viability, particularly on the short term. In order to for the populations to fully adopt these, it is key to increase awareness on alternate livelihood options that can come diversity income and provide increase economic security, both in the short and long term. Simultaneously, these alternate livelihood options should help promote sustainability, especially in the face of changing conditions due to climate change;

Inadequate or unreliable climate change and hydro-meteorological information: with much of the community level income being linked to natural resources and the climate, communities require accurate, reliable and local climate and hydro-meteorological information. This type of information becomes of particular importance with increased climate variability affecting rainfall patterns in order to predict short term events (e.g. increased rainfall, flooding) as well as long-term patterns (e.g. drought). While there is a national level meteorological service that provides information at the national level, the permeation of the information does not always reach all communities in the same manner. In parallel, the country is lacking hydro-meteorological infrastructure: there are few functional observational stations and low rate of repair and maintenance of existing ones. The coverage of this network is inadequate as is the overall capacity to maintain and collect data from it.

Climate risk assessment

Climate and Climate Change Projections

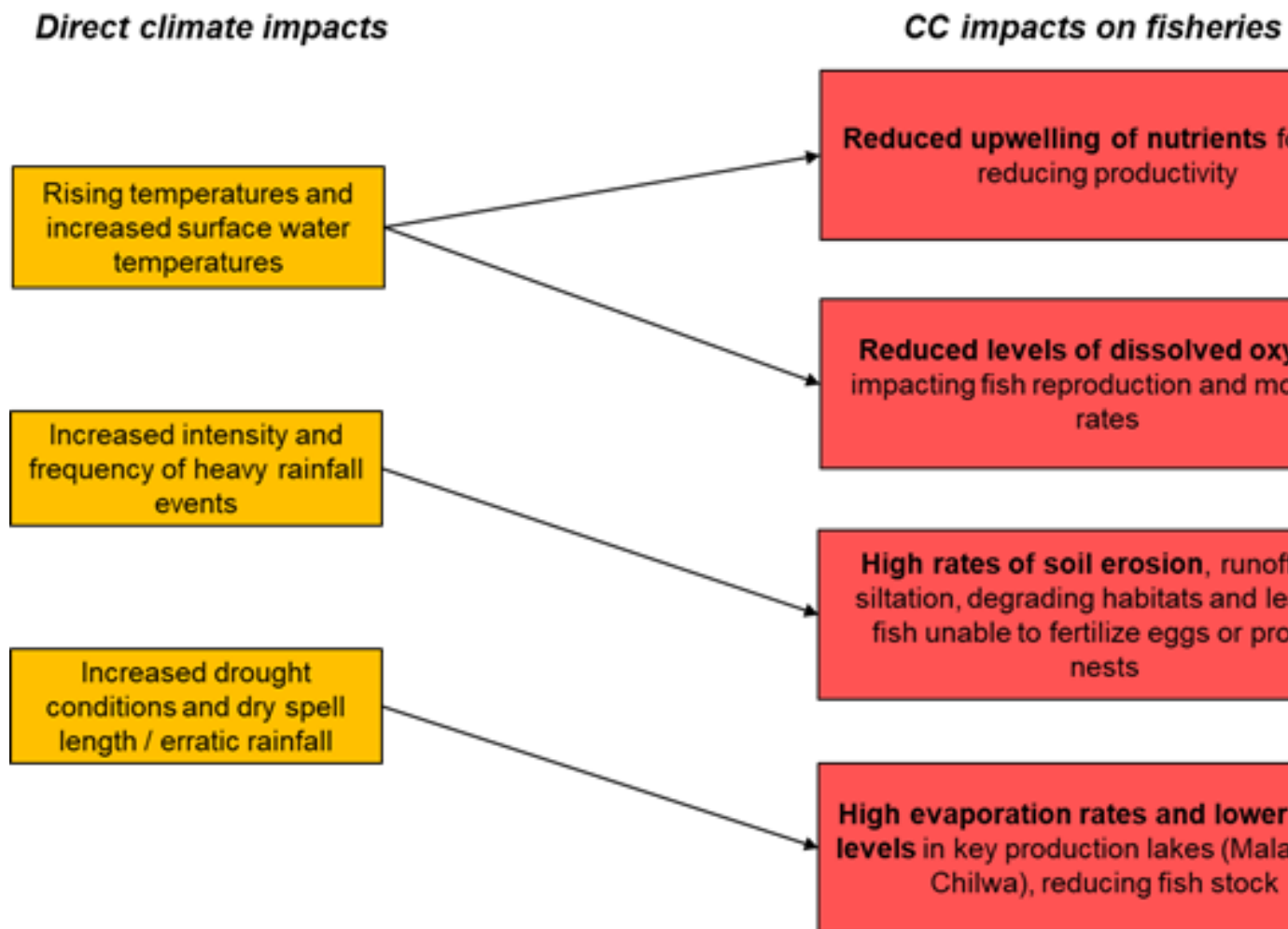
Malawi's climate is classified as tropical, and highly affected by the altitude. There is one main rainy season, typically between November and April, which sees abundant rainfall and relatively high temperatures. Between April and September, temperatures and humidity drop, providing a cool and dry season; temperatures can drop under 10°C at night at high altitude (e.g. Mulanje and Nyika Plateau up north), but remain in the low teens for most of the country. Temperatures increase from September, with daily averages of 27-29°C, with increasing humidity for the onset of the next rainy season.

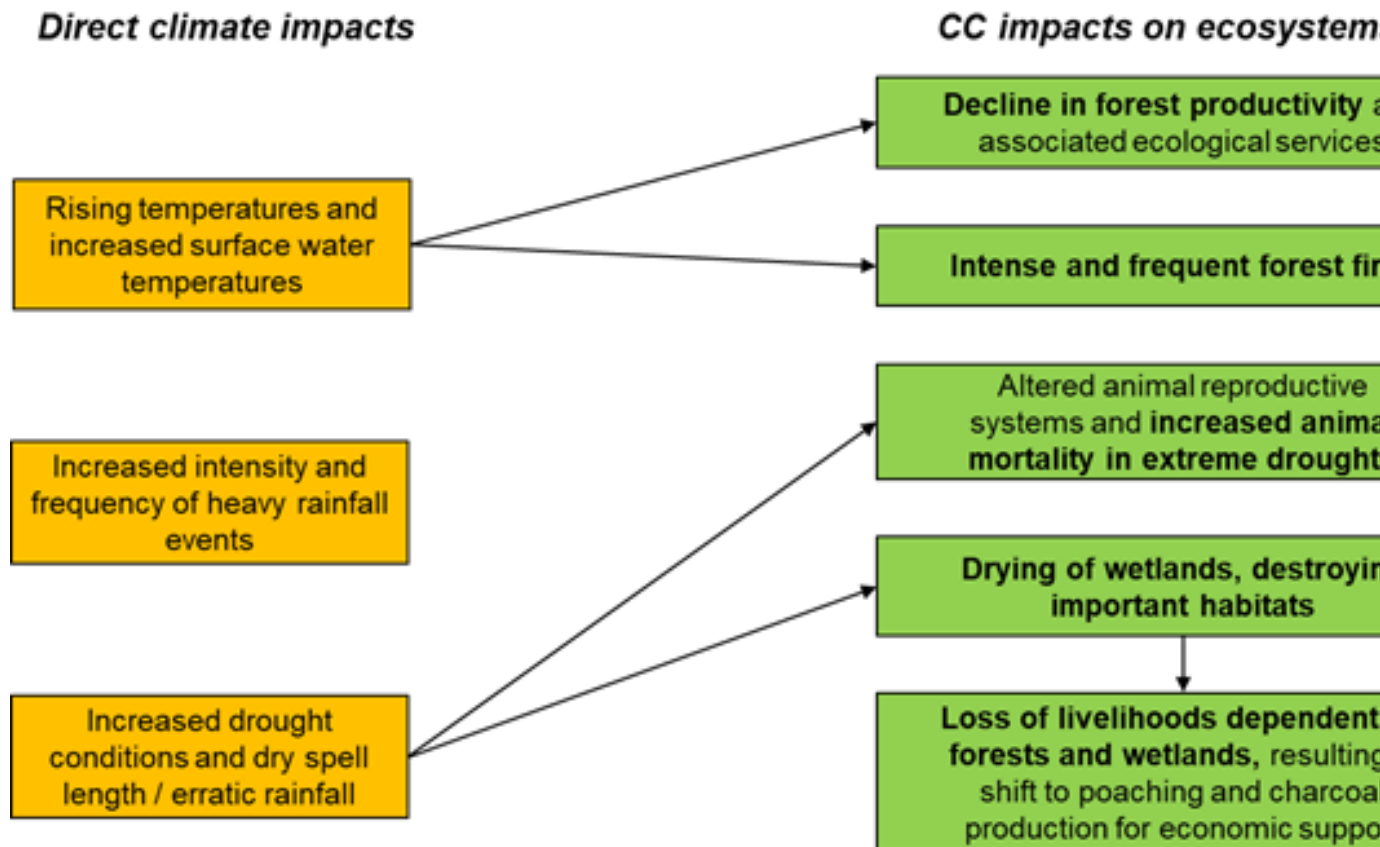
Climate variability and change are already affecting Malawi, which has experienced greater incidences of dry spells and intense rainfall events over the last two decades. These changes have led to an

increase in the frequency of floods, droughts, pest and disease outbreaks, with severe economic and social consequences. Historical observations indicate the average annual temperatures have risen by 0.9°C since 1960, with changes in patterns of El Niño and La Niña, thus increasing climate variability and uncertainty. Climate projections indicate an increase in average annual temperatures: mean annual temperature is likely rise by 1.1 to 3.0 degrees Celsius by 2060, and by 1.5 to 5.0 degrees Celsius by 2090. Even with an estimated increase in total annual rainfall, the number of rainfall events is likely to decrease, with significant increases in the intensity of each episode. Frequency of droughts and floods is likely to increase under projected scenarios.

A 2014 Economic Vulnerability and Disaster Risk Assessment in Malawi and Mozambique (REF) identified floods and droughts as the leading cause of chronic food insecurity in the country. They are responsible for annual GDP losses of 1.7% on average, which can increase to 9% during a severe 1-in-20 year drought. The Notre-Dame Global Adaptation Initiative, which ranks a country based on its vulnerability to climate change and its readiness to improve resilience, ranks Malawi as 165 out of 181, the second lowest in the region (after Zimbabwe).

Sectoral climate risks





2) the baseline scenario and any associated baseline projects,

The *Sustainable Fisheries, Aquaculture Development and Watershed Management Project* (SFAD-WM) was launched in March 2020, and is set to last 60 months. Its main objective is to improve the resilience of wild capture fishing and fish farming communities to taking into account the prevalent climatic variability including floods and droughts. Its funding is primarily provided by the AfDB, with 8.98 million USD loan and 4.21 million USD grant, and an additional 1.38 million USD from the Government of Malawi.

It is structured around four components:

- ? Sustainable Capture Fisheries and Watershed Management;
- ? Aquaculture Development;
- ? Fish Value Chain Strengthening;
- ? Project Management, Coordination, Monitoring and Evaluation.

The project intervention area is large: 11 lakeshore districts, and 3 non-lake districts, covering the entire Lake Malawi basin, Lake Chilwa and the Shire River basin. An estimated 20,000 fishers, fish farmers, students and value chain entrepreneurs will directly benefit from the project activities, with an

additional 250,000 indirect beneficiaries (40:60 male/female ratio). The main outcomes of the project include improved income for fishers and aquaculture farms, increased fish production (in both capture and aquaculture fisheries), as well as improved nutritional well-being and inclusive livelihood securing for young and women entrepreneurs. Its approach is aligned with recommended national and international adaptation strategies.

The main activities for this project include: improving local governance and management of fish resources (e.g. community governance, rehabilitating and introducing new infrastructure and technology (e.g. landing sites, markets, cold chain), capacity building at all levels of the value chain (e.g. fishermen, civil servants, entrepreneurs, etc.), strengthening the fish value chain and market (e.g. PPP, micro-financing), research, and finally effective and participative M&E.

Gap analysis

Many of the activities are focused around the lake and directly involving the fishing community; however, these communities and the ecosystems that support them depend largely of areas upstream ? notably in terms of pollution control, waste disposal, flow inputs to the lakes. In order to ensure the durability and resilience of the actions proposed by this project, it is vital to support better land management, climate change adaptation and resilience in areas and populations upstream.

Restoring Fisheries for Sustainable Livelihoods in Lake Malawi

The Restoring Fisheries for Sustainable Livelihoods in Lake Malawi (REFRESH) programme was launched in 2019 funded by USAid (12 million USD). It aims to ensure the sustainable management of aquatic habitat, fish populations and fisheries of Lake Malawi by 2024; it comes as the follow-up to the USAid-funded Fisheries Integration of Society and Habitats Project (FISH) project, which ran from 2014 to 2019.

The REFRESH programme is focused on the districts surrounding Lake Malawi ? Karonga, Rumphi, Dedza, Mangochi, Likoma (island), Nkhata Bay, Nkhhotakota, and Salima, ? with a particular emphasis on the latter three. The project is centered around five main outcomes:

- ? Outcome 1 ? Fisheries **governance** and regulatory framework strengthened;
- ? Outcome 2 ? Ecosystem-based fisheries management improved;
- ? Outcome 3 ? Decentralization of fisheries management strengthened;
- ? Outcome 4 ? Commercialization of conservation enterprises to counter unsustainable fishing catalyzed and supported; and
- ? Outcome 5 ? CDCS priorities for integration advanced.

The activities are divided into national level ones ? including advocacy, supporting the further decentralization of the fisheries sector, and legislation and policy development and enforcement ? as well as local level ones focusing on the capacity and governance. There is also a focus on the

development of a sustainable market, in part based on ecosystem based fisheries management. While the national level actions involve a number of stakeholders including research institutions and government, local level actions are strictly restricted to lakeside communities.

While the previous FISH project was wider ranging both geographically (e.g. other lakes) and in scope (e.g. landscape restoration), the REFRESH programme seeks focus on Lake Malawi in itself and its fishing communities; that is the fishermen (with governance) and the aquatic habitat. Part of this honing in is due to the realisation during the FISH project that the critical gains from the programme would be more established if the focus were restrained, rather than tackling barriers and issues on all front and all waterbodies.

Gap analysis

While justified, the new focus on Lake Malawi leaves behind certain areas which benefited (e.g. Lake Chilwa and Lake Chiuta) from the FISH programme with little or no follow-up. Furthermore, the focus of the project lies almost solely on fishing communities of Lake Malawi and Lake Malawi's ecosystem itself (shoreline and water); however, the efforts at lakeshore will only truly be sustainable if the associated catchments are considered, due to the interconnectedness of the lake's ecosystem with those upstream.

Scaling up of modernized climate information and early warning systems in Malawi (M-CLIMES)

The *Scaling up of modernized climate information and early warning systems in Malawi* project is a six year project (2017-2023). With a budget of 16.3 million USD provided by the Green Climate Fund (79.6%), UNDP (11%) and the Government of Malawi (13.3%), its activities are being undertaken in half of Malawi's districts (14), and are focused on improving Malawi's technical and financial capacity and access to weather and climate information in order to save lives and improve livelihoods at risk by climate change.

The project is declined into three components:

- ? Expansion of networks that generate climate-related data to save lives and safeguard livelihoods from extreme climate events
- ? Development and dissemination of products and platforms for climate-related information/services for vulnerable communities and livelihoods
- ? Strengthening communities capacities for use of EWS/CI in preparedness for response to climate related disasters

The activities under these include both the provision of hardware and capacity training. For instance, the project provides for 37 Hydrological water level stations, 2 wave and weather buoys and 34 automatic weather stations in order to expand the existing networks. In parallel, it will ensure that civil servants from various departments are trained in their use and maintenance. In parallel, under component 2, it ensures that the information collected is disseminated in a targeted way to the

communities which need it the most; this includes specific and timely weather warnings to the fishing communities in the lake-bordering districts of Mangochi, Salima, Nkhata Bay and Nkhoskhota.

Gap analysis

This project is ambitious with a wide-range of activities and scope; however, because of this, many actions remain limited to certain districts and could benefit from additional roll-out in areas with similar socio-economic profiles and challenges.

Aquaculture Value Chains for Increased and Food Security Project

The *Aquaculture Value Chains for Increased and Food Security Project* (AVCP) is a GIZ funded initiative under the global 'Sustainable Fisheries and Aquaculture' programme. It was launched in 2018 and extended until June 2023, with a total budget of 9.68 million USD (8.1 million EUR). The overall objective of the project is to increase the access of food insecure population of Malawi to fish products and a higher income from sustainable and resource-conserving aquaculture and fish-farming.

The approach includes:

- ? training of fish farmers in 17 districts^[1] using training of trainers and follow-up coaching approaches
- ? strengthening the economic power of fish farmer groups
- ? improving access to high-quality inputs (e.g. fingerlings and feed),
- ? provide support for policy development in line with national legislation and FAO guideline; this includes the creation of the Aquaculture Round Table (AquaRT).

The programme extension 2021-2023 will include a further awareness raising component, through radio programming and the creation of a primary school module, as well as a larger focus on fish processing and market linkages ? including the development of energy efficient technologies and market assessments.

Gap analysis

The wide reach of this project will help alleviate the pressure on dwindling fish stocks in the large Malawian lakes as well as help the development of the fisheries sector overall in Malawi. However, its efforts do not address some of the root causes such as climate change and watershed degradation, which will in turn also affect aquaculture, especially with shared use of watersheds throughout the country which are already leading to water use conflicts.

Malawi Watershed Services Improvement Project (MWASIP)

The *Malawi Watershed Services Improvement Project* (MWSIP) is a large-scale project, the first of a Series of Projects set to help implement the National Forest Landscape Restoration Strategy. It is funded by the World Bank, to a total amount of 160 million USD for the first project, which will run between 2020 and 2026, and focus on the Shire Basin in the Southern Region. Subsequent projects will include a focus on the Linthipe, Bua and Dwangwa River in the Central Region (2023-2028) and then on the North Rukuru and Lufilya in the Northern Region (2026-2030). The overall objective is to increase adoption of sustainable landscape practices and improve watershed services in targeted watersheds.

The first project in the Shire Valley looks to scale up landscape restoration approaches and interventions introduced during the Shire River Basin Management Project (2012-2019) within the wider Shire River basin while maximizing the benefits received by local communities. There are three main components:

- ? Scaling Up Landscape Restoration ? scaling up restoration interventions in the middle and upper Shire River Basin while enhancing small-holder farming communities? livelihoods, building climate change resilience, and improving/preserving carbon sequestration capacity of the watershed.
- ? Improving Watershed Services ? maximizing benefits people communities obtain from sustainably managing watersheds, through strengthening watershed management institutions, piloting market-based mechanisms for watershed services, and infrastructure and climate information services.
- ? Technical and Project Management Support.

The first component focuses strongly on community level initiatives, including performance based grants for catchment management committees (CMCs) and Village Natural Resource Management Committees (VNRMCs) for implementation of catchment management plans, matching grants for cooperatives and, capacity building for CMCs and VNRMCs, and development or update of catchment management plans (CMP) at multiple levels. The second component focuses mainly on how to enhance ecosystem services provided by the watershed, mainly through strengthening national level institutions (e.g. NWRA, Department of Forestry and Department of National Parks and Wildlife (DNPW)) and infrastructure (e.g. small dams, solar powered boreholes, small irrigation schemes). This component also focuses on improving climate information services through technical assistance in the development of hydrological and climate services, a weather radar, and innovation grants. The last component focuses on preparing the future phases (including identifying hotspots in the central and northern region) and biophysical and ecological monitoring of the restoration.

Gap analysis

Many of the interventions in this project focus on water catchments and their communities, however, there is little or no involvement with the fishing communities. While this may feature more heavily in the subsequent roll-out of the next projects (in the Central and Northern region), it will be difficult to understand how the challenges and specificities of these areas will need to be considered for an effective implementation. This can be extended not only to fishing communities, but also other regional

idiosyncrasies. Subsequent roll-out of these interventions on a large scale may first benefit from baseline or pilot data.

GEF-funded interventions

There have been a number of GEF interventions in the last 10 years which have direct and indirect links with the proposed project, notably working on climate change adaptation and mitigation, combatting land degradation and promoting fisheries. The table below outlines these projects. In particular, two projects are further highlighted in the sections below due to their inherent complementarity with the proposed project (highlighted in the table). In addition, a new proposal is currently being submitted to the GEF (PIF stage) which seeks to further build on the interventions proposed here as well as focus on the private sector involvement.

Table 2: Related GEF interventions in Malawi and the region.

ID	Project Title	Grant and Co-financing	Implementing Agencies	Implementation Countries	Project Objectives	Project Duration
9842	Shire Valley Transformation Program - I	\$5,587,156 \$39,100,000 Biodiversity, Climate Change	World Bank	Malawi	To provide access to reliable gravity fed irrigation and drainage services, secure land tenure for smallholder farmers, and strengthen management of wetlands and protected areas in the Shire Valley.	2018-2023
9420	<i>Strengthening Trans-boundary Cooperation and Integrated Natural Resources Management in the Songwe River Basin</i>	<i>\$6,392,694 \$11,044,000 International Waters</i>	<i>African Development Bank</i>	<i>Regional, Malawi, Tanzania</i>	<i>To enhance basin protection, livelihoods and integrated water resources management in the Songwe River Basin (SRB) through improved transboundary cooperation and sustained ecosystem services</i>	<i>2019-2022</i>
9138	<i>Food-IAP: Enhancing the Resilience of Agro-Ecological Systems (ERASP)</i>	<i>\$7,155,963 \$87,397,000 Climate Change, Land degradation, Biodiversity</i>	<i>International Fund for Agricultural Development</i>	<i>Malawi</i>	<i>Enhance the Provision of Ecosystem services and improve the Productivity and Resilience of Agricultural Systems of Vulnerable Rural Poor.</i>	<i>2017-2023</i>

8013	Climate Adaptation for Sustainable Water Supply	\$2,643,500 \$39,500,000 Climate Change	African Development Bank	Malawi	Sustain availability of water supply in the river courses; climate proof water resources outputs of the Sustainable Rural Water; Sanitation Infrastructure for Improved Health; Livelihood project in five districts: Rumphi, Nkhotakota, Ntcheu, Mangochi and Phalombe	
5328	Building Climate Change Resilience in the Fisheries Sector in Malawi	\$5,460,000 \$12,120,000 Climate Change	Food and Agriculture Organization	Malawi	To improve the resilience of fishing communities around Lake Malombe to the effects of climate change	2017-2021
4994	Strengthening Climate Information and Early Warning Systems in Malawi to Support Climate Resilient Development and Adaptation to Climate Change	\$4,000,000 \$11,294,907 Climate Change	United Nations Development Programme	Malawi	To strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to extreme weather and planning adaptation to climate change in Malawi.	2013-2018

4625	Shire Natural Ecosystems Management Project	\$6,578,000 \$72,768,000 Climate Change, Biodiversity, Land degradation	The World Bank	Malawi	Shire River Basin planning framework developed to improve land and water management for ecosystem and livelihood benefits in target areas	2012-2018
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Enhancing the Resilience of Agro-ecological Systems Project (ERASP)

The *Enhancing the Resilience of Agro-Ecological Systems Project* (ERASP) is a project which looks to enhance the provision of ecosystem services and improve the productivity and resilience of agricultural systems of vulnerable rural poor; its components and actions specifically target land degradation, loss of agro-biodiversity and climate change adaptation and mitigation. It is one of the projects under the Integrated Approach Pilot (IAP) program on Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa (GEF-IAP-FS), co-funded by the GEF. In addition to the GEF funding (7.6%), the project is co-financed by IFAD (56%), Adaptation for Smallholder Agriculture Programme (7.5%), Malawi government (15.5%), private sector (3.2%) and DFID (0.5%) under the Programme for Rural Irrigation Development (PRIDE). It is to be implemented from 2017 to 2023.

Geographically, the project focuses on four specific catchments: two in Karonga district, one in Machinga district, and one in Phalombe district. These were selected based on a two-step selection process which included both desk-based studies as well as stakeholder consultations. All four catchments are associated with PRIDE which will be responsible for medium sized irrigation schemes being developed, alongside improved climate-smart capacity building and market linkages.

ERASP looks to further enhance these investments by offering more comprehensive landscape planning, adding an agro-ecological approach to improve food security and helping build resilience and sustainable growth in rain-fed farming systems. ERASP has three components to it:

- ? Multi-stakeholder institutional framework for integrated catchment area management: under this component, each of the four catchments will see the establishment of Catchment Management committees as well as catchment area management plans (CAMPS) implementable at the local level.
- ? Scaling up catchment level sustainable land management practices: the activities under this component focus on the implementation of the CAMPs developed under component 1. This will involve the deployment of a number of SLM and climate smart practices ? wood lots, sustainable charcoal production, NTFPs, soil and water conservation practices, improved cookstoves, assisted regeneration and reforestation
- ? Monitoring and assessment of ecosystem services, resilience and food security: Under this component, district and national level staff and youth will be trained in ecosystem indicator monitoring, and ecosystem assessment tools rolled out.

Gap analysis

ERASP presents a localized but comprehensive ground-up approach to a number of key issues linked to land degradation and water security identified in Malawi. However, the limitation of the localized nature of this approach (i.e. 4 sub-catchments) is that there is not enough replication to allow for the large scale behaviour change needed to solve key issues such as land degradation, climate change adaptation and mitigation and agro-biodiversity loss. Furthermore, its approach is entirely tied to agricultural use of watersheds, with no connection other users of the catchment or downstream communities.

Strengthening Trans-boundary cooperation and integrated natural resource management in the Songwe River Basin

The *Strengthening trans-boundary cooperation and integrated natural resource management in the Songwe River basin* is a project focusing on the transboundary Songwe River catchment, which delineates the border between Tanzania and Malawi. The overall objective of the project is to 'enhance basin protection, livelihoods, and integrated water resources management in the Songwe River Basin through improved transboundary cooperation and sustained ecosystem services'. Two districts in Malawi are targeted 'Chitipa and Karonga' as they represent 45% of the basin area. An additional 5 districts are targeted in Tanzania.

The project is primarily funded by the AfDB and the GEF (jointly ~87%), with co-financing from the governments of Tanzania and Malawi (~6% each), with the remaining provided by the Climate Resilient Infrastructure Development Facility and the Stockholm International Water Institute. The project was approved by the GEF in September 2018, and is set run 4 year (until 2023).

The project divided into four components:

- ? Component 1 'Enhancing transboundary water resources management and institutional capacity.
- ? Component 2 'Improving early warning, disaster risk management, and monitoring measures.
- ? Component 3 'Community- based demonstrations in Integrated Natural Resources Management and Conservation.
- ? Component 4 'Knowledge, monitoring and evaluation.

This project focuses on both the institutional and community level improvement of the river basin management, ensuring that the necessary institutional frameworks and systems are in place and running, all while supporting more local involvement. Specifically, under component 3, 6,600 ha of land will benefit from improved soil and water conservation measures. These will include improved forestry management, district level capacity building in land use planning and ecosystem based management, and funding for conservation, integrated natural resource management and conservation.

Gap analysis

Despite the Songwe entering Lake Malawi at its most northern shores, this project does not particularly target fisheries and fishing communities nor explicitly create the link between them and the basin management (though they will be included in assessments). Furthermore, while the final component focuses lessons learned and information dissemination, these relate more to the international waters aspect of the project rather than on country specific lesson and information management.

Upcoming proposals

A new project concept is being submitted to the GEF called Transformational Adaptation for Climate Resilience in Lake Chilwa Basin (TRANSFORM) (under UNDP and Ministry of Forestry and Natural

Resources). Its focus is to ? reduce the vulnerability of communities surrounding Lake Chilwa to the adverse effects of climate change by strengthening the resilience of livelihoods through Ecosystem-based Adaptation (EbA) and financing of climate-resilient enterprises ?. The budget for the proposed project is 4.416 million USD, with co-financing from the UNDP/FAO/WFP and Government of Malawi. It is structured around three main components :

- ? EBA integrated planning (including enhancing capacity of local governance structures) and Framework Investment plan for climate resilient livelihoods ;
- ? Implementation of EBA and livelihoods diversification (including support towards ecosystem management and restoration and high value chains) ;
- ? Climate Financing facility and private sector engagement (including a new window to stimulate private sector investments to support economic alternatives).

As this current GEF project is part of its baseline, the TRANSFORM project will focus on complementing rather than duplicating efforts, notably in terms of which ecosystems/sites to target, focusing on private sector engagement in innovation and technology (esp. Integrated), and sustainable financing mechanisms for value changes. Furthermore, it will also focus on ensuring that the successes in terms of climate resilience and integrated catchment management are maintained as well as furthering the options for financial viability/sustainability.

Baseline scenario and gaps to be filled ? Synthesis

It is clear that there are a number of efforts working on the fisheries sector and watershed degradation. An analysis of past projects and current interventions has allowed to identify the following:

- ? **Effective multi-sectoral planning and management is critical** to address land-degradation and its downstream effects. There are few projects that make a direct link between different sectors; particularly, there is often a focus on fisheries or agriculture, rather than look at how both related, notably at a landscape level. There are a large number of stakeholders involved in need of avenues of awareness, communication, and cooperation;
- ? **Catchment management in an integrated way is still at its infancy**, and as such, requires sustained efforts to ensure its full implementation. The policy context is strong, yet the field applications are limited and/or heterogeneous and in need of reinforcement, particularly at regional, district and local level. This includes the relationship and communication between various levels;
- ? One aspect that is missing in many project relating to fisheries is climate change resilience and adaptation; while certain projects look aspects of it, there are few, if any, approaches who look at **how climate change impacts the fisheries sector as a whole**;
- ? There is a need to **multiply ground up approaches** in more than one location in order to widely promote the efficacy and sustainability of climate change adaptation and mitigation ? especially sustainable land management (SLM), agroforestry, conservation agriculture, and soil and water

conservation. Taking this one step further, there is a need to ensure that there are **localized and tailored interventions**, with follow-up and opportunities to 'trouble-shoot' throughout the project, as project areas and stakeholders will have different experiences.

? Linked to the point above, with many root problems being widespread, it is key to ensure that there is efforts to coordinate between projects and local efforts, **ensure that interventions and approaches are being trialled consistently in all areas affected**. This may mean taking similar approaches (i.e. testing them in other areas) which will not only allow to learn more and adapt these, but also ensure that the development in the country is homogenous and not source of conflict or rivalry between communities/areas.

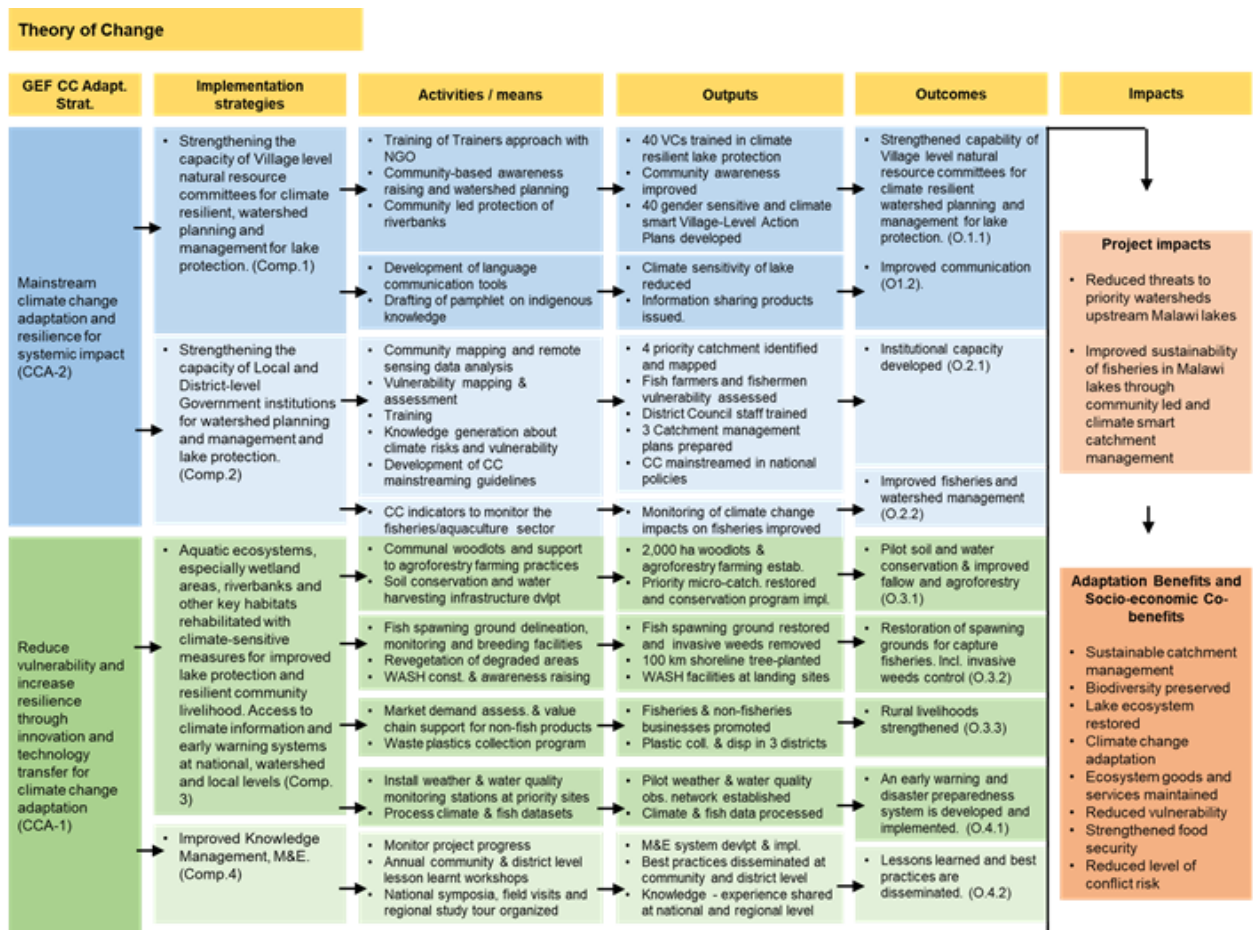
? Behaviour change does not happen overnight, especially when the benefits are long-term. There is a need to provide sustainable incentives and/or benefits that outlive the project in order for meaningful change to be perpetuated. It also requires continuous and widespread awareness raising, both through project interventions, but also permeation from project beneficiaries.

3) the proposed alternative scenario with a description of outcomes and components of the project;

The project will help to avoid, reduce and reverse further degradation of target catchments, using community-led and climate smart catchment management, therefore improving the sustainability of fisheries in Malawian lakes. This will be done by supporting stakeholders at local and district level in the development of catchment management planning ? including awareness raising, capacity building, participatory plan development - as well as providing support for the implementation of activities related directly to sustainable land management and use ? including agroforestry, conservation agriculture, soil and water conservation, relating to sustainable fisheries management ? including protection and restoration of habitat, and climate resilience and adaptation ? including promotion of alternative livelihoods, improved hydro-meteorological networks and information.

[1] Lilongwe, Kasungu, Mchinji Dedza, Ntchisi, Salima, Dowa, Mzimba, Nkhata Bay, Rumphi, Blantyre, Zomba, Mulanje, Thyolo, Phalomba, Mwanza and Chiradzulu.

The figure below presents the project's theory of change.



Component 1: Strengthening the capacity of Village level natural resource committees for climate resilient, watershed planning and management for lake protection

Component 1 seeks to address issue (b) of the MGDS: ?Inadequate institutional capacity for managing climate change? by developing this capacity at the community level. The component deals with the issue of enforcement by encouraging self-policing by communities as led by the BVCs and VNRMCs as well as shifting responsibility to the communities by sharing information on lake health. This component also addresses priority (a) of the NAPA: ?Improving community resilience to climate change through the development of sustainable rural livelihoods? and specifically targets actions for improved capacity of the communities as well as raising and improving awareness. It is envisaged that where catchments classified as ?priority? have no BVCs or VNRMCs these will be established and trained in the same manner as for the long established ones.

Land and water degradation, together with their subsequent impacts on water resources and resultant impacts on fisheries and aquaculture, cannot easily be separated or managed independently of one another. This implies that a co-ordinated and integrated planning approach and subsequent action is required. This applies for all scales of catchment management and through all levels of institutions

from individual land users, through community and traditional structures to District and National Ministries.

The Ministry of Agriculture and Food Security (MoAFS) has developed national guidelines on integrated catchment management and rural infrastructure development (*Integrated Catchment Management And Rural Infrastructure Volume II*, 2015). Their implementation is coordinated by the Department of Land Resource Conservation (DoLRC). They provide a very clear framework to facilitate the management of all natural resources at a smaller scale that enables not only government but also land owners, communities and stakeholders to become involved in the day to day management of the catchment, thereby ensuring sustainable and reasonable utilisation of the resources. They aim at guiding the catchment management planning process as well as the physical activities that have an impact on or could improve catchment management at grassroots level.

The project will strongly rely on these guidelines to address the global environmental problem and its root causes.

Catchment Planning is a participatory planning practice. It requires the input from all the stakeholders. There are various participatory planning techniques to ensure the involvement of the whole community and for planning at various scales ? village-scale up to catchment-scale planning level.

Catchment management planning involves multiple spatial scales, combining administrative layers and hydrological delineation (Figure 11). The level or detail of catchment plans also varies depending on the scale of the catchment, for example at the Village Scale, the plan will only include site-specific or very localised but very defined activities (Village-Level Action Plan (VLAP) or micro-CMP); whereas at the Catchment or Water Resource Area scale the plan will be much broader in scope and quite comprehensive with sector and scenario analysis. These broader Catchment Management Plans (CMP) should contribute to informing the type of activities that should be happening at the village level, but the context specific activities are captured in the VLAPs.

Outcome 1.1 Strengthened capability of Village level natural resource committees for climate resilient watershed planning and management and reduced climate vulnerability of riverine communities

Outcome 1.1 will support ecosystem-based approaches and integrated water resources management to planning at the lowest scale needed to sustainably address over all catchment degradation, the negative impacts of climate change and decreases in fish stocks. These approaches will be a direct declination of the catchment / district level approach developed in component 2. Specifically, it will directly address informational and institutional gaps to establishing climate smart catchment management, including the lack of a clear framework for cross-sectoral planning and compliance as well as weak local level governance of land and land-based resources by rural communities (Output 1.1.1). This approach will support inclusive, innovative and integrated approaches to undertake restoration opportunities assessment and planning at the micro-catchment level in each of the areas of project intervention (Output 1.1.2). The results of this process will then be applied to a participatory, bottom-up restoration

and micro-catchment planning process that aims to tackle key barriers to planning, coordinating and collaborating at the level of local villages (Output 1.1.3). Following the assessment and planning processes, community-based interventions to support dryland restoration and management, partly funded by Component 3, will be undertaken and fostered by an incentive program (Output 1.1.4). In alignment with the Land Degradation Neutrality (LDN) response hierarchy, the interventions that are supported will aim to avoid, reduce and if required reverse micro-catchment degradation.

Outcome 1.2 Improved community awareness raising and communication about watershed management and lake protection at local level

In year one, the PIU will develop a simplified gender sensitive and responsive knowledge management and communication guidelines that aligns with the knowledge management framework established for the SFAD-WM led by AfDB. This strategy will be designed to promote the project's visibility and contribute to the achievement of the project's objective by supporting project implementation, as well as the replication and scaling up of climate-smart catchment management practices at community, catchment, and national levels. In alignment to this guidelines and to raise awareness on issues pertaining to climate-smart catchment management, the project will participate in multi-faceted communication actions (radio, internet, print, etc.) to share project results and lessons learned. Simplified guidelines and community training materials for watershed management and lake protection will be produced in Tumbuka, Chewa and Yao, the main languages in the Northern, Central and Southern regions of Malawi (National Census, 2018). The objective here is to capture an audience as large as possible than is otherwise possible if only English is used as the medium of communication.

A communication and graphic designer will be hired to prepare impact infographics to share key messages about the impact of the project on their livelihoods. Fisheries district offices and DoF will tailor the key messages and update the figures and content bi-annually.

Communities have long held cultural beliefs regarding watershed management and fisheries which could either be positive or negative. If such beliefs are documented and disseminated for discussion by the wider community it help transform mind-sets and some livelihood practices. It is proposed that a local consultant, with references in community orientated communication and awareness raising, is hired to compile such a pamphlet in both English and local languages, as appropriate, building on the knowledge of sector practitioners.

A benchmark about existing school club programs dedicated to environmental and aquatic ecosystem protection will be carried out by an Education project officer. S/he will then design, in coordination with local teachers, 1 set of educational program/material targeted to the primary level and dedicated to aquatic ecosystems and lake protection, and to climate related risks. School club educators and/or teachers from the communities targeted Component 1 will be trained by the education project officer. The school club program and its manual will be then disseminated. The program aims at empowering local educators who feel motivated to help their own communities, with training, information resources and moral support throughout the year; the educators and teachers would all be volunteers. A limited budget will be dedicated to provide low cost material items to the schools. The idea is to have club sessions consisting in a mix of taught material, but especially practical activities, to encourage a ?learning by doing? approach.

Component 2. Strengthening the capacity of local and district-level institutions for watershed planning and management and lake protection

Component 2 seeks to address issues of the MGDS; (c) ?Inadequate mainstreaming of climate change issues? and (d) ?Inadequate enforcement of climate relevant legislation? by targeting the planning and organisational capacity of district administrations. The component places the District Councils at the centre of fisheries and catchment management. The component addresses priority (d) of the NAPA: ?Improving Malawi?s preparedness to cope with droughts and floods.? It addresses the key actions: (1) Designing and testing appropriate strategies, policies and laws to facilitate urgent efforts in dealing with climate disasters, (2) Preparing drought and flood preparedness plans, and (3) Integrating climate change plans into land use planning.

Outcome 2.1. Institutional Capacity for climate sensitive ecosystem based watershed planning and monitoring developed

Outcome 2.1 consists in deploying the catchment/district level planning process and in associated capacity strengthening addressing District Staff. It will be based on the principles of catchment management and the Malawi National Guidelines for Integrated Catchment Management and Rural Development (Vol I & II, 2015), under the guidance of the Department of Land Resources Conservation, and coordination with the National Water Resource Authority. This planning approach recognizes that land-use management and the other diverse range of activities and services that take place or that are delivered within catchments have an impact on the rivers, watercourses and even groundwater resources within that area and vice versa. Actions, such as the supply of drinking water; arable, livestock and fisheries agriculture; livelihood activities; infrastructure development and use; energy production, and; protection or use of natural resources and wildlife habitats, all impact either positively or negatively on water resources within and exiting catchment. The catchment management approach is, therefore, designed to determine the resources and activities within a catchment, detail the positive and negative impacts that these have on the catchment as a whole, identify the social, economic and ecological ?challenges? (those things that are negatively impacting the area) currently being experienced and lastly to identify and agree through consultation on the actions that should be taken to address these challenges. Once compiled, mapped and agreed, the catchment plan should serve as a guide for coordinating the required work to address the challenges and maintain positive aspects. It is also designed to set out by whom actions and interventions should be undertaken, as well as when, where and how they should be implemented; the plan is therefore also a guide for implementing agreed actions within the catchment and sets the timeframe for such action. The prioritized actions are implemented at local level through specific activities organized into Village-Level Action Plans. The preparation of these VLAP is the focus of Component 1.

Outcome 2.2: Improved fisheries and watershed management through knowledge generation about climate risks and vulnerability in the fisheries sector at district level

On fisheries, the effect of climate change ranges from cellular level to ecosystem level, besides the social and economic influences. Climate change can significantly influence inland fisheries in terms of

water resources, biodiversity, productivity and sustainability. Aquaculture practices are also likely to be impacted in term of productivity and farming practices, and as such, profitability. Although, climate change and its impacts cannot be completely avoided, possible mitigation measures and management practices can facilitate minimisation of negative impacts and resilience towards probable situations.

REFRESH and the SFAD project are involved in supporting fisheries including fisheries management at local and district level. They work in support to the key functions related to fisheries structuring (MCS, infrastructure, resource management). They support local administration to strengthen their capacity to record and monitor fisheries and aquaculture statistics and activities, as well as promote a culture of process monitoring currently lacking in councils. The councils will also be encouraged to set-up a district level databases for all stakeholders involved in fisheries.

However, very seldom do districts correlate the evolution of the sector to climate change impacts and climate change indicators, nor do they integrate data related to watersheds and fisheries. Since adaptation and strategic choices can be done when information is available, the issue is to centralize climate change data related to fisheries sector as well as train district officers to manage this data.

Regarding the fisheries and aquaculture information system, while baseline projects will focus on capture records at district level to strengthen the fisheries information system (FIS), the GEF/LDCP will be used to complete the FIS with watershed, climate change indicators in order to monitor and report correlations between production, environmental changes and climate change as well as impacts of adaptations measures in the long term. Sector wide stakeholders will be involved.

Component 3: Aquatic ecosystems, especially wetland areas, riverbanks and other key habitats rehabilitated with climate-sensitive measures for improved lake protection and resilient community livelihood

Component 3 is at the heart of the project, building on the institutional developments of component 1 and 2. It proposes direct action in the communities of the targeted catchments which will directly impact the health and resilience of associated aquatic ecosystems upstream, but also crucially at the lowest reaches of the catchment. It focuses on local communities, jump-starting and popularizing the principles and strategies outlined in the first two components. It also furthers these concepts, by introducing and supporting activities which reduce pressure on the natural resources that are often overexploited or mismanaged in these catchments (e.g. wood). Importantly, it focuses on climate-mainstreaming on the local scale, but in an inclusive and universal way through a range of community stakeholders, including fishermen, youth, farmers and women. All in all, this component particularly highlights the integrative aspect of the project and of freshwater ecosystems, showcasing the interdependence of upstream and downstream communities and ecosystems within single catchments. It supports value chain for small producers in the fisheries and aquaculture sector based on pilot initiatives related as well to climate change adaptation. Finally it addresses the issue of financial mechanisms and especially insurance funds in order to support fisheries, aquaculture sector and lake shore communities to face adverse climatic events.

Outcome 3.1 Community-based soil and water conservation and improved fallow and agroforestry

Lake fisheries are particularly vulnerable due to actions happening upstream. Current land degradation in the upper reaches of catchments is of particular concern. As discussed previously, this degradation is not due to single actions or causes, but rather a whole host of interlinked practices and pressures including poor land management practices and excessive harvesting of resources. While the root causes of this degradation may be similar and/or overlapping in various districts, there are also specific issues to be targeted due to particular characteristics of communities and/or landscapes. This outcome provides the opportunity to show-case a number of approaches which will be tailored to cater to specific stakeholder and landscape categories.

The aim is to help develop the adoption and mainstreaming of a variety of sustainable catchment management actions within target communities, primarily in the upstream reaches of catchments targeted by the project. The actions highlighted in this outcome focus on land degradation and erosion control, therefore limiting sedimentation in the lower reaches catchments and helping to preserve the lake environments.

Outcome 3.2: Spawning grounds for capture fisheries are restored, including invasive aquatic weeds control

While the environmental health of a lake depends greatly on the health of its catchment, efforts must also be focused at the lake itself, notably in the shallow waters which are often important habitat for fish spawning and nurseries. Improving local water quality (pollution, turbidity) and natural original vegetation cover are two vital elements to ensure the reproduction and growth of fish populations. As such, this outcome specifically targets the sustainable restoration of these crucial areas in connection with the identified watersheds and where programs activities invest in reduction of erosions.

During the spawning season, various species tend to breed in 1-2 m deep water along the beach shore of the Malawi lakes. Improving the resilience of spawning grounds will reduce their vulnerability to climate change. In addition, the short-term fluctuations in wind pattern that have become more variable in recent times due to climate change pose a challenge to fishers (NAPA 2006).

Soil degradation has led to soil losses, which can be translated in a yield loss of 4% - 25% every year. Sedimentation rates in sediment cores recovered from southern Lake Malawi have increased two to three fold since 1970 (Otu et al., 2011). Although the full impacts of increased sediment discharge and runoff are not fully understood, available evidence indicate that altered river discharges and high sediment discharge in rivers impacts fish habitat, destroys spawning areas, and affects the feeding and breeding behaviour of fish (Tweddle, 1992; Munthali, 1997). Decline in density of trees, coupled with heavier rainfall and high rates of runoff, result in sediment deposition in the breeding areas, with effects on fish breeding and early-stage development.

In addition, proliferation of invasive weeds affects natural breeding grounds and conduct to enormous water loss through evapotranspiration, that alters the water balance of entire regions; to impediment to water flow, that increases sedimentation, causing flooding and soil erosion; to hamper fishing and

dramatically reduce the catch and the source of food and income for local populations; leads as well to drastic change in the physical and chemical properties of water and in the environment in the water bodies invaded, with detrimental effects on plants and animals.

GEF/LDCP will be used to finance concrete measures that contribute to the restoration of important breeding sites and spawning grounds for native species of fishes at risk of extinction, notably through the restoration of spawning grounds, removal of invasive weeds and the plantation of climate resilient vegetation to protect and sustain wetlands, lake ecosystems and local fisheries

Outcome 3.3: Fisheries and aquaculture adaptation to climate change and resilience is supported

The aim is to showcase and pilot some examples of adaptation initiatives strengthening fish landing sites and aquaculture: sanitary conditions for fishermen and their families, financial resilience of fishermen and improvement of fish market value chain, aquaculture structuration.

Climate change is expected to impact directly on human health by increasing the incidence of disease such as malaria, cholera and diarrhoea due to droughts, floods and increasing temperatures. Cognisant of these challenges the NAPA has identified the urgent adaptation projects for Malawi including improving community resilience to climate change. The baseline SFAD project expected to develop 40 water sanitation plants but managed to get budget for only 20 landing sites. The diseases proliferation around the lake areas, especially bilharzia remains an issue. These diseases are associated with open defecation in the lake waters or immediate environs. WASH infrastructure remains a way of improving fishermen population health at landing sites and the LDCF GEF project will complete SFAD efforts in this domain.

Fishermen are often dependent on fish merchants who negotiate relatively low prices for their catches, which may also be lost in the absence of means of conservation. The landing sites are not systematically equipped with appropriate means for keeping fresh fish products (ice, fridges, storage cold rooms?). The impact of climate (rain, sun?) on fish loss and poor storage conditions are recurrent problems of landing sites and fishermen. The impact on fish price and fishermen incomes are of importance in all countries that do not provide infrastructure at land in capacity to sustain fish quality before transport and/or commercialisation. The solutions for climate change adaptation and fish quality performance are ranging from infrastructure, producers organization, ice and cooling systems, quality of transportation, but the first priority is at boat and landing site levels. Since many Malawi fishermen are equipped with boat storage, the issue is to provide examples of self-managed cooling infrastructure and landing sites to show how climate change and value chain resilience can be supported.

Aquaculture producers around Lake Chilwa have been trained by the Aquaculture Value Chains for Increased and Food Security Project (AVCP) on various issues of aquaculture production through various extension programs (train the trainers in particular). The lack of means and cooperative capacity remain the weakness for these farmers in order to increase their collective capacity to face natural events or market issues, upscale their level in terms of production efficiency, intensification and integrated aquaculture most suitable for climate adaptation (ponds infrastructure strengthening, optimization of natural fertilization combining pork and poultry, local made agro-feeds, materials for developing their production (harvesting, seedling?).

GEF/LDCP will be used to support pilots/showcase on various issues: water infrastructure and 2 landing sites as a demonstration of benefits for adaptation to climate change and sanitary issues. It will support as well innovative solar panels fridges to support, at specific landing sites, improvement of fish quality and support aquaculture producers on integrative aquaculture. All these pilot activities will be examples for replication in Malawi in the future.

Outcome 3.4 Alternative and complementary rural livelihoods strengthened in selected watersheds

Rural populations in Malawi often rely on a single source of income which is tightly tied to natural resources that are under threat of degradation and/or overuse. Providing communities alternative and complementary livelihoods will allow to lessen pressures on the watersheds and associated natural resources, as well as build up environmental and financial resilience in the face of climate change impacts. The overall aim of this outcome is to showcase and pilot viable alternative livelihoods in selected watershed, specifically for fishermen.

An EU-funded initiative is currently implementing projects supporting alternative livelihoods (sustainable agri-business linked to conservation agriculture and sustainable river management) in Malawi (Strengthening community resilience to climate change in Blantyre, Zomba, Neno and Phalombe Districts).

Outcome 3.5. Community based early warning and disaster preparedness system strengthened

In the Fisheries and Aquaculture sector, the Met department (DoCCMS) provides weather information to the fishers and farmers, including early warning on adverse weather conditions and water flow patterns in the water bodies including rivers. Through the M-CLIMES, the department has products for fishermen. The M-CLIMES project is indeed operating in Mangochi, Salima, Nkhatabay, and Nkhotakota districts to develop and disseminate tailored warnings and advisories for fishing communities. DoCCMS is working with the Department of Fisheries on fisheries weather information and on the production of daily weather focus, which is done every week for 5 days. This weather monitoring focusses on areas around Lake Malawi. Weather monitoring around Lake Chilwa is done by LEADSEA, who complement the department statistics. The Met Department has automatic weather stations at Monkey Bay and Nkhata bay. Important observations are made on strong winds across the lake to warn the fishers on adverse weather conditions (waves). The Met department is also building capacity to local communities on weather monitoring and weather related disaster and risk management. The GEF/LDCF funds shall build on this baseline.

The Community Outreach Unit ? part of the Mangochi College of Fisheries ? is an underutilized tool. It is supposed to be used for information creation and dissemination but has largely remained dormant. M-CLIMES is producing them with hard and software after a gap assessment. It could be a potential partner for the GEF project.

Outcome 3.6. Financial mechanisms opportunities related to climate risk reduction to fisheries and aquaculture sector are identified

Climate risks have always been a key vulnerability for smallholder farmers, aquaculture producers and is an day-to-day concern for fishermen due to the consequences on lakes. Protecting against floods, drought, infrastructure damage and providing risk cover against losses due to extreme climate events becomes a major area of concern for governments around the world. Insurance is an important component in managing those risks from these disaster events. However, developing insurance pattern for smallholders is still not well developed, especially in poor countries. The main reasons for agriculture in Africa has been reviewed: (1) product quality, (2) product design, (3) affordability and capacity, (4) information and education, (5) behavioural and sociocultural factors, and (6) the role of government in enabling markets. Few example exist in Ethiopia and Asia.

Small scale aquaculture and fisheries are considered risky activities for which financial credit and insurance products are rarely available. In aquaculture, the availability of credit from lending institutions is closely linked to the perceived risk of the sector. Nevertheless, the provision of financial services is an effective way of boosting the resilience of poor and marginalized communities to climate change. Options include micro-credit schemes, such as community-based revolving funds, and simplified lending mechanisms within formal and semi-formal credit organizations for fishers and aquaculture farmers. In aquaculture, adoption of best management practices (BMPs) increases creditworthiness by making the crop outcome more safe and predictable.

Insurance can be divided into indemnity-based insurance (traditional insurance), index-based insurance and micro-insurance. Insurance penetration in general remains very low in developing countries. The ones tailored for small-scale fishers and fish farmers, and covering against losses due to natural calamities ? such as dyke breaking, floods and storms ? would greatly enhance their resilience but are not often applied or even established in a designed country. The insurance of maritime sector and fisheries in particular remains in very specific companies. Consider the development of weather index-based insurance schemes, which cover against weather-related hazards and pay out once a predefined index is crossed, regardless of the level of damages could be of interest. This could be pursued through a partnership between governments, insurers, and private operators representatives.

Public institutions are willing to develop these type of financial services worldwide and recent FAO guidelines have been produced in 2019, as an example, to increase access of small scale fisheries to insurance services for Asia.

Component 4: Project-specific improved knowledge management and M&E

Outcome 4.1. Project results monitored and project contributions to climate resilient and sustainable fisheries & watershed management effective.

Component 4 and its first associated outcome will ensure the project is effectively coordinated and able to monitor and evaluate its progress and impacts, and that lessons learned can be systematically documented and shared through diverse knowledge management platforms to support the replication and scaling up of best practices and successful strategies for climate resilient and sustainable fisheries and watershed management within and across communities and at national, regional and international levels.

Outcome 4.2. Project results documented and gender-sensitive/responsive community learning actions and outreach support replication and scaling up of best practices

The second part of Component 4 is to share knowledge and experiences. Knowledge and experience of the approaches applied in the project will help Malawi to better cope with similar fisheries, aquaculture and watershed management challenges. Dissemination and replication of good practices and successful approaches would be essential in facilitating adoption of climate resilient fisheries and watershed management technologies

4) alignment with GEF focal area and/or impact program strategies;

GEF/LDCF eligibility criteria and priorities

Malawi meets all three of the Least Developed Countries eligibility criteria. Firstly, it is identified as a Least Developed country due to its low income, weak human assets and high economic vulnerability (UN definition). Secondly, it signed and ratified the UNFCCC in 1992 and 1994, respectively; it ratified the Kyoto Protocol in 2001, as well as signed and ratified the Paris Agreement in 2016 and 2017, respectively. It is classified as a non-Annex 1 Party. Finally, Malawi has a completed NAPA (2006, updated in 2015).

By ratifying both the UNFCCC, the Kyoto Protocol and the Paris Agreement, Malawi commits itself to implementing policies and measures to adapt to climate change and manage existing climate risks, including improving preparedness and response to potential disasters.

As LDCF funding should help a LDC to implement its country NAPA, it is vital to ensure that the proposed project fits such criteria. The current Malawi NAPA (2nd edition, 2015), identifies 6 priority activities:

- ? *Improving existing early warning systems to enhance disaster preparedness and response;*
- ? *Development of climate smart agriculture programmes to increase resilience;*
- ? *Improving integrated water resource management to sustain agricultural production;*
- ? *Restoring forests in all degraded areas across the country to increase forest cover and to reduce energy related problems;*
- ? Improving rural electrification to increase energy access in rural areas; and
- ? *Integrating climate change into fisheries management to ensure sustainability of the fisheries sector.*

Through its activities, the proposed project clearly helps further current NAPA, as it integrates elements of five of the six priority activities (in italics above).

By implementing the priority interventions identified in the NAPAs, the project complies with the Conference of the Parties (COP-9) and also meets the criteria set out in UNFCCC decisions 7/CP.7 and GEF/C.28/18. The project approach also recognizes the link between adaptation and poverty reduction (GEF/C.28/18, 1(b), 29) and is aligned with the scope of interventions provided for in the GEF/LDCF programming document and decision 5/CP.9.

Consistency with the strategies of the GEF focal areas.

The project outcomes are consistent with intended outcomes of the GEF-7 Least Developed Countries Fund (LDCF) Adaptation Strategy, namely (i) developing and implementing adaptation practices to respond to climate change-induced stresses in vulnerable ecosystems and (ii) enhanced climate resilience of relevant development sectors and natural resources.

The project aims to contribute towards two of the three strategic objectives of the GEF Adaptation strategy for the LDCF:

? **Objective 1 - Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation:** this will be achieved mainly through elements of component 3, which focuses on ensuring that local communities and district officers have the tools and skills to help reduce vulnerability and increase resilience through improved land-management, alternative livelihoods, access to be improved technology to strengthen the fisheries value chain. While some of these elements are tried and tested, there is also a focus on tailoring specific techniques and practices to local conditions, as well as more pilot/entrepreneurial approaches, in particular for plastic waste management, alternative livelihoods and rural insurance saving mechanism. It also includes the development/extension of the early warning system and hydro-meteorological network.

? **Objective 2 - Mainstream climate change adaptation and resilience for systemic impact:** this will be achieved through development and dissemination of knowledge and learning materials on climate change, improved watershed management through piloting measures and organisation of information sharing platforms. It is also achieved through the complementarity of the projects actions with other key baseline projects (SFAD-WM, AVCP, MWASIP) which will help anchor key elements ? institutional and behavioural ? for improving climate change adaptation, especially in terms of catchment management.

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

The objective of the project is to ensure that interventions in the AfDB core project (in the same locations) are climate-resilient. In accordance with the priority adaptation strategies defined by Malawi's NAPA, the GEF/LDCF will cover the additional costs of increasing the resilience of communities in the project area to climate variability and risk through either:

? a geographic complementarity, or;

? a technical complementarity.

The GEF-funded activities will be part of Component 1 ? Sub-Component 2. The **SFAD-WM will focus on interventions with immediate impact** on fishing/aquaculture sites, i.e. supporting the production channel, sanitary conditions, development of incomes and improvements of the fisheries and aquaculture value chain, fishermen/ fish farmers organization and training, infrastructure related to prevention of water pollution directly on lake/river shores through protection of landing sites, construction of latrines for local communities, water access, etc;

The GEF-funded activities takes **a nested, holistic approach** (integrated catchment management) and address priority issues **at catchment scale**, especially in their upper parts. It aims at complementing the AfDB project in soil and water conservation to maximise services and utilities benefiting to fisheries and aquaculture sector. Regarding the lakes, it focuses on the lakes shores and communities on supporting ecological restoration on river banks and lake shores, nursery restorations, wood lots, solid waste testing approach on some of the BVCs concerned. The issues of mainstreaming on climate change, alert systems related to fisheries and aquaculture remain under the GEF. The question of aquaculture is limited to supporting application of some integrated innovative aquaculture in order to reduce impacts on the environment and adapt to natural risks (limited to ponds aquaculture).

This strategy ensures technical additionality of the GEF funded activities to the baseline project.

In terms of geographical scope, it is anticipated that the **SFAD-WM focuses on districts directly covering lake and river shores. The GEF-funded activities related to catchment protection will address the catchment level from headwaters to the outlet. This approach would ensure geographical additionality of the GEF funded activities to the baseline project.**

As for the GEF-funded activities more directly linked to fisheries and aquaculture, including lake shores and riverbank protection, spawning ground restoration, or weeds control, they will be implemented on sites at village / community level. These villages and communities will be selected in close coordination with the SFAD-WM to ensure synergies and cumulative impact of both interventions. For these activities, the additionality will remain technical.

Table 1: Details of incremental project costs

[Table to be expanded once the co-financing are confirmed]

Current scenario	Scenario with GEF financing
1. Strengthening the capacity of Village level natural resource committees for climate resilient, watershed planning and management for lake protection	

Current scenario	Scenario with GEF financing
<p>Baseline addresses capture fisheries management focussing on fisheries management plans, rehabilitation of landing sites, stock assessments and related by-laws and capacity building of officials and BVCs for co-management.</p> <p>The baseline capacity building does not extend beyond the lake waters/shoreline to tackle those issues that affect the fisheries they seek to manage.</p>	<p>The proposed alternative takes a holistic approach and proposes to capacitate BVCs to tackle the problem at source, i.e., to enable them to think beyond the immediate lakeshores and appreciate the inter-connectivity between fisheries and catchment management.</p>
<p>The baseline focusses on training of BVCs and extension workers but is silent on direct community engagement. This is the usual approach in the public sector which has proven ineffective in solving developmental challenges as it leaves out the community as a key stakeholder in development, in this case fisheries.</p>	<p>The proposed approach seeks to communicate directly to the community and make it the change agent by (i) using local language to reach a wider audience and, (ii) share information on the state of the environment and knowledge systems so as to raise awareness and also trigger community led responses to common challenges.</p>
<p>Co-financing: \$3,200,518</p>	<p>GEF Funding: \$790,150</p>
<p>2. Strengthening the capacity of local and district-level institutions for watershed planning and management and lake protection</p>	
<p>The baseline specially calls for the development of multispecies fisheries management plans by the districts. It therefore focuses exclusively on fisheries. As a result, those tasked with maintaining lake health are not being sufficiently equipped to deal directly with the fisheries problems caused by sources exogenous to the lakes. When problems from such sources are not addressed, the fisheries challenges have a higher probability of recurrence.</p>	<p>The alternative project allows for a more holistic approach to dealing fisheries challenges by capacitating the district authorities to prepare plans that treat the lakes and catchments as a single system in which the main problem are as have to be identified and targeted for redress in district planning. By building capacity to tackle the problem at source, and within the climate change context, the alternative project ensures that the costs of maintaining lake health will be reduced in the long run as the pollutant loads will eventually decrease.</p>
<p>The baseline is strong on the production side focussing on the production of fingerlings, piloting aquaculture, fish genetics, cage cultures and organisation of fish farmers' cooperatives but is silent on tracking the performance and impacts of these activities at the district level. This means the lakeshore districts will have to rely on national level data even though the national level has limited capacity to collect this data. The result is that data used for fisheries management is, and will remain, highly speculative.</p>	<p>By monitoring the system and keeping records at the local level it is believed data is likely to be more accurate and what is then fed into national level is more reflective of developments on the ground. Subsequently, authorities will be able to make more evidence-based decisions regarding fisheries and catchments as well as be able to design responses and policies that are specific to local conditions. The national datasets on fisheries and catchments will correspondingly improve.</p>
<p>Co-financing: \$3,993,083</p>	<p>GEF Funding: \$909,985</p>

Current scenario	Scenario with GEF financing
3. Aquatic ecosystems, especially wetland areas, riverbanks and other key habitats rehabilitated with climate-sensitive measures for improved lake protection and resilient community livelihood	
<p>The baseline project scope is confined to shoreline management activities. It therefore touches on a very narrow strip of the catchment, i.e., the interface between the lake waters and the catchment land mass. The problems affecting fisheries go beyond this narrow band. The bulk of the runoff that brings pollutants to the lakes is generated upstream not at the lakeshore. To address this problem there is need to demonstrate and scale up climate resilient measures and practices in those upper parts of catchments.</p>	<p>The alternative project funded by GEF-LDCF will focus on climate smart activities in the upper catchments. By demonstrating various approaches over a broader area the project widens the opportunity for uptake and upscaling.</p>
<p>The practice of aquaculture has contributed to the insertion of invasive species (e.g. Nile tilapia, etc.) with significant after-effects on the ecology by undermining the ecosystem's balance which sustainably regulates population numbers of economically important fishes (especially so in the case of indigenous species).</p> <p>The baseline project focuses on fish landing sites and areas adjacent to such sites. This leaves those remote areas where fishing activities may not be intense but degradation remains prevalent. This is usually the case as we move further upstream. Another area on which the baseline is silent on is water and sanitation services and the issue of diseases proliferation around the lake areas, especially bilharzia. These diseases are associated with open defecation in the lake waters or immediate environs.</p>	<p>The baseline project will target areas away from the main fishing activities by mapping 'priority sites' and instituting restoration activities in these.</p> <p>The LDCF financing will contribute to the restoration of important breeding sites and spawning grounds for native species of fish at risk of extinction, notably through the removal of invasive weeds and the plantation of climate resilient vegetation to protect and sustainably maintain these fish habitats, including in the face of climate change.</p>
<p>The baseline focuses on the demand side of fisheries particularly fish processing and supply chains including provision of solar driers, cold storage, business financing, establishing fish markets and processing zones. All these activities assume that the fish stock is sufficient and in good health. The baseline outputs are therefore likely to fail if fish stocks and/or fish quality deteriorate since the baseline project neither addresses the threat posed by over-fishing nor the reduction in fish stocks due to climate induced change in the lakes. The baseline project also does not address the issue of soft plastics which is an immediate hazard for fisheries</p>	<p>The alternative project seeks to address the supply side of fisheries by promoting household fish farms so as to reduce over-fishing in the lakes and promoting climate smart, non-fisheries-based enterprises that provide alternative livelihoods for communities in the catchments. The alternative livelihoods will reduce dependency on fisheries and allow fish stocks to recover. When combined with wider climate smart catchment measures the lake health is likely to improve significantly. The alternative project offers an opportunity for local private sector to handle the plastic menace thus removing an immediate existential hazard for fisheries and other lake fauna.</p>

Current scenario	Scenario with GEF financing
The baseline addresses the need s of an early warning system (E WS) only in one district, Songwe and for only one segment of the community, the fishermen. This is therefore a fisheries specific piloting that does not take the need for a wider monitoring system beyond the lake in view of climate change. Such an EWS will be of limited use in the case of extreme events such as flooding that have impacts beyond the lakes	The baseline project expands the scope of EWS to include weather monitoring in the catchments and quality monitoring in the lake. The project also enhances communication between the local area and national establishments for disaster risk reduction.
Co-financing: \$8,672,146	GEF Funding: \$ 2,384,400
4. Project-specific improved knowledge management and M&E	
The baseline focuses on strengthening reforms and governance related studies and management t plans as well as M&E plans for fisheries. Such actions only target official structures. There is no provision for sharing the lessons learned with a wider stakeholder community.	The alternative project focuses on stakeholder platforms that allow lessons learned at different levels to be shared systematically. It proposes not only a project implementation M&E system but the holding of workshops/symposia at national, district and community levels.
Co-financing: \$1,762,824	GEF Funding: \$315,275
5. Project management costs	
Co-financing: \$841,430	GEF Funding: \$205,824

Table 2: Incremental cost matrix

[Table to be refined once the co-financing are confirmed]

Costs	Baseline Costs (USD)	Alternative Scenario Costs (USD)	Incremental costs (USD)
Component 1:			
Total co-financing	USD 3,993,083	USD 3,993,083	
GEF funds		USD 790,150	USD 790,150
Component 2:			
Total co-financing	USD 3,993,083	USD 3,993,083	
GEF funds		USD 909,985	USD 909,985
Component 3:			
Total co-financing	USD 8,672,146	USD 8,672,146	
GEF funds		USD 2,384,400	USD 2,384,400
Component 3:			
Total co-financing	USD 1,762,824	USD 1,762,824	
GEF funds		USD 315,575	USD 315,575
Project management costs			
Total co-financing	USD 1,741,430	USD 1,741,430	
GEF funds		USD 205,824	USD 205,824
Sub-total (USD)	USD 34,288,123	USD 23,975,934	USD 4,605,934
<i>Agency fees (USD)</i>		USD 437,564	USD 437,564
Total (USD)	USD 34,288,123	USD 24,313,498	USD 5,043,498

6) global environmental benefits (GEFTF) and/or **adaptation benefits (LDCF/SCCF)**;

Among the anticipated adaptation benefits:

? The restoration of at least 2,000 ha of forested land in up to five catchments of the Northern and Southern regions of Malawi; this will be done through capacity building and technical support in

agroforestry, farmer assisted natural regeneration, tree-planting. Alongside from having downstream benefits on lake ecosystems, this will also help further the National Forest Landscape Restoration,

? At least 3,000 ha in up to five catchments of the Northern and Southern regions of Malawi under improved land management ? including conservation agriculture, climate smart agriculture, soil and water conservation,

? The promotion and awareness raising of sustainable catchment management and climate change reduction in at least 3 catchments in the Northern and Southern region. This includes:

- o the creation and implementation of VLAPs/micro-catchment management in at least 40 communities (400 people), including capacity building of community level institutions for natural resource management and for the district officers for at least 6 districts, ensuring that climate change adaptation and resilience is mainstreamed at the local and district level;

- o Awareness raising in wider communities using community radio, pamphlets and infographics in local languages, and by developing and piloting a primary school level educational program for watershed management, climate change risks and lake protection (incl. the training of 6-8 educators)

? Improved catchment management and climate risk awareness in over 1,000,000 people residing in the target catchments, thanks to the implementation of VLAPs/micro-catchment plans, awareness raising campaigns and training of trainers approaches, further helping to mainstream climate change adaptation and resilience.

? On a longer term/wider landscape, the project should help generate co-benefits due to a reduction in the diminution and degradation, as well as the restoration, of ecosystems in targeted catchments and associated lakes and their functions. This will improve the persistence of aquatic, terrestrial and migratory species; contribute to maintaining species richness and trophic dynamics; help maintain the ecosystems' capacities to ensure multiple ecosystem services; and provide increased opportunities for food security and livelihoods, notably fisheries.

? The restoration of ecosystems, the introduction of climate-resilient livelihood options for fishing communities, increased awareness and capacity building at local and district level will together improve the resilience of natural ecosystems and local communities in the project landscapes to climate change.

? Finally, the project will improved understanding and increase awareness on the many benefits of catchment management and its numerous positive impacts for the environment and lifestyle (food, energy, economy, culture), particularly considering the upstream and downstream linkages (e.g. lake fisheries). It will also improve the understanding and resilience of climate change at a catchment level, for agriculture and water management upstream, as well as fisheries downstream. It will help raise awareness of stakeholders at multiple levels on issues affecting catchments as a whole, and the knock-on effects for the numerous goods and services they provide. On a larger scale, the project will also provide opportunities for increased learning between communities, within districts, at a national scale and between projects. This includes both strengthening previous efforts and approaches, as well as testing innovative approaches in novel regions, and ensuring that lessons are shared at catchment and national level.

7) innovativeness, sustainability and potential for scaling up.

Innovation

The project is innovative in the integrated approach it brings to fisheries ecosystem based management and lake shore community resilience by taking in account climate change indicators as well as risk reduction tools, watershed management plans in order to support both ecosystem resilience and conservation as well as economic and social resilience of lake shores communities. It will promote mainstreaming at local up to national level facilitating links between these different levels in addressing climate change adaptation measures, nature based solutions and development of nature resources management best practices as well as reduction of risks at community level.

In terms of project governance, the development of conservation funds awarding mechanism will be up scaled from World Bank example and mobilizing districts as well as national bodies in key implementing activities

In addition some innovations could be developed in terms of community driven planning and activities implemented (afforestation, agroforestry, community management of water infrastructure, wood management, control of spawning grounds, reuse of invasive weeds or reuse or avoidance local examples with plastics. If developed with success in at least one community, insurance development could also be a positive innovation for national and regional fisheries and aquaculture sector.

The results of these activities and lesson learnt will be communicated to support decision-making on water, fisheries and land use planning as well as management of natural resources.

Sustainability

Sustainability refers to the ability of a project to maintain an acceptable level of benefits flowing through its economic life, that is the continuation of project-derived benefits and impacts (i.e., institutional, environmental, social, economic and financial) beyond the project. In order to achieve sustainability, the approach of this project is built around:

- ? i) Strengthening institutional frameworks and capacity building through actions with national, district officers and local stakeholders and mainstreaming at all level on climate change adaptation tools and supporting dialog and development of relations based on strong commitment from the GoM;
- ? ii) The application of inclusive and integrated watershed/lakes assessment and planning tools at the same time as developing effective nature conservation and restoration developed with communities and for communities as well as fishery/aquaculture sector and that combine different sources of knowledge;
- ? iii) Mainstreaming climate change adaptation as well as enforcement tools with focus between local and national level and at watershed level towards lake shore communities and establish the process and transfer up to national level in coherence with national policy and Malawi engagements.
- ? iv) Increasing the awareness and effective, equitable engagement of key stakeholders;
- ? v) Strengthening and take in account value chain and market considerations as well as local economic development of communities providing example of activities related to resilience (water storage, solar, agro-forestry, fish conservation system, waste/plastic management,?) and to SME development related to alternative livelihoods than fisheries;

? (vi) using a community-driven approach that recognizes the importance of smallholder considerations;

? vii) Developing communication and knowledge management through different means (Translation in various local languages, radio and national/local programs, M&E involving districts, training and capacity building strategy, workshops and exchange of experience,?.)

Institutional sustainability: Strengthening institutional capacity and working with existing structures

The key leading position of the Direction of fisheries as well as strong links in implementing activities with Department of Agriculture extension service, Department of Land resource Conservation and Department of water resources will consolidate integrative approach and mainstreaming addressing climate change issues.

The integration of district staff, national entities and members of local communities in the development of activities, in the training-action programmes will guarantee ownership and a capacity for post-project monitoring of the processes which have been set up.

The inter-institutional communication and inter-project coordination put in place will allow dialogue and synergy between the institutions involved in watershed management, the restoration of ecosystems, and sustainable development, and will stimulate the involvement of district officials in guiding communities.

The support of applied research structures, institutions and national NGOs is planned for all project components. For example they will support themes such as the restoration of ecosystems, agro-forestry or warning systems, the consolidation of cooperatives, economic development and small businesses, innovation in terms of reuse or avoidance of plastics. This allows sustainable anchoring of actions and the skills maintenance nationally.

Community driven approach: planning and developing practical activities with the communities

All components contribute to this approach and the development of the activities in components 1 and 2 with component 3, in parallel, will enable the mobilization of communities.

The project will develop integrated action plans based on local knowledge, the needs and proposals of communities, both at sectoral (fisheries, aquaculture, agroforestry) and territorial level (micro-catchment, basin, district, lake conservation plan). It will not be necessary to wait for the plans to be finalized before developing activities in the selected communities. The project team will initiate and structure activities e.g. ecosystem restoration and sectoral support for fisheries and aquaculture within the limits of the project's resources, from the first year.

The project will use a conservation fund mechanism, already developed in other World Bank projects. It allows the most involved communities to be rewarded on the basis of results and stimulates the implementation of actions and also the development of community dynamics that can last after the project.

In addition, primary school children from the communities will be educated about the activities developed by their community and about climate change and nature conservation/restoration.

Capacity building: strengthening capacity at all levels

Placing communities, and also district officials and permanent institutions, in the capacity building process is an important strategy of the program. Training of trainers, exchange of experience, animation developed with the districts and the communities themselves (leaders) will allow the environmental and social improvement of the communities and territories concerned to be consolidated, in the long term.

The project remains financially limited while developing a large-scale approach (numerous districts, watersheds and lake areas). It must develop pilot actions on different territories or themes in order to show how collective dynamics are sustainable, how global and coordinated approaches on micro-territories can improve living conditions and the management of natural resources at the scale of lakes or coastal areas. For example, on one coherent water body territory, the tools and investments developed and the information provided to the communities will be an example of the implementation of a warning system, the integrated aquaculture schemes. Consolidation of cooperatives will be an example of small-scale sustainable aquaculture, the actions for the restoration of forest cover and the monitoring of spawning /nursery areas will demonstrate the capacity to better manage natural resources, the plastic avoidance schemes will demonstrate the capacity to act at source. All these examples or initiatives aim to consolidate an integrated approach by territory taking into account the upstream and downstream link of the basins in terms of resilience for the sectors in the lake zone. It can be transferred to other areas of Malawi. To this end, the project plans local and national communications and workshops to share the results of the project each year.

Economical sustainability: strengthening value chains and local economic development

The SFAD project remains the key support for the development of the fisheries and aquaculture sector by this project, however the LDCF project perfectly completes the needs by focusing on the forested area issues and wood consumption, the development of agro-forestry at the community level, the demonstration of the link between the improvement of the fisheries resource and the restoration of nursery areas and the management of invasive plants, but also the fight against erosion. The implementation of actions dedicated to small businesses will also allow the territories to be supported both in terms of conservation and the development of initiatives for alternative activities to fishing. The project will usefully complement the SFAD project on certain landing sites in terms of infrastructures linked to the conservation or processing of products, the sanitary quality of the products making it possible to maintain better prices for fishermen. In terms of aquaculture, the support to the Lake Chilwa cooperatives is an example of valorising the achievements of other programs that have strengthened the capacities of fish farmers and enabled them to boost their production in more resilient integrated systems. Activities developed on transformation of invasive plants or plastic waste will show examples of micro-economic channels.

Strengthening the operation and maintenance of meteorological and water monitoring and alert systems

Investments in weather monitoring and risk management services require significant funding for operating and maintenance costs, as well as a highly skilled and motivated professional workforce. As part of this project, a strengthening strategy for the operation and management of weather, water quality information systems will be developed to ensure continuous monitoring and improvement of resilience for fisheries and lake shore communities.

Potential for scaling up

Many project activities have been designed in such a way that they can be replicated. The stakeholder capacities built on all 3 components 1, 2 and 3 like on watershed and conservation plans, restoration, afforestation, plastic reuse or avoiding will be put to use in the long term as land use plans and such recurrent activities will have to be regularly reviewed and updated. The development of pilot activities related to watershed management, integration of water quality, alert systems and resilience of lake shore in Malawi as well as fisheries and aquaculture sustainable production will be done to enable replication to a wider number of communities in the landscapes, with little costs, and with the aid of peer to peer training and experience sharing between communities mobilizing district officers and national institutions.

Specific tools developed by the project and in relation with partners (REFRESH, SFAD component in particular) for vulnerability screening, alert and communication systems, conservation funds, insurance mechanism related to fisheries and aquaculture communities, spawning data base or Fisheries information systems, water management, plastic reuse, will develop capacities at all levels: top management, district and community level, NGOs and private sector. This will allow national bodies to implement the methods and tools developed during project activities, in watershed and lake shore outside of the project areas (6 districts and 40 local communities).

The alternative livelihoods, SME development, Solar fridge and waste reuse/avoidance organizations in outcome 3.3. and 3.4 will likely benefit to more than just those that participated directly in project scheme. Community members may replicate micro-projects themselves through experience sharing, and the economic dynamic created will benefit the wider communities. In addition, the capacities strengthened through these activity and community organizations will make future replication easier.

Other project activities that will be replicable if successful include the educational programs, the districts support and trainings, the governance of watershed and enforcement mechanisms and the multi-stakeholder platform.

The knowledge generated and the translation of manuals or documents in local languages will provide with the exchange platform created a facilitate access to this evidence-based knowledge. Knowledge sharing will be created and organized in a user-friendly manner. For example, guidelines, technical reports, progress reports, evaluation reports and lessons learned from the project will be available on this platform. This will facilitate the sharing of information between national and local government authorities, project managers, NGOs, CSOs and community leaders. This will promote the replication and upscaling of project activities beyond the project's intervention areas and implementation phase.

The M&E system involving District officers and units to be established under component 4 (output 4.1.1 and output 4.3) will build the case for collaborative and sustainable resource management. The benefits obtained at the environmental, social, and economic levels from the interventions of the project evaluated will be an important tool to convince government stakeholders and local communities in the country, and in the wider region, to embark towards developing inclusive approach for lake fisheries management involving watershed, water and natural risk management at the same time as structural sectorial fisheries and aquaculture and community development activities, effective land use planning, enhanced management of protected areas and natural resources and ecosystems conservation.

The fact that the project will be implemented in 6 different districts of Malawi and will bring numerous stakeholders together to undertake an inclusive planning process as well as district and national sharing of experience, will provide a critical support to national efforts for river basin management, ecosystem based fisheries management as well as sustainable aquaculture development in a context of climate change.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

1b. Project Map and Geo-Coordinates. Please provide geo-referenced information and map where the project interventions will take place.

The geographical scope of the project has been defined as four main catchments: Lake Chilwa catchment, Lake Chiuta catchment, in the Southern Region, and Karonga Lakeshore and North Rukuru catchments, and Nkhata Bay Lakeshore catchment in the Northern Region of Malawi. These catchments include portions of six Districts Machinga, Phalombe, and Zomba Districts (Southern), Karonga, Nkhata Bay, and Chitipa Districts (Northern). Community-level interventions will concern 40

community based institutions within these four catchments and seven districts. Geo-coordinates are presented in the table below followed by a map of the project priority sites.

Catchment	District	Geographic coordinates
Lake Chilwa	Machinga	Lat -15.17?, Long 35.30?
	Phalombe	Lat -15.76?, Long 35.66?
	Zomba	Lat -15.37?, Long 35.33?
Lake Chiuta	Machinga	Lat -15.17?, Long 35.30?
Karonga Lakeshore and North Rukuru catchments	Karonga	Lat -9.95?, Long 33.92?
	Chitipa	Lat -9.70?, Long 33.27?
Nkhata Bay Lakeshore	Nkhata Bay	Lat -11.60?, Long 34.29?

Detailed maps are provided in Annex E.

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

The stakeholder participation is summarized in the below narrative.

During the PPG mission:

The bottom-up and landscape approach of the project requires close collaboration from a wide array of stakeholders, namely local communities and governance, district and national level government, civil society, national and international organizations, research institutes and the private sector. As such,

stakeholder collaboration was started during the design phase of the project and will be continued and furthered throughout the project implementation.

National and local level stakeholders were engaged in different ways. An inception and validation workshop were held to ensure the active involvement of national level stakeholders in the design and preparation of the project; these interactions allow for discussions at the larger scale, to tease out interactions between different sectors and projects, as well as guaranty ownership of the project. Local stakeholder were also involved in the design of the project, but through site visits and focus group discussions which allowed to tease out local concerns and opportunities, discuss project objectives and activities, as well as assess interest in the project. A stakeholder analysis was created and used to inform the engagement process during project development. **The Stakeholder Analysis Matrix and Stakeholder Consultation Matrix**, which details consultations carried out during project design, can be found in [Appendix 6](#).

Inception workshop and national consultations

The PPG inception workshop was held prior to the local consultation process, and included the main stakeholders identified in the PIF and at the start of the PPG phase of project development. Due to the Covid-19 pandemic, the workshop was proposed in a semi-virtual format in order to accommodate those unable to travel and limit physical presence. The inception workshop allowed to confirm the approach to formulate the GEF component, as proposed in the PIF. Group work sessions focused on the possible institutional set-up, the prioritization of the sites of interventions, and the identification of co-financing and baseline projects.

In addition, a series of one-on-one meetings were also undertaken with national level stakeholders, including potential executing partners and co-financers, to further discuss the project components, risks and opportunities, baseline projects and previous initiatives, and key lessons learned.

Field investigations and local consultations

In October-November 2020, a two-week local consultation process was undertaken in pre-identified districts in the North and Southern region. These involved focus group meetings and bilateral interviews. The targeted stakeholders included district officials, local governance (ADCs), local NGOs/projects, community-level organisations (e.g. Beach Village Committees) and community members. The consultations were conducted in culturally appropriate manner and using the local languages (e.g. Chichewa, Timbuka) whenever possible; women participants were included in the groups.

The district visits started with a focus group at the level of the District Executive Committee (DEC) which included district officials (e.g. officers from decentralized offices ? forestry, fisheries, gender?) as well as Area Development Committee (ADC) Chairs, and representatives from civil society (e.g. NGOs). Whenever possible, site visits were then conducted: these involved visiting sites of environmental degradation and holding a focus group discussion in key fishing communities (and/or aquaculture). The focus groups included stakeholders such as district officials (fisheries officer), BVC

members, ADC chairs, fish processors/sellers. To facilitate the analysis of the consultations, interview guides were developed for specific stakeholder groups.

Final validation workshop

The validation workshop was held in April 2021, in a hybrid format due to Covid-19 restrictions on travel and gathering. Key stakeholders, notably the existing SFAD-WM PIU, officials from executing and implementation partners (e.g. DWR, DCCMS, DoF, LEAD-SEA) and co-financing partners, were invited to meet in Lilongwe, virtual invitation was extended to other stakeholders to attend. The workshop lasted a day, and included the presentation of the key elements of the project proposal, general discussion, and work groups to gather feedback.

During the execution of the project:

Based on the stakeholder analysis and using information gathered through stakeholder consultations during the PPG phase, a strategy for stakeholder engagement during project implementation has been provided in the **Stakeholder Engagement Plan (Appendix 6)**. This SEP is intended to be used as a guiding framework, and should be updated at the inception phase of the project based on the any changes in the national/and or project landscape. The SEP should be viewed as a living document throughout implementation, adapting to changes, such as changes in Covid-19 regulations and specific emerging communication or engagement needs.

The PIU will be responsible for the overall implementation of the plan, and that the timetable for engagement means is in line with the overall project workplan and M&E. Its responsibilities also extend to the monitoring of the SEP itself. Costs associated to the SEP have been integrated into the overall project budget.

Grievance Redress Mechanism

Ensuring that stakeholders are made aware of the project's Grievance Redress Mechanism (GRM) is a key element of the SEP. Its purpose is to provide a fair, transparent and quick system to respond to and settle any individual or community level complaints, questions or comments related to the implementation of the project^[1].

Due to the inherent link between the SFAD-WM and the shared PIU, it is proposed that the GRM system be the same for the GEF project. The GRM system ? which is already in place - consists of structures at four levels :

- ? Two committees at community level (community and workers GRM committees)
- ? Cluster Grievance Redress Management Committee at Cluster Level
- ? District Grievance Redress Management Committee at District Level
- ? Project Implementation Grievance Redress Management Committee at Project Implementation Unit level.

The District and PIU Committees will be used as are, but based on the specific communities chosen at the start of the project, new community level and cluster level committees will have to be introduced. Alongside of the establishment of the Community and cluster committees, awareness will be raised in line with the SFAD-WM methodology. The process of logging the grievances will remain unchanged; any grievance received will be logged into a designated grievance log and resolution forms.

[1] Examples of complaints include, but are not limited to: land access and use, theft, GBV, corruption, wage related issues, etc.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

The stakeholder analysis is presented below. The full stakeholder engagement plan is presented as attachment in Appendix 6.

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Central Government structures					
Ministry of Agriculture (MA)	Parent ministry for all matters relating to agriculture	Implementation partner (number of departments)	Positive: Project will help further their mandate, priorities and agendas	Workshops	Mother Ministry for the key implementation partners - ensure is kept fully informed on project implementation
Department of Land Resources Conservation (DLRC)	Department responsible for all matters linked to conservation agriculture, catchment management strategies, etc.	Executing and Implementation partner	Positive: Project will help further their mandate, priorities and agendas	Meetings, workshops and consultations	Include in the Steering Committee Part of project implementation arrangement Ensure participation in relevant capacity building, multi-stakeholder dialogues

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Department of Agriculture Extension Services (DAES)	Department is responsible for all matters related to agricultural practices and capacity building	Implementation partner Technical input	Positive: Project will help further their mandate, priorities and agendas	Meetings, workshops and consultations	Part of project implementation arrangement
Department of Disaster Management Affairs (DoDMA)	Agency in charge of improving and safeguarding the quality of lives of Malawians especially those that are vulnerable to and affected disasters.	Executing and Implementation partner	Positive: Project will help further their mandate, priorities and agendas	Meetings, workshops and consultations	Ensure participation in relevant capacity building, multi-stakeholder dialogues
Ministry of Forestry and Natural Resources (MFNR)	Parent ministry for all matters relating to natural resources: wood, forests, fish, minerals, etc.	Executing agency within Ministry Implementation partner	Positive: Project will help further their mandate, priorities and agendas	Workshops	Mother Ministry for the Executive Agency - ensure is kept fully informed on project implementation
Department of Forestry	Department in charge of all Malawi Forest Reserve	Executing and Implementation partner	Positive: Project will help further their mandate, priorities and agendas	Meetings, workshops and consultations	Include in Steering Committee Part of project implementation arrangement Ensure participation in relevant capacity building, multi-stakeholder dialogues
Department of Fisheries	Department in charge of all matters related to fisheries in Malawi	Executing agency Staff involved in the implementation of project Housing of the PMU	Positive: Project will help further their mandate, priorities and agendas	Meetings, workshops and consultations	Include in Steering Committee Part of project implementation arrangement Ensure participation in relevant capacity building, multi-stakeholder dialogues

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Department of Water Resources (DWR)	Department responsible for water resources	Executing and Implementation partner	Positive: Project will help further their mandate, priorities and agendas	Meetings, workshops and consultations	Include in the Steering Committee Part of project implementation arrangement Ensure participation in relevant capacity building, multi-stakeholder dialogues
Department of Climate Change and Meteorological services (DoCCMS)	Department responsible for all matters to do with climate change and meteorological services.	Executing and Implementation partner	Positive: Project will help further their mandate, priorities and agendas	Meetings, workshops and consultations	Include in Steering Committee Part of project implementation arrangement Ensure participation in relevant capacity building, multi-stakeholder dialogues
Ministry of Industry - Department of Cooperatives (to verify)	Ministry and department in charge of cooperative training and registration	Implementation partner/technical input regarding cooperative formation and training	Positive: Project will help further their mandate, priorities and agendas	Workshop	Ensure are consulted with all activities linked to development of associations, cooperatives and value chain development
Ministry of Local Governance and Rural Development	Parent ministry for district councils and local governance	Input/point of reference regarding local governance (regulations, functioning, etc)	Positive: Project will help further their mandate, priorities and agendas	Workshops	Ensure are consulted for all activities linked to community based institutions for technical feedback and input

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Ministry of Finance - Department of Economic Planning and Development	Ministry responsible for debt and aide	Fiscal policy guidance	Positive: Project will help further their mandate, priorities and agendas	Workshops	Ensure are kept aware of project implementation, especially budgetary issues
Environmental Affairs Department	Government agency in charge of coordination of all matters relating to environment, natural resources and climate change management. GEF focal point	Input/point of reference regarding environmental and climate change management and policy (regulations, functioning, etc.)	Positive: Project will help further their mandate, priorities and agendas	Meetings, workshops and consultations	Include in the Steering Committee Ensure participation in relevant capacity building, multi-stakeholder dialogues
National Water Resource Authority (NWRA)	Responsible for the management and protection of water resource management	Implementation partner	Positive: Project will help further their mandate, priorities and agendas Project will increase their visibility at district and local level	Meetings, workshops and consultations	Include in the Steering Committee Ensure participation in relevant capacity building, multi-stakeholder dialogues
Local governance structures					
District Department Officers (Fisheries, Forestry, Agriculture, Environment, Gender, [water])	Responsible for department representation at district level Point of entry into communities for departments	Local contacts for the various departments listed above Implementation partners for training activities	Positive: Project will help further their mandate, priorities and agendas Improved communication and partnership with local communities and committees Personnel trained	Participation in consultations - focus groups and interviews	Partners in implementation Target beneficiaries for district level trainings Point of contact at district level

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
District Executive Committees (DEC)	Technical arm of District council, with representatives of government ministries and departments, NGOs working in district and other co-opted members	Facilitate implementation of project activities in implementation sites	Positive: Project will help further their mandate, priorities and agendas Improved communication and partnership with local communities and committees Members benefit from training	Participation in consultations - focus groups and interviews	Ensure participation in relevant capacity building programs and in multi-stakeholder dialogues linked to management of natural resources
Area Development Committees (ADC)	Representatives of all villages under a TA, acting as liaison between District Executive Committee and VDCs	Facilitate implementation of project activities in implementation sites	Positive: Project will help further their mandate, priorities and agendas Improved communication and partnership with local communities and committees Members benefit from training	Participation in consultations - focus groups and interviews	Ensure participation in relevant capacity building programs and in multi-stakeholder dialogues linked to management of natural resources

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Village Development Committees (VDC)	Representatives of group of villages, facilitating development planning and implementation	Facilitate implementation of project activities in implementation sites	Positive: Project will help further their mandate, priorities and agendas Improved communication and partnership with local communities and committees Members benefit from training	Participation in consultations - focus groups and interviews	Ensure participation in relevant capacity building programs and in multi-stakeholder dialogues linked to management of natural resources
Village Chiefs	Mobilise communities to participate in local development and advises ADC on development matters	Facilitate implementation of project activities in implementation sites	Positive: Project will help further their mandate, priorities and agendas Improved communication and partnership with local communities and committees Potentially benefit from training	Participation in consultations - focus groups and interviews	Ensure participation in relevant capacity building programs and in multi-stakeholder dialogues linked to management of natural resources
Local communities					

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Beach Village Committees (BVC)	Directly involved in the local governance and management of fisheries resources	Key partners (esp. component 1 and 3), participants in project activities. Benefit from project capacity building.	Positive: Project will help increase their functioning and recognition natural resource governance Increased capacity - catchment management, soil and water conservation, alternative livelihoods, improved value chain	Participation in consultations - focus groups and interviews	Key partners and beneficiaries Regular consultation and feedback Ensure participation in capacity building, multi-stakeholder platforms, development of CMPs
Village Natural Resource Management Committees (NVRMC)	Directly involved in the local governance and management of natural resources, notably forests	Key partners (esp. component 1 and 3), participants in project activities. Benefit from project capacity building.	Positive: Project will help increase their functioning and recognition natural resource governance Increased capacity - catchment management, soil and water conservation Access to funds via CECF	Participation in consultations - focus groups and interviews	Key partners and beneficiaries Regular consultation and feedback Ensure participation in capacity building, multi-stakeholder platforms, development of CMPs

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Fish/Farmer associations/cooperatives	peer-centered organizations for fisheries or agriculture; point of entry for growth of value chain	Partner and participant in project activities (particularly component 3) Benefit from capacity building in value chains.	Positive: Increased capacity - catchment management, soil and water conservation Access to improved fish value chain and viable alternative livelihoods Increased climate change awareness and resilience Increased communication with local governance	Participation in consultations - focus groups and interviews	Awareness raising, consultations and participation in capacity building (when applicable) Engage in development and capacity building linked to value chains

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Local communities	The majority of local community members are engaged in land-related subsistence activities and therefore at the heart of proposed activities. They are also key partners in the implementation of the project.	Indirect beneficiaries of project gains, as well as benefit from training of trainers approach.	Positive impacts of project activities on local communities: - Increased management of natural resources - Improved catchment management with associated benefits (long-term) - Improved capacity (skills, equipment, etc.) to undertake restoration and monitoring of ecosystems, climate-smart agriculture, etc.;	Participation in consultations - focus groups and interviews	Awareness raising, consultations and participation in capacity building (when applicable)
Teachers, school club leaders	Responsible for formal and informal education of school-children; engaged in environmental awareness of school-children	Key partner in component 1; benefit from capacity building	Positive: access to new education material for climate awareness and catchment management for children	Participation in consultations - focus groups and interviews	Awareness raising, consultations and participation in capacity building (when applicable)

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Vulnerable groups, including but not limited to women and youth	Women and youth are important stakeholders in fisheries, agriculture, and forestry. Often underrepresented in governance and decision making processes, despite representing a large section, if not majority of population.	Key partners under each project component, participants in project activities and associated consultation processes. Benefit from project capacity building.	Same as listed for Community, BVC and VNRMC, but in addition: - increased inclusiveness and participation in natural resource governance - increased opportunities for alternative livelihoods	Participation in consultations - focus groups and interviews; separate if possible and relevant	Regular consultation and feedback Ensure participation in capacity building, multi-stakeholder platforms, development of CMPs
Civil society					
LEAD SEA	Independent member of LEAD implements national Research and Development Sustainable Development projects and programmes Based in the Chilwa basin and long-term stakeholder in area.	Implementation partner - component 1 and 3 Technical input???	Positive: opportunity to increase their outreach, scaling up of initiatives, build up knowledge, increased capacity	Meetings and consultations Participation in local consultations	Implementation partner - regular consultations and meetings
World Fish	International, nonprofit research organization focused on scalable innovative solutions for aquatic foods.	Technical Input	Positive: opportunity to pilot innovative solutions, gather data and build up knowledge	Meetings and consultations	Pending on interest/alignment of objectives? - implementing partners - consultations - email exchange

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Lake Chilwa Basin Management Trust (LCBMT)	Legally registered trust focusing on the sustainable development of the Lake Chilwa basin, based on ecosystems approach.	Implementation Partner - specifically Output 3.1.4	Positive: opportunity for the LCBMT to increase its visibility at a local and national level, and drive key activities in the Lake Chilwa basin in line with its mandate.	Workshops and consultation	Implementation partner for Output 3.4 (Lake Chilwa Conservation Plan)
Local/International NGOs (e.g. Green Spark, ICCN, Ripple Africa, Red Cross)	Partnerships to help reach beneficiaries, complement projects with similar goals, targets	Localized technical support Implementation partners at a local level (TBD)	Positive: depending on objectives, could be engaged to share knowledge and/or benefit from implementation of certain activities (e.g. consultations, capacity training).	Participation in consultations - focus groups and interviews; separate if possible and relevant	Pending on interest/alignment of objectives? - implementing partners - consultations - email exchange
Youth associations/NGOs (e.g. National Youth Council of Malawi, YONECO)	Partnerships to help reach beneficiaries, complement projects with similar goals, targets Opportunity to further youth capacity and alternative livelihoods	Localized technical support Implementation partners at a local level (TBD)	Positive: depending on objectives, could be engaged to share knowledge and/or benefit from implementation of certain activities (e.g. consultations, capacity training).	Participation in consultations - focus groups and interviews; separate if possible and relevant	Pending on interest/alignment of objectives? - implementing partners - consultations - email exchange
Research institutions					

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Lilongwe University of Agriculture and Natural Resources (LUANAR)	Public university focusing on agricultural growth, food security, wealth creation and sustainable natural resources management Opportunity to pilot new technologies and practices, provide data	Implementation partner Technical Input - including new technologies (fisheries, plastic waste,?)	Positive: opportunity to gather new data, pilot new technologies, train graduate students	Meetings and consultations	Implementation partner - new technologies
Malawi University of Science and Technology (MUST)	Public university focused on development, adaptation, transfer and application of science, technology and innovation for macro- and micro-economic development, including entrepreneurship	Implementation partner Technical Input - including new technologies (fisheries, plastic waste,?)	Positive: opportunity to gather new data, pilot new technologies, train graduate students	Meetings and consultations	Implementation partner - new technologies
World Agroforestry Centre (ICRAF)	Research centre focused on tree domestication, propagation, breeding, soil fertility, fodder trees, and tree germplasm supply Opportunity to pilot new technologies and practices, provide data	Implementation partner Technical Input	Positive: opportunity to increase their outreach, scaling up of initiatives, build up knowledge, increased capacity	Meetings and consultations	Implementation partner - agroforestry, conservation agriculture, restoration

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
National Aquaculture Centre (??)	Lead institution in terms of best practices for aquaculture and related research	Technical support for interventions and activities focused on aquaculture (Component 3) Possible implementation partner	Positive: opportunity to provide more tailored support to target communities, and gather data on solutions from them to advance research and mandate	Workshops and meetings	Pending on interest/alignment of objectives? - implementing partners - consultations - email exchange
Forest Research Institute of Malawi (FRIM) (??)	National research centre for forestry (under DoF)	Technical support for activities focused on agroforestry Possible implementation partner	Positive: opportunity to provide more tailored support to target communities, and gather data on solutions from them to advance research and mandate	Workshops and meetings	Pending on interest/alignment of objectives? - implementing partners - consultations - email exchange
Other projects					
Sustainable Fisheries, Aquaculture Development and Watershed Management Project (S-FAD)	Baseline project	Co-financing Technical knowledge/support Implementation partners	Positive: increased gains to project thanks to GEF activities	Meeting and workshops	Include in Steering Committee PIU coordination Partner implementation - specifically under outcome 1.2, 2.1, 2.3, 3.3, and under component 4

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Restoring Fisheries, Sustainable Livelihoods in Lake Malawi (REFRESH)	Project focusing on fisheries governance and ecosystem approach	Co-financing Technical knowledge/support Implementation partners	Positive: increased gains to project thanks to GEF activities	Meeting and workshops	Include in Steering Committee Co-financing and implementation partner - specifically under outcome 3.3 and component 4
Scaling up the use of modernized climate information and early warning systems (M-CLIMES)	Project focusing on improving hydro-meteorological network and EWS	Co-financing Technical knowledge/support Implementation partners	Positive: increased gains to project thanks to GEF activities	Meeting and workshops	Include in Steering Committee Co-financing and implementation partner - specifically under outcome 3.5 and component 4
Aquaculture Value Chains for Increased and Food Security Project (AVCP)	Project involved in integrated aquaculture development	Possible Co-Financing Technical Knowledge/support	Positive: increased gains to project thanks to GEF activities	Meeting and workshops	Include in Steering Committee Co-financing Input under component 4 and aquaculture related activities
Enhancing the Resilience of Agro-ecological Systems Project (ERASP)	Project involved in catchment management at local level, including catchment restoration activities	Lessons learned; activities align and supported by project	Positive: depending on objectives, could be engaged to share knowledge and/or benefit from implementation of certain activities (e.g. consultations, capacity training).	Meeting and workshops	Possible implementation partners Lessons learned - shared experience, especially in shared districts

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Malawi Watershed Services Improvement Programme (MWASIP)	Project involved in watershed management and landscape restoration; use of CECF	Co-financing Technical knowledge/support Implementation partners	Positive: increased gains to project thanks to GEF activities; increased data on functioning of CECF, watershed management in other locations, particularly the North	Meeting and workshops	Include in steering Committee Co-financing Input and technical input for Component 1 and Component 4
Strengthening Trans-boundary cooperation and integrated natural resource management in the Songwe River Basin	Project involved in catchment management and landscape restoration	Lessons learned; activities align and supported by project	Positive: depending on objectives, could be engaged to share knowledge and/or benefit from implementation of certain activities (e.g. consultations, capacity training).	Meeting and workshops	Possible implementation partners Lessons learned - shared experience, especially in shared districts
International Organizations					
African Development Bank (AfDB)	Project Implementation Agency Oversee the implementation of the project	Project management, technical support	Positive: Project will help further their mandate, as well as provide data/lessons learned	Regular meetings, consultation	Project management

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
International Fund for Agricultural Development (IFAD)	specialized global development organization exclusively focused on and dedicated to transforming agriculture, rural economies and food systems Lead Agency for GEF-IAP-FS	Technical support, knowledge management, replication and scaling up of lessons learned	Positive: Project will help further their mandate, as well as provide data/lessons learned for agroforestry, conservation agriculture, fisheries, climate awareness	Workshops	workshops, punctual consultations
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Development partner to Malawi - currently fisheries/aquaculture project	Technical support, knowledge management, replication and scaling up of lessons learned	Positive: Project will help further their mandate, as well as provide data/lessons learned (specifically related to fisheries)	Workshops	workshops, punctual consultations
Food and Agricultural Organization (FAO)	a specialized agency of the United Nations that leads international efforts to defeat hunger. Implemented fisheries related projects in the past; lead agency in soil loss study	Technical support, knowledge management, replication and scaling up of lessons learned	Positive: Project will help further their mandate, as well as provide data/lessons learned (specifically related to fisheries)	Workshops	workshops, punctual consultations

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
World Bank (WB)	Involvement in watershed management activities in Malawi	Technical support, knowledge management, replication and scaling up of lessons learned (esp. in terms of CECF)	Positive: Project will help further their mandate, as well as provide data/lessons learned (specifically related to catchment management, CECF)	Workshops	workshops, punctual consultations
United Nations Development Programme (UNDP)	UN-Agency "helping to achieve the eradication of poverty, and the reduction of inequalities and exclusion" "Accredited Agency" for M-CLIMES project	Technical support, knowledge management, replication and scaling up of lessons learned (hydro-meteorological network)	Positive: Project will help further their mandate, as well as provide data/lessons learned (specifically related to EWS and hydro-meteorological monitoring)	Workshops	workshops, punctual consultations
Private sector					
MALDECO	Main commercial fish producer in Malawi - also sells fish feed	Technical knowledge and experience	Positive: catalyze uptake of conservation strategies (improves marketability) , improve communication with other fisheries stakeholders	Workshops	Workshops, punctual consultations when dealing with activities surrounding fish value chain

Stakeholder	Interest of the SH in the project	Potential influence of the SH on the project	Impact of the project on the SH (positive or negative)	How to engage during design process	How to engage in project (early ideas)
Industrial farms (tea, tobacco, sugar)	Main private sector stakeholder in agricultural sector	Technical knowledge and experience	Positive: catalyze uptake of conservation strategies (improves marketability) , improve communication with other agricultural stakeholders	Workshops	Workshops, punctual consultations when dealing with activities surrounding agroforestry and conservation agriculture
Private fish farms	Main private sector stakeholder in aquaculture sector	Technical knowledge and experience	Positive: Potential to create market, market research	Workshops	Workshops, punctual consultations when dealing with activities surrounding agroforestry and conservation agriculture
Insurance institutions	Market expansion Important leverage for change	Increase in insurance products for rural markets Technical knowledge and experience	Positive: potential to test new market/client base with guaranteed risks (specifically output 3.5)	Workshops	Workshops and consultations Engage in development of output 3.5
Media					
Community radios	Increased audience/readership	Facilitate awareness raising and communication (all components)	Positive: increased outreach, possibly increased awareness of staff members in project themes (climate change impacts and resilience)	N/A	Partners in communication strategy, interventions focusing on awareness raising
Newspapers				N/A	Partners in communication strategy, interventions focusing on awareness raising

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

The planned consultation of stakeholders during project implementation is summarized below. the full stakeholder engagement plan is presented in Appendix 6.

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
Central Government structures					
Ministry of Agriculture (MA)	Parent ministry for key partners	Member of SC via DLRC	SC	Part of annual planning and review process Annual engagement	Costs for engaging stakeholders are included in the detailed budget provided, and include costs for workshops, meetings, and communications
Department of Land Resources Conservation (DLRC)	Department in charge of land conservation practices, guidelines, strategies etc.	Member of the SC Executing Partner	SC	Part of annual planning and review process Sustained engagement as well as for planning of activities (esp. under Component 3)	
Department of Agriculture Extension Services (DAES)	Department is responsible for all matters related to agricultural practices and capacity building	Technical partner	PIU	Meetings and consultations Planning of activities related to agriculture (under component 3), sustained through their implementation	
Department of Disaster Management Affairs (DoDMA)	Agency in charge of improving and safeguarding the quality of lives of Malawians especially those that are vulnerable to and affected disasters.	Executing Partner	SC and PIU	Meetings and consultations Punctual engagement, in particular for activities related to EWS	

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
Ministry of Forestry and Natural Resources (MFNR)	Parent ministry for all matters relating to natural resources: wood, forests, fish, minerals, etc.	Member of the SC via departments	SC	Part of annual planning and review process Annual engagement	
Department of Forestry	Ministry in charge of forest resources, strategies, as well as VFA	Executing Partner	SC and PIU	Meetings and Consultations Sustained engagement as well as for planning of activities (esp. under Component 3)	
Department of Fisheries	Lead Executing Agency with overall executing and technical responsibility for the project Presides over SC and housing PIU; make recommendations to the attention of the program	Oversees PIU Presides over SC	SC	Part of annual planning and review process Sustained engagement as well as for planning of aquaculture and fisheries related activities (Comp. 3)	
Department of Water Resources (DWR)	Department in charge of all water resource concerns, including catchment management planning	Executing Partner	SC and PIU	Meetings and Consultations Sustained engagement as well as for planning of catchment management planning (Comp. 1)	
Department of Climate Change and Meteorological services (DoCCMS)	Department responsible for all matters to do with climate change and meteorological services.	Member of the SC Executing Partner	SC and PIU	Part of annual planning and review process Sustained engagement as well as for planning of hydro-meteorological activities (Comp. 3)	

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
Ministry of Industry - Department of Cooperatives	Ministry in charge of all matters regarding cooperatives and association	Member of the SC	SC	Part of annual planning and review process Sustained engagement in areas related to cooperatives/associations (e.g. Comp 3)	
Ministry of Local Governance and Rural Development	Ministry in charge of all matters regarding local governance and rural development (incl. BVC, VNRMC, DEC, ADC)	Member of the SC	SC	Part of annual planning and review process Sustained engagement in areas related to engagement with local governance (BVC, VNRMC)	
Ministry of Finance - Department of Economic Planning and Development	Ministry in charge of all financial planning at a national level	Member of the SC	SC	Part of annual planning and review process Sustained engagement related to budget reviews	
Environmental Affairs Department	Government agency in charge of coordination of all matters relating to environment, natural resources and climate change management. GEF focal point"	Member of the SC National GEF focal point	SC, PIU and AfDB	Part of annual planning and review process Sustained engagement	
National Water Resource Authority (NWRA)	Responsible for the management and protection of water resource management			Meetings and Consultations Sustained engagement in areas relating to catchment management planning (Comp 1 and 2)	
Local governance structures					

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
District Department Officers (Fisheries, Forestry, Agriculture, Environment, Gender, [water])	Regional representatives of government for key thematic areas	Executing partner contacts in intervention areas One local focal point per district (Fisheries officer are suggested) Beneficiaries of capacity building (esp. Comp 2)	Line ministry and PIU	Meetings and consultations As and when needed for organizing activities	Costs for engaging stakeholders are included in the detailed budget provided, and include costs for workshops, meetings, and communications
District Executive Committees (DEC)	Administrative authorities of the project target and implementation sites that will be beneficiaries of the project	Facilitate implementation of project activities in implementation sites Members may be part of capacity building (e.g. under component 3)	District Council and PIU	Consultations As and when needed for organizing activities with communities Participation in capacity building activities	
Area Development Committees (ADC)			DEC and PIU		
Village Development Committees (VDC)			DEC, ADC and PIU		
Village Chiefs			DEC and PIU		
Local communities					
Beach Village Committees (BVC)	Key partners and beneficiaries under each project component; sources of knowledge	Participation in development of micro-catchment management plans, beneficiaries of capacity building in component 3	PIU, DoFi, and Fisheries District Officers	Meetings, consultations, as well as training workshops and capacity building activities	Costs for engaging stakeholders are included in the detailed budget provided, and include costs for workshops, meetings, and communications
Village Natural Resource Management Committees (NVRMC)	Key partners and beneficiaries under each project component; sources of knowledge	Participation in development of micro-catchment management plans, beneficiaries of capacity building in component 3	PIU, DoF, and Natural Resources District Officers	Meetings, consultations, as well as training workshops and capacity building activities	
Fish/Farmer associations/cooperatives	Partners and beneficiaries of component 3; sources of knowledge and value chain opportunities	Participation in capacity building under component 3 (in particular, 3.3 for fish associations/cooperatives)	PIU and SC	Meetings, consultations, as well as training workshops and capacity building activities, particularly under component 3	

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
Local communities	Key partners and beneficiaries under each project component; sources of knowledge	Targets of wider awareness raising in component 1 and 3, beneficiaries of capacity building under component 3 (agro-forestry, conservation agriculture, etc.)	PIU and implementation partners	Meetings, consultations, as well as training workshops and capacity building activities (comp 1 and 3)	
Teachers, school club leaders	Partners and beneficiaries for component 1 (and 3); sources of knowledge and agents of behaviour change	Targets of wider awareness raising in component 1 and 3, beneficiaries of capacity building under component 1 (pilot primary programme)	PIU and implementation partners	Meetings, consultations, as well as training workshops and capacity building activities (particularly under comp 1 and 3)	
Vulnerable groups, including but not limited to women and youth	Key partners and beneficiaries under each project component; sources of knowledge; empowerment in decision-making processes	Beneficiaries of technical assistance and investment, targets of learning initiatives	PMU and implementation partners	Meetings, consultations, as well as training workshops and capacity building activities	
Civil society					
LEAD SEA	Partnerships to help reach beneficiaries Sources of knowledge, in particular regarding climate change resilience building, Lake Chilwa and Lake Chiuta catchments	Technical partner/implementing partner in three components	PIU	Meeting and consultations for planning of activities related to catchment management planning (Comp 1, Comp2) and Lake Chilwa conservation plan (Output 3.1.4) Sustained communication throughout implementation of said activities	Costs for engaging stakeholders are included in the detailed budget provided, and include costs for workshops, meetings, and communications

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
World Fish	Source of knowledge of sustainable aquaculture/fisheries in MW, wider region and world	Technical support in terms of fisheries and aquaculture	PIU	Meetings and consultations As and when needed for technical support related to fisheries and aquaculture (planning, rollout, etc.).	
Lake Chilwa Basin Management Trust (LCBMT)	Partnerships to help reach beneficiaries Sources of knowledge for Lake Chilwa	Technical partner/implementing partner for output 3.1.4	PIU	Meetings and consultations, particularly sustained during YX	
National and International NGOs (e.g. Green Spark, ICCN, Ripple Africa, Red Cross)	Potential partners, complement projects with similar goals and targets Sources of Knowledge	Technical partner/implementing partner in three components; region and sector dependent (e.g. waste management, land management, fisheries)	PIU and SC	Meetings and consultations As and when needed throughout project (planning, rollout, etc.).	
Youth associations/NGOs (e.g. National Youth Council of Malawi, YONECO)	Potential partners, complement projects with similar goals and targets Sources of Knowledge regarding engagement of youth	Technical partner/implementing partner in three components (particularly comp. 3) to increase involvement of youth	PIU and SC	Meetings and consultations As and when needed throughout project	
Research institutions					
Lilongwe University of Agriculture and Natural Resources (LUANAR)	Partners for development of innovation and capacity building	Technical partner/implementing partner in component 3	PIU	Meetings and consultations As and when needed throughout project (planning, rollout, etc.).	Costs for engaging stakeholders are included in the detailed budget provided, and include costs for workshops, meetings,
Malawi University of Science and Technology (MUST)		Technical partner/implementing partner in component 3	PIU	Meetings and consultations As and when needed throughout project (planning, rollout, etc.).	

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
World Agroforestry Centre (ICRAF)	Implementation partner	Technical partner/implementing partner in component 3 (Outcome 3.1)	PIU	Meetings and consultations As and when needed throughout project (planning, rollout, etc.).	and communications
National Aquaculture Centre	Technical partnership/source of knowledge regarding aquaculture	Lessons learned, technical support (particularly in comp 3, for aquaculture related activities)	PIU	Meetings and consultations As and when needed throughout project (planning, rollout, etc.).	
Forest Research Institute of Malawi (FRIM)	Technical partnership/source of knowledge regarding forestry/agroforestry	Technical partner/implementing partner in component 3 (Output 3.1.1)	PIU	Meetings and consultations As and when needed throughout project (planning, rollout, etc.).	
Other projects					
Sustainable Fisheries, Aquaculture Development and Watershed Management Project (S-FAD)	Partnerships to help reach beneficiaries, complement projects with similar goals and targets in terms of climate resilience of the fisheries sector	Co-financer Shared PIU	PIU and SC	Sustained contact throughout project	Costs for engaging stakeholders are included in the detailed budget provided, and include costs for workshops, meetings, and communications
Restoring Fisheries, Sustainable Livelihoods in Lake Malawi (REFRESH)	Partnerships to help reach beneficiaries, complement projects with similar goals and targets in terms of climate resilience of the fisheries sector	Co-financer Technical/strategic input	PIU and SC	Meetings and consultations As and when needed (mostly at beginning and end of project)	

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
Scaling up the use of modernized climate information and early warning systems (M-CLIMES)	Partnerships to help reach beneficiaries, complement projects with similar goals and targets in terms of hydro-meteorological and EWS	Co-financer Technical/strategic input	PIU and SC	Meetings and consultations As and when needed (mostly at beginning and end of project)	
Aquaculture Value Chains for Increased and Food Security Project (AVCP)	Partnerships to help reach beneficiaries, complement projects with similar goals and targets in terms of aquaculture	Co-financer Technical/strategic input	PIU and SC	Meetings and consultations As and when needed (mostly at beginning and end of project)	
Enhancing the Resilience of Agro-ecological Systems Project (ERASP)	Partnerships to help reach beneficiaries, complement projects with similar goals and targets in terms of sustainable land management and catchment management practices	Lessons learned; activities align and supported by project	PIU and SC	Meetings and consultations As and when needed (mostly at beginning and end of project)	
Malawi Watershed Services Improvement Programme (MWASIP)	Partnerships to help reach beneficiaries, complement projects with similar goals and targets in terms of sustainable land management and catchment management practices	Lessons learned, technical support (particularly on CECF), ensuring projects and activities align	PIU and SC	Meetings and consultations As and when needed (mostly at beginning and end of project)	

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
Strengthening Trans-boundary cooperation and integrated natural resource management in the Songwe River Basin	Partnerships to help reach beneficiaries, complement projects with similar goals and targets in terms of sustainable land management and catchment management practices	Lessons learned; activities align and supported by project	PIU and SC	Meetings and consultations As and when needed (mostly at beginning and end of project)	
International Organizations					
African Development Bank (AfDB)	Implementing agency	Project management, technical support	PIU and SC	Regular meetings, consultations Part of the annual review process	Costs for engaging stakeholders are included in the detailed budget provided, and include costs for workshops, meetings, and communications
International Fund for Agricultural Development (IFAD)	Implementing agency for ERASP	Technical support, knowledge management, replication and scaling up of lessons learned	PIU and SC	Email exchange and calls As and when needed	
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	In charge of the AVCP programme	Coordination on project strategies, sharing of lessons learned and knowledge management	PIU and SC	Email exchange and calls As and when needed	
Food and Agricultural Organization (FAO)	Implemented fisheries related projects in the past; lead agency in soil loss study	Coordination on project strategies, sharing of lessons learned and knowledge management	PIU and SC	Email exchange and calls As and when needed	
World Bank (WB)	Implementing agency for MWASIP	Technical support, knowledge management, replication and scaling up of lessons learned	PIU, SC, AfDB	Email exchange, calls and meetings As and when needed	

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
United Nations Development Programme (UNDP)	Implementing agency for M-CLIMES and proposed implementing agency for TRANSFORM -	Coordination on project strategies, sharing of lessons learned and knowledge management	PIU and SC	Email exchange and calls As and when needed	
Private sector					
MALDECO	Engage in awareness raising of sustainable fisheries and climate resilience; fisheries stakeholder communication	National and regional workshops and consultations Technical input	PIU	Informed when activities related to fisheries are implemented	Costs for engaging stakeholders are included in the detailed budget provided, and include costs for workshops, meetings, and communications
Industrial farms (tea, tobacco, sugar)	Engage in awareness raising of restoration planning and management	Regional/local workshops and consultations Technical input	PIU	Informed when activities related to land management are implemented in their areas/regions	
Private fish farms	Engage in awareness raising of sustainable aquaculture and climate resilience	Regional/local workshops and consultations Technical input	PIU	Informed when activities related to aquaculture t are implemented in their areas/regions	
Insurance institutions	Improve access to insurance mechanisms to support small-scale fisheries and agriculture enterprises	Workshops and consultations Technical input	PIU	Workshops and consultations Inclusive roundtables	
Media					
Community radios	Agents of change; allow	Implementing partner/contractor	PIU	Meetings, calls and email exchange for	Costs for engaging

Stakeholder	Purpose of Engagement	Mechanism / process of Engagement	Responsible Entity	Frequency and Timing	Costs (to be completed once activities are validated)
Newspapers	to reach wider communities	for awareness campaigns under comp 1 and 3	PIU	planning of communication and awareness raising activities	stakeholders are included in the detailed budget provided, and include costs for workshops, meetings, and communications

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier; Yes

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

The proposed project's main objective is to improve the sustainability of fisheries in Malawi lakes through improved community led and climate smart catchment management. It focuses on four components, as detailed below:

- ? *Component 1 Strengthening the capacity of Village level natural resource committees for climate resilient, watershed planning and management for lake protection* ? this component focuses specifically on local integrated and climate smart catchment management, in line with the most recent Malawian policy and legislation

- ? *Component 2: Strengthening the capacity of local and district-level institutions for watershed planning and management and lake protection* ? this component acts a
- ? *Component 3: Aquatic ecosystems, especially wetland areas, riverbanks and other key habitats rehabilitated with climate-sensitive measures for improved lake protection and resilient community livelihood* ? this component focuses on the rollout of a number of community-based initiatives ? some tried and tested, others innovative ? which will allow to promote and encourage the uptake of activities and practices necessary for sustainable catchment management. Many of these are anchored within the institutions targeted and strategies developed in Component 1 and 2.
- ? *Component 4: Project-specific improved knowledge management and M&E* ? this component focuses on project management and the all-important cooperation with other government and project led initiatives.

At the core of the project is the importance of the interdependence of different ecosystems within a single catchment on the socio-economic and environmental health of said catchment. As such, the projects uses multiple types of interventions and tools to show the key link between land management upstream on downstream fisheries. On an institutional level, there is a dual focus on the development of IWRM frameworks, plans and capacity at the communal level as well as the district level; practically, there is a focus on sustainability and climate resilience ? including activities such as agroforestry, conservation agriculture, alternative livelihoods, and integrated catchment management.

The project will focus on limited number of catchments in order to better accompany the target communities during the project lifecycle. Three catchments are in the Northern Region ? North Rukuru, Karonga Lakeshore and Nkhata Bay Lakeshore ? and two in the Southern Region ? Lake Chilwa and Lake Chiuta. It should be noted that two of these catchments will be targeted for specific components: Lake Chiuta under component 3, particularly interventions focusing on lakeshore communities and ecosystems, while NkhataBay Lakeshore activities will be centred around Component 2 ? district governance capacity building in IWRM.

The Gender Analysis and Draft Action Plan are attached and will be reviewed as part of the overall review of the project?s theory of change, results framework and Stakeholder Engagement Plan.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project?s results framework or logical framework include gender-sensitive indicators?

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

4. Private Sector Engagement. Elaborate on the private sector's engagement in the project, if any.

Fisheries, aquaculture, agriculture smallholders and agro-water meteorological information providers are key private sector partners of the program. They are fully involved in all components of the project, not only in terms of supplies, construction of landing sites or water infrastructure, alert and information system on climatic events, but also in terms of dissemination of best practices,, guidelines, planning, capacity building. The objective is to improve these sector developing resilient and adaptative ecosystem based management measures, taking part of local environmental improvement as well as sectorial best practices for sustainable production. Specific activities will mobilize fisheries and aquaculture cooperatives and group of producers but will also support alternative livelihoods and participation of small and medium-sized private sector enterprises (SMEs) as well as plastic or invasive weeds reuse or agro-forestry green initiatives developed by local entrepreneurs, NGOs or private sector. The insurance and micro-credit sector will also be mobilized to test the potential of protected and rotating saving funds to manage risks and crop loss, fisheries and aquaculture infrastructure damage in relation with climate risks.

As part of the project's communication and knowledge management strategy the project will develop specific materials to increase the understanding of the private sector on issues of land degradation, climate change adaptation for fisheries an aquaculture, economical benefits of ecosystem restoration and sustainable productions (agriculture, aquaculture, fisheries) and benefits on overall ecosystem and landscape dynamics. In addition, these stakeholders will be invited as actors to participate in strategic thinking on how to strengthen value chains and create the necessary incentives for bringing sustainable practices to scale, i.e., through opportunities to develop sustainable business models that have the potential to deliver mutual gains to the private sector and smallholders. In this sense, the private sector will be considered in the development of the institutional capacity building analysis and diagnostic and be eligible for the capacity training in terms of climate resilience.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

A limited number of risks have been identified - external risks, technical & operational risks and environmental & social risks. Measures to mitigate these risks have been integrated into project design as demonstrated in the table below. The risk level describes the residual risks considering that mitigation measures are adequately implemented. References to relevant outputs/activities are provided in the table below.

Risk Description	Level	Description and Mitigation measure(s)
External risks		
Global health situation	High	<p>The current COVID-19 pandemic has the potential to disrupt the timeline of the project and/or divert attention and resources of the GoM and key stakeholders away from the proposed project.</p> <p>Alongside a specific risks and opportunities framework provided below, the project also has an adaptive capacity to deal with changes as and when they arise.</p> <p>The first is the inception workshop (Activity 4.1.1.1) which will allow to review the project framework, targets and timelines in order to ensure that emerging operational, stakeholder, budget or co-financing related challenges can be addressed. A review of the national and global Covid-19 situation will also be reviewed during the quarterly and annual review process.</p>
Vulnerability to extreme weather events, including climate change, and their associated impacts.	Moderate	<p>Although the project contributes to reducing vulnerability to climate variability, extreme weather during the project implementation and associated events (droughts, floods, landslides) could impede the progress of the project (including access to beneficiaries in rural areas) as well as weaken the uptake of the sustainable methods and practices championed by the project.</p> <p>The project includes a Climate Risk Analysis (see section 3.4) which serves as a guide to the PIU and key stakeholders, and can be used for adaptive planning throughout the project implementation. Furthermore, executing partners included GoM departments dealing specifically with climate change and its impacts (DCCMS, DoDMA). Other key partners also are dealing with similar issues, and the project provides specific and regular means through which they can cooperate. Furthermore, a number of activities directly target the understanding of climate related vulnerabilities and how to monitor them (Component 2, Activities 2.1.5.1, 2.2.1.1, and 2.2.1.2, Component 3, Activities 3.5.1.1 to 3.5.1.4). Finally, thanks to the focused and continuous training approach (see Component 3), there will be opportunities to work with communities through such events were they to occur, including adapting methods and practices.</p>
Technical & operational risks		

Risk Description	Level	Description and Mitigation measure(s)
Low level of cooperation and coordination between stakeholders and across sectors	Moderate	<p>While the GoM has a number of key strategies and policies that highlight the importance of dealing with the issues of unsustainable resource use, land degradation and climate change, the coordination between sectors and stakeholders at different levels is limited.</p> <p>This project clearly recognizes this, and aims to further the efforts of improved cooperation and coordination between sectors, notably water resource management, fisheries and agriculture. The project institutional set-up has clearly recognized the importance of engaging and partnering with Departments from different ministries (DLRC, DWR, DCCMS, DoDMA, etc), at the national, but also district levels, as each will bring unique expertise and perspectives. Similarly, it recognizes the efforts from project-led initiatives, and has identified and secured co-financing from national level projects also championing ecosystem-level approaches and representing different sectors, in order to improve the coordination and rolling out of sustainable, multi-sector and participative activities. These partnerships in particular are highlighted and safeguarded in Component 4.</p>
Limited capacity of local or technical institutions to support communities in implementing ecosystem restoration, adaptation and natural resource management activities	Low	<p>There are a number of initiatives and efforts in place in Malawi to promote sustainable land and water management; however, the roll-out and uptake in districts is heterogeneous. The issues and capacity in the various districts and catchments are not necessarily the same and require not just a blanket rollout of measures and training, but tailored, participative actions to ensure maximum efficacy and uptake.</p> <p>This is the approach championed by the project; the number of sites and communities targeted are relatively small, but the focus lies on ensuring support and follow-up throughout the project so that community members have time to develop their own frameworks, familiarize themselves with these, and also receive technical advice to troubleshoot issues as they arrive. This is particularly highlighted under Component 3, where continuous support, follow-up training sessions, and/or support visits are included, as well as small start-up funds and equipment.</p> <p>Similarly, the project has a two pronged approach - to build on current skills and existing strategies to increase their uptake, but also pilot new initiatives and techniques for emerging issues or issues that have not received as much attention in the past. Both approaches are rooted in a community-led, participative methods, in order to not only promote the adoption of the methods by the communities, but also ensure that the needs, opportunities and specificities of beneficiaries are acknowledged and responded to. In parallel there is a focus on ensuring that district officers, effectively the main government representative for communities, are fully engaged in the process, through parallel training for catchment management planning (Component 2), and throughout capacity building and follow-up in Component 3.</p>

Risk Description	Level	Description and Mitigation measure(s)
<p>Limited capacity, willingness or commitment (i.e., low uptake tools, techniques) among communities targeted for ecosystem restoration or sustainable practices</p>	<p>Low</p>	<p>Under component 1 and 3, there is a focus on the participatory nature of all capacity building, as well as a training of trainer approach. In terms of sustainability and uptake, Output 1.1.4 offers an opportunity for post-project sustainability through the introduction of a CECF which has been shown to incentivise people to participate in sustainable land and water management. It is built on the principles of self-determination, inclusive participation, and transparency, all of which have been shown to increase community participation. It should help facilitate micro-catchment management at the community level, as well as provide financial security throughout access to the revolving fund. Other efforts for sustainability and uptake are found under Component 3, which focus on clear cooperation and support throughout the project for specific target communities. By including local governance (e.g. BVC, VNRC, ADC, DEC) at multiple levels and focusing on the training of trainer approach, there should be ample opportunity for efforts to transfer into adjacent communities and micro-catchment. This will only be strengthened by the project efforts under Component 2 which will strengthen District and national level governance and institution in the same types of efforts and practices.</p>
<p>Private sector engagement</p>	<p>Medium</p>	<p>The current project has a strong institutional and community focus, yet provides the groundwork for the introduction and promotion of private sector involvement in fisheries and environmental management. Private sector stakeholders have been identified in the stakeholder analysis and included in the SEP in fisheries, agriculture and financial sectors.</p> <p>There are also targeted activities which will allow for their more direct involvement with communities, notably in Component 3. Specifically, under outputs 3.3.3 and 3.4.2, there is an opportunity for the private sector to get involved in aquaculture development and plastic waste management, by providing platforms with which to engage with specific communities who are looking to further develop.</p> <p>Similarly, under 3.5.3, there is an opportunity for development of new products which could benefit both rural communities and the insurance/financial sector.</p> <p>Importantly, the work done in particular in the Chiuta and Chilwa catchments should help provide the groundwork for a follow-up project which is being presented to the GEF (TRANSFORM) for PIF approval. This project will focus more on how to build key value chains within the fisheries sector in the Lake Chilwa basin, which will have already benefited from the current projects in terms of environmental and climate sustainability, both of which are vital to ensure the long-term viability and profitability of any value chain investments.</p>

Risk Description	Level	Description and Mitigation measure(s)
Failure to deliver on time/ budget	Low	Due to the uncertain global socio-eco-political climate, the delivery of projects on time and budget is as challenging as ever. However, the executing agency will have support from the AfDB to ensure that administrative and financial matters are dealt with in accordance with AfDB and GEF rules and guidelines. The project will also benefit from having an already established PIU, which will have already been dealing with current issues within the same sectors. Adaptive management and monitoring (Output 4.1.1) will be used to track progress and make any adjustments, as necessary.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Executing agency

At PIF stage, the Department of Land Resources Conservation, under the Ministry of Agriculture and Food Security, was anticipated to be the executing agency of the GEF funded component, with a reporting to the Principal Secretary of the MoAFS. Other options emerged from the PPG consultations, including the continuity and sustainability approach to have the Department of Fisheries, formerly under the same Ministry, as Executing Agency of the GEF/LDCF funded component to be consistent with the baseline project and optimize costs and administrative procedures (procurement, etc). The DoF is indeed the executing agency of the baseline SFAD-WM (AfDB) project. Such an approach was backed by the fact that the DoF and the SFAD-WM coordination team have the necessary capacity to efficiently administer the GEF component.

National consultations conducted to the following consensus.

The **Department of Fisheries** formerly under the Ministry of Agriculture, and Food Security (MoAFS) and recently moved to the Ministry of Forestry and Natural Resources (MoFNR), is confirmed as the Executing Agency of the GEF funded component, to allow optimization and economies of scale for the project steering committee and the project implementation units.

Co-management arrangements will be set-up, based on Memorandum of Understanding, with the Department of Land Resources Conservation, the Department of Climate Change and Meteorological Services, the Department of Water Resources and the National Water Resources Authority, the Department of Disaster Management Affairs, and the Department of Forestry.

Project Steering Committee

The Project will be governed by a Project Steering Committee that will be chaired by the Principal Secretary (PS) of the MoFNR and co-chaired by the PS for Planning of the Ministry of Finance, Economic Planning and Development (MoFEPD). Other members will include representatives from: Ministry of

Energy and Mining; Ministry of Transport and Public Works; Ministry of Industry and Trade; Ministry of Ministry of Local Government and Rural Development; Ministry of Gender, Children, Disability and Social Welfare; as well as specialized agencies like the Public Private Partnership Commission, Malawi Investment and Trade Centre, and the Malawi Bureau of Standards.

Specific roles of the Review Committee include, but are not limited to, the following:

- ? Review and adopt the project implementation plan ;
- ? Review and adopt project evaluation reports;
- ? Review and adopt the periodic activity and financial reports;
- ? Review and adopt the annual program of activities, budget and procurement plan;
- ? Ensure the implementation of the recommendations of the Review Committee, oversight and monitoring missions, and audits; and
- ? Make recommendations to the project coordinator and the various actors involved in the project.

Project Implementation Unit (PIU)

A Project Implementation Unit (PIU) specifically dedicated to the GEF/LDCF component will be established. It will however be embedded within the SFAD-WM PIU and strongly rely on it for the operational and daily administrative tasks, monitoring and evaluation (M&E), and implementation of technical activities related to fisheries and aquaculture, and involving expertise available within the already established SFAD-WM PIU: Fisheries Resources Management Specialist, an Aquaculture Production specialist, a Community Development Officer (with specialty in rural economy, social inclusion, gender, and governance), a Nutrition Officer, an Agribusiness and Value Chain Specialist, a Finance Officer, a Procurement Officer, M&E officer, Infrastructure Engineer, and supporting Staff (Secretary and Drivers). The GEF/LDCF component will indeed supplement the SFAD-WM PIU with additional expertise required for its implementation.

This strategy allows optimization and simplification of the institutional set-up to facilitate project management (PIU, procurement) and ensures consistency of the SFAD-WM as a whole - integrating the GEF-funded activities (a unique steering committee help ensure all components and activities achieve the same results.

It will be housed in the DoF and within decentralized district offices (Local Project Coordination Unit).

The GEF/LDCF-PIU will comprise two permanent staff: a GEF/LDCF Project Coordinator, with a Water Quality / ecosystem management profile and an administrative assistant. They will be supported by additional short-term PIU experts, covering the following expertise:

- ? Watershed management and protection;

- ? Forestry / Agroforestry expert
- ? Agro-Economist in support to value chain/alternative livelihoods and conservation fund management
- ? Agriculture extension in soil conservation and crop/breeding;
- ? Hydrobiologist with experience water quality management and ecological conservation;
- ? Education program;
- ? Communication;
- ? GIS and Monitoring;
- ? Gender.

All these staff positions will be recruited on a competitive basis with provisions for annual performance review.

The GEF/LDCF-PIU will manage the project on a day to day basis and ensure that project resources are properly accounted for and that all project targets are timely delivered. The PMU will be responsible, among others, for:

- ? Coordination and monitoring of the implementation of project activities;
- ? Ensuring proper M&E of project progress and ensuring timely delivery of inputs and outputs;
- ? Providing technical support and assessing the products generated by the project;
- ? Ensuring a high level of coordination and collaboration among participating institutions and organizations at the national and local levels;
- ? Consolidating and submitting technical and financial reports to AfDB and ensuring fluid communication between the executing and implementing agencies;
- ? Supporting the organization of the mid-term and final evaluations;
- ? Ensuring proper financial management and reporting of the project resources;
- ? Ensuring compliance with GEF and AfDB project management procedures and standards;
- ? Preparing bid documents;
- ? Administering and assuring compliance of contracts, including timely reporting;
- ? Procuring any necessary equipment and supplies;

- ? Providing reimbursements for expenses (e.g., daily allowance for participation to meetings, transport costs, etc.); and
- ? Other duties as defined.

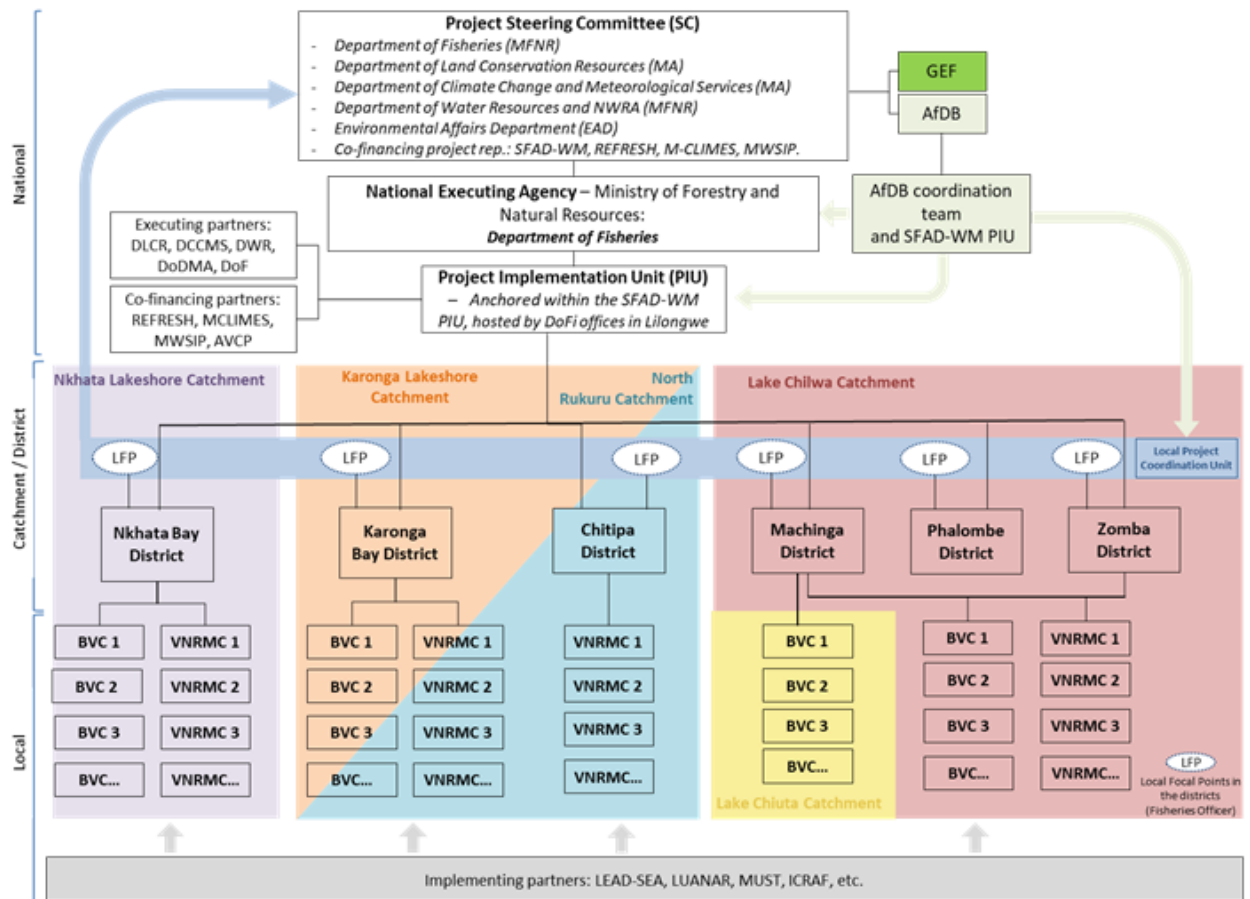
The GEF/LDCF-PIU will directly report to the Principal Secretary (PS), Ministry of Agriculture Irrigation and Water Development (MoAIWD) through the Director of Fisheries.

Implementation partners

Relying on the SFAD-WM District Task Team, at district level, there is a Local Project Coordination Unit consisting of key stakeholders in the district including district officers, traditional authorities and the BVCs. For operations at district level, the project will utilize available staff from the ADD and district councils based on the decentralized framework and utilizing the BVCs, VNRMCs, District Fisheries Officers, Hydrological Services Officers, and Program Managers. There will be a stakeholder consultative platform with representatives from the Fisher Associations, youth and women in agribusiness, retailers, CSOs, and others that will be involve in program planning and monitoring. All reporting will be done through the Project coordinator (on behalf of the PIU) and in collaboration with the DFOs, regional Chief Fisheries Officers (CFOs), community based institutions, including Village Natural Resources Management Committees (VNRMCs), and Beach Village Committees (BVCs), in tandem with the District Councils.

Technical organization and CSOs will be engaged and contracted to lead the implementation of specific activities. Extensive details will be provided in the Stakeholder Engagement Plan (section 6.2).

The overview of the institutional set-up of the project is shown in the figure below.



Planned coordination with other relevant GEF financed projects.

In terms of coordination with other GEF-financed projects, there is a natural complementarity with the *Enhancing the Resilience of Agro-Ecological Systems Project* (ERASP), which started in 2017 and will be completed in 2023. This project is also looking at catchment level planning and restoration, though with a stronger focus on the productivity and resilience of agricultural systems of vulnerable rural poor rather than fisheries. Nevertheless, this project is also looking at supporting communities in the development of micro-catchment planning and the implementation of land restoration activities, such as agroforestry, CSA, water and soil conservation, etc. Furthermore, their target districts overlap with the ones of the proposed project, meaning that knowledge exchange and cooperation on the ground will be particularly relevant and facilitated. It will also provide a means to ensure that such approaches are clearly visible on a district level, all while maintaining close partnership and support for the selected communities of either project.

Another GEF initiative identified is the *Strengthening trans-boundary cooperation and integrated natural resource management in the Songwe River basin*. This transboundary project focuses on the Songwe river basin in the districts of Chitipa and Karonga, which are also target districts for the proposed project. The main objective of this project, running between 2018 and 2023, is to enhance basin protection, livelihoods, and integrated water resources management in the Songwe River Basin through improved transboundary cooperation and sustained ecosystem services. As such, there is a strong element of catchment management

planning, as well as land restoration. As with the ERASP project mentioned above, there is a natural complementarity in themes, locations and approaches that can be used to good advantage, particularly in terms of knowledge sharing and ensuring that there is a larger scale visibility of such efforts, all while ensuring that beneficiaries are receiving the support needed throughout project implementation.

It is worth noting that there is another project being submitted to the GEF for approval, which would allow to build on the efforts of this project, particularly in the Lake Chilwa basin. The proposed *Transformational Adaptation for Climate Resilience in Lake Chilwa Basin* would continue supporting catchment restoration, particularly in micro-catchments not yet targeted, as well as strengthen role and presence of the private sector in fisheries value chains.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project is fully aligned with national priorities, plans and policies relating to the main themes of the project, notably climate change, fisheries, and sustainable land-use (see table below).

National Priorities	Project Consistency
Malawi Vision 2063	<p>Launched in January 2021, Malawi Vision 2063 comes as a follow-up to the 2020 Vision. The document outlines three pillars, notably Agricultural Productivity and Commercialization. Under this pillar, one of the focuses is sustainable land management which includes the widespread adoption of soil and water conservation measures, agroforestry, climate smart agriculture.</p> <p>Similarly, the vision outlines key 'enablers' – these include effective governance systems and institutions (including citizen participation), human capital development, and environmental sustainability. All three of these enablers are key elements of the proposed project in Components 1, 2 and 3.</p>

National Priorities	Project Consistency
<p>Malawi Growth Development Strategy 2017-2022 (MDGS III)</p>	<p>This is the third five-year iteration of the Malawi Growth Development Strategy. Its overall theme is 'Building a productive, competitive and resilient nation'; it is centered around five Key Priority Areas, which were chosen due to their reflection of Malawi's commitments to international development goals, such as the Sustainable Development Goals (SDG) and the African Union 2063 Strategy. The five KPA are: Agriculture, Water Development and Climate Change Management; Education and Skills Development; Transport and ICT infrastructure; Energy, Industry and Tourism Development; Health and Population.</p> <p>The current project falls squarely under the first KPA 'Agriculture, Water Development and Climate Change Management'. The overall goal of this KPA is to achieve sustainable agricultural transformation and water development that is adaptive to climate change and enhances ecosystem services. Furthermore, it promotes systemic, cross-sectoral approaches to help mitigate climate change impacts 'such as the approach championed by this proposed project. The approaches proposed under this KPA are mirrored by this project 'notable promoting community empowerment to develop and manage catchment areas; promoting sustainable fisheries management; improving spatial and climate monitoring and prediction systems; improving adoption of climate change adaptation and mitigation measures; and, crucially, enhancing cross-sectoral coordination of climate change programmes.</p> <p>Other aspects of the MDGSIII are further reflected in the proposed project such as improving access and equity in skills development training and promoting sustainable fuel wood management.</p>
<p>National Adaptation Plan for Action (2015 revision)</p>	<p>The first NAPA was adopted in 2006; the second edition of the NAPA was proposed due to changes in the economic, political and legal landscape, as well as building on lessons learned from the first series of projects borne from the 2006 NAPA. In 2015, six projects were prioritized, focusing on the identified vulnerable sectors^[1]:</p> <ul style="list-style-type: none"> ? Improving existing early warning systems to enhance disaster preparedness and response; ? Development of climate smart agriculture programmes to increase resilience; ? Improving integrated water resource management to sustain agricultural production; ? Restoring forests in all degraded areas across the country to increase forest cover and to reduce energy related problems; ? Improving rural electrification to increase energy access in rural areas; and ? Integrating climate change into fisheries management to ensure sustainability of the fisheries sector. <p>The proposed project falls squarely in line with the sixth proposed project, as well as directly or indirectly in the other four, especially early warning systems (component 3), climate smart agriculture programmes, integrated water resource management, and forest restoration through various activities.</p>

National Priorities	Project Consistency
National Climate Change Management Policy (2016)	<p>The government approved its first National Climate Change Management Policy in 2016. The overall goal is to promote climate change adaptation, mitigation, technology transfer and capacity building for sustainable livelihoods through Green Economy measures for Malawi. It is viewed as a policy and legal framework to help steer the country towards a pragmatic, coordinated and harmonized approach for climate change management for all stakeholders.</p> <p>It is organized around six priority areas:</p> <ul style="list-style-type: none"> ? Climate change adaptation ? reducing vulnerability, promoting inclusive community and ecosystem resilience from planning through to implementation ? Climate change mitigation ? Capacity building, education, training and awareness ? in all sectors and at all levels ensure the pervasiveness of green economy principles ? Research, technology development and transfer, and systematic observation ? Climate change financing ? Cross-cutting issues (e.g. gender, population growth and HIV/AIDS). <p>With its focus on climate change resilience, this project fully embraces the NCCMP ? notably through ensuring the participation of stakeholder at all levels (incl. women and vulnerable groups), piloting new technologies and approaches (e.g. CECF, transformation of invasive weeds study, etc) and enhancing freshwater ecosystem resilience.</p>
Intentional Nationally Determined Contributions (INDCs) (2015)	<p>As part of the UNFCCC, Malawi submitted its Intended Nationally Determined Contributions in 2015. These were set out on a 25 year timeframe (2015-2040). Out of the 43 actions listed, 23 are tied to agriculture, water resources, forestry and fisheries. These include actions, listed below, which are directly in line with the proposed project and activities:</p> <ul style="list-style-type: none"> ? Build adaptation capacity in climate resilient agronomic practices for smallholder farmers ? Implement conservation agriculture and agroforestry practices ? Promote improved land use practices ? Implement integrated catchment conservation and management programme ? Develop and enhance climate information and early warning systems ? Expand afforestation and forest regeneration programmes ? Adopt ecosystem services approach in the management of fisheries resources ? Promote aquaculture and cage culture fish farming practices.
National Resilience Strategy 2018-2030	<p>The National Resilience Strategy was developed recognizing that while weather related events (e.g. floods, droughts) are inevitable in the region and increasing in frequency, building resistance on a multi-dimensional level will lessen their catastrophic impacts. The strategy is built around four pillars: resilient agricultural growth; Risk Reduction, Flood Control, and Early Warning and Response Systems; Human Capacity, Livelihoods, and Social Protection; Catchment Protection and Management.</p> <p>The project is fully aligned with the strategy with a focus on building resilience for fishermen, which includes early warning systems, catchment protection and management as well as promotion of resilient alternative livelihood strategies.</p>

National Priorities	Project Consistency
National Environmental Policy (2004)	<p>The 2004 National Environmental Policy is a cross-sectoral policy designed to help manage and integrate environmental issues.</p> <p>Some of the transversal priorities include the inclusion of communities in environmental planning, "empowering them to protect, conserve and sustainably manage and utilize the nation's natural resources?; to integrate gender, youth and children concerns in environmental planning decisions at all levels to ensure sustainable social and economic development; minimize the adverse impact of climate change and variability; and Improve capacity for local level management of natural resources for sustainable livelihoods.</p> <p>Some of the sectors that the policy targets include fisheries and water. The overall objective for fisheries is to manage fish resources for sustainable utilization and conservation of aquatic biodiversity. This includes to promote an ecosystem approach to fisheries management, sustainable development and management of aquaculture, and inclusive and participatory management of fisheries. The main objective for the water sector is to manage and use water resources efficiently and effectively so as to promote its conservation and availability in sufficient quantity and acceptable quality. This includes promoting ecosystem management of water resources, ensuring that all stakeholders and water uses are accounted for, and prioritizing catchment protection measures during irrigation development. Other sectors that are highlighted are energy (environmentally friendly and efficient alternatives to fuel wood), forestry (community managed, ecosystems approach, sustainable use), agriculture (prioritize watershed protection), and mining.</p> <p>The proposed project is equally guided by the priorities and strategies outlined above.</p>

National Priorities	Project Consistency
<p>National Biodiversity Strategy and Action Plan II 2015-2025 (2016)</p>	<p>The 10-year strategy seeks to enhance the management of biodiversity for economic growth and well-being of present and future generations. Five strategic goals are identified: improved capacity and knowledge of biodiversity issues; increased mainstreaming of biodiversity management into sectoral and local development planning; reduced direct pressures on biodiversity; improved status of biodiversity by safeguarding ecosystems, species and genetic diversity; and enhanced access and benefit sharing from biodiversity and ecosystem services.</p> <p>The threats and barriers identified in the strategy echo those identified in the proposed project, notably: inadequate capacity; lack of co-ordination between and within institutions; inadequate public awareness; and inadequate community participation.</p> <p>Sixteen targets are set for 2025, with many benefiting from activities and interventions proposed under this project. The project pertains directly to Target 7 and Target 11:</p> <ul style="list-style-type: none"> ? Target 11: By 2025, aquatic biodiversity is managed and harvested sustainably within safe ecological limits ? develop integrated watershed management guidelines and programmes; identify, rehabilitate and protect fish spawning and nursing areas. ? Target 11: By 2025, anthropogenic pressures on vulnerable ecosystems are minimized, thereby improving ecosystems resilience to climate change. <p>The project will also help achieve, to various degrees, the following targets:</p> <ul style="list-style-type: none"> ? Target 2: By 2025, traditional knowledge, innovations and practices of local communities are respected and harnessed in line with national and international legislation; ? Target 3: By 2025, at least 50% of the Malawi population is aware of the value of biodiversity to ensure its conservation and sustainable use (awareness raising and capacity building) ? Target 6: By 2025, at least 50% of the degraded terrestrial habitats are restored and protected (catchment management, soil and water conservation, re/afforestation) ? Target 8: By 2025, area under forest cover is increased by 4% and managed sustainably, ensuring conservation of biodiversity (re/afforestation, agroforestry, community management) ? Target 9: By 2025, invasive alien species and their pathways are identified and prioritized for control and prevention from movement and spreading in and out of the country (invasive aquatic species control) ? Target 15: By 2025, the supply of important ecosystem services is safeguarded and restored, taking into account gender roles and responsibilities of the youth, the poor and the vulnerable (local inclusive management).

National Priorities	Project Consistency
National Fisheries and Aquaculture Policy (2016)	<p>The 2016 National Fisheries and Aquaculture Policy was adopted in 2016, the first update since 2001. Its main changes were a shift of focus onto sustainable and income-generating fisheries and emphasis on private-public partnerships.</p> <p>The Policy has seven priority areas, namely: Capture Fisheries; Aquaculture; Capacity Development; Fish Quality and Value Addition; Governance; Social Development and Decent Employment; Research and Development; Capacity Development.</p> <p>With the project focusing on the protection and resilience of fisheries, it clearly feeds into the delivery of this policy ? especially in the aspects of climate change, collaboration with other natural resource and ecosystem management:</p> <ul style="list-style-type: none"> ? Best practices in the management of shared ecosystems is promoted (Priority 4); ? Collaboration with other natural resource sectors in the conservation and management of fisheries resource is strengthened (Priority 4); ? collaboration with other natural resource related sectors and non-state actors in sustainable utilisation of fisheries resources is strengthened (Priority 7); ? adaptation measures of the impact of climate change to resource and livelihood of the resource users are identified and implemented (Priority 6). <p>It should be noted that the policy is due to be updated during the proposed project implementation period (2021).</p>
National Forest Strategy (2016)	<p>This policy was the first update since 1999; it is currently due to be updated again (2021). The overall goal is, ?is to improve provision of forest goods and services to contribute towards sustainable development of Malawi through protection and conservation of forest resources?, focusing on the control of deforestation and forest degradation. The policy has nine objectives and ten priority areas, namely: Community Based Forest Management; Indigenous Forests, Forest Reserves, and Ecosystem Management; Forest Plantations and Estates Management; Forestry Regulation and Quality Control; Forestry Knowledge Acquisition and Management; Capacity Development for Forestry Sector; Biomass Energy Development; Development of Forest Based Industries; Regional and International Cooperation; and Financing Mechanisms. Sustainable Forest Management.</p> <p>With deforestation identified as one of the main threats identified here, aspects of the project should be in line with the National Forest Policy. The two key areas which are reflected in the proposed project are priorities one and two, which focus on improved governance (including community participation) and eco-system driven management of forests which will allow for larger gains such as water catchment protection and control of land degradation.</p>

National Priorities	Project Consistency
National Forest Landscape Restoration Strategy (2017)	<p>The National Forest Landscape Restoration Strategy focuses on how to restore the 8 million hectares of degraded land in Malawi, keeping in mind the national development and growth goals. It focuses on five intervention types: agricultural technologies; community forests and woodlots; forest management; soil and water conservation; and river- and stream-bank restoration. All of these, in particular the latter three, are part of the proposed project strategy with positive impacts on catchment protection and increased climate resilience.</p> <p>This strategy provides a number of important pathways to the restoration of soils and degraded land due to poor agricultural and land management practices. Importantly, it also provides an analysis of priority areas and priority issues to address, as well as best actions and solutions. The strategy recognizes the importance of a sustained effort to scale up the strategy due to the ubiquity of degraded land in Malawi. As such, the proposed project falls well within this scope.</p> <p>The targets in the strategy were set for 2020; as seen above though, it is clearly an ongoing effort. With the Department of Forestry listed as a stakeholder in the project, it will be possible to build upon this strategy and its lessons, ensuring that the best and most geographically appropriate practices for landscape restoration, and crucially, catchment protection are in place.</p>
National Charcoal Strategy (2017)	<p>The overall vision promotes the idea of 'a more climate-resilient Malawi [?] where deforestation has been reversed?'. Its goal is to provide a framework to address the increased deforestation and growing demand for cooking and heating fuel. This framework promotes a holistic approach, based around seven pillars.</p> <p>The proposed project recognizes the role played by energy poverty and over-reliance on wood-based fuels on deforestation and the deterioration of watersheds. As such, a certain number of its activities (e.g. development of woodlots) specifically target these issues, and are in line with 3 of the NCS pillars:</p> <ul style="list-style-type: none"> ? Pillar 3: Promote Sustainable Wood Production ? Pillar 6: Enhance Livelihoods ? Pillar 7: Promote information, awareness and behavior-change communications.

National Priorities	Project Consistency
National Agricultural Policy (2016)	<p>The National Agricultural Policy (2016) was established for the 2015-2020 period, with a specific objective to achieve transformation of the agricultural sector ? increasing production, productivity and real farm incomes.</p> <p>Within this, there is an underlying theme of sustainability, which is found throughout the policy?s eight priorities. Under Priority 1, Sustainable Agricultural Production and Productivity, the policy ?promotes investments in climate-smart agriculture and sustainable land and water management?, as well as ?provides incentives to farmers to diversify their crop, livestock, and fisheries production and utilisation?.</p> <p>Alongside farming, the policy also highlights aquaculture, with one of its objectives to ?increase sustainably the production and consumption of livestock, aquaculture and capture fisheries by 50 percent?. Furthermore, the policy, under priority 7, promotes the ?empowerment of youth, women and the vulnerable in agriculture?; this includes promoting access to, ownership and control of productive resources (including water), and promoting education and technical training. While the proposed project does not focus on farming per se, its activities which include promoting aquaculture, sustainable agriculture, and inclusive natural resources governance, fall in line with the NAP.</p> <p>As noted above, the NAP is in need for updating.</p>
National Agricultural Investment Plan 2017/18-2022/23 (2018)	<p>The NAIP was developed in 2017 in order to help operationalize the National Agriculture policy. As such, it adopts the same goal as the NAP (see above). The policy is designed around four programmes, and 16 intervention areas which can fall under one or more programmes. These tightly mirror the priorities and objectives of the NAP.</p> <p>The proposed project is in line with three of the intervention areas:</p> <ul style="list-style-type: none"> ? Intervention Area 7: Disaster Risk Management Systems ? piloting and rolling out innovative early warning systems; ? IA9: Agricultural Innovation Systems ? providing relevant extension advice for diversified livelihoods ? IA11: Sustainable Natural Resource Management and Climate Resilience ? the large majority of the activities under the proposed project are in line with this intervention area, including catchment management, agroforestry, soil and water conservation practices, capacity building of VNRMC and BVCs, etc.

[1] Vulnerable sectors: agriculture, human health, energy, fisheries, wildlife, water sector, forestry, gender, infrastructure development

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

Communication and knowledge management is an essential element of the project; it is specifically targeted within Component 4, "Project-specific improved knowledge management and M&E" as well as through specific activities in Components 1-3.

Under Outcome 4.1, there is a specific focus on how the project will internally be managed, including in terms of monitoring and evaluation its progress and impacts, as well as how the lessons learned will be systematically documented and shared. This will include, under output 4.1.2, ensuring that there is close coordination with other key programs in order to ensure that the projects remain complementary. Under Output 4.1.1, there is a focus on first ensuring that the proposed PIU, which is already in place, is well equipped to implement the project; this includes not only strengthening the PIU with additional expertise, but also by holding an inception workshop which will review and refine the project's results framework, including its approach to communication and knowledge management, and to examine whether any of the project's assumptions and underlying conditions may have significantly changed due to COVID-related issues, changes in the national or regional context, and/or any other contextual considerations. It will also offer the opportunity to better hone the project's communication plans with all the various stakeholders, based on the tools available (Table 6). Importantly, and as showing throughout the project strategy, multi-faceted communication actions and materials will be designed according to target audiences and will integrate traditional, incremental and scientific knowledge.

Outcome 4.2 focuses more on the communication and knowledge management of project results in order to promote replication and scaling up of best practices. This includes providing timely and regular documentation of best practices and lessons learned, but also regular workshops at the local and district level to allow for more organic and direct interactions and communication between stakeholders at different geographical areas. This concept is furthered through Output 4.2.2, which allows for stakeholders to interact at a national level through an annual workshop, exchange visits and a lesson learning tour in Malawi and a neighbouring country.

Outside of Component 4, there is also a focus on how to disseminate knowledge, to reach not just direct beneficiaries but also indirect ones (e.g. wider community, populations outside the target basins), and ensure that a large number of stakeholders be reached. This involves direct capacity building of key stakeholders (e.g. BVC, VNRMC, District officers), but also a focus on training of trainers (allowing for information to continue being passed on), larger scale awareness campaigns through community radio/newspapers, a pilot educational program to target the youngest schoolchildren, as well as a focus on indigenous languages. Importantly, it is also key to note that this project is fully anchored in a participative and adaptive approach, which should allow for various groups of stakeholders to take ownership of their own knowledge management and M&E, particularly in terms of catchment management.

Table 6: Project communication targets and examples of communication tools

Scale	Target	Examples of communication tools
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Scale	Target	Examples of communication tools
National	<ul style="list-style-type: none"> - Centralized government staff/agencies - Other decision and policy-makers - Civil society, including notably national leaders, influencers, organizations active at the national scale - National & international ngos - Other national level projects - Technical & research institutions/initiatives (e.g. FRIM, NAC, MUST) - Private sector actors active at the national scale 	<ul style="list-style-type: none"> - Project publications, leaflets, case studies, technical briefs, best practice documents - Videos, including participatory video or other media content (e.g., radio shows) - Dissemination of project datasets and/or communication materials on national monitoring and management platforms - Social networks - Awareness raising events
District	<ul style="list-style-type: none"> - Decentralized government staff/agencies - District decision and policy-makers (DEC, District council) - Civil society, including notably leaders, influencers and organizations - Professional/smallholder associations - National & international NGOS - Baseline projects in the district - Private sector actors 	<ul style="list-style-type: none"> - National and regional workshops - Inter-district visits - Publications, leaflets, case studies, technical briefs, best practice documents - Local consultations, meetings, workshops - Project posters and signs - Social networks - Awareness raising events
Local	<ul style="list-style-type: none"> - Decentralized government staff/agencies - Local administrative authorities (ADC, VDC) - Village Chiefs - Village level institutions (BVC, VNRMC) - Community members, including vulnerable groups - Local CSO/smallholder associations - Local projects and programs - Local private sector actors 	<ul style="list-style-type: none"> - Publications, leaflets, pamphlets briefs, best practice documents - Local radio shows or newspapers (or other media outlets, including social media) - Local consultations, meetings, workshops - Trainings and learning visits - Project posters and signs

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Monitoring and evaluation (M&E) of the proposed project will be carried out in accordance with the procedures/guidelines established by the AfDB and the GEF. The SFAD-WM Monitoring and Coordination Unit will be responsible for monitoring and evaluating the project throughout the implementation period and ensuring compliance with the Ministry's GEF obligations. The standard M&E

reports and procedures required for all AfDB/GEF projects will apply to the proposed project's M&E plan, including the elements presented in the table below.

M&E activity	Description	Frequency	Responsible persons	Budget (GEF funded)
Inception workshop and inception report	The inception workshop brings together the stakeholders involved in the project and the inception report. It provides an opportunity and means to finalize preparations for the implementation of the proposed project, including the formulation of the first annual work plan, details of stakeholder roles and responsibilities, and reporting and monitoring requirements. Given the consultation process at PPG, only minor adjustments are planned.	Within the first two months of project inception	Project Coordinator (PIU) Monitoring and Evaluation Expert (PIU) AfDB Project Coordinator	US\$ 10,000
Baseline Study	The project's logical framework - in particular the reference level of SMART indicators - will be refined if necessary.	At the start of the project	Project Coordinator (PIU) Monitoring and Evaluation Expert (PIU) AfDB Project Coordinator	No specific budget (part of Project Coord. tasks)
Logical results framework	The project's logical results framework includes SMART indicators for each expected result as well as medium- and end-of-project targets. These indicators will be the main tools for assessing the progress of project implementation and the achievement of project results. Means of verifying the progress of the results and the implementation of the project will be carried out throughout the implementation period.	Data collected on an ongoing basis to provide the required quantitative and qualitative data on progress against each indicator before project evaluation reports and the definition of annual work plans.	Project Coordinator (PIU) Monitoring and Evaluation Expert (PIU)	No specific budget (part of Project Coord. tasks)

M&E activity	Description	Frequency	Responsible persons	Budget (GEF funded)
Quarterly progress reports	The PIU will prepare a summary of the substantial and technical progress of the project towards achieving its objectives. The summaries will be reviewed and approved by the AfDB before being sent to the AfDB Project Coordinator.	Quarterly	Project Coordinator (PIU) Monitoring and Evaluation Expert (PIU) AfDB Project Coordinator	No specific budget (part of Project Coord. tasks)
Annual Project Report	The annual project report covers the evaluation of the advance on the project's outputs and outcomes, key achievements, evidence of success, constraints, lessons learned and recommendations, as well as the overall evaluation of the project. The annual progress report will be prepared by the Project Coordinator after consultation with relevant stakeholders and will be submitted to the AfDB	Annual	Project Coordinator (PIU) AfDB Project Coordinator	No specific budget (part of Project Coord. tasks)
Evaluation by the Steering Committee	The members of the Steering Committee will meet twice a year to assess the progress of the project and take decisions on recommendations to improve the design and implementation of the project in order to achieve the expected results.	2 times / year	Steering Committee Project Coordinator (PIU) AfDB Project Coordinator	US\$ 10,000 (US\$ 1,500 per Committee meeting)
Independent external mid-term evaluation	A mid-term evaluation of the project will be carried out at the beginning of the third year of implementation, focusing on relevance, results (effectiveness, efficiency and timeliness), issues requiring decisions and actions and early lessons learned in project design, implementation and management	Half-way through project implementation.	AfDB Project Coordinator	US\$ 40,000

M&E activity	Description	Frequency	Responsible persons	Budget (GEF funded)
Independent external evaluation at the end of the project	A final evaluation, which takes place three months before the last TPR meeting, focuses on the same issues as the mid-term evaluation but also covers impact, sustainability and monitoring recommendations, including the contribution to capacity building and the achievement of global environmental objectives.	At least three months before the end of the project implementation.	AfDB Evaluation Office	US\$ 48,500
Final evaluation report	A final evaluation report will be produced after the project feedback meeting.	At the end of the final evaluation	Project Coordinator (PIU) Monitoring and Evaluation Expert (PIU) AfDB Project Coordinator	None
Financial monitoring report	The PIU will be required to produce financial monitoring reports (FMR) on a quarterly basis. These FRL will be prepared and submitted to the Bank no later than 45 days after the end of each quarter.	Quarterly	PIU/SFAD-WM	None
Budget review	Revisions to the project budget will reflect the final expenditures of the previous year, in order to allow for the preparation of a realistic plan for the provision of inputs for the current year. Significant revisions are expected to be approved by the AfDB/GEF Coordinator to ensure consistency with the GEF principle of the additional eligibility criteria and the GEF before being approved.	At least annually and as required during the life of the project	Project Coordinator (PIU) Administrative, accounting and financial manager Monitoring and Evaluation Expert (PIU) AfDB Project Coordinator	No specific budget (part of Project Coord. tasks)

M&E activity	Description	Frequency	Responsible persons	Budget (GEF funded)
Financial audit	A financial audit will be carried out each year. The PIU will develop and implement a strategy to address the audit recommendations after each audit.	Annual	PIU/SFAD-WM	US\$ 20,000 (US\$ 5,000 per year).
TOTAL indicative costs		US\$ 130,000		

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The LDCF project will strengthen the governance of fisheries, sustainable production patterns, nature conservation and watershed management as well as natural risk management across lakes shores and upstream river basin areas that cover 40 communities and 6 districts, three lakes including Lake Malawi. These areas are multi-use systems that are essential to the food security and livelihoods of the approximately people who live within them. The aquatic and land ecosystems are also vital to residents, and people beyond, who rely on them for food production (fisheries, aquaculture, agriculture), water management, energy and many other services. Over numerous decades, the environmental and socio-economic conditions within the project area have been heavily impacted by land degradation due to human interventions and climate change and variability. Today, these areas are facing numerous environmental problems that affect socio-economic conditions. The changes that have happened and their negative environmental impacts have significantly affected production systems (e.g., and resulted in increased conflicts over land and natural resources).

Establishing effective governance and management systems for restoration and sustainable development at watershed level and lake shore levels will provide an improved means for stakeholders to dialogue and develop solutions to priority environmental problems and to improve productivity of the lakes. The project will build off traditional knowledge and scientific evidence to develop climate-proof restoration, management and natural resource use strategies, ecosystem based management of fisheries, agroforestry production but also infrastructure on water storage or fish post harvest quality improvement, or better ponds for aquaculture that are sustainable and can be adapted to respond to changing conditions. The application of these strategies will contribute to maintaining or improving the values and functions of the lakes and water body but also landscape ecosystems, improving their resilience, their ability to supply critical services and their ability to support multiple production systems. In turn this will build the adaptive capacity and resilience of local communities, district officers and the broader stakeholder community in the face of growing anthropogenic pressures and climate variability.

The information and alert system on drought and floods put in place for fisheries/aquaculture sectors and lake shore populations will contribute to reduce the impact of climate change and extreme events on these sensitive populations. On a larger scale, the integration of climate change risk management principles in the updated watershed management plans as well as the establishment of weather and water monitoring systems will help stimulate and provide data for the development of new priorities and plans regarding climate change adaptation.

In addition, the project will improve the capacity and resilience of local communities by strengthening the viability and sustainability of key agro-forestry value chains or fisheries and aquaculture production channels upon which the vast majority of people within the project area rely for their food security and

livelihoods. Various activities support as well social conditions of local communities by developing Water infrastructure at fisheries landing sites, improving for the fish production channel, the post harvest quality of the products leading to better prices for fishermen, but also providing access to water for the community. Support for educational program or reuse and avoidance of plastics but also the training strategy on agroforestry, watershed planning, spawning ground and afforestation management requires collective organization and community involvement that will contribute to improve local governance and better quality of life for the communities.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

The project has been assigned Category 2, in line with AfDB environmental and social assessment procedures. Accordingly, there is a need for a document that will guide the planning, design and construction elements of sub-projects is therefore deemed relevant for the proposed project. In this context, an Environment and Social Management Framework (ESMF) has been prepared building on the baseline project for the Sustainable Capture Fisheries, Aquaculture Development and Watershed Management Project (SFADWMP). The full ESMF is presented in the attachment as Appendix 11.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Annex F_10411_climate_change_adaptation_results_framework_gef7_REVISSED	CEO Endorsement ESS	

Title	Module	Submitted
Appendix13_Minutes_Validation_Workshop_SIGNED	CEO Endorsement ESS	
Annex E_Project Map and Coordinates_Malawi	CEO Endorsement ESS	
Annex G_Taxonomy Sheet_Malawi	CEO Endorsement ESS	
Appendix4-5-7_GEF10411_WkPlan-DetailedBudget-ProcPlan_GEF_AfDB	CEO Endorsement ESS	
Appendix11_SFADWMP ESMF_MALAWI_FISHERIES PROJECT IN MALAWI	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

**RESULTS FRAMEWORK: Malawi-climate resilient and sustainable capture fisheries,
Aquaculture Development and Watershed Management Project**

Expected Results	Indicator number	Indicator	Base	Target	Source of Verification	Assumptions/risks
COMPONENT 1. Strengthening the capacity of Village level natural resource committees for climate resilient, watershed planning and management for lake protection						
Outcome 1.1 Strengthened capability of Village level natural resource committees for climate resilient watershed planning and management and reduced climate vulnerability of riverine communities						
1.1.1. At least 40 Village level natural resource committees are trained in climate resilient lake protection and watershed planning and management	1.1.1.1	Train the trainer program on climate risk reduction	0	1	Annual project monitoring reports & training log	<u>Assumptions:</u> Stakeholder mapping is comprehensive and stakeholders are motivated to engage <u>Risks:</u> Optimal scenarios are not identified
	1.1.1.2	Number of Training sessions on woodlots management (disaggregated by gender 40:60)	0	6		
	1.1.1.3	Number of populations directly or indirectly concerned at 40 community level based structure (disaggregated by gender 40:60)	0	2 000 (50*40)		
1.1.2. Climate vulnerability assessment and identification of actions for	1.1.2.1	Number of maps of Micro catchments areas	0	40	Annual project monitoring reports & training log	<u>Assumptions:</u> Stakeholders are motivated to engage and are proactive

Expected Results	Indicator number	Indicator	Base	Target	Source of Verification	Assumptions/risks
climate-sensitive catchment management are community-driven	1.1.2.2	number of diagnosis reports on micro catchments	0	40		<u>Risks:</u> Lack of competencies and two large scope of study on vulnerability assessment
1.1.3. 40 Village level natural resource committees are strengthened and their gender sensitive and climate smart community based micro-catchment managements plans / Village level Actions Plans are prepared	1.1.3.1	Legal registration of sub-catchment management committees	0	40	Micro-catchments management plans Annual project monitoring reports & training log	<u>Assumptions:</u> Stakeholders engagement is related to understanding that implementing support of component 3 is developed in parallel to the planning to address their priorities <u>Risks:</u> Optimal scenarios are not identified
	1.1.3.2	Number of micro catchment management plans	0	40		
1.1.4. Community Environment Conservation Fund extended and established in project area to support the implementation of micro-catchment plans / Village Level Actions Plans.	1.1.4.1	Number of training workshops on CECF principles	0	40	Annual project monitoring reports Conservation Fund rules and reports	<u>Assumptions:</u> Conservation fund mechanism scheme is well adapted to the capacity of the project based on lessons learnt from former projects <u>Risks:</u> misunderstanding of the purpose of these community warding system and lack of involvement
	1.1.4.2	Composition of the local administrative structure and bylaws for implementation of the VALP and CECF	0	40		
	1.1.4.3	Number of awarding star-up grants	0	40		

Expected Results	Indicator number	Indicator	Base	Target	Source of Verification	Assumptions/risks
	1.1.4.4	consumption and annual reports on distribution of variable grant	0	2		
Outcome 1.2 Improved community awareness raising and communication about watershed management and lake protection at local level						
1.2.1 Local language communication tools produced	1.2.1.1	number of Guidelines produced and translated	0	3	M & E Plan Knowledge and communication products	<u>Assumptions:</u> translation is adapted to the needs for program population <u>Risks:</u> N/A
	1.2.1.2	Number of knowledge and communication products (publications, leaflets, case studies, technical briefs, best practice documents, videos or other media content, etc.) developed and disseminated	0	8 (at least 2 of which are specifically focused on women)		
1.2.2. Project-impact infographics shared bi-annually	1.2.2.1	Number of posters to mobilize communities	0	40		
1.2.3 Pamphlet on indigenous knowledge prepared and distributed	1.2.3.1	Number of pamphlets on indigenous knowledge (and translations in local languages)	0	1 (6)		

Expected Results	Indicator number	Indicator	Base	Target	Source of Verification	Assumptions/risks
1.2.4 Pilot educational programs for school clubs developed and implemented	1.2.4.1	Number of educational set materials on watershed management, climate change risk and lake protection (translation in local languages)	0	1 (6)	Educational program Annual project monitoring reports	<u>Assumptions:</u> facilitation from ministry of education is obtainable and if not local teachers re ready to develop training programs with the project <u>Risks:</u> lack of mobilisation of some teachers background experts in education tools design
	1.2.4.2	Number of training sessions for teachers (minimum number of teachers targeted)	0	6-8 (40-60)		

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Questions	GEF Secretariat Comment	GEF Agency Response
GEF secretariat Comments		

<p>Is the project/program aligned with the relevant GEF focal area elements in Table A, as defined by the GEF 7 Programming Directions?</p>	<p>11/18/19</p> <p>?The alignment with LDCF CCA 2 on adaptation mainstreaming for systemic impact is not very apparent from the project components. The focus is primarily on interventions in the target watershed by developing plans and investing in specific solutions. There isn't much focus on strengthening relevant national policies and institutions to mainstream climate change in development priorities of Malawi for large scale systemic climate resilience impact. Overall, the adaptation rationale for the project intervention needs to be strengthened in terms of how climate change is making the livelihoods dependent on fisheries more vulnerable and what specific adaptation solutions can improve resilience of communities at scale.</p>	<p><i>Mainstreaming climate change:</i> The district authorities will be roped in to provide inputs into alternative livelihood initiatives. Supply centres will be established at district level. These will include seed nurseries, beehive containers, etc. In addition, council staff will be trained and mandated to provide backstopping support to the communities. The council will be encouraged to mainstream climate change in its bye-laws and local policy frameworks. Those bye-laws relating to fisheries and catchment management will be specifically targeted for revision and alignment with national policies. To mainstream CC in their operations councils will be required to register all on-going and new initiatives and report on these to national government through established reporting channels. The council will also be required to develop local guidelines specific to fisheries and catchment management so as to be the reference centre for both communities and other sector players. The project will assist in developing the guidelines as well as simple checklists that sector players and council staff can use to ensure that mainstreaming is being considered in all initiatives. Particularly, council will ensure that all community-based organizations such as area development committees (ADCs) have climate change integrated into their programmes, projects and plans.</p> <p><u>Additional comment at PPG stage (May 2021):</u> National and district regular workshops (component 4) will allow to mainstream issues of climate change and watershed/fisheries sector management at all levels (local, district, national).</p>
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<p>3. Are the indicative expected amounts, sources and types of co-financing adequately documented and consistent with the requirements of the Co-Financing Policy and Guidelines, with a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized?</p>	<p>The co-financing projects is quite comprehensive and strategic. There are a number of activities which will be funded through this co- finance especially under sub-component 2 are also proposed to be supported through LDCF. Thus it indicates some duplication of efforts instead of complementing each other.</p> <p>Nov 4- Thanks for the response and addressing it in the PIF. No more comments.</p>	<p>The difference between sub-component 2 (and other activities) envisaged as part of the baseline project and the GEF financing is in scope. Whilst the baseline project focusses on areas immediately adjacent to the lakeshore and in and around fish landing sites, the proposed project looks at the bigger picture and focuses on the entire catchment integrating downstream (lakeshore areas) and upstream (head waters). In this sense the baseline project only targets the fisher communities on the lakeshores whilst the proposed project goes beyond this narrow base and includes the wider community. The proposed project is therefore already upscaling in an attempt to better address the climate induced challenges in the fisheries sector.</p> <p><u>Additional comment at PPG stage (May 2021):</u> Both projects complete each other perfectly both geographically and on activities as confirmed and presented in the PPG.</p>
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<p>Does the project/program consider potential major risks, including the consequences of climate change, that might prevent the project objectives from being achieved or may be resulting from project/program implementation, and propose measures that address these risks to be further developed during the project design?</p>	<p>What is the likelihood that the plans prepared by BVCs are not validated by government for future implementation? Will the project ensure that these plans are integrated within national government plans?</p> <p>Is there any internal governance risks in how BVCs make participatory decisions and will the project look into it?</p>	<p>Thank you for the comment. To ensure that the plans elaborated by the BVCs are developed, validated and operational, officials from government will be involved as much as possible in the process in order to take into account their input and to not undermine the power relationships/dynamic between local communities and the State. During the PPG phase, the project will further examine the possible of having the plans developed by BVCs are well integrated into national and/or sub-national plans as well.</p> <p>AfDB, 5 November 2019: The project will also rely on a co-management arrangement whereby local level representative institutions called Beach Village Committees (BVCs) (with local leaders as their advisors) and the Department of Fisheries (DoF) are considered key partners and jointly make decisions. These entities will sit on a project steering committee to ensure that the decision making process is participatory. The actual implementation arrangements will be defined during the project preparation phase to ensure that conflicts over authority between the traditional leaders and BVCs are minimized (or even avoided) during the execution of the project. In addition, the project will rely on lessons learnt from the Participatory Fisheries Management Programme (PFMP) for Lake Malombe (along with management arrangements for Lakes Chiuta and Chilwa) to further design, implement and rely on co-management arrangements as part of this project</p> <p><u>Additional comment at PPG stage (May 2021):</u> The PPG process allowed to confirm that not only BVCs will be mobilized but other village community institutions (VNRMCs,...) adapted to the location of the co-management developments (watershed or lakeshore). The co-management and territorial planning will be developed in line with District development plans and national frameworks and will be establish with the communities (leaders and representatives). Involvement of District officers from various offices (DoF, Water, Land planning, Agriculture, etc.) will be ensured (in line with the project objectives).</p>
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Knowledge management	<p>Project component 4 articulates the knowledge management plan and activities. However, the focus is more on providing knowledge and capacity building for communities through workshops and training. The Agency is requested to elaborate how the project will gather, create and disseminate knowledge across various stakeholders.</p>	<p>As part of knowledge management, in addition to the specific adaptation interventions, the project will encourage the government of Malawi to promote and enhance climate change education, public awareness and capacity development through communication, training, information and knowledge management. During project preparation, emphasis will be placed on developing a climate change and fisheries specific knowledge base from the available local, national and global datasets. A dissemination strategy will also be developed as part of the project preparation.</p>
		<p>To ensure that the project is managed and implemented effectively and that project benefits are maximized and reach target groups, a participatory M&E plan will be put in place. The plan will involve all key stakeholders, including the beneficiaries themselves. Purpose designed data collection forms and reporting templates will be prepared. The M&E process will also help in pursuing timely corrections to improve resource efficiency, benefits, outcomes, and impacts. Indicators to be monitored will be formulated during the project preparation and will include project physical progress, gender disaggregated data of beneficiaries, no of women involved in project tasks and in decision-making for the CBOs, etc.</p>
		<p><u>Additional comment at PPG stage (May 2021):</u> Knowledge management will be closely linked to the results of project monitoring and evaluation. It will ensure that all M&E data collected is transformed into knowledge and shared with project staff using the most appropriate communication tools, such as project mailing lists, meetings and workshops.</p>
		<p>Beside communication activity spread between component 1 and 4, where efforts will be made on indigenous knowledge, relevant documents and training materials translated in 6</p>

<p>Additional comments</p>	<p>At the CEO endorsement stage, the agency needs to elaborate on the implementation arrangement of the project particularly specifying the role of BVCs vis-a-vis the government authorities.</p> <p>The agency is also requested to elaborate on the upstream catchment management solutions more and indicating technology transfer or scaling up best and indigenous practices.</p> <p>Alternative livelihood to fisheries is proposed to enhance resilience of communities primarily through innovative agriculture practices. However, it is likely that agriculture sector will have same level of vulnerability as in fisheries sector. The agency is requested to explore more alternative livelihood strategies to strengthen resilience of communities</p>	<p><u>Additional comment at PPG stage (May 2021):</u></p> <p>Role of BVCs: BVCs are directly involved in the local governance and management of local fisheries resources and VNRMCS are same type of community level institution in charge of local governance and management of natural resources and forest in particular. They are local representative recognized by Act of Parliament, policy and legislation for such issues as part of the decentralization process. They are dependent on district and national officers. They usually have to liaise as well with village chief and traditional authority.</p> <p>Emphasis on upstream catchment management solutions and technology transfer: specific alert systems and water monitoring tools will be provided and transferred as well as communication tools for lake shore communities, fishermen and farmers or the project areas. This will be developed in coordination with water and Fisheries department. Outcome 3.5 address these issues.</p> <p>Indigenous practice: Indigenous knowledge will be mobilized at every step of the program since communities are widely mobilized on the planning as well as solutions developments and activities. This includes for example subjects like forestry, spawning areas, and local solutions they would provide in line with the issue of restoration and risk mitigation. An Output 1.2.3 Pamphlet on indigenous knowledge prepared and distributed is dedicated as well to highlight this knowledge.</p> <p>Alternative livelihoods, resilience: The planning at watershed level in relation with lake shores activities planning (aquaculture, fisheries), is addressing long term resilience aspect through planning and local organization to face climate change and adapt. In addition, component 3 present a series of activities supporting resilience of communities and fisheries sector: it range from agroforestry, wood restoration supporting anti-erosion and siltation? of lakes, (infrastructure for water, for fisheries product</p>
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ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
(Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: \$150,000			
Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount (\$)		
	Budgeted Amount	Amount Spent To date	Amount Committed
Re-imbursables (Local Transport and Accommodation Field Mission)	\$ 18 319	\$18 319	\$0.00
Stakeholder Workshops (Inception & Validation)	\$ 9 391	\$ 9 391	\$0.00
Consultant Remuneration	\$122 290	\$77 290	\$45 000
Total	\$150 000	\$105 00	\$45 000

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

The project map and coordinates are shared as attachment **Annex E_Project Map and Coordinates_Malawi**

ANNEX E: Project Budget Table

Please attach a project budget table.

The project budget is summarized below. The full budget details together with implementing plan are shared as attachment, Appendix 4-5-7.

Activities	Details	TOTAL BUDGET	Year 1	Year 2	Year 3	Year 4
Malawi-climate resilient and sustainable capture fisheries, aquaculture development and watershed management project		4 605 934	1 686 109	1 304 786	847 727	767 311
			37%	28%	18%	17%

Activities	Details	TOTAL BUDGET
Component 1	Strengthening the capacity of Village level natural resource committees for climate resilient, watershed planning and management for lake protection	790 150
Outcome 1.1	Strengthened capability of Village level natural resource committees for climate resilient watershed planning and management and reduced climate vulnerability of riverine communities	604 650
<i>Output 1.1.1</i>	<i>At least 40 Village level natural resource committees (BVCs and VNRMCs) are trained in climate resilient lake protection and watershed planning and management</i>	<i>186 500</i>
Activity 1.1.1.1	Develop the Training of Trainers programme, modules and material about catchment management and planning and climate risk reduction.	76 500
Activity 1.1.1.2	Collect and analyze data in consultation with stakeholders for up to 7 analytical components of assessments: (i) rangeland health assessment; (ii) stakeholder prioritization of restoration interventions; (iii) restoration opportunities mapping; (iv) restoration economic modelling and valuation; (v) restoration cost-benefit-carbon modelling; (vi) restoration diagnostic or presence of key success factors; (vii) restoration finance and resourcing analysis (including an evaluation of the potential for private sector investments in restoration)	60 000
Activity 1.1.1.3	Conduct the training sessions in the village communities.	50 000
<i>Output 1.1.2</i>	<i>Climate vulnerability assessment and identification of actions for climate-sensitive catchment management are community-driven</i>	<i>94 250</i>
Activity 1.1.2.1	Establish the micro-catchment development team and map out the micro-catchment areas	32 250

Year 1	Year 2	Year 3	Year 4
466 750	107 800	107 800	107 800
<i>59%</i>	<i>14%</i>	<i>14%</i>	<i>14%</i>
76 500	0	0	0
60 000	0	0	0
50 000	0	0	0
32 250	0	0	0

Activities	Details	TOTAL BUDGET
Activity 1.1.2.2	Carry out a diagnostic analysis and vulnerability assessment of the micro-catchment area and identify sustainable land management and climate risk adaptation actions, through community-level consultations.	62 000
Output 1.1.3	<i>40 Village level NRM Committees are strengthened and their gender sensitive and climate smart community based micro-catchment managements plans / Village level Actions Plans are prepared</i>	81 000
Activity 1.1.3.1	Support legal registration of BVCs, VNRMCs or sub-catchment management committees, as applicable	19 000
Activity 1.1.3.2	Draft and validate gender sensitive and climate smart community based micro-catchment plans / Village level Action Plans, addressing fisheries and aquaculture climate risks, and ensure alignment with District level planning documents and Catchment Management Plans	62 000
Output 1.1.4	<i>Community Environment Conservation Fund extended and established in project area to support the implementation of micro-catchment plans / Village Level Actions Plans.</i>	242 900
Activity 1.1.4.1	Conduct training and awareness sessions about the principles of CECF	20 000
Activity 1.1.4.2	Establish the local administrative structures and bylaws for implementation of the VLAP and CECF	30 000
Activity 1.1.4.3	Awarding of start-up grant	64 300
Activity 1.1.4.4	Annual distribution of the variable grants	128 600
Outcome 1.2	Improved community awareness raising and communication about watershed management and lake protection at local level	185 500
Output 1.2.1	<i>Local language communication tools produced</i>	96 000

Year 1	Year 2	Year 3	Year 4
62 000	0	0	0
19 000	0	0	0
62 000	0	0	0
5 000	5 000	5 000	5 000
7 500	7 500	7 500	7 500
0	64 300	0	0
0	0	64 300	64 300

Activities	Details	TOTAL BUDGET	Year 1	Year 2	Year 3	Year 4
Activity 1.2.1.1	Draft simplified guidelines and community training materials for watershed management and lake protection in Tumbuka, Chewa and Yao languages.	21 000	21 000	0	0	0
Activity 1.2.1.2	Develop media programs promoting visibility of the program activities and results (local newspapers, radio, mobile messages)	75 000	18 750	18 750	18 750	18 750
Output 1.2.2	<i>Project-impact infographics shared bi-annually</i>	18 000				
Activity 1.2.2.1	Prepare, update and disseminate fisheries-oriented impact infographics in a poster format to inform and engage communities	18 000	13 500	1 500	1 500	1 500
Output 1.2.3	<i>Pamphlet on indigenous knowledge prepared and distributed</i>	28 500				
Activity 1.2.3.1	Document cultural beliefs about watershed management and fisheries, compile a pamphlet and disseminate in both English and local languages	28 500	28 500	0	0	0
Output 1.2.4	<i>Pilot educational programs for school clubs schools developed and implemented</i>	43 000				
Activity 1.2.4.1	Develop education school materials tools about watershed management, climate change risks and lake protection	23 000	5 750	5 750	5 750	5 750
Activity 1.2.4.2	Conduct training sessions for the teachers in the villages	20 000	5 000	5 000	5 000	5 000
TOTAL Component 1		790 150	466 750	107 800	107 800	107 800
Activities	Details	TOTAL BUDGET	Year 1	Year 2	Year 3	Year 4
Component 2	Strengthening the capacity of local and district-level institutions for watershed planning and management and lake protection	909 985	540 958	254 747	105 280	9 000
			59%	28%	12%	1%
Outcome 2.1	Institutional Capacity for climate sensitive ecosystem based watershed planning and monitoring developed	775 785				
Output 2.1.1	<i>Priority catchments are identified and mapped based on climate risk assessment(s) in the fisheries and fish-farming sector</i>	113 975				

Activities	Details	TOTAL BUDGET
Activity 2.1.1.1	Produce climate risk vulnerability maps at district level.	91 825
Activity 2.1.1.2	Prioritize catchment areas	22 150
Output 2.1.2	<i>District Council Staff trained in climate sensitive lake protection and watershed management including climate change preparedness and resilience building</i>	122 090
Activity 2.1.2.1	Develop the Training programme, modules and material about catchment management and planning, lake protection, climate risk reduction, and capacity building of communities of community based natural resources management committees.	43 240
Activity 2.1.2.2	Conduct the training sessions of District staff at catchment level.	78 850
Output 2.1.3	<i>Fish farmers? and small-scale fishermen? vulnerability to climate change assessed in the prioritized catchments</i>	279 740
Activity 2.1.3.1	Conduct a situational analysis of the prioritized catchments.	236 040
Activity 2.1.3.2	Carry out a detailed vulnerability assessment of fish farmers and small-scale fishermen in the prioritized catchment and along Lake Malawi lakeshores.	43 700
Output 2.1.4	<i>District level Catchment Management Plans, which incorporate fisheries and aquaculture climate risks as well as adaptation measures, prepared in the prioritized catchments</i>	233 600
Activity 2.1.4.1	Prepare 3 Catchment Management Plans, incorporating fisheries and aquaculture climate risks as well as adaptation measures.	233 600
Output 2.1.5	<i>Climate Change is mainstreamed in national or sub-national policies around watershed and fisheries management</i>	26 380

Year 1	Year 2	Year 3	Year 4
91 825	-	-	-
11 075	11 075	-	-
43 240	-	-	-
39 425	39 425	-	-
157 360	78 680	-	-
29 133	14 567	-	-
116 800	58 400	58 400	-

Activities	Details	TOTAL BUDGET	Year 1	Year 2	Year 3	Year 4
Activity 2.1.5.1	Incorporation of climate change adaptation measures in national and district level policy documents related to catchment management and fisheries development.	26 380	-	-	26 380	-
Outcome 2.2	Improved fisheries and watershed management through knowledge generation about climate risks and vulnerability in the fisheries sector at district level	134 200				
Output 2.2.1	<i>Climate change indicators incorporated into management plans and national/subnational Fisheries information system for improved monitoring and development of adaptation measures</i>	134 200				
Activity 2.2.1.1	Establish key climate change indicators to monitor and report in the fisheries/aquaculture sector and include it into the Fisheries information system	68 200	35 100	33 100	-	-
Activity 2.2.1.2	Train national and sub-national officers in charge of Fisheries/aquaculture information system and how to include it into management plans	66 000	17 000	19 500	20 500	9 000
TOTAL Component 2		909 985	540 958	254 747	105 280	9 000
Activities	Details	TOTAL BUDGET	Year 1	Year 2	Year 3	Year 4
Component 3	Aquatic ecosystems, especially wetland areas, riverbanks and other key habitats rehabilitated with climate-sensitive measures for improved lake protection and resilient community livelihood	2 384 400	523 896	792 858	550 766	516 880
			22%	33%	23%	22%
Outcome 3.1	Community-based soil and water conservation and improved fallow and agroforestry.	808 838				
Output 3.1.1	<i>At least 2,000 ha of community forested area (woodlots and natural afforestation) established in project areas</i>	249 600				
Activity 3.1.1.1	Identify areas and train community based institutions within selected sub-catchments on the development and management of community forest areas (including woodlots)	52 100	52 100	-	-	-

Activities	Details	TOTAL BUDGET
Activity 3.1.1.2	Support on management and monitoring of community forested area activities promoting native and local species	197 500
<i>Output 3.1.2</i>	<i>Inclusive agroforestry and conservation farming practices implemented in 3,000 ha of farming areas</i>	<i>139 400</i>
Activity 3.1.2.1	Develop district level guides and trainings on best practices and opportunities for inclusive agroforestry and conservation farming practices	25 500
Activity 3.1.2.2	Continuous support of agricultural extension services for the roll-out of targeted agroforestry and conservation farming practices	113 900
<i>Output 3.1.3</i>	<i>"Priority sub-watersheds" are rehabilitated through a community driven process</i>	<i>208 050</i>
Activity 3.1.3.1	Train target communities on soil and water conservation structures establishment, construction and maintenance of the infrastructure as per national policy/guidelines	38 600
Activity 3.1.3.2	Establishment of soil and water conservation structures in priority sub-watersheds	135 400
Activity 3.1.3.3	Continuous community support to ensure best practices are in place and issues/challenges dealt with	34 050
<i>Output 3.1.4</i>	<i>Conservation program for Lake Chilwa implemented and fisheries management plan updated with communities</i>	<i>211 788</i>
Activity 3.1.4.1	Update Conservation Plan and Fisheries Management Plans, including designation of priority protections and restoration areas and update of fisheries management plan for lake Chilwa, incorporating fisheries and aquaculture climate risks as well as adaptation measures.	63 000
Activity 3.1.4.2	Implement priority protections and restorations in priority areas	76 500
Activity 3.1.4.3	Formulate bylaws to regulate agricultural pollution in catchments	41 538
Activity 3.1.4.4	Promote, support and monitor best farming techniques	30 750

Year 1	Year 2	Year 3	Year 4
-	98 750	49 375	49 375
25 500	-	-	-
-	56 950	28 475	28 475
38 600	-	-	-
33 850	67 700	33 850	-
-	12 500	10 775	10 775
63 000	-	-	-
30 600	15 300	15 300	15 300
31 615	3 308	3 308	3 308
7 688	7 688	7 688	7 688

Activities	Details	TOTAL BUDGET
Outcome 3.2	Spawning grounds for capture fisheries are restored, including invasive aquatic weeds control	230 758
<i>Output 3.2.1</i>	<i>Fish breeding/spawning grounds project are restored through a community driven process</i>	59 170
Activity 3.2.1.1	Complete the national list and community mapping of critical fisheries spawning/nursery grounds in project area beside Lake Malawi (Chiuta, Chilwa)	19 310
Activity 3.2.1.2	Prioritize and community based restoration and monitoring of critical additional spawning/breeding grounds identified	39 860
<i>Output 3.2.2</i>	<i>Invasive weeds are removed in hotspot areas</i>	121 275
Activity 3.2.2.1	Identify and engage communities to remove invasive weeds in selected areas (Karonga, Machinga) and in other selected river basins and lake shore.	15 250
Activity 3.2.2.2	Restore with communities the selected locations and plant native species	19 400
Activity 3.2.2.3	Identify potential transformation and valorisation of invasive weeds at community based institution level	76 925
Activity 3.2.2.4	Develop community led manuals regarding management of introduced weeds and raise awareness on the weed proliferation	9 700
<i>Output 3.2.3</i>	<i>Over 80 ha (8 m x 100 km) of vegetation is planted or naturally regenerated for shoreline protection</i>	50 313
Activity 3.2.3.1	Plant and/or restore native vegetation and/or trees with communities on priority zones defined in watershed management plans and conservation plans	28 813
Activity 3.2.3.2	Develop community based monitoring and regulations to protect the shoreline vegetation	21 500
Outcome 3.3	Fisheries and aquaculture adaptation to climate change and resilience is supported	318 225
<i>Output 3.3.1</i>	<i>Water supply and sanitation services provided at four fish landing sites</i>	128 000

Year 1	Year 2	Year 3	Year 4
19 310	-	-	-
7 765	14 165	7 765	10 165
7 625	7 625	-	-
-	9 700	4 850	4 850
-	25 642	25 642	25 642
9 700	-	-	-
-	19 208	9 604	-
7 167	-	7 167	7 167

Activities	Details	TOTAL BUDGET
Activity 3.3.1.1	Establish additional water supply systems and sanitation at least 4 landing sites	128 000
<i>Output 3.3.2</i>	<i>Freezing infrastructure at pilot landing sites are in place to sustain fisheries value chain and resilience of the fisheries production channel</i>	<i>92 450</i>
Activity 3.3.2.1	Select 4 BVCs with best organizational capacity to manage freezing storage infrastructure	4 675
Activity 3.3.2.2	Install solar fridges and/or ice production in pilot landing sites to improve climate change resilience of fishermen	68 950
Activity 3.3.2.3	Train and follow BVC fishermen organization managing the infrastructure	18 825
<i>Output 3.3.3</i>	<i>Support Lake Chilwa aquaculture producers to sustain their productivity as an example for integrative aquaculture for the country</i>	<i>97 775</i>
Activity 3.3.3.1	Strengthen 2 producers' organizations (cooperative) capacity to develop farmer to farmer extension on integrated aquaculture production and climate change adaptation	31 075
Activity 3.3.3.2	Support with equipment for sustainable household aquaculture integrated production and resilience of small farmers and cooperatives	50 875
Activity 3.3.3.3	Design cooperative financial sustainability strategy and implement it at the pilot cooperative level	15 825
Outcome 3.4	Alternative and complementary rural livelihoods strengthened in selected watersheds	428 850
<i>Output 3.4.1</i>	<i>Non-fisheries based enterprises promoted in fisheries households</i>	<i>256 050</i>
Activity 3.4.1.1	Assess viable local non-fisheries based small enterprises	21 950
Activity 3.4.1.2	Select and start-up support for commercially viable income-generating proposals	186 400
Activity 3.4.1.3	Sustain capacity building and mentoring to support business capacities.	47 700

Year 1	Year 2	Year 3	Year 4
-	128 000	-	-
4 675	-	-	-
-	68 950	-	-
-	6 275	6 275	6 275
10 358	10 358	10 358	-
16 958	16 958	16 958	-
10 550	-	5 275	-
21 950	-	-	-
57 200	129 200	-	-
-	-	23 850	23 850

Activities	Details	TOTAL BUDGET
Output 3.4.2	<i>Pilot plastic avoidance and reuse systems are in place in community based institutions of at least 4 districts.</i>	172 800
Activity 3.4.2.1	National showcase and review of plastic waste avoidance and reuse initiatives	8 980
Activity 3.4.2.2	Develop plastic avoidance and/or reuse micro-projects project selected sites	125 660
Activity 3.4.2.3	Monitoring and evaluation of the micro-projects	38 160
Outcome 3.5	Community based early warning and disaster preparedness system strengthened	449 780
Output 3.5.1	<i>Existing weather, water level and water quality observing network strengthened</i>	375 480
Activity 3.5.1.1	Assess existing weather, hydrology and water quality monitoring networks and on-going programmes to identify potential sites for network strengthening	21 780
Activity 3.5.1.2	Procure and install weather, hydrological and water quality monitoring equipment	218 000
Activity 3.5.1.3	Scale-up the Community-based Early Warning Systems designed by co-financing partners in the project focus areas	46 200
Activity 3.5.1.4	Community training to the operation of the monitoring equipment and to the community-based EWS	89 500
Output 3.5.2	<i>Climate change and fisheries monitoring datasets are compiled and shared with all stakeholders.</i>	74 300
Activity 3.5.2.1	Design climate information products for fishermen communities	51 600
Activity 3.5.2.2	Disseminate information products to fishermen and to fisheries value chain stakeholders	22 700
Outcome 3.6	Adapt financial mechanisms related to climate risk reduction to fisheries and aquaculture sector	147 950

Year 1	Year 2	Year 3	Year 4
8 980	-	-	-
58 705	60 915	6 040	-
-	11 887	11 887	14 387
-	21 780	-	-
-	-	109 000	109 000
-	-	46 200	-
-	-	-	89 500
-	-	25 800	25 800
-	-	11 350	11 350

Activities	Details	TOTAL BUDGET	Year 1	Year 2	Year 3	Year 4
<i>Output 3.6.1</i>	<i>Insurance saving mechanism adapted to fisheries and aquaculture and lake shore communities development capacity is analysed and measures to allow its development in Malawi established</i>	147 950				
Activity 3.6.1.1	Develop awareness on insurance saving funds and mechanisms and provide a feasibility study for its development in Malawi	79 250	-	-	39 625	39 625
Activity 3.6.1.2	Develop MoU between Private sector, government and Donor to develop a specific project on Insurance saving funds and application to fisheries and aquaculture sector as well as lake shores communities of Malawi.	68 700	-	-	34 350	34 350
TOTAL Component 3		2 384 400	523 896	792 858	550 766	516 880
Activities	Details	TOTAL BUDGET	Year 1	Year 2	Year 3	Year 4
Component 4	Project-specific improved knowledge management and M&E	315 575	94 631	100 731	35 231	84 981
			30%	32%	11%	27%
Outcome 4.1	Project results monitored and project contributions to climate resilient and sustainable fisheries & watershed management effective.	173 625				
<i>Output 4.1.1</i>	<i>Effective project coordination and gender-sensitive/responsive monitoring and evaluation</i>	148 125				
Activity 4.1.1.1	Strengthen the PIU and hold the inception workshop	7 000	7 000	-	-	-
Activity 4.1.1.2	Establish and implement mechanisms for management of environmental and social risks, and gender sensitive/responsive, project-level grievance mediation	19 750	15 050	2 400	1 150	1 150
Activity 4.1.1.3	Lead project coordination, including adaptive project planning and management, and quarterly and annual reporting in relation with the SFAD-WM	11 700	2 925	2 925	2 925	2 925

Activities	Details	TOTAL BUDGET	Year 1	Year 2	Year 3	Year 4
Activity 4.1.1.4	Develop and implement detailed project-level and participatory M&E Plan based on detailed project life theory of change, including monitoring implementation of Gender Action Plan, Stakeholder Engagement Plan and Social and Environmental Management Plan (if any) and aligned with the SFAD-WM M&E framework	61 175	15 294	15 294	15 294	15 294
Activity 4.1.1.5	Organize Mid-Term and Final Evaluation	48 500	-	24 250	-	24 250
Output 4.1.2	<i>Synergies with other key programs (REFRESH, AVCP, M-CLIMES, ERASP) ensured through continuous collaboration, thematic exchange, and knowledge sharing.</i>	25 500				
Activity 4.1.2.1	Draft Memorandum of Understanding with on-going key programs (REFRESH, AVCP, M-CLIMES, ERASP) to coordinate interventions	17 500	17 500	-	-	-
Activity 4.1.2.2	Hold quarterly and annual coordination meetings with on-going key programs and harmonize annual workplans.	8 000	2 000	2 000	2 000	2 000
Outcome 4.2	Project results documented and gender-sensitive/responsive community learning actions and outreach support replication and scaling up of best practices	141 950				
Output 4.2.1	<i>Lessons learned and best practices from pilot activities, capacity development initiatives and policy changes documented, shared and disseminated at local level</i>	65 950				
Activity 4.2.1.1	Document project good practices and lessons learned.	6 450	1 613	1 613	1 613	1 613
Activity 4.2.1.2	Organize annual community level lesson learning workshops.	25 000	6 250	6 250	6 250	6 250
Activity 4.2.1.3	Develop a web platform to facilitate continuous exchanges of thematic working groups about best practices developed at community level.	6 000	6 000	-	-	-
Activity 4.2.1.4	Organize annual lesson learning workshops at district level.	18 000	4 500	4 500	4 500	4 500

Activities	Details	TOTAL BUDGET
Activity 4.2.1.5	Hold a final capitalization workshop at district level to review the level of implementation of community based institutions and District watershed management plans and promote ownership as well as mobilization for new annual planning targets at the end of the project.	10 500
<i>Output 4.2.2</i>	<i>Lessons learned and best practices mainstreamed at national level</i>	<i>76 000</i>
Activity 4.2.2.1	Organize an annual national ?Lake protection and watershed management? symposia	36 000
Activity 4.2.2.2	Organize cross-landscape learning exchange visits for local stakeholders on SLM and restoration techniques and approaches	10 000
Activity 4.2.2.3	Organize a lesson learning tour in Malawi and in a neighbouring country for national and district level key staff (Regional Study Tour).	30 000
TOTAL Component 4		315 575

Year 1	Year 2	Year 3	Year 4
-	-	-	10 500
16 500	1 500	1 500	16 500
-	10 000	-	-
-	30 000	-	-
94 631	100 731	35 231	84 981

Activities	Details	TOTAL BUDGET
Project Management Costs		205 824
Outcome 5.1	Project is effectively and efficiently managed	
<i>Output 5.1.1</i>	<i>Project management team established and functional</i>	
Activity 5.1.1.1	Appoint the project management unit	174 600
Activity 5.1.1.2	Procure office equipment	11 224
Activity 5.1.1.3	Audit project finances	20 000
TOTAL Project management cost		205 824

Year 1	Year 2	Year 3	Year 4
59 874	48 650	48 650	48 650
29%	24%	24%	24%
43 650	43 650	43 650	43 650
11 224	-	-	-
5 000	5 000	5 000	5 000
59 874	48 650	48 650	48 650

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencies is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).