



REQUEST FOR CEO ENDORSEMENT¹

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: Multi-Trust Fund

PART I: PROJECT INFORMATION

Project Title: Shire Natural Ecosystems Management Project			
Country(ies):	Malawi	GEF Project ID: ²	4625
GEF Agency(ies):	WB (select) (select)	GEF Agency Project ID:	P127866
Other Executing Partner(s):	Government of Malawi	Submission Date:	2012-04-23
GEF Focal Area (s):	Multifocal Area	Project Duration(Months)	66
Name of Parent Program (if applicable):		Agency Fee (\$):	657,800
For SFM/REDD+ <input checked="" type="checkbox"/>			

A. FOCAL AREA STRATEGY FRAMEWORK³

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount (\$)	Cofinancing (\$)
(select) BD-1	1.1 Improved management effectiveness of existing and new protected areas.	1.1. New protected areas (number) and coverage (hectares) of unprotected ecosystems. [144,000 ha of protected areas under improved management]	GEF TF	2,727,000	626,000
(select) LD-1	1.2 Improved agricultural management.	1.2 Types of Innovative SL/WM practices introduced at field level 1.3 Suitable SL/WM interventions to increase vegetative cover in agro-ecosystems [133,000 ha under under effective land and water management practices / under agro-forestry tree cover]	(select)	0	30,604,000
(select) LD-3	3.1 Enhanced cross-sector enabling environment for integrated landscape management	3.1 Integrated land management plans developed and implemented [Government agencies collaborating on SLWM in the Shire Basin through establishment of Basin management plan and structures based on comprehensive land cover and hydrological information]	GEF TF	1,082,000	19,119,000

¹ It is important to consult the GEF Preparation Guidelines when completing this template

² Project ID number will be assigned by GEFSEC.

³ Refer to the [Focal Area/LDCF/SCCF Results Framework](#) when filling up the table in item A.

(select) SFM/REDD+ - 1	1.2 Good management practices applied in existing forests.	1.2: Forest area (hectares) under sustainable management, separated by forest type [43,700 ha of forest land under improved management, including sustainable community-based management established over 11,100 ha]	GEF TF	1,269,000	3,283,000
CCA-1 (select)	1.2 Reduced Vulnerability to climate change in development sectors	1.2.1. Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability [3 types of integrated flood management measures (community preparedness, small-scale infrastructure, wetland management) introduced in lower Shire]	LDCF	1,500,000	11,736,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others		(select)		
Subtotal				6,578,000	65,368,000
Project management cost ⁴			(select)		7400000
Total project costs				6,578,000	72,768,000

B. PROJECT FRAMEWORK

Project Objective: Shire River Basin planning framework developed to improve land and water management for ecosystem and livelihood benefits in target areas

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount (\$)	Confirmed Cofinancing (\$)
Component A: Shire Basin Planning A.1: Develop Shire Basin Plan	TA	Natural habitats knowledge base for the Shire basin greatly improved	Basin-wide maps of ecosystems and biodiversity Site-level biodiversity survey reports for focal areas Economic analysis of	GEF TF	814,000	10,316,000

⁴ GEF will finance management cost that is solely linked to GEF financing of the project. PMC should be charged proportionately to focal areas based on focal area project grant amount.

		Natural ecosystem services in Shire basin evaluated	ecosystem services, including incorporation of natural habitats in to hydrological modelling			
		Natural ecosystem management priorities included within basin planning	Shire basin management framework and policies with integrated natural habitat management priorities			
			Policy proposals for management of charcoal industry			
A.2: Build institutional capacity for coordinated basin management	Inv	Capacity of Shire Basin management agencies strengthened	Ecological/biodiversity databases and partnerships with external reaserch institutes established and maintained within forest and ecological research institutes	GEF TF	268,000	8,803,000
			Enhanced capacity of other Basin management agencies to understand and integrate biodiversity management			
Component B: Catchment Management	TA	Capacity for participatory watershed planning strengthened	28 community microwatershed management plans prepared	(select)		11,891,000
B.1: Build institutional capacity for sub-catchment planning and monitoring						
B.2: Rehabilitate targeted sub-catchments	Inv	Enhanced hydrological function within 28 microwatersheds	Improved SLWM technologies applied to 133,000 ha	(select)		18,713,000
B.3: Alternative rural livelihoods	Inv	Low impact and nature-based livelihoods provide incentives to reduce unsustainable exploitation of forests	Alternative livelihoods grants provided to 6 forest-dependent group villages in Neno District	(select)		2,583,000
B.4: Sustainable management of lower	Inv			GEF TF	2,727,000	626,000

shire forests and wetlands B4.1 Investments for sustainable management of Lengwe and Liwonde National Parks		Improved Park infrastructure producing higher revenues and more effective management at two national parks	Lengwe National Park management plan updated, including feasibility study for concession management Provision of tourism infrastructure, water points, bridges and patrolling & monitoring equipment at Lengwe and Liwonde national Parks			
B4.2: Community-based and or co-management-based forest management at Mangochi and Tsamba Forest Reserves	Inv	Improved forest management at three Forest Reserves	Community-based mangement systems operating in 6 group villages 5 sustainable charcoal production licenses granted	GEF TF	1,269,000	700,000
Component C: Water Related Infrastructure C.2: Flood Management	Inv	Community adaptation capacity enhanced in lower Shire Flood Basin Physical flood mitigation infrastructure in place Improved sustainable management of the 120,000ha Elephant Marshes that are critical for climate-vulnerable communities in the lower Shire Basin.	"Last mile" flood warning and community response systems established covering 40,000 households Small-scale infrastructure (polders, gabions, cuverts, protective vegetation) established along 200km stretch of Shire River Overall Elephant Marshes management and adaptation strategy & pilot community co-management activities in 10 communities completed.	LDCF	1,500,000	11,736,000
	(select)			(select)		
	(select)			(select)		
Subtotal					6,578,000	65,368,000

Project management Cost ⁵ (select)		7,400,000
Total project costs	6578000	72768000

C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount (\$)
GEF Agency	World Bank (IDA)	Soft Loan	67,079,000
National Government	Government of Malawi	In-Kind	3,154,000
Others	Local communities	In-Kind	2,535,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Co-financing			72,768,000

D. GEF/LDCF/SCCF/NPIF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in \$)		
				Grant Amount (a)	Agency Fee (b) ²	Total c=a+b
World Bank	GEF TF	Biodiversity	Malawi	2,727,000	272,700	2,999,700
World Bank	GEF TF	Land Degradation	Malawi	1,082,000	108,200	1,190,200
World Bank	GEF TF	Multi-focal Areas	Malawi	1,269,000	126,900	1,395,900
World Bank	LDCF	Climate Change	Malawi	1,500,000	150,000	1,650,000
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
AfDB	(select)	(select)				0
Total Grant Resources				6,578,000	657,800	7,235,800

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Estimated Person Weeks	Grant Amount (\$)	Cofinancing (\$)	Project Total (\$)
Local consultants*	642.00	528,000	2,393,000	2,921,000
International consultants*	476.00	1,190,000	6,643,000	7,833,000
Total		1,718,000	9,036,000	10,754,000

* Details to be provided in Annex C.

⁵ Same as footnote #4.

F. PROJECT MANAGEMENT COST

Cost Items	Total Estimated Person Weeks/Months	Grant Amount (\$)	Co-financing (\$)	Project Total (\$)
Local consultants*				0
International consultants*				0
Office facilities, equipment, vehicles and communications*				0
Travel*				0
Others**	Specify "Others" (1)			0
	Specify "Others" (2)			0
Total		0	0	0

* Details to be provided in Annex C.

** For others, to be clearly specified by overwriting fields *(1) and *(2).

G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

(If non-grant instruments are used, provide in Annex E an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/NPIF Trust Fund).

H. DESCRIBE THE BUDGETED M & E PLAN:

Monitoring and evaluation for the GEF- and LDCF-funded activities will be fully integrated into the extensive M&E program for the overall project, under the responsibility of the project Task Team (TT) in the Ministry of Agriculture, Irrigation and Water Development (MAIWD). The TT will coordinate the establishment of a project-wide management information system (MIS) and M&E plan with the support of the different relevant government agencies and implementation partners, and which will be detailed in the PIP. The project-wide MIS will record project inputs and track results related to the various proposed activities, under the different components and sub-components. It is envisioned that the system will track performance against specific indicators in the project Results Framework (Annex 1), but also draw from a much wider range of indicators and data sources to help implementing agencies monitor the effectiveness of project delivery and results.

A major effort and substantial investments will be required to improve, update and modernize existing government M&E systems at different levels and for different purposes. For example, under Component A, the system should track progress related to water and climate monitoring systems, functioning of flood mitigation systems and actual flood damage occurring associate resettlement action plans, vulnerability levels of target populations, etc. Under Component B, the M&E system will encompass indicators and monitoring methods related to vegetative cover, land-use monitoring systems, livelihoods indicators, reductions in soil erosion, etc. across all field sites. The project-wide M&E system would provide data and reports on the basin as a whole, accessible to stakeholders in an open access environment (internet), including basin thematic maps and state-of-the-basin reports.

Within MAIWD, the current M&E system will be strengthened, including hydrological, water quality and crop monitoring. There is a lack of spatial data with respect to flood prone areas and flood inundated areas in the southern portion of Malawi, which is very important for the flood disaster management. There appears to very limited use of technological tools like remote sensing, Geographical Information System (GIS), Global Position System (GPS), computerized MIS, and Information Technology tools for planning, monitoring, and impact assessment. The information generated so far in Malawi has tended to be project specific and confined to small geographic areas, which is not usually available in the public domain. The National Spatial Data Center is the logical lead agency for developing and managing GIS services, remote sensing imaging and databases, and the organization's technical capacity will benefit from major strengthening under the project to support maintenance of a spatial MIS.

In addition to the overarching project M&E system covering the indicators in the Results Framework and overall state of the river basin, activity-specific M&E efforts will support management at the site level, including activity and output monitoring against management plans. A select set of outcome indicators will also be monitored at the

site level, including wildlife and threat information collected through patrolling, visitor numbers and revenues (within National Parks), and forest resource production and status (within community forestry areas). These site-level M&E activities will be financed from the operating costs budgeted under the GEF/LDCF financing for management of each of the field sites (i.e. within operational budgets for patrolling, planning & reporting, etc), and are approximately estimated to cost about \$70,000 over the course of the project. Baseline GEF and LDCF tracking tools have been completed, and will be updated at project mid-term and completion.

PART II: PROJECT JUSTIFICATION

A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1.1. The [GEF focal area/LDCF/SCCF strategies/NPIF Initiative](#):

Relevance to GEF STAR Strategic Priorities:

The project will mainstream natural habitat and biodiversity management within the Shire River Basin Management Project (SRBMP), a \$125 million IDA credit, which will form the first 5-year stage of a larger Adjustable Programmatic Loan. GEF-funded activities within the project will strengthen knowledge on the natural ecosystems of the basin, in order to allow this to be fully integrated into basin planning and management activities financed by IDA, and will strengthen the management of remaining natural habitat blocks in a cluster of National Parks, Wildlife Reserves and Forest Reserves. Alongside the parent project, this comprises a comprehensive catchment restoration approach that combines protection of natural habitats and biodiversity with improved land and forest management in production landscapes. The project is therefore entirely consistent with:

- (i) the *Biodiversity Focal Area strategy* (BD#1) in that it will directly improve the sustainability of protected areas, forest reserves and floodplain wetlands covering roughly 3,072 km² (307,200 hectares) and much of the remaining lowland forest and wetland habitats in the lower Shire, and globally significant biodiversity;
- (ii) the *Land Degradation Focal Area strategy* (LD#3) through supporting a cross-sectoral basin planning and management approach that integrates management of natural habitat blocks and responsible agencies including the Department of Parks and Wildlife and the Department of Forestry, and (LD#1) through the substantial investments being made in improved land and water management within agricultural landscapes within the parent project; and
- (iii) the *Sustainable Forest Management Focal Area strategy* (SFM#1) through establishing community-based management within Forest Reserves in the lower Shire, following a nationally developed model. The project will also mainstream biodiversity conservation into landscape planning at both the basin and PA cluster levels.

Relevance to LDCF Strategic Priorities:

The “Lower Shire Valley is vulnerable to floods that have ravaged the social and economic fabric of riparian populations as well as those dependent on their productive well-being for decades”⁶. The Lower Shire is more highly impacted by weather-related disasters than any other region, and therefore the most climate-vulnerable area of Malawi, at least in the near to medium future. In the last 15 years, there have been at least 6 major flood events that have each displaced at least 50,000 people. The economic impact of has not been systematically quantified, but is known to be extensive, resulting from displacement of up to 10% of the population of Chikwawa and Nsanje Districts, disruption of livelihoods, disease, loss of infrastructure, disruption of schooling, and also some loss of life. The LDCF support will co-finance an integrated community flood resilience program in the lower Shire floodplain involving flood warning systems, capacity building for community flood response, small-scale physical flood protection infrastructure, and sustainable management of critical ecological infrastructure in the form of the 1,200km² Elephant Marshes.

The Marsh ecosystem makes a critical contribution to climate resilience of the local population via flood attenuation and provision of resilient off-farm livelihoods. Models are currently being developed that will better reveal the role that the 120,000ha Elephant Marshes and other wetlands in the Lower Shire play in attenuating the flood system, but preliminary estimates suggest that between Chikwawa and Chiromo (at the top and middle of the Lower Shire) the Marshes can reduce peak flows in the Shire itself by a half, and delay the arrival of the flood crest by 3-6 days. The Elephant Marshes are known to substantially reduce downstream sediment loadings which would otherwise

⁶ DoDMA (2008) Analysis of Lower Shire floods & a flood risk reduction and recovery programme proposal.

contribute to additional flooding lower down. The wetlands also play an important role in supporting livelihoods and helping local communities to cope with considerable climate variability, especially in the lower Shire valley where prolonged dry seasons and often erratic rainfall patterns make farming extremely difficult in the absence of irrigation. Historically, they have provided rich fish and bird resources for the local population, and could resume this role with better management, but these areas are under pressure from environmental and anthropogenic changes to hydrological flows, and increasing pressure on land and biological resources. Its fisheries are much less productive than previously, and local residents are increasingly being pushed by population pressure and a lack to dry season land to convert areas of the Marshes to agricultures.

Improved management is urgently needed to maintain and rehabilitate the ecological, hydrological and livelihoods functions of the Marshes, but the current information base for so-doing is extremely poor, given the size and importance of the area. Very little has been published on the Marshes since the brief notes produced by Livingstone from his first expedition to the region. LDCF funds will be used to study the dynamics of the Marshes and establish community-based natural resource management pilot activities, to provide a basis for co-management planning to allow sustainable use. This will reduce communities' own vulnerability (farming within the Marshes is both vulnerable to flooding and extremely dangerous in its own right), as well as safeguarding the role that the Marshes play in protecting the wider population of the Lower Shire from floods. These activities are fully consistent with the LDCF (CCA#1) objective through reducing vulnerability to extreme climate events. Complementary activities with other financing and integration into a longer-term program of activities on the Shire Basin are planned to improve the effectiveness, mainstreaming, sustainability, and scaling-up of these LDCF supported activities.

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

Malawi is eligible for LDCF funding. It is a Least-Developed Country and has prepared a NAPA. Alignment of the project with LDCF priorities is discussed in the section above, and with the Malawi NAPA in the section below.

A.1.3 For projects funded from NPIF, relevant eligibility criteria and priorities of the Fund:

N/A

A.2. National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

Malawi's NAPA identified 5 key areas for action – (i) community resilience through sustainable rural livelihoods, (ii) improving agricultural production under erratic rains and changing climatic conditions, (iii) restoring forests in the Upper and Lower Shire Valleys and other catchments to reduce siltation and associated water flow problems, (iv) improving preparedness to cope with droughts and floods, and (v) climate monitoring to enhance Malawi's early warning capability and decision making and sustainable utilization of Lake Malawi and lakeshore areas resources. The LDCF-financed activities will address NAPA priority areas (i) by enhancing flood protection measures under subcomponent C2 with co-management of important wetlands in the lower Shire, improving natural flood attenuation and resilient livelihoods of some of Malawi's most climate-vulnerable people. The SRBMP more broadly will contribute to all five NAPA priority areas: to (i), (ii) & (iii) through community land management and agro-forestry activities under Component B; to (iv) through flood preparedness activities under Component C; and to (v) through upgrading hydromet systems under Component A.

Although Malawi's existing NAPA does not refer directly to wetland management, it was produced in 2006, just before some of the largest floods in the country's history re-focused attention on the issue and the first flood risk analyses started to point to the role of Marshes in the hydrology of the system. The multi-donor supported National Program for Management Climate Change in Malawi is refining and detailing adaptation priorities, with considerable emphasis on the assessment options for improving climate resilience through improved land use. Improved management of the Elephant Marshes through more sustainable and resilient livelihoods of local communities is now recognized as a national adaptation priority by both the Environment Affairs Department (which was responsible for drafting the 2006 NAPA) and Development Planning & Cooperation (which is responsible for coordination of the National Climate Change Program. Many of the SRBMP project activities are

consistent with emerging national adaptation priorities, including reforestation, increasing agricultural productivity and resilience through SLWM technologies, strengthening hydromet monitoring systems and upgrading water infrastructure for increased storage and flow regulation capacity.

The GEF/LDCF-supported activities are consistent with national wildlife, tourism and forestry strategies, and reflect priorities identified by the Ministry of Wildlife & Tourism, and the Department of Forestry. The broader SRBMP has been designed in response from Government requests for assistance in establishing an integrated, multi-sectoral management program for the Shire River Basin in order to realize the objectives of the Malawi Growth and Development Strategy II (MGDS-II, 2011-2016) to stimulate economic growth through sustainable development of the Shire River Basin (including irrigation, hydropower plants, restoration of transport links, flood mitigation works and mining). Government appreciates that large scale investments in the Basin will not yield expected benefits and may generate long-term and cumulative adverse environmental, social and economic impacts if the interlinked challenges of increasing population pressure on a degraded natural resources base, declining agricultural yields, rapid urbanization (driving demand for charcoal), unreformed land ownership, and weak institutional capacity to promote sustainable land and water management, are not addressed in an integrated fashion. What has been less widely understood is the key role that management of remaining natural habitats play in river basin function and resilience. The GEF/LDCF activities aim to demonstrate this, thereby leveraging much larger investments in the later stages of the Program.

B. PROJECT OVERVIEW:

B.1. Describe the baseline project and the problem that it seeks to address:

Malawi is a landlocked country with a population of slightly more than 13.5 million. As one of southern Africa's most densely populated countries, Malawi's young and growing population is expected to reach 22.8 million by 2025.⁷ Approximately 85 percent of Malawi's population lives in rural areas with the majority engaged in smallholder, rain-fed agriculture. While agriculture is the main source of Malawi's economic growth, about 40 percent of GDP and over 90 percent of total export earnings, the high level of subsistence farming is a major contributor to poverty. In 2005, approximately 52 percent of the population was living below the poverty line. About 56 percent of the rural population is living in poverty, compared with approximately 25 percent of the population in urban areas.⁸ Malawi is one of the world's poorest countries and is ranked 171 out of 187 countries on the United Nations Human Development Index (UNDP, 2011). Gross National Income (GNI) per capita is US\$290.

Over 70 percent of all farmers cultivate less than one hectare and a significant number struggle to produce enough food to meet their consumption requirements. Between 1967 and 2003 the country experienced six major droughts that had a cumulative impact on 21 million people. The impact of drought is felt mainly by smallholder farmers. Eighteen floods occurred between 1967 and 2003 affecting 1.8 million people, resulting in loss of life, infrastructure destruction (including roads, rail and homes), crop loss, food insecurity, and health impacts (diarrhea, cholera and malaria).

The Shire Basin is critical to sustaining livelihoods of a large part of the country's population, generates almost all of the country's electricity, sustains the main commercial and industrial centers, and provides for critical ecosystem and environmental benefits. High population density and poverty have led to significant human pressure on the environment and degradation of the Shire Basin's natural resource base (notably land, forests and water), and climate variability and change pose additional challenges. The lower Shire is affected by frequent floods that devastate livelihoods with little warning.

Only eight percent of the population has access to electricity: thirty percent of urban households and less than one percent of rural households. Ninety-eight percent of current electricity generation is from run-of-river hydropower plants on the Shire River⁹. Installed hydropower capacity is 285 MW, less than demand, and unable to meet peak demand owing to frequent equipment breakdown and environmental factors such as sedimentation and increasing

⁷ US Census Bureau, International Database, 2011

⁸ Malawi Poverty and Vulnerability Assessment, 2007

⁹ "Run-of-river" means that there is little or no capacity to store and control the flow of water upstream of the power generation stations except small pondage for peaking; the amount of electricity that can be produced depends on the daily flow of the river.

aquatic weed growth. A planned expansion of generation capacity within the middle Shire cascade would further increase dependence on the Shire River for power generation.

The adverse economic, social and environmental impacts of these challenges are acute in the Shire River Basin. Given the economic and social importance of the Basin for national growth and development, it is critical to address the root causes of the deteriorating environment and natural resources base in the basin to ensure sustainable growth and poverty reduction.

The Lake Malawi–Shire River hydrological system represents Malawi’s single most important natural resource system. The Shire provides water for a number of productive purposes, including: hydropower, agriculture, fisheries, transport, tourism, urban water supply and rural water users along the length of the river, in addition to various environmental functions. The Shire River originates at Lake Malawi and flows for 520 km through the Southern Region of Malawi; it is joined by numerous rivers and streams, and merges with the Zambezi River in Mozambique. The Upper Shire is situated at around 470 meters above sea level (masl) and flows on a very shallow gradient through Lake Malombe to the Kamuzu Barrage at Liwonde. Before the Kamuzu Barrage was constructed in 1965, water flows in the Shire River varied strongly and in some years even fell dry. With increasing climate variability, there are concerns that the existing Kamuzu Barrage would not provide sufficient buffering capacity to ensure continuous water flows. Reduced outflow into the Shire River could cause serious social and economic disruption to Malawi.

After Liwonde the Middle Shire flows across a broad plain descending only seven meters in 50 km. It then drops steeply by 360 meters over a distance of around 70 km through a series of rapids and falls, some of which have been harnessed to provide hydropower. The Lower Shire emerges below the falls at Kapichira to flow across a wide floodplain with a minimal gradient of 10 meters in 90 km. The river then flows through an expansive floodplain wetland – including the Elephant marshes – that supports extensive dry season agriculture, high levels of biodiversity and a productive fishery. These wetlands also play an important role in reducing downstream sedimentation and flooding. The Lower Shire hosts large areas of traditional and commercial agriculture (sugar), and adjacent to the river, more than half a million people live in areas that are vulnerable to droughts and floods.

High population density and poverty have led to significant human pressure on the environment and degradation of the Shire Basin’s natural resource base, notable land and forests. The growing population expands land area under cultivation and exploits forests and woodlands for firewood and charcoal production. Deforestation, soil erosion and sedimentation form the most serious threats to the environment and natural resource base in the Shire River Basin, resulting in the increased incidence of erosion, run-off and flash floods. High loads of sediment are deposited in river beds, reservoirs and floodplain wetlands, affecting irrigation canals, fisheries and hydropower generation. Water resources are increasingly degraded through silt loads, sedimentation, eutrophication, biological contamination and effluents. Some tributaries pass through heavily cultivated areas, townships and cities, resulting in water pollution from agricultural run-off, and human and industrial waste, contributing to increased concentrations of nitrogen, phosphorus and heavy metals that generate adverse impacts on human health and accelerate growth of aquatic weeds. These problems are a direct result of catchment degradation, unsustainable land use and management practices, and increased use of chemical fertilizers without complementary soil and water conservation measures.

There is at present no institutional mechanism to coordinate integrated investment planning and systems operations for the Shire Basin, and there is no modern knowledge base and no modeling tools to support decision making. Decisions on development of the water resources of the Shire have been taken on an ad-hoc and uncoordinated basis as each new need arises (i.e. river regulation, power generation, agricultural, urban and industrial water supply, Shire-Zambezi waterway project, management of major tributaries and ecological reserves). At times of low flow, water resources are unlikely to be sufficient to meet all needs, and new proposals for development of hydropower, water supply and irrigation may potentially conflict with each other and with other established uses. The comprehensive National Water Resources Investment Strategy (MAIWD, 2011) highlights as key priorities the need to maintain inflows to the Lake Malawi-Shire system; development of significant inter-seasonal storage; coordinate especially hydropower and irrigation development. It also identifies priority strategic investment, ranking Kamuzu Barrage rehabilitation as highest priority, followed by water supply augmentation for Blantyre, additional hydropower and weed/sediment management on the Shire River.

Baseline SRBMP:

The Shire River Basin Management Program (SRBMP) is comprehensively addressing a set of challenges related to the management of natural resources in the Shire River Basin in the south of the country. It is acknowledged that single-sector, single-project interventions would not contribute effectively to a comprehensive and lasting solution to the challenges the Basin is facing; and a multisectoral and longer-term planning framework would be necessary, in conjunction with immediate investments to address the most acute problems in the Basin. The SRBMP supports GoM's Shire Basin Letter of Policy, and has been designed as Adaptable Program Loan (APL) instrument with an overall duration of 15 years over three phases. The first phase project in support of the SRBMP – the Shire River Basin Management Project (SRBMP-I) – will establish coordinated inter-sectoral development planning and coordination mechanisms, undertake the most urgent water related infrastructure investments, prepare additional infrastructure investments, and develop up-scalable systems and methods to rehabilitate sub-catchments and protect existing natural forests, wetlands and biodiversity, thereby beginning to address some of the most critical issues facing the Basin. This approach ensures a balance between building capacity for strategic planning and on-the-ground investments to address immediate needs. Future phases would scale up and broaden these activities based on lessons learned from the implementation of the first phase. A chart of the overall program (in Annex 2) and the APL phase triggers (in Part II, section D) are presented in the Project Document.

The Shire River Basin Management Project (SRBMP-I), as part of a longer term APL program, has a duration of five and a half years and would: (a) strengthen the institutional capacities and mechanisms for Shire Basin monitoring, planning, management and decision support systems; (b) invest in water related infrastructure that sustainably improves water resources management and development; (c) reduce erosion in priority catchments and sedimentation and flooding downstream, while enhancing agricultural productivity and improving livelihoods; and (d) improve flood management in the Lower Shire and provide community level adaptation and mitigation support. Project components are as follows:

Component A: Shire Basin Planning will strengthen the institutional capacities and mechanisms for Shire Basin monitoring, planning, management and decision support systems through (A1) basin survey and planning, (A2) institutional capacity development of various basin management agencies, (A3) improved hydrological monitoring systems, and (A4) overall project management.

Component B: Catchment Management will reduce erosion in priority catchments and sedimentation and flooding downstream, while enhancing agricultural productivity and improving livelihoods through (B1) development of sub-catchment management plans, guidelines and monitoring systems, (B2) SLWM investments in targeted sub-catchments, and (B3) technical assistance and community grants for more sustainable livelihood activities.

Component C: New Water Investments will invest in water related infrastructure that sustainably improves water resources management and development, and improves flood management in the Lower Shire, providing community level adaptation and mitigation support, through (C1) upgrading of the Kamuzu Barrage for improved regulation of flows in the Shire River, (C2) community flood management in the lower Shire floodplain, and (C3) identification of major new water infrastructure investments.

B. 2. [incremental /Additional cost reasoning](#): describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated [global environmental benefits](#) (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

The incremental GEF- and LDCF-funded activities would provide for the management of ecological infrastructure (in particular natural ecosystems and biodiversity) to be fully mainstreamed within the SRBMP. Natural habitats are critical to the overall functioning of the Shire Basin, but are increasingly threatened. High rural population densities and almost universal reliance on wood fuels have placed high pressure on natural resources in the Shire Basin. Larger wildlife and extensive areas of natural terrestrial habitat have virtually disappeared outside of reserves, even some forest reserves have been effectively cleared, and most remaining forest and wildlife reserves are affected by agricultural encroachment. Extensive wetlands in the lower Shire attenuate the floods that affect the area, and have

historically provided rich fish and bird resources for the local population, but these areas too are under pressure from environmental and anthropogenic changes to hydrological flows, and increasing pressure on land and biological resources. Change to the physical environment of the Shire Basin also accentuate vulnerability to climate change through erosion of the resource base for climate-resilient livelihoods and of the buffering of extreme weather events. In particular, the population within the lower Shire Floodplain is perhaps the most climate-vulnerable in Malawi, having been subjected to successive floods and droughts. Their resilience is undermined both by upstream changes to hydrological and sediment flows, and by degradation of local floodplain resources and habitats.

GEF investments will significantly contribute to the **overall** river basin management objectives of the SRBMP and therefore hydrological regulation of an important branch of the Zambezi river system. They will provide additional global environmental benefits in the form of conservation of globally significant biodiversity¹⁰, development of a promising and largely indigenous model for community management of forests, and maintenance of substantial carbon stocks, particularly the intact natural habitats of the cluster of sites that would be targeted in the lower Shire – comprising 3,027km² of carbon-rich forests and wetlands which are currently being degraded through land clearance, encroachment and erosion. In the case of the Elephant marshes, the project will also contribute to national and international recognition of the value of the marshes for supporting climate-resilient livelihoods and environmental services (especially flood attenuation). This will also include support to preparation and submission of proposals for a community-based protected area (under national legislation) and a Wetland of International Importance (under the Convention on Wetlands – otherwise known as the ‘Ramsar Convention’) at national and international level, respectively.

The LDCF funded activities will reduce the vulnerability of Lower Shire populations to changes in climatic conditions and to increasing climatic variability. The climate adaptation agenda in Malawi is inextricably linked to the land degradation / watershed management agenda. Besides capacity and monitoring, all of the major priorities identified in the 2006 NAPA concern land and watershed management activities – resilient agriculture and off-farm rural livelihoods, restoration of forests (particularly in the Upper and Middle Shire), and improved flood / drought management. Analytical work through the National Program for Managing Climate Change in Malawi (CCP) is being conducted to strengthen the information base for identification of adaptation investment priorities, including a World Bank study on the role that land management can play, but even ahead of that, then first adaptation projects being designed and implemented in Malawi focused largely on land and watershed management themes, including climate-smart agriculture and management of the Lake Chilwa basin and wetlands. More specifically, natural habitats within the Shire Basin make a critical contribution to resilience through flood attenuation, maintaining surface flows for agriculture and energy generation, and provision of alternative livelihoods (particularly forestry, fisheries and tourism). The population within the lower Shire Floodplain is perhaps the most climate-vulnerable in Malawi, having been subjected to successive floods and droughts. Their resilience is undermined both by upstream changes to hydrological and sediment flows, and by degradation of local floodplain resources. Degradation of Shire Basin habitats accentuates their vulnerability to climate change through erosion of capacity to buffering extreme weather events and of the resource base for climate-resilient livelihoods.

¹⁰ Remaining forest and wetland areas in the Shire basin continue to support biodiversity of global significance and there are seven Important Bird Areas (IBAs) listed by BirdLife International for the basin, and a center of globally important endemism in the form of the Mulanje massif. Both Liwonde National Park and Majete Wildlife Reserve now support re-introduced populations of critically-endangered Black rhino *Diceros bicornia* – part of efforts to restore the ecological integrity of these two protected areas. Liwonde National Park supports a significant population of the endangered African elephant *Loxodonta africana* and these continue transfrontier migration cycles into Niassa province, Mozambique (via Mangochi Forest Reserve and forest areas on customary village land). An elephant population has also been re-established in its former range at Majete Wildlife Reserve with translocated stock from Liwonde NP. Red bush squirrel *Paraxerus palliatus* and Spotted-necked otter *Lutra maculicollis* – both categorized as ‘vulnerable’ are found in the forests and wetlands of the middle and lower Shire. Threatened birds include Blue swallow *Hirundo atrocaerulea*, categorized as endangered and which is documented as breeding on the montane grasslands of Mulanje mountain and perhaps other upland areas in the Shire basin, Thyolo alethe *Alethe choloensis*, *atrocaerulea* (both considered vulnerable) and the endangered Spotted ground thrush *Zoothera guttata* – a very rare resident of the southeastern montane forests. The White-winged Apalis *Apalis charysi* also considered vulnerable is found in the low and mid altitude of the Shire highlands. The Elephant Marshes are also likely to fulfill Ramsar criteria as an internationally important wetland by supporting waterbird populations of international significance – although comprehensive surveys have yet to be undertaken.

In all cases, GEF and LDCF financing as relevant will support incremental and additional natural habitat knowledge or field management activities that will complement, enhance and leverage baseline investments in river basin management, laying the foundation for additional IDA investments in ecological infrastructure during the second phase of the APL. Key activities would: (i) address the current dearth of precise and systematic information on the ecological assets of the Shire Basin, allowing ecological infrastructure to be fully incorporated into basin-wide hydrological modeling, economic analysis and management planning; and (ii) provide proof of concept by investing in sustainable management of a number of habitat areas (especially Lengwe National Park, Liwonde National Park, Mangochi Forest Reserve, Eastern Escarpment Forest Reserve, Tsamba Forest Reserve and the Elephant Marshes wetland system – see map in annex 11 of project document) which combine key biodiversity, watershed and climate functions.

GEF and LDCF financed activities

Component A of the SRBMP: Shire Basin Planning. The overall aim of the GEF contribution to Component A is to better recognize and integrate the role of ecological infrastructure and natural habitat management agencies (particularly the Department of National Parks and Wildlife and the Department of Forestry) within a comprehensive basin management planning and implementation framework. GEF resources are lending support only to subcomponents A1 and A2. Project management costs are budgeted under subcomponent A4, but will be entirely covered from IDA resources.

Without support for GEF at the basin planning level, there would be a significant risk that the strengthened basin planning approach would focus only on resources directly under MAIWD's mandate – notably agricultural land uses, and water resources and associated infrastructure. GEF support will balance this by focusing attention on ecosystems that deliver public goods to the basin. These include the contribution that natural forests blocks (now increasingly fragmented and restricted to protected areas) make to protecting the slopes of the middle and lower Shire catchment, the hydrological buffer and sediment absorption functions provided by lower Shire wetlands, and the potential for increasing livelihood benefits from biodiversity through further development of sustainable tourism and community-based resource management. Unfortunately, there are no existing systematic inventories or even maps available to guide the planning and targeting of interventions in these areas. Putting these in place is therefore an important pillar of building the enabling environment for a landscape management approach that fully integrates natural habitats and the agencies tasked with their management. Incremental GEF funding is therefore expected to improve the integrated land management outcomes realized (largely in subsequent Program phases) through Basin-level planning and investment decisions, in terms of e.g. additional resources provided to management of natural habitats, avoidance of infrastructure investments that would have a detrimental effect on natural habitats and their ecological / watershed functions, and an increase in land management investments that integrate habitat management.

Incremental GEF resources (from LD focal area) under subcomponent A1 will provide technical assistance and operating costs for systematic habitat and ecological surveys, as well as technical services for the development of knowledge products based on that information, including ecological and land cover maps. *Key outputs* will include: (i) site-level ecological survey reports for target areas; and (ii) basin-wide ecosystem knowledge products, including maps and a spatial database. The work will begin with collation of existing data, drawing in part on up-to-date vegetation mapping being conducted within the Department of Forestry with assistance from Government of Japan, which should be completed prior to the start of the project. This detailed assessment work has been assembled to prepare Malawi for 'REDD+ readiness' and uses detailed ALOS radar geospatial data combined with site specific ground truthing. It is anticipated by the DoF that this data will enable far more accurate determination of forest carbon baselines for different forest types and should enable more accurate assessment of the global environmental benefits of avoided deforestation and carbon sequestration. Based on this information, a set of field surveys and additional remote sensing analysis will be structured to fill key knowledge gaps on the Basin's natural assets, involving technical agencies within Malawi and appropriate regional experts. Participatory planning approaches will be used at field level to help develop management prescriptions for a selection of 'key' sites. These will be selected based on a ranking of their estimated environmental service contribution to the basin. Knowledge products will include a spatial meta-database to collate and provide easier access to ecosystem data, and a set of interpretive products (thematic maps, field guides, analytical reports) highlighting both biodiversity within eco-tourism locations and the broader value of ecological infrastructure to catchment and hydrological functions, and to

livelihoods. The ecological knowledge base will allow the catchment services flowing from ecological infrastructure to be properly evaluated and reflected in the IDA-funded hydrological modeling, economic analyses and basin planning under subcomponent A1. The Ministry of Agriculture, Irrigation and Water Development are highly receptive to integrating these elements, but currently lack the information base that is needed to achieve this integration.

Incremental GEF resources under subcomponent A2 (from LD focal area) will provide for targeted equipment, training and operating (travel) costs to extend capacity building to technical and academic bodies responsible for ecological knowledge generation and management, particularly the National Herbarium and the Forest Research Institute of Malawi. *Key outputs* will include the establishment and maintenance of electronic knowledge management systems, and increased collaborative research activities within forest and ecological research institutes. Activities will be focused on improving information management and sharing through establishing an electronic library at FRIM and installing internationally-used taxonomic database software at the National Herbarium, as well as providing vital field survey equipment and a competitive travel grant facility to support collaborative work with international experts. These investments will strengthen the engagement of key local technical agencies with the development and maintenance of the ecological knowledge base for the Shire Basin.

Component B: Catchment Management. The overall aim of the GEF contribution to Component B is to strengthen management of remaining natural habitat blocks in two regions of the Shire Basin, within a broader landscape management framework. GEF resources are lending support only to subcomponent B4.

Incremental GEF resources from SFM focal area will comprise: (i) technical assistance, training, equipment and operating costs for establishment of community forest co-management within two Forest Reserves covering around 111km² (Eastern Escarpment and Tsamba) in Neno District and customary lands, according to a proven co-management model already endorsed and field-tested in other areas by the Department of Forestry; and (ii) modest investments in technical assistance, training, equipment and operating costs to strengthen planning, zoning, patrolling and monitoring within Mangochi Forest Reserve. *Key outputs* will include (i) community-based forest management agreements established and under implementation in 6 group village areas (including roughly 60 communities); and (ii) 5 sustainable charcoal production licenses issued.

Support for improved management of forest reserves will include community forestry activities in Neno as part of an integrated landscape management approach alongside the IDA-funded SLWM investments in surrounding agricultural lands under subcomponent B2. The Tsamba and Eastern Escarpment Forest Reserves occupy steep and highly erodible slopes, and have experienced significant forest degradation on steep slopes and thus the introduction of forest co-management and community-based forest management practices aims to restore the contribution of these forests to key environmental services at local, national and global level. GEF resources will establish organized community management of extensive forest areas within both reserve and customary lands, whilst IDA resources will support comprehensive land use planning, and soil and water management with many of the same communities, as well as the development of sustainable livelihoods, including forest-based livelihoods that will provide a long-term incentive for natural resource management.

Over the last two decades, Malawi has developed a participatory forest management approach that involves the establishment of Village Natural Resource Committees (VNRMCs) to establish Village Forest Areas (VFAs) on customary land and/or co-management within forest reserves. The co-management process essentially turns over day-to-day management of blocks within forest reserves to adjacent communities under the supervision of the District Forestry Office. Allocation of co-management blocks is completed for all communities around a reserve at the same time to ensure mutual agreement and recognition of boundaries amongst neighboring communities. Formal co-management agreements are then developed for each block between the community and the District, which provide legal access to forest resources in return for mutually agreed procedures for harvesting, monitoring and management. Participatory forest management was originally introduced at a late stage of a Norway-funded forest project in response to the growing recognition that (following democratization, decentralization and reductions in the numbers of local forest officers) Government was not able to provide effective management of forests by itself. Early pilots had modest success, but the approach has been maintained and refined, particularly under a long-term EU-supported community forest management program, which has developed detailed standards and guidelines and applied the approach in a number of forest reserves. Despite improving rates of success, community-level governance remains critical to performance, particularly the interest and leadership provided by

the village headman. Community forestry activities have also suffered from weak linkage to livelihoods, and from the overwhelming pressure of the massive, but illicit charcoal trade that supplies the vast bulk of urban energy demands. Some attempts have been made to establish licensed, community-level sustainable charcoal production, but these efforts have often been undercut by governance issues related to the political economy of the informal taxation of the illicit trade. For these reasons, the project will focus on establishing co-management in an area that is also being target under component B2, and will therefore benefit from the far more extensive IDA resources being dedicated to sustainable livelihoods, awareness, and local natural resource governance interventions in those areas.

The Mangochi Forest Reserve has also been included for support as this site includes extensive forests that protect the slopes of the upper middle Shire, and also serves as a vital biodiversity corridor with Liwonde National Park (not least for Malawi's largest elephant population) linking Liwonde National Park to large habitat blocks within Mozambique, and therefore sustaining the biodiversity and tourism base of surrounding areas. Mangochi retains extensive forests in good condition, but is under mounting pressure from encroachment and poaching. The long-term goal would be to establish sustainable benefit-sharing and co-management with surrounding communities, building on the limited support the Mangochi District Forestry Office is already giving to community forestry activities in areas around the Reserve. So as not to spread resources too thin, however, activities during the first phase of SRBMP will be limited to establishing some basic planning and management activities, from which to build at a later stage.

Incremental GEF resources from the BD focal area will finance support to technical assistance, training and equipment to update management planning and to strengthen community relations, and patrolling and monitoring systems at Lengwe National Park, as well as strategic investments in access infrastructure and water-points for wildlife (possibly including small check dams with combined wildlife and erosion control benefits) to improve tourism potential. Liwonde National Park will also receive investments in all-weather stream crossings (to extend access for tourism and management) and some training activities. Incremental GEF resources will also support technical assistance, equipment and training for DPNW to strengthen regional planning and management coordination between protected areas. *Key outputs* will include (i) key tourism infrastructure provided and patrolling & monitoring systems strengthened in Lengwe and Liwonde; and (ii) Lengwe and lower Shire PA cluster management plans updated, including assessments of extension of conservation concession model, tourism development for sustainable financing and establishment of benefit-sharing arrangements.

Support for protected areas will help Park authorities in Lengwe and Liwonde National Parks (situated in the lower and middle Shire respectively) to increase revenues on a sustainable basis to support long-term conservation management. This will deliver cost-effective protection of environmental services to the basin from over 1400 km² of forests and savannah. Support will also enable authorities to implement plans to invest more in engaging local communities in park management and in contributing to local socio-economic development in the longer term. For example, Liwonde National Park has recently introduced a benefit-sharing scheme whereby a share of private lodge concession revenues and gate fees are channeled through a conservation trust fund to support local community groups at village level. DNPW at national level is interested in learning from this arrangement and from others in Malawi and the Southern African region and they plan to introduce further such measures to promote community engagement in future. Lengwe National Park is interested in establishing a similar arrangement.

Both Parks suffer from chronic under-funding. The priority at Liwonde NP is to re-instate wet season vehicular access through repair and installation of crossings at 4 sites in the park. This will allow improved patrolling of the northern part of the park during the wet season and will also substantially increase tourism revenues. At Lengwe National Park, the priorities are to improve basic infrastructure for park management and tourism, increase water availability in dryer parts of the Park to increase wildlife carrying capacity, strengthen engagement of local communities in park planning and management and improve enforcement capacity. The project will help the park to engage local communities in tourism, habitat management and the construction and maintenance of trails, check dams and other infrastructure. Community development packages have also been included in the design for the dual function of (i) investing in the priority development needs of local communities living adjacent to the Park's boundaries and, (ii) for building improved trust and understanding between Park authorities and local communities. Collectively, the approaches described above should contribute to improved relationships between Park authorities and local communities and could introduce new livelihood options for local residents around the Park boundary. Ultimately, these efforts should contribute to reducing the high level of pressure exerted through encroachment,

charcoal production, firewood collection and illegal hunting.

The combination of GEF's support and DNPW's regional presence and mandate will enable the facilitation of cross-support to different sites in the lower Shire – including to sites that are not supported directly through the project – such as Mwabvi and Majete Wildlife Reserves. Adopting a cluster-based approach offers opportunities for more cost-effective management strategies since resources can be shared and coordinated, and knowledge shared not just between DNPW sites, but also with DoF and knowledgeable NGOs involved in protected area management in the Shire, including the Mulanje Mountain Conservation Trust and African Parks. The main themes for these coordination and knowledge-networking activities would be: (i) development of a regional tourism strategy that links and markets various nature-based attractions in the Shire Basin together; (ii) sustainable financing, analyzing the potentials of tourism revenues and both tourism and management concessions¹¹; and (iii) development of regular benefit-sharing arrangements, building on existing activities at Majete and a recently-established community fund at Liwonde, and exploring potentials and initial relationship building activities to extend similar arrangements to areas such as Lengwe.

Component C: Water Related Infrastructure. The overall aim of the LDCF contribution to Component C is to ensure climate resilient development within the vulnerable lower Shire floodplain by establishing the knowledge base and partnerships for long-term sustainable management of the Elephant Marshes. LDCF resources are lending support only to subcomponent C2.

Additional LDCF resources will support technical assistance, training, equipment and operating costs, and small community-assistance investments to establish participatory and climate-resilient planning activities and initiate co-management activities for reducing flood risk via maintaining the hydrological functions of the 1200km² Elephant Marshes. *Key outputs* will include a management and adaptation strategy for the Elephant Marshes with a focus on the effects of climate change and appropriate adaptation measures and completion of pilot community management activities in 6 group village areas (10 communities).

Support for planning, management and pilot investments in the Elephant Marshes will balance IDA investment in hard water infrastructure and early warning systems with investment in the ecological infrastructure of the Marshes, given the importance of the Marshes for attenuating peak flood flows as well as sustaining climate-resilient livelihoods. The Marshes absorb peak flows along the lower Shire and back flows along the lower Shire caused by flood discharges into the lower Shire from the spaty Ruo river. The Marshes also support a substantial artisanal fishery and agricultural livelihoods during the dry season. This important contribution to local livelihoods helps sustain local communities through the prolonged droughts that are now more frequent in the lower Shire.

Remarkably little is known about the extensive Elephant marshes. They form a key part of the lower Shire Basin ecosystem and they are known to provide a hydrologic buffer to this system. - the area is impacted by backflows as the Shire river is impeded by flash floods from the Ruo tributary that joins downstream of the marshes. The marshes also support important seasonal farming systems that are important for sustaining local communities during the prolonged dry seasons and droughts that affect this area as well a substantial capture fishery. However, there are clear signs that the marsh system is now deteriorating. The once productive fishery is now in decline, there is extensive erosion along river banks caused by unsustainable farming practices and farmers report that there is declining soil fertility in some areas of the marsh. Channels are silting-up - thought to be due to the heavy sediment loads now entering the marsh system from upstream in the catchment - combined with over-hunting of once-numerous hippopotamuses which have helped to keep navigation channels open. There are also reports from hunters, fishermen and tourists that the marsh's exceptional waterbird populations are now in decline. Further, there have been no surveys and inventories of the biodiversity of this area – so the only knowledge of key species and communities comes from incidental observations from fishermen, hunters and occasional tour groups who have visited the marshes.

The first priority is therefore to put the survey information, long-term trend data and analytical work in place that can be used as a platform for introducing improved and adaptive community management of the marshes. Given the

¹¹ Malawi's first Park management concession has been awarded to Africa Parks to run the Majete Wildlife Reserve in the middle Shire, and this has provided a successful model to date, which DNPW is interested in extending.

inaccessibility of and extreme lack of information on the Marshes, significant investments will need to be made in initial analyses of ecology, hydrology and threats to the Marshes, as well as in the logistics of gaining regular access to them. There is a need to put in place accurate baseline maps as a basis for community-based planning and management. These would include surveys of land and wetland resources use, of key wetland habitats and biodiversity and a range of other technical studies and foundational assessments to define appropriate adaptation measures, that will contribute to an overall understanding of the marshland system. These assessments will be based on studies of (i) The morphology of drainage systems within the marsh – and how this morphology is changing over time, (ii) Changes in sediment and nutrient loadings entering and exiting from the marsh ecosystem and implications for the productivity of the marshes' natural systems (e.g. for fisheries and emergent vegetation) and agricultural sustainability, and (iii) Human uses and exploitation patterns in the marshes. The latter have changed radically in recent years as dry-season farming has spread across the marshes owing to the effects of climate change. There has also been a gradual decline in the scale of the capture fishery and an increase in commercial bird hunting. Changing sediment flows may also be having important impacts on globally-significant biodiversity, especially on riverbank and sand-bar nesting species, such as African skimmers, freshwater turtles and crocodiles. The Elephant marshes once supported a major fishery but there have been no substantive studies of the fishery for many years and so there is no data available on longer trends and sustainable offtake levels. A much-improved platform of survey and analytical information is required as a starting point for introducing improved management to the marshes and for this reason the project plans to support a range of comprehensive studies of the Elephant marshes system with a focus on understanding of the marsh ecosystem and its relationship to climate variability and change and community vulnerability.

This knowledge base will be used to establish participatory management plans and pilot sustainable natural resource management systems with local communities, which may also integrate support from the regional nature-based tourism planning under subcomponent B4. This will pave the way for future investments, not least through the second phase SRBMP and potentially gazettement of the wetlands within the Malawian protected areas system¹². Management of the wetlands will complement IDA-funded community preparedness and protective infrastructure investments within subcomponent C2 to form a comprehensive flood resilience program that integrates community preparedness, physical and ecological infrastructure investments, as well as enhancing natural-resource dependent livelihoods (e.g. fisheries, hunting, reed harvesting and potentially tourism).

Incremental / additional global environment / adaptation benefits. Investments will significantly contribute to the river basin management objectives of the SRBMP and therefore hydrological regulation of an important branch of the Zambezi river system. They will provide additional global environmental and adaptation benefits in the form of conservation of globally significant biodiversity, development of a promising and largely indigenous model for community management of East African forests, and maintenance of substantial carbon stocks, particularly the intact natural habitats of the cluster of sites that would be targeted in the lower Shire – comprising 3,027 km² of carbon-rich forests and wetlands which might otherwise be lost or degraded through land clearance, encroachment and erosion.

The GEF and LDCF investments represent particular value for money in that they will mainstream an ecological infrastructure approach within a much larger project, leveraging phase 1 project resources and laying the groundwork for additional support under phase 2 of the intended APL. GEF and LDCF investments will specifically add value in terms of the following results:

- 1) *All relevant government agencies collaborating on SLWM in the Shire Basin through establishment of Basin management plan and framework, via*
 - Establishing a systematic knowledge base to identify the extent and locations of the ecosystem assets of the Shire Basin.
 - Development of a quantitative understanding of the role and value of natural ecosystems in maintaining Basin functions, hence providing a basis for (i) engaging natural ecosystem management agencies more fully in the Basin planning process and management support, and (ii) more efficient Basin management

¹² DNPW intend to prepare a proposal for designation of the Elephant Marshes as a Ramsar Site. Under national protected areas legislation, the site could also be formally gazette as a Community Conservation Area.

outcomes.

- 2) *43,700 ha of forest reserves under improved management*, contributing an estimated enhancement of carbon storage of 2,400,000 t CO₂ equivalent, via
 - Establishment of community forestry in 111 km² of forest reserves and extensive surrounding forests on customary lands in Neno District, providing for more enhanced livelihoods.
 - Strengthening basic protected area management systems (patrolling, monitoring, planning) in Mangochi, Eastern Escarpment and Tsamba Forest Reserves.
- 3) *1,440 km² of protected areas under improved management*, via
 - Strengthening basic protected area management systems (patrolling, monitoring, planning) in Lengwe National Park.
 - Strengthening community engagement in sustainable management of Liwonde and Lengwe National Parks. Project technical assistance will support the implementation of the community development fund established to benefit 31 natural resources committees around Liwonde National Park, which will help galvanize efforts to improve relationships between the Park and local communities, help address wildlife human conflicts around the park and forest reserve, and provide a basis for long-term sharing of tourism revenues for re-investment in local development activities. Park authorities at Lengwe will also develop ways of better engaging local communities in park management, including through enforcement efforts, tourism guiding, habitat management and through construction and maintenance of trails, check dams and other infrastructure. Taken together, these approaches should contribute to improved relationships between Park authorities and local communities, will introduce new livelihood options for local residents around the Park boundary and ultimately should reduce pressures on the Park's natural resources.
 - Strengthen nature-based tourism within the Basin through: (i) investments to boost reliable access, water supply and wildlife carrying capacity in Lengwe and Liwonde; (ii) coordinated planning and marketing of multiple attractions with the region; (iii) development of guides and interpretation materials aimed at enriching tourist experience, based on the new biodiversity information base; and analysis of the potential for tourism to play a larger role in the sustainable financing of protected area management and community benefits, including potential extension of the successful management concession model beyond Majete Wildlife Reserve.
- 4) *Establishment of integrated flood management measures (early warning systems, small-scale infrastructure, wetland management, resilient livelihoods)*, via
 - Establishment of community-based wetland management within the 1,200 km² Elephant Marshes to enhance both their hydrological function for flood attenuation, and their potential for supporting climate-resilient livelihoods in the form of fisheries, tourism, etc, based on an improved understanding of the marsh dynamics and measures to promote their conservation..

These results would be an extremely useful contribution to, and a very useful complement to, overall project themes related to the enhancement of information, institutions and investments in the Shire Basin as actions towards achieving the SRMBP PDO/GEO.

- B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF). As a background information, read [Mainstreaming Gender at the GEF.](#):

Primary project beneficiaries will be the rural populations living in and around the project sites. These are (a) those benefiting from SLWM investments in agricultural and agro-forestry systems targeted under subcomponent B2, and (b) those living in and around the natural habitat blocks targeted under subcomponents B4 and C2. Both groups will benefit from the maintenance of the natural resource base and ecological services, and ultimately from related livelihood opportunities based on eco-tourism, fisheries and sustainable natural resource management. Shire floodplain inhabitants will additionally gain from improved flood early warning systems, improved flood preparedness and increased flood protection. Ultimately, more

sustainable natural resource-based industries will benefit the entire population of the Shire Basin through increased production of crops, wood fuels, fish and hydropower, and increased tourism.

At the basin level, the project would identify areas of natural habitats scattered within broader productive landscapes where smallholder agriculture predominates. These remnant areas still deliver ‘free’ environmental services for local communities, including watershed protection, provision of forest products and clean water and they are also a key source of biomass energy for local populations - over 90% of household energy comes from biomass fuels. Firewood and charcoal trade to urban centers generates significant revenue flows and demand is growing significantly. Wetland areas also contribute to local livelihoods through provision of fish and other wetland products, and attenuation of flooding. The project would seek to identify appropriate management prescriptions for these natural habitat areas - with the goal of sustaining and enhancing the environmental services they provide – both locally and globally, and by engaging local communities in their sustainable management. It is anticipated that support at the basin level to integrate natural ecosystems into basin planning will contribute substantially to leveraging IDA funding and domestic investments in the sustainable management of these resources, particularly in the second phase of the Program.

Women play a key role in management of a number of natural resources, including water and fuel wood collection and transport. Improved management of these resources will therefore be particularly beneficial to women, and the GEF activities will follow gender-sensitive approaches developed under the main project.

B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

Institutional capacity and coordination – capacity to undertake surveys and collate and manage information on the Basin’s natural habitats and biodiversity is currently limited. The project will specifically invest in capacity development of those key institutions that have a mandate for biodiversity and broader environmental management in the Shire River Basin. This will enable these organizations to engage more effectively in the proposed Shire River Basin management organization and in planning and implementation work on landscape restoration and management. Key institutions are specified in Section B5 (below). The proposed Shire River basin management plan and organization should also help improve institutional coordination at basin level.

Economic risks – any sustained reductions in tourist arrivals and/or international donor budget support to Malawi may constrain the ability of GoM to sustain current levels of public financing for national parks and forest reserves. This could limit engagement of state authorities and reduce public investment in these areas. Revenues from tourism comprise a substantial component of financing for protected areas elsewhere, e.g. Liwonde national Park and Majete Wildlife Reserve. There is considerable scope for increasing revenues from tourism at Lengwe National Park and this will need to be realized if the park’s finances are to be placed on a more sustainable footing.

Environmental risks – the Kamuzu barrage and hydro development in the middle Shire cataracts means that hydrological flows along the Shire are already highly managed. Growing demand for power and irrigation may reduce low and mean flows in the lower Shire and could therefore impact further on the Elephant marshes. Proposed interventions in the Elephant marshes will include studies that will improve understanding of the hydrology of the system and its impact on the ecology and hydro-morphology of the marshes. Subsequent community-based planning will be responsive to these findings. The most likely scenarios for climate change suggest warmer mean and maximum temperatures and more variable rainfall. This could contribute to more frequent forest fires - especially in the dry miombo woodlands of Lengwe and Liwonde National Parks. Tsamba and Mangochi Forest Reserves may also become more vulnerable to more frequent and extensive damage as a result of fires spreading from illegal charcoal making in and adjacent to these forests. This will have resultant impacts on forest quality and biodiversity and on soil and above ground carbon stocks. Dry season farming on islands within the marshes is also more extensive during prolonged dry seasons as farmers search for soil moisture. Investments in small-scale irrigation and

other options for livelihood diversification should help address this issue whilst also providing alternative options for farmers.

Please refer to Annex 4 of the Project Document for the detailed risk analysis Framework.

B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

At national level, the SRBMP will be implemented by the Ministry of Irrigation and Water Management – the agency with state management responsibility for water resources. They will coordinate closely with the Environmental Affairs Department (EAD) of the Ministry of Natural Resources, Energy and Environment which has overall responsibility for environment and biodiversity policy and is also the GEF focal point. The Forest Department has responsibility for forest reserves –including both natural forests and plantations. The Department of Disaster Management Affairs is mandated with coordinating disaster response and resilience, but must work with other agencies on the ground in areas such as infrastructure and natural resource management.

The Department of National Parks and Wildlife (DNPW) has responsibility for protected areas (including national parks and wildlife reserves) and also has responsibility for implementing the Convention on Wetlands of International Importance (the Ramsar Convention). For this reason, DNPW is expected to have a major role in managing sub-components of GEF support for sites in the lower Shire, including Lengwe National Park and the Elephant Marshes. DNPW's regional presence and mandate will also allow them to facilitate cross-support across different sites in the lower Shire – including Mwabvi and Majete protected areas, for example on training, use of spatial imagery, marketing and deployment of equipment. Also the biodiversity planning would be an integral part of overall Shire Basin planning with the new integrated multi-sectoral Shire Basin Institution to be supported under the overall program. Capacity-building of all key relevant institutions in the Basin is being undertaken under various financing sources and will support strengthening of management within targeted protected areas as well as across these area – and this should also help improve the sustainability of these efforts.

Institutions with a mandate for research and inventory - and with potential for hosting knowledge centers, include the Forest Resources Institute of Malawi (FRIM) and the National Botanical Gardens and Herbarium. There are also a number of relevant and capable non-governmental organizations working on sustainable management of biodiversity both nationally and within the Shire basin. These include the Mulanje Mountain Conservation Trust, LEAD International, the World Fish Center and the Wildlife Conservation Society of Malawi (the BirdLife International partner in Malawi).

The main stakeholders at local level will include communities that depend on forest and wetland resources in and around the two forest reserves (Tsamba and Mangochi), Lengwe and Liwonde National Parks and the Elephant marshes. These communities are mostly smallholder farmers with high dependency on natural resources and with limited access to basic services. Forest users around Tsamba Forest Reserve will benefit from local participation and benefit sharing arrangements from these forest reserves and it is anticipated that this will include licensed charcoal production. This should create an incentive for investment in sustainable and more efficient charcoal production and will also enable charcoal producers and local forest management groups to retain the share of revenues from charcoal that would normally be lost through informal payments to enforcement agencies. It is envisaged that Mwabvi and Majete Wildlife Reserves (the latter already succeeding in attracting increasing numbers of tourists) will benefit indirectly since the project should diversify the options available for wildlife-based tourism in the lower Shire Valley. Shire floodplain communities around the Elephant Marshes are particularly vulnerable due to the impact of recurrent floods. A number of NGOs are already working in this area, providing largely palliative support in the face of flood impacts. The project should help to direct this effort towards longer term solutions based on flood and livelihood resilience.

Private sector investors in wildlife-based tourism, including tour operators in Blantyre and concession holders such as African Parks (who manage Majete Wildlife Reserve adjacent to Lengwe) see this as an opportunity and are expected to contribute guidance and expertise. The approach in Lengwe will be to provide the basic tourist infrastructure (e.g. visitor information center, access tracks, water points) that will attract co-investment from the private sector in accommodation and tour facilities, and potentially even pave the way for a park management

concession, as has been successfully implemented at Majete. Private sector partners should also provide means through which Lengwe and Liwonde National Parks and the Elephant Marshes can be better marketed to regional, national and international visitors.

B.6. Explain how cost-effectiveness is reflected in the project design:

IDA investments in catchment management under the parent project are focused in those locations identified as having the highest contributions to *current* erosion on the basis of spatial soil loss models. The economic and financial analysis in the Project Appraisal Document (PAD – annex 6) demonstrate that these investments are expected to be cost effective. The GEF/LDCF investments by contrast are designed to demonstrate that investing in maintenance and rehabilitation of remaining natural habitats can be costs effective in comparison to restoration of already highly degraded landscapes (i.e. that prevention is cheaper than cure). Although a full evaluation of respective costs benefits requires data on current deforestation rates, impacts of investments and more sophisticated river basin models, which will only be generated through the project itself, natural habitat management is likely to be extremely cost-effective in delivering environmental services given the relative intensity of investments – less than \$20 per ha for the GEF/LDCF sites vs. roughly \$275 per ha for micro-catchments targeted in subcomponent B2 over the duration of the project. The GEF/LDCF sites could usefully absorb much more significant investments, but given the low baseline budgets available for these areas, sustainability would be a serious concern. The approach adopted is therefore to focus on highly selective investments considered key to sustainability by raising the potential of the areas to generate greater revenues (in the case of the National Parks) and/or greater local benefits that will sustain community management efforts in future (particularly in the case of the Forest Reserves and Elephant Marshes). GEF investments in Lengwe and Liwonde National Park for example will amount to around \$4 per ha per annum. For Lengwe National Park, this will comprise a major new source of financing (currently DNPW budget for this national park is less than \$1 per hectare), but by global standards, the Park will remain poorly funded.

These investments will also provide additional global environmental benefits in the form of conservation of globally significant biodiversity, development of a promising and largely indigenous model for community management of East African forests, and maintenance of substantial carbon stocks, particularly the intact natural habitats of the cluster of sites that would be targeted in the lower Shire – comprising over 3,000 km² of carbon-rich forests and wetlands which might otherwise be lost or degraded through land clearance, encroachment and erosion.

The GEF and LDCF investments represent particular value for money in that they will mainstream an ecological infrastructure approach within a much larger project, leveraging phase 1 project resources and laying the groundwork for additional support under phase 2 of the intended APL.

B.7. Outline the coordination with other related initiatives:

Component 1 of the SRBMP will support the establishment of a basin management entity on which the key central line ministries will be represented, and which will engage other key stakeholders, including traditional authorities, local authorities at district and regional level and civil society organizations. The precise design of this entity will be detailed during early project implementation, but its duties will include ensuring alignment of government policies and plans with overarching Shire Basin management plans, and complementarity of donor-supported activities, through establishing more systematic site-selection protocols and sharing of lessons. There are several current and planned rural livelihoods and environmental management projects within the Shire Basin, including the UNDP Sustainable Land Management Project (which will be supporting community forest management at Thanbani Forest Reserve in the middle Shire), the FAO Food Security and Sustainable Rural Livelihoods Project, the EU Improved Forest Management for Sustainable Livelihoods Program (which works nationally and will include Matandwe Forest Reserve in the lower Shire), the JICA Community Vitalization and Afforestation project, and planned watershed management investments in the upper Shire by the Millennium Challenge Account. A coordination structure for the lower Shire protected areas (wildlife and forest reserves) cluster will also be established to improve collaboration between the Department of Parks and Wildlife and the Department of Forestry, as well as with NGO and private sector entities involved in protected areas management, such as the Mulanje Mountain Conservation Trust, the Malawi Environmental Endowment Trust, and African Parks.

A number of related activities focus more specifically on climate change within Malawi. Management planning for

the Elephant Marshes will learn lessons from the ongoing Lake Chilwa Basin Climate Change Adaptation Program, which covers the only part of southern Malawi outside of the Shire Basin, and includes community management of extensive wetland resources. DfID and IrishAID are developing a community climate resilience fund, which will be national and demand-driven in scope, but (given the population's vulnerability) is expected to focus largely on the lower Shire Floodplain, and should help to align the efforts of locally active NGOs with the longer-term community resilience approach being pursued under the SRBMP. The project will also coordinate with the upcoming Climate Adaptation for Rural Livelihoods and Agriculture project, financed through the AfDB, and the Climate Proofing Local Development Gains project, for which UNDP is applying for LDCF funds. Both projects will focus on rural community vulnerability assessment and adaptation in limited parts of the Shire Basin, with field interventions likely to be focused on climate-smart agriculture. They will therefore form part of the general experience with sustainable land management in the Shire Basin which the SRBMP aims to collate and draw from. More broadly, the preparation of the SRBMP is closely coordinated with assessment of land use options and strengthening of the climate information base under the National Program for Management Climate Change in Malawi (CCP). The CCP (along with UNDP's related activities under the Africa Adaptation Program) is coordinating key climate agencies (primarily the Ministries of Development Planning & Cooperation, Natural Resources, Energy & Environment, and Irrigation and Water Development) and develop partners (UNDP, WB, FAO, DfID, Norway) to identify more detailed and actionable adaption and mitigation investment, and potentially lay the basis for a climate SWAp. Coordination will ensure that the SRBMP and LDCF-funded activities responds to the most up-to-date national adaptation priorities.

There will be a number of different modalities of coordination with other projects depending on their physical location and thematic focus:

- A few projects outside the Shire Basin will be used primarily as models from which to draw lessons for field implementation within the SRBMP. This includes the Lake Chilwa Basin Adaptation Program, which is of particular relevance to community wetland management in the Elephant Marshes, and external forest reserve co-management examples under the EU forestry project.
- The multiple sustainable catchment management / conservation agricultural projects within the Shire Basin, including the ADB and UNDP rural resilience projects, are outside of the micro-catchments targeted under component B. These projects have already been studied as models during the design of the SRBMP, and through the basin-wide coordination mechanisms to be established, there will be ongoing lesson-sharing and some joint M&E via the basin-level monitoring activities.
- An exception to the above is the JICA Community Vitalization project. This will involve a partial spatial overlap with the SRBMP micro-catchment investments, but is a much smaller activities, focused on community training, which will complement the more extensive field investments from SRBMP.
- There will also be knowledge networking with other protected area management projects in the middle and lower Shire, including African Parks at Majete, the Mount Mulanje Conservation Trust and forest reserve management activities under the UNDP SLM project at Thambani. Coordination will be further strengthened through a number of cluster-based management activities, however, particularly focused around nature-based tourism development, as described above.
- NGO activities focused on safety nets and capacity-building amongst climate-vulnerable communities in the lower Shire will be sympatric with subcomponent C2 activities, but should complement and help to sustain the more specific SRBMP investments. As important stakeholders, these NGOs will be incorporated in the consultation process around management planning for the Elephant Marshes.

The coordination of hitherto piecemeal land, natural resources and biodiversity management projects into an integrated basin management approach is a key outcome of the SRBMP, and critical to the subsequent scale-up of catchment management to effect significant impact on the hydrology of the Shire. Before the long-term basin management entity is established, coordination between agencies and with other projects and programs will be the responsibility of the project coordination unit in the Ministry of Irrigation and Water Development, supported by the World Bank task team. The locally-based Bank team will also ensure synergy with other IDA irrigation and community investments in southern Malawi, e.g. ensuring that any irrigation investments in the lower Shire provide an alternative to agricultural expansion within the Elephant Marshes, without causing undue disruption to their hydrology. The same team are also working on related climate change and disaster risk management programs in Malawi.

C. GEF AGENCY INFORMATION:

C.1 Confirm the co-financing amount the GEF agency brings to the project:

The IDA credit for the “Shire River Basin Management Project” is estimated to be about US\$125m. Of this amount, approximately US\$ 67 million is expected to be used as direct co-financing for the GEF activities, comprising basin management planning and capacity building activities, policy analysis related to the charcoal industry, SLWM investments in agricultural landscapes, inputs from the community livelihoods fund, community-level flood resilience activities in and around the area of the Elephant Marshes, and project management and monitoring overheads. This IDA credit will serve as a flagship project for the Bank in Malawi, laying the foundation for sustainable development based on integrated natural resources management throughout most of the southern half of the country and the largest part of its economy. It is also anticipated that the project will lead to a second phase investment of similar size as part of the APL, and which would be informed by the ecosystem valuation and pilot management activities funded by GEF. Through establishment of basin-wide coordination and monitoring mechanisms, it is also expected to influence the direction of related land management projects, including investments by the Millennium Challenge Account, UNDP and Japan.

C.2 How does the project fit into the GEF agency’s program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:

The Shire River Basin Management Project is consistent with the Bank’s fifth Country Assistance Strategy (CAS) for Malawi, 2011–2016. The project focuses on safeguarding and ameliorating the environment and natural resource base in the Shire River Basin to ensure local and global environmental services, including biodiversity conservation, climate resilience and carbon sequestration, and to improve sustainable livelihoods, food security, water supply and electrical energy generation; essential elements to support sustainable economic growth and poverty alleviation efforts. Project investments are primarily aligned with: CAS Theme 1 Promoting sustainable, diversified and inclusive growth, Results Area 1.3 Strengthening productivity in a diversified economy, Outcome 2 Improved capacity to plan, manage and develop water resources for multipurpose use; and CAS Theme 2 Enhancing human capital and reducing vulnerabilities, Results Area 2.2 Lowering vulnerability and enhancing resilience, Outcome 3 Sustained rural livelihoods and improved protection of investments dependent on the resource base, and Outcome 4 Enhanced capacity to respond to current and future climate and disaster risks. The GEF-funded activities within the project are particularly aligned with Outcome 3 under Results Area 2.2. Along with the Bank’s other biodiversity projects in Malawi, they will help to conserve resources that are important to rural livelihoods, as well as providing watershed services and the basis for most of Malawi’s tourism industry. The project is also closely related to climate and disaster resilience activities under Outcome 4.

The World Bank has a well staffed office in Malawi, as well as the ability to draw on pre-eminent global expertise. It is anticipated that three natural resources technical staff will be based in Malawi during the project, covering water, environment, forests and climate change, in addition to agriculture, private sector, procurement and financial management specialists. The task team for the Shire Project also includes some of the most experienced experts within the Bank in river basin management, and in environmental and social safeguards.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. INSTITUTIONAL ARRANGEMENT:

The World Bank is the only GEF agency involved in the SRBMP, and will support project implementation, along with the fully blended GEF/LDCF-funded activities in accordance with routine supervision policies and the importance being placed on this flagship project. Implementation arrangements within Government are described below.

B. PROJECT IMPLEMENTATION ARRANGEMENT:

Component A will be implemented by the Ministry of Agriculture, Irrigation and Water Resources, which has overall management responsibility for the project, but with guidance from a technical sub-committee that will bring together natural habitat management agencies, as well as specialized NGOs and research institutions.

GEF and LDCF-supported activities under Components B & C will be implemented by DNPW within national parks and the Elephant Marshes, and by DoF within forest reserves, working with villages through the Village Natural Resource Management Committees (VNRMC) wherever appropriate. In the Elephant Marshes, DNPW has overall

responsibility for management of the ecosystem, but would work closely with the Department of Disaster Management Affairs, as well as NGOs working on community resilience.

The project will strengthen VNRMCs, and other relevant institutions such as producer associations and Civil Protection Committee (CPCs). Implementing agencies will be supported by long-term international and national advisors focused on protected area management and community participation respectively, as well as a range of specific TA inputs. DNPW's regional presence and mandate will also allow them to facilitate coordination and cross-support across different conservation sites in the Shire, for example on training, use of spatial imagery, production of interpretive materials and development of a nature-based tourism strategy. Coordination and knowledge networking will also draw in a number of capable non-governmental organizations working on sustainable management of biodiversity, particularly those already working on site-based management of important wetland and terrestrial ecosystems, including the Mulanje Mountain Conservation Trust, LEAD International, the World Fish Center and African Parks Foundation.

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF

The design is consistent with the PIF and there have been no major changes to project design or approach. Project implementation arrangements (see above) have been elaborated in more detail since the PIF and baseline monitoring tools, including tracker tools for each of the GEF/LDCF focal areas have been completed. Since submission of the PIF, the existing UNDP SLM project in Malawi decided to invest in community forest management at Thanbani Forest Reserve. The EU has also included Matandwe Forest Reserve in the second phase of their community forest management program. With this in mind the GEF-support under this project has now been re-directed to three other sites that deliver important environmental services to the middle Shire – Tsamba and Eastern Escarpment Forest Reserves, which protect steeply sloping land in Neno District adjacent to target micro-catchments under subcomponent B2, and Mangochi Forest Reserve which protects extensive forests in the upper middle Shire and which forms a vital ecological corridor for Liwonde National Park. The switch from Thanbani and Matandwe Forest Reserves to Tsamba, Eastern Escarpment and Mangochi Forest Reserves has the strong support of the Department of Forestry and adds value to the efforts of other donors by extending support for sustainable resource management to an even greater proportion of the basin's remaining natural assets. To complement support at Mangochi and to realize opportunities for cross-support between Parks, a modest package of support has been included for Liwonde National Park. This will seek to strengthen the financial viability of the Park to generate revenues from tourism by assisting in the upgrade of essential infrastructure that will enable wet season access for tourists (and rangers) to the northern sector of the Park. Support will also be deployed to support community level planning and development to 'pump prime' a new and innovative benefit sharing mechanism introduced by park authorities at Liwonde. This will share a proportion of Park gate receipts and lodge revenues with village level groups around the Park boundary. This investment should also generate important lessons and experience for other sites in the lower Shire – including Lengwe National Park, Mwabvi Game Reserve and Matandwe Forest Reserve in the Lower Shire basin.

No other substantive changes have been made although activities have been further detailed and figures on areas, indicators and costs have been updated through completion of budgets and tracking tools.

PART V: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

- A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Dr. Aloysius Kamperewera	Deputy Director, Environmental Affairs Department	MINISTRY OF NATURAL RESOURCES, ENVIRONMENT & ENERGY	08/22/2011

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B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Karin Shepardson, GEF Agency Executive Coordinator		March 7, 2012	Paola Agostini, Regional Coordinator, Africa Region	202 473 7620	pagostini@worldbank.org

ANNEX A: PROJECT RESULTS FRAMEWORK

Program Development Objective: Increase sustainable social, economic and environmental benefits by effectively and collaboratively planning, developing and managing the Shire River Basin's natural resources										
Program Level Results Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values			Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR5	YR10	YR 15				
Change in percentage of people living below the poverty line in Program Areas	<input type="checkbox"/>	%	TBD	-3%	-6%	-10%	Every 5 years	Baseline and household surveys	MAIWD	Use poverty data from country and program surveys to describe change in poverty levels in the program areas.
High erosion area (>25/t/ha) in targeted catchment areas	<input type="checkbox"/>	ha	66,000 ¹³	61,000	56,000	51,000	Every 5 years	Modeling and Bio-physical survey/ monitoring	DLRC, Contracted partner	Modeled high erosion areas, supplemented with field biophysical and remote sensing measurements
Total hydropower generation from Shire Basin	<input type="checkbox"/>	GWh	TBD	+5%	+10%	+20%	Every 5 years	Power generation output data	ESCOM	More energy available from the Basin; New projects.
Persons with access to improved flood management, of which % female	<input type="checkbox"/>	Number and (%)	0	200,000 (50%)	225,000 (50%)	250,000 (50%)	Every 5 years	Institution reports and surveys	DCCMS, DWR and DoDMA	This is also partially captured in LDCF Tracking Tools on Elephant Marshes

¹³ See Annex 7 Table 1.

Project Development Objective (PDO): Shire River Basin planning framework developed to improve land and water management for ecosystem and livelihood benefits in target areas													
PDO Level Results Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR 5	YR 6				
Shire Basin Plan developed by multi-sector Shire Basin Institution	<input type="checkbox"/>	Y/N	N	N	N	N	N	Y	Y	Annual	Project reports	MAIWD	Multi-sector land and water management plan based on analysis and stakeholder consultation developed by Shire Basin Institution
Vegetation cover change as a percentage of baseline in selected catchments	<input type="checkbox"/>	%	0%	+0%	+0%	+2%	+5%	+8%	+10%	Annual	Satellite imagery, vegetation index	National Space Data Centre	Indicator captures changes in agricultural land (currently x ha) as well as forest land ¹⁴ (currently y ha) and protected areas (currently z ha) in targeted areas.
Downtime for hydropower stations on the Shire river	<input type="checkbox"/>	%	8 (2009)	8	8	8	8	7.6 (-5%)	7.2 (-10%)	Annual	Power generation output data	ESCOM	Downtime of HP stations in the cascade due to weed, silt, sediments and low flows
Households in targeted areas re-classified to lower risk	<input type="checkbox"/>	Number	0	0	0	3,000	10,000	15,000	20,000	Annual	Project reports	DWR DoDMA	Reflection of changes in flood risk to communities
Direct project beneficiaries ¹⁵ , of which female (%)	<input checked="" type="checkbox"/>	Number (in1000) and (%)	0 (-)	0 (-)	15 (50%)	100 (50%)	230 (50%)	350 (50%)	400 (50%)	Annual	Implementing agency project reports	DLRC, DWR DoDMA	Number of beneficiaries targeted under components B and C.2 (catchment management and flood risk management).

¹⁴ For forest reserves, the results will be used to estimate carbon storage gains according to the GEF SFM tracking tool.

¹⁵ Assuming 5 persons per beneficiary household

Intermediate Results Component A – Shire Basin Planning: Collaborative and knowledge based Shire River Basin Plan developed													
Intermediate Level Results Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR 5	YR 6				
Progress on Shire Basin knowledge base and decision support systems development, including ecological aspects ¹⁶ .	<input type="checkbox"/>	Y/N	N	N	Spatial knowledge base	State of Shire Basin report	Basin planning DSS developed	Shire Basin Plan developed		Annual	Project reports	Basin agency/ TT	Knowledge products (hardcopy/ electronic) and decision support systems/ web based tools developed with appropriate integration of new ecological information
Hydromet stations with accessible data in real time.	<input type="checkbox"/>	Number	0	0	0	0	10	20	30	Annual	Agency reports Project reports	DWR DCCMS	Hydro & meteorological stations to collect water and climate data
Average warning time for flood forecast information to reach targeted communities for improved preparedness	<input type="checkbox"/>	hrs	no existing effective system	no existing effective system	no existing effective system	no existing effective system	2	8	24	Annual	Reports	DoDMA/ DCCMS/ DWR/ Basin Agency	Improved capacity to provide flood early warnings through hydrological forecasting and basin monitoring gauges to targeted communities.

¹⁶ This will also be captured through the GEF LD tracking tool assessment of progress under Outcome 3.1: Enhanced enabling environments between sectors in support of SLM.

Intermediate Results Component B – Catchment Management: Targeted sub-catchments and protected areas rehabilitated and managed for reduced erosion and improved livelihoods													
Intermediate Level Results Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR 3	YR 4	YR 5	YR 6				
Annual average sediment load from selected sub-catchments compared to control catchments reduced	<input type="checkbox"/>	Ratio	1	1	1	1	0.98	0.95	0.9	Annual	Bio-physical survey/ monitoring	DLRC, Implementing Partner (IP)	Ratio: Selected / Control Catchment Sediment Load averages. Sediment load for high turbidity, sample analyzed for total suspended solids.
Proportion of households within targeted sub-catchments engaged in sustainable land and water management	<input type="checkbox"/>	%	15	15	20	35	45	65	75	Annual	IP reports, Project reports	IP, MAIWD, Project coordination	Planning documents including performance agreements and plans, as well as records of consultations and maps.
Total value of revolving fund managed by targeted GVs	<input type="checkbox"/>	Million MK	0	0	0	0	40	120	220	Annual	VDC financial records IP report	IP, DLRC Project coordination	Startup financing of GVs is maintained reflecting good management and loan to profitable business.
Percentage increase in total value of agriculture related products marketed from targeted GVs	<input type="checkbox"/>	%	0	0%	0%	0%	5%	10%	25%	Annual	Socio economic survey	Project Coordination	Value of marketed agricultural production and processed products ¹⁷ currently estimated to be X million MK
Average Management Effectiveness scores for 6 targeted protected areas/forest reserves ¹⁸	<input type="checkbox"/>	METT score	39	0			50		65	MTR+I CR	METT scores in GEF tracking tools	MTWC (DNPW)	Target sites: Liwonde & Lengwe NPs; Eastern Escarpment, Tsamba & Mangochi FRs; Elephant Marshes

¹⁷ Income generating activities include processing, improved storage, livestock, apiculture, etc.

¹⁸ Management Effectiveness Tracker Tool (METT) is a GEF tool that uses a basket of indicators to score changes in protected area management effectiveness. This is a required M&E tool for all GEF funded biodiversity programs and will be applied to all targeted natural habitat sites under the program.

Intermediate Results Component C – Water Related Infrastructure: New investments enable improved regulation of Shire river flows and strengthen climate resilience													
Intermediate Level Results Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR 5	YR 6				
Kamuzu barrage upgraded and operational with improved management	<input type="checkbox"/>	Y/N	0	Works contracts awarded		Operational Rule DSS developed	Phase I of construction completed	Phase II/III of construction completed	Operational on DSS operational	Annual	Contractor reports, project reports	Contractor MAIWD MTPW	Barrage fully functional in regulating discharge and controlling water levels as designed.
GV with improved community flood management infrastructure	<input type="checkbox"/>	Number	0	0	0	7	20	30	40	Annual	Project reports	DODMA and DWR	Infrastructure of first phase of integrated flood risk management plan
New water investment plans prepared to pre/feasibility stage	<input type="checkbox"/>	Number	0	0	0	0	2	3	4	Annual	Project reports	MAIWD	Includes detailed design, pre-feasibility and costs.
Budgeted management plan established for Elephant Marshes	<input type="checkbox"/>	Y/N	N	N	N	N	Y	Y	Y	Annual	Project reports	DNPW	Also included under LDCF Adaptation Monitoring & Assessment Tool indicator on budgeted sector plans.

Socio-economic baseline survey is currently underway which will determine the baseline for outstanding issues before project effectiveness

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).

1. Responses to GEFSec Comments

A. Responses to GEF Review Sheet (Apr 10, 2012)

7. Is the project aligned with the focal/multifocal areas/ LDCF/SCCF/NPIF results framework?

Sorry to come back on one issue not mentioned earlier, but for the table A, please maintain the same phrasing for outcomes and outputs than what you will find in the GEF5 strategy ([http://www.thegef.org/gef/pubs/GEF-5 FA Strategies](http://www.thegef.org/gef/pubs/GEF-5_FA_Strategies)). Please, include the codes for the outcomes to avoid any wrong interpretation. Thanks.

Response: The wordings have been made consistent with GEF5 strategy outcomes wording and the Outcome codes included as suggested at the bilateral meeting.

10. Does the proposal clearly articulate how the capacities developed, if any, will contribute to the sustainability of project outcomes?

CCA: NOT CLEAR. The re-submission provides no further information as to how the proposed participatory management plans and associated pilot measures would mobilize additional resources during the later stages of the Shire River Basin Management Program. The success of this sub-component appears to hinge on the extent to which it will be mainstreamed in, and scaled up through subsequent phases of the program. As the project has been fully prepared, greater detail would be expected in this regard. RECOMMENDED ACTION: Please describe how the proposed management plans and pilot measures under component C.2 would be sustained and scaled up during and after the proposed project.

Response: The project proposed is supporting the first phase of a long-term (15-yr) Shire River Basin Management Program that the client is pursuing and hence an Adaptable Program Loan (APL) instrument has been used for the overall blended project. The work related to the development of a strategy for long-term management of the Elephant Marsh based on an improved understanding of the system and community-level adaptation activities in flood-affected communities are designed to inform, and be complemented, sustained, and scaled-up as part of this long-term program. Even in this first phase project, these activities will also inform work to be done as part of the capacity-building, overall Shire Basin planning, other flood management, and investment preparation activities proposed to be supported. The sustainability of the work is also promoted by focusing on building the capacity of the core government agencies related to the effective management and protection of this important ecosystem that provides climate adaptation benefits to vulnerable communities in the lower Shire as well as by building the capacity of communities through appropriate capacity-building using NGOs, early warning systems, and local adaptation infrastructure that can be used to learn lessons for scaling up in future phases of the Program. Additional text in A.1.1 and B.1 has been added to reflect this in the CEO memo.

12. Has the cost-effectiveness been sufficiently demonstrated, including the cost-effectiveness of the project design approach as compared to alternative approaches to achieve similar benefits?

NOT CLEAR. The cost estimate has not been revised and the proposed rates for international consultants still appear considerably higher than rates for comparable assignments in previous GEF projects in the country. While, in its response to GEFSEC comments, the World Bank notes that the consultants' rates are based on "standard rates being used in the Project budget for international consultants under firm contract", such

standard rates should nevertheless comply with GEF recommendations (currently \$3,000/week for international consultants). If, as suggested in the World Bank's response to GEFSEC comments, the precise number of hours cannot be specified and that focus should be placed on the overall cost, the specific nature, scope, outcome and outputs of the proposed assignments should be described in greater detail to demonstrate cost-effectiveness. **RECOMMENDED ACTION:** Upon addressing CCA recommendations under sections 13 and 24 below, please ensure that all LDCF-financed technical assistance activities have been designed in a cost-effective manner and in compliance with relevant GEF recommendations.

Response: The work on the Elephant marshes will involve a number of studies to better understand the dynamics of the system and to ensure that designed investments and pilots are effective and sustainable when scaled-up. The original rates had agglomerated consultancy, accommodation, per-diems, travel, and other overheads as they were to be procured as part of Firm contracts. Per the latest advice of GEFSec, the rates have been revised in Annex C to only reflect the salary, which is then consistent with other proposed studies and GEFSEC guidelines.

13. Are the activities that will be financed using GEF/LDCF/SCCF funding based on incremental/additional reasoning?

...Explain how these activities will be sustainable after the project. Who will manage and finance the management and the updating of these mapping, data, and planning tools?...However, we do not find any response about the sustainability. Please provide elements of response for this point.

Response: Sustainability and scaling-up is enhanced by focusing on permanent institutions, substantial co-financing by IDA, and also given that this project (and these activities) are considered as part of a longer-term program on the Shire Basin (see response to point 10 above). The overall responsibility of the knowledge base and planning tools will eventually be the responsibility of the Basin management institution to be set up as part of the overall project. The Malawi National Spatial Data Center is being supported as part of the project to be a spatial data repository and aid in the development of spatial knowledge products and facilitation of their access and use. The mapping, data, and tools will be mainstreamed into the development of the overall Shire Basin planning process. Subsequent phases of the Shire Basin Program are designed to support frequent updating and enhanced access and use of this Basin knowledge base. The capacity-building of key government agencies should also help improve the sustainability of these efforts. The GEF/LDCF funding is being use to assist the multi-sectoral institutions related to Shire Basin planning to better mainstream natural ecosystem and climate adaptation considerations in this overall basin management approach.

BD: NOT FULLY ADDRESSED. When a comment asked for clarification for the reasoning, please, provide elements to figure out this reasoning (baseline, strategy, justification of GEF resources, and sustainability). The comment "these activities are routinely funded through GEF resources" is not very helpful and actually is wrong. The activities appear as a disparate and opportunistic list of BD oriented activities without a real strategy and elements of sustainability. Please provide these elements of reasoning and sustainability we did not find. - Please explain the activities financed to strengthen regional planning and management coordination between protected areas. Provide the reasoning and explain the sustainability. Some of these activities seem similar than those financed by LD. Please, clarify.

Response: Clarifications have been included in the CEO memo to better reflect the reasoning for the activities proposed. The project is conceived as an integrated project across financing sources and as a first phase of a longer-term program to address the critical issues facing the Shire Basin. The GEF resources have been targeted towards activities that could provide additional support for issues relating to protected area and

biodiversity management, addressing critical soil erosion issues, and improving participatory and sustainable management of some of the remaining key forest areas in the Basin. These are very much in line with GEF objectives and outcomes targeted. The overall project has been designed as “fully blended” to complement and integrate the outputs of these activities and ensure their effective use, sustainability, and scaling-up. GEF-financed work on protected area systems and production landscapes would contribute to biodiversity and land degradation objectives while developing and demonstrating a holistic approach to Shire basin management that integrates economic, environmental, and social objectives. All activities proposed are certainly not ad hoc and have been carefully designed in a way that they not only contribute to financier goals but to provide strategic planning and demonstrate improved paradigms for overall Shire Basin management. For example, the biodiversity surveys would form an integral part of the overall basin knowledge base, the biodiversity planning would be an integral part of overall Shire Basin planning with the new integrated multi-sectoral Shire Basin Institution to be supported under the overall program. The forestry activities that will help apply improved management practices in work with local communities contribute not only to the sustainable forestry goals but are an integral part of the watershed management interventions. Capacity-building of all key relevant institutions in the Basin is being undertaken under various financing sources and will support strengthening of management within targeted protected areas as well as across these areas. The overall Project Appraisal Document for the blended project also provides additional details of the integrated approach pursued, where GEF and LDCF financing is synergized with IDA financing to support the Government of Malawi and community stakeholders in improved management of its Basin resources and assets.

CCA-NOT CLEAR. The re-submission provides little additional information regarding the additional reasoning justifying the proposed activities to be financed under the LDCF... “ While the core of the activities proposed for LDCF financing is based on additional reasoning and consistent with what was approved at PIF....., The re-submission clarifies that this could be achieved at "a minimal incremental cost to the project" and would strengthen the legal framework for the management of the Marshes. Accordingly, it is not clear why the activity has not been proposed for financing through other, more suitable sources within the same project”. RECOMMENDED ACTION: Please limit LDCF financing for scientific and technical assessments to activities that focus on the effects of climate change and appropriate adaptation measures, and that are entirely necessary for the implementation of the proposed participatory and climate-resilient planning activities and associated pilot measures under Component C. For further-reaching studies, as well as for the designation of Elephant Marshes as a Ramsar site, kindly seek other, complementary and more suitable sources of finance and revise the Project Framework (Table B) and the description of the additional reasoning accordingly.

Response: The write-up in the CEO Memo of the work proposed and the justification thereof related to the Elephant marshes and its link to climate adaptation have now been considerably strengthened (see section B.2 of the CEO memo and Annex 9 of the Project Document). It is critical to recognize the key role of the marshes in providing climate resilience to local communities in the most flood-affected part of the nation. It is also critical to note that the issues in such a system cannot be addressed by ad hoc investments and that there is a need to pursue integrated well designed interventions.

Given the critical function of these marshes in providing a sustainable buffer for nearby flood-affected communities, there is also a need to support measures for its longer-term protection (e.g. through national and international recognition). However, since these protection-oriented activities will really not require much financing and are more products expected from the LDCF, GEF, and IDA financed activities under the overall project, the outcomes and outputs in Table B have been adjusted as suggested to focus on the scientific and technical assessments as well as the community capacity-building and pilots necessary for the planning and implementation of climate resilience activities.

14. Is the project framework sound and sufficiently clear?

CCA: Please address CCA recommendations under sections 13 and 24 and revise the Project Framework accordingly.

Response: Please see new responses for sections 13 and 24 and adjustments to the CEO Memo based on the bilateral discussions held between the WB and the GEFSEC.

15. Are the applied methodology and assumptions for the description of the incremental/additional benefits sound and appropriate?

CCA: Please address CCA recommendations under Section 13 above.

Response: Please see new response for section 13.

24. Is the funding and co-financing per objective appropriate and adequate to achieve the expected outcomes and outputs?

CCA: Please address CCA recommendations under section 13 above.

Response: Please see new response for section 13. The project team has worked closely with clients to ensure that the costing and financing arrangements are adequate to achieve the expected outcomes and outputs of this project.

B. Response to comments in the GEFSEC Review sheet (3-22-2012)

Comment Q10. With respect to the activities proposed for LDCF financing in the Elephant Marshes, the CEO Endorsement Request and the Project Document present the participatory management plans and the associated pilot measures as a means to mobilize resources during later stages of the Shire River Basin program. Still, it is not clear how such activities fit within the objectives and outcomes of the program, nor is there a tentative investment plan indicating further measures to strengthen the Marshes as a buffer against severe flooding in the lower Shire floodplain.

Response: The Program Development Objective, as included in annex A of the CEO memo is to “Increase sustainable social, economic and environmental benefits by effectively and collaboratively planning, developing and managing the Shire River Basin’s natural resources. We would consider improved management of the Elephant Marshes for enhanced flood and livelihood resilience to be entirely aligned with that stated objective, as well as the related results indicators to (i) increase the number of persons with improved flood management and (ii) reduce the percentage of people living below the poverty line. We do not have a tentative investment plan at present as the knowledge base is extremely low. That is why a significant amount of the resources being expended on the Elephant Marshes during the first phase will be on ecological, hydrological and livelihood studies (also see discussion on this point below).

Comment (Q12).

(i) Three consultants are estimated at \$5,000 per week (hydraulic engineer x 10 weeks, bridge engineer x 10 weeks and elephant marshes studies x 120). Please clarify if these are lumpsums, estimations, or rates per week. These rates are much more higher than what is practiced in other GEF projects in the region. Please confirm that the rate of \$5,000 per week applies WB rules and is acceptable in the region.

Response: All three of the consultancies highlighted will be lump sum, firm contracts. They were converted to numbers of weeks and unit costs at standard rates being used in the Project budget for international consultants under firm contract as this is how the information is requested to be presented in the CEO memo, however, it is the totals for these activities that are of more relevance than the unit costs. Furthermore, we believe those totals (\$50,000 for each of the engineering studies and \$600,000 for a suite of studies on the Elephant Marshes) to be reasonable, considering that the engineering contracts will also include supervision of eventual construction activities, and that a range of studies (ecological, hydrological & livelihood) are needed for the Marshes which cover an extensive area (>1000 km²) and are a very challenging area to work in logistically. The various studies for the Marshes may be contracted separately or as a consolidated contract during implementation depending on the availability of suitable expertise and initial expressions of interest. All procurement will of course be compliant with Bank procurement policies aimed at ensuring value for money, and all internationally advertised contracts are open to national firms who may have the required expertise.

(ii) Please, explain (in ha, in US\$) how much will be invested in SLM activities in the targeted sub-basins, even from the baseline project, notably when the GEF LD resources are mainly used at basin planning level. The justification of the use of all LD resources at basin level can be acceptable if the cost effectiveness is demonstrated. Please, develop.

Response: \$18.7m will be spent on on-the-ground sub catchment rehabilitation in subcomponent B2, as shown in project framework. This includes roughly: \$13.2m for on-farm soil & water management, agroforestry & village forestry activities; \$1.9m for small-scale water infrastructure (including gully controls, micro-dams, etc); and \$3.6m on district level infrastructure (e.g. upgrading rural roads to reduce erosion, small multipurpose dams, etc). The total investment in basin rehabilitation under Component B, including institutional capacity building and linked livelihoods for sustainability, is over \$35m, which equates to roughly \$275 per ha as mentioned in section B6 of the CEO memo. This figure is comparable to other World Bank large watershed management projects elsewhere, although per ha costs are somewhat higher than in some other regions, such as South Asia, due to higher unit costs of fuel, materials and qualified support personnel in Africa. The GEF LD investments on basin level activities are very modest in comparison, and are focused on adding a new and important dimension to the enabling environment for landscape-level management, rather than the routine on-the-ground catchment rehabilitation investments under Component B. This modest investment during the first phase, however, has the potential to leverage much larger resources under later phases.

(iii) The proposed project would use LDCF resources to hire international consultants for 120 person weeks at \$5,000 per week to undertake studies of the Elephant Marshes (Annex C). The total cost of \$600,000 represents 40 per cent of the LDCF grant and nearly 40 per cent of total GEF/LDCF expenditure on international consultants. Yet, it is unclear whether the proposed studies contribute towards the core results associated with the LDCF grant (CEO Endorsement Request, p. 17) directly and in a cost-effective manner. Moreover, the proposed consultants' rates appear significantly higher than rates for comparable assignments in previous GEF projects in the country, particularly for such a number of person weeks.

Response: Cost issues are addressed above. The reason for a significant investment in studies is that the existing information base is very low and therefore they are required for proper planning for community management and subsequent investments. This was noted in the draft CEO memo – “Given the . . . lack of information on the Marshes, significant investments will need to be made in initial analyses of ecology, hydrology and threats to the Marshes” – although the language has now been strengthened in a couple of locations to better clarify the context. Please note also that this project has not used any PPG to undertake additional studies, due to the need to adhere to the preparation schedule for the main project. Therefore a key element of the design has been to ensure that the information base is also covered as part of the project. Furthermore, whilst \$600,000 represents 40% of the LDCF funding, this still represents a very small

proportion of the overall project (less than 0.5%), of overall expenditures that contribute to climate adaptation, and in relation to the funds that would be needed to establish robust management of the entire Marshes area under subsequent phases. When GEF/LDCF resources are being used for very targeted purposes within the context of leveraging much larger project investments, they will inevitably not appear as balanced as if they were being used for a self-contained activity. Also see response under section 24 below.

Comment (Q13).

(i) “ - . . . confirm that GEF resources are not directly used for Environment Impact Assessments or compensatory environmental measures. This kind of activity is considered as business-as-usual and cannot be considered incremental. Please, clarify the framework of GEF activities”.

Response: In relation to the SRBMP, the following comprehensive set of safeguard documents have been prepared: a Strategic Environmental and Social Assessment for the Shire River Basin; an Environmental and Social Management Framework; a Resettlement Policy Framework with Process Framework; and an independent Environmental and Social Impact Assessment for the upgrading of the Kamuzu Barrage including an Environmental and Social Management Plan and a Resettlement Action Plan. None of these documents, nor the action plans contained therein are funded from the GEF/LDCF contributions. All of the GEF/LDCF-funded activities are entirely additional to those identified under the aforementioned documents.

(ii) The activities under the LD focal area deal with "operating costs for systematic natural habitat and ecological surveys, as well as technical services for the development of knowledge products based on that information. The main outputs deal with site level ecological survey reports, basin ecosystem knowledge products, including maps and a spatial database". Most of the activities seem very BD oriented. Please explain how these activities are going to address LD3 requirements. How these activities might achieve "enhanced enabling environments toward harmonization and coordination between sectors in support of SLM"? Please, develop the linkages with SLM activities (probably cofinancing activities developed under the LD1 objective?).

- It is mentioned that one of the output under the LD focal area will be "increased collaborative research activities within forest and ecological research institutes". We are not sure this kind of output will contribute to the output 3.1 "integrated land management plans developed and implemented. Please, clarify.

Response: The GEF-LD funding is incremental to existing activities that include extensive investments in basin planning based on climate, hydrology & infrastructure information systems (as well as the catchment rehabilitation activities under Component B). GEF-LD funding is being used for a targeted incremental activities that recognizes that natural habitats have an important role in land management at the landscape level, but are under-represented in the baseline project because of the focus on already severely degraded areas, and because there is not systematic information base to demonstrate the contribution that they make to watershed management. Surveys and strengthening long-term research capacity are therefore an important pillar in providing the enabling environment (through component A) for broader multi-sectoral collaboration in landscape management. Please note that this design is based on the initial understanding that this rationale was accepted at the PIF stage.

(iii) Most, if not all LD resources and partially BD resources are used for knowledge and planning tools. In general, we try to maintain a balance between knowledge and capacity activities and field oriented activities. So, please, confirm that the capacities and the tools that will be developed through this project will be associated to activities on the ground at least from the cofinancing if it is not from GEF resources, and 2) explain how these activities will be sustainable after the project. Who will manage and finance the management and the updating of these mapping, data, and planning tools?

Response: Capacity investments for two specialized agencies – the Forest Research Institute of Malawi and the National Herbarium – is included under the LD funding. Capacity support for other relevant agencies (including Dept of Forestry, Dept of Parks & Wildlife, Dept of Land Resources Conservation, and a new Shire River Basin Management Agency) is included under the IDA funding for Component A. As mentioned above, GEF resources in this blended operation are contributing a small amount of total funding related to land management – both at the landscape level and field level. GEF resources are not being used to provide a comprehensive, balanced SLM project, rather to provide a very specific function that is not within the baseline project (incremental) because its focus is on rehabilitation of the most degraded lands, rather than contribution that natural habitats make to combating land degradation at a landscape level. When GEF/LDCF resources are being used for very targeted purposes within the context of leveraging much larger project investments, they will inevitably not appear as balanced as if they were being used for a self-contained activity.

(iv) We are not sure to understand the meaning of the "cluster approach". We can understand that national and local partners are looking for a certain flexibility. But, please, explain the added value for the GEF. Confirm there is no risk to lose the traceability of outputs and the impacts. Please, confirm that this way of doing will not weaken the incremental reasoning.

(v) Please explain the activities financed to strengthen regional planning and management coordination between protected areas. Provide the reasoning and explain the sustainability. Some of these activities seem similar than those financed by LD. Please, clarify.

Response: References to cluster approach and regional management coordination do not in any way undermine the specification of site-level investments, they simply allude to the facts that (i) those activities should be conducted in a way that takes into account opportunities to share information and lessons with other local protected areas, and (ii) a small number of activities, such as eco-tourism planning and marketing are more efficiently carried out across a cluster of sites (none of the PAs in southern Malawi are sufficiently large and renown to form major international tourism attractions in isolation, and therefore it makes sense to develop tourism marketing on the basis of the multiple activities that can be readily accessed when visiting the area. These activities are all specifically related to PA management issue, and not to the broader landscape / river basin management issues that are being addressed in component A with limited support from LD funds.

(vi) For BD related activities, please confirm the incremental reasoning. We understand the use of GEF BD resources to support technical assistance, training, and equipment to update management planning, strengthen community relations, monitoring and patrolling. We take also note of the access infrastructure and water points. But these activities seem basic protected area management activities (business-as-usual) and we do not see the reasoning and the strategic choice to focus on these activities in the Lengwe National Park, Linwonde National Park.

Response: All GEF-funded activities in this blended operation are incremental to the baseline scenario. This comment infact is questioning the GEF eligibility of activities which are routinely funded through GEF resources. Current DNPW budgets for these areas are on the order of \$1 per ha per annum (as mentioned in section B6 of the memo), which provides for a very basic level of management activities, but not enough to fully secure their conservation resources. The strategy as related in the CEO memo is to make short term investments in management systems and infrastructure, which will result in an ability to attract increased numbers of tourists, and therefore expand revenues for effective longer term management. Over the project life-span, these improvements are expected to be reflected in gains in the METT scores. The activities were designed in consultation with the counterparts who presented the priority needs and allocated corresponding resources under the STAR to carry out the activities.

(vii)CCA: The additional reasoning has not changed substantially since PIF. The baseline project contributes considerably towards climate change adaptation and particularly flood risk mitigation, but the Elephant

Marshes -- a crucial buffer against severe flooding -- lies beyond its scope. Accordingly, the proposed core results for the LDCF grant -- (i) community-based wetland management for flood risk mitigation; and (ii) strengthening climate-resilient livelihoods -- are based on additional reasoning. Still, with respect to specific activities, the project would allocate LDCF resources for hydrological and ecological studies of the Elephant Marshes at an amount exceeding \$600,000. Moreover, the project framework (Table B) proposes LDCF financing for the "submission of proposals for the designation of Elephant Marshes as Ramsar site and Community Conservation Area". Both activities represent business-as-usual ecosystem management and biodiversity protection activities. Indeed, similar studies appear to be financed with resources from other GEF focal areas under Component A.

Response: The need for studies as basis of the long-term management that is key for realizing adaptation goals is discussed above (see earlier response). These localized and detailed studies won't be provided under component A. As mentioned before the additional reasoning has not deviated since the PIF, though more information has been provided to clarify the reasoning better.

Comment (Q14). There are slight discrepancies between the project framework (Table B), the description of the additional cost reasoning for Component C (p. 16), and the core results for the proposed LDCF grant (p. 17). Contrary to Table B, Section B.2 of the CEO Endorsement Request (p. 16) appears to suggest that the expected outcome on "national and international recognition" and the associated output on proposals to designate the Elephant Marshes as a Ramsar site would not in fact be financed through the LDCF. Moreover, while Section B.2 (p. 16) of the CEO Endorsement Request cites a need for "initial analyses of the ecology, hydrology and threats to the Elephant Marshes" and while such analyses appear to take up a large share of the LDCF grant (Annex C), these are not found among the outcomes and outputs of Component C in the project framework, nor are these clearly aligned with the key results for the LDCF grant (p. 17).\

Response: At the outset it should be mentioned that this comment is somewhat misleading since the same question was considered - 'very clear and consistent at PIF stage'. The project as it advanced has not deviated at all from the central design or purpose states at the PIF stage. However further clarifications have been provided.

The key output from this activity is the planning and (through the pilots) experiential basis for long term management. Ramsar and national Community Conservation Area designation would contribute to this through providing a strengthened legal basis for management in parallel. This is useful and could be achieved at minimal incremental cost to the project, but it was not stressed initially as it is a process point not central to the key adaptation rationale. However, a specific mention of designations for legal protected status was included at a late stage in the project framework because it was specifically requested to be mentioned in previous GEFSec comments. A mention has been added to section B2 for consistency. It is something which, conditional of receiving the LDCF funding, is likely to take place as part of a process of government demonstrating its commitment to the long-term management of the Marshes. We leave it to the GEFSec reviewers to tell us whether inclusion of this point adds to or detracts from the central adaptation rationale, and therefore whether or not we should feature it within the CEO memo. The studies themselves are necessary prerequisites for the management planning, as mentioned above. However, they were not included as key results as they were seen as intermediate steps towards the planning outcomes, rather than objectives as and of themselves. It would be important to emphasize here again that in fully blended operations the central theme is to mainstream activities irrespective of sources of funding to ensure that activities are carried out in an integrated fashion. Culling out of GEF specific activities is only done for the benefit of the GEFsec.

Comment (Q15).

(i) It is less clear with the LD resources. Please develop the expected impacts of SLM activities that will take place in the basins covered by the planning and mapping tools.

Response: The field level SLM activities being funded by IDA under component B2 are expected to result in reduced sedimentation, increased reliability of surface water flows, increased vegetation coverage and improved livelihood resilience throughout the 133,000ha over which they are being applied. As explained above, however, the GEF-funded LD activities are contributing to the enabling environment for SLM at the landscape level through the knowledge base for development of Basin-wide management plans, in line with the alignment to the strategic objective outcomes that the project links to. This will be a longer term process. Physical impacts are likely to be seen mainly from the second phase of the Program, but are likely to involve expansion and improved targeting of micro-catchment rehabilitation, improved protection of remaining natural habitats on state and customary land, avoidance of inappropriate / unsustainable development investments, and increased investment in integrated land and water management investments (e.g. multi-purpose water storage with catchment protection / rehabilitation, irrigation, etc). Some text has been added to the draft CEO memo to make this more explicit.

(ii) Please, confirm what are the right carbon values to consider: In the PAD, it is mentioned p121 that the work done on targeted areas in the project is expected to contribute around 650,000 t CO₂ of emission reductions through reduced degradation and natural regrowth; while p136, the 43,700 ha of forest reserve under improved management will contribute to an estimated enhancement of carbon storage of 2,400,000t CO₂ equivalent.

Response: Point noted and corrected. The first figure is a mistake – it is the approximate mass of C, the correct figure for the magnitude of emissions reductions is 2,400,000 t CO₂e.

(iii) What kind of monitoring system is planned to actually check what the carbon benefits are from the project?

Response: What is discussed in the current M&E plan for the SRBMP is monitoring of vegetation cover using NDVI methodology. However, that is likely to result in a fairly coarse classification of habitats in relation to the expected enhancement of carbon stocks we are expecting to see from improvements in forest condition. We currently have a study underway which will use ALOS imagery and a methodology that has been calibrated for miombo woodland in Mozambique to analyze changes in forest condition in Malawi and to relate these to carbon densities. Based on successful demonstration of that approach, we expect the same methodology to be adopted under the SRBMP.

(iv) The adaptation benefits associated with the participatory management plans and associated pilot measures in the Elephant Marshes are clearly described, but as there are outstanding issues regarding the additional cost reasoning for other activities, this Section will be revisited once CCA recommendations under sections 13 and 24 have been addressed.

Response: see response above.

Comment (Q18). However, please confirm that the use of GEF resources is not associated to controversial activities or with reputational risks.

Response: A thorough risk assessment was conducted for the SRBMP as a whole and did not identify any controversial activities or reputational risks in relation to the GEF/LDCF-funded activities. Kindly note that the WB system itself has a strong system for due diligence in this matter, where a detailed risk analysis is conducted.

Comment (Q24). Given outstanding issues regarding the additional cost reasoning for certain LDCF-financed activities, the funding associated with Component C is not entirely justified. In particular, the proposed designation of the Elephant Marshes as a Ramsar site and the comprehensive studies of the Marshes do not appear to be based on additional cost reasoning, and the latter do not appear to be designed in a cost-effective manner (see sections 12 and 13 above). Consequently, there may be an opportunity to re-allocate the LDCF grant with a greater emphasis on pilot management activities for a greater number of beneficiaries around the Elephant Marshes.

Response: Both pilots and systematic planning are necessary to put in place a credible management basis for the Elephant Marshes by the end of the project. As discussed above, the existing information base for the Elephant marshes is extremely thin. In order to effectively inform long-term management, and to develop the investment plans requested by GEF reviewers, studies of the basic systems and dynamics are required. These and potential designation of the area as a Ramsar site are modest investments, and extremely cost-effective in terms of the much larger amounts of financing that they are intended to leverage in subsequent stages of the Program. Kindly refer to response above.

C. Response to comments in the GEFSEC Review sheet (9-9-2011)

- Provide a detailed incremental reasoning.

Response: A detailed incremental cost and additional cost analyses has been developed for the project. Please refer to Annex 9 of the Project Document.

- A deep analysis of local communities is expected with a particular attention to the participation of public, the status of indigenous people, and the involvement of CSO, notably NGOS on the ground.

Response: It should be clarified that there are no indigenous people in the project area. Additional detail however has been included on the participatory approaches to be adopted and collaboration with NGOs and community organizations. Notes on the communities in and around the GEF/LDCF target sites are included within annex 8 of the Project Document. The project as a whole has conducted extensive consultation during design and will put significant efforts into ongoing stakeholder engagement and collaborative planning, not least through the establishment of the Shire Basin Stakeholder Forum. Details of the approaches to be followed are provided in annex 3 of the Project Document.

- Please, pay a particular attention to the risk analysis, notably the environmental risks and the potential concerns due to upstream dam management.

Response: This was noted during the developed of the detailed risk analysis, although these do not present high risks to the GEF/LDCF target areas. Also refer to annex 4 of the Project Document for the overall project risk framework.

- Please develop the implementation arrangements.

Response: Implementation arrangements have been defined for the project and are included in annex 3.

- Please, develop the sustainability aspects of the approach.

Response: Sustainability is central to the design of the project and has been captured in the design of the component activities. In particular the context of the aim to leverage investments under Phase II of the APL. Please also refer to the discussion of the incremental activities.

- Please, provide an analysis and justify the costs per ha (for protected areas, forests, and SLWM practices).

Response: Please refer to the section B6 of the CEO memo.

- Please, provide an estimation of carbon benefits to justify the leverage of the SFM incentive.

Response: Please refer to section B2 of the CEO memo and note that the SFM tracking tools have been prepared to reflect the same.

- Please, explain how pilot community management activities are going to be sufficient to secure the GEBs in the Elephant Marshes. We recommend including a conservation status for this area. As mentioned above.

Response: Pilot activities will lead to further investments under Phase II of the APL. There is an explicit and long-standing intention to apply for Ramsar designation for the Elephant Marshes and DNPW are also interested in the possibility of gazettement as Malawi's first large-scale community conservation area. This is referred to directly in the Incremental/Additional Cost Analysis of the PAD (Annex 9) and in this CEO memo.

2. Response to comments of the STAP Reviewer

1. Even though the proposal is not meant to be fully developed at the PIF stage, STAP believes the components could be more explicitly defined in the incremental reasoning. Doing so would allow for a clearer understanding of the proposed interventions, and the expected results. For example, the proposal is unclear how it intends to address SLWM at the watershed level: specifically, what SLWM practices will be encouraged, how will their selection be made, and how will women's farmers SLWM needs and knowledge be acknowledged and included in the selection of SLWM interventions. On the latter, it also would be useful to indicate the proportion of women farmers in the Shire Basin, or targeted communities, so the proposal is clearer on the level, and type of, initiative(s) needed to gender differentiate the SLWM interventions.

Response: Greater detail has been made available on the specific activities under the GEF/LDCF investments in the Project Document annex 9 and this CEO memo to allow a better understanding of the incrementality and additionality of the proposed interventions. The SLWM activities in production landscapes are being supported through IDA funds under component B, which have been clearly defined. Extensive details on the approach to be taken are included in Project Document annexes 2 and 7.

2. Similarly, the proposal provides very little information on the community-based sustainable forest management interventions. It would be useful to provide further details on what is the "proven co-management model" that will be used to establish the two community forest management interventions, what outcomes from the pilot made it a good model for community forest management in these two reserves, and how the project intends to apply the learning, or replicate successful aspects, of the model.

Response: The point has been noted and clarified in the project's context. Please refer to section B2 of the CEO memo.

3. Additionally, the proposal states very little on the charcoal production activities. STAP recommends defining further the two expected outputs on charcoal production during the project preparation. In particular, it would be useful to detail what type of technology (type of kiln or stove) will be used to produce the charcoal, as well as detail the potential negative impacts of charcoal production on the global environment (release of CO₂, CH₄, others). In the socioeconomic benefits section, it also will be important to recognize that emissions from transportation may impact substantially the charcoal fuel cycle; thereby, the impact on the global environment may outweigh in the long-term the socioeconomic benefits generated by charcoal production.

Response: Charcoal production is a major issue for Malawi's forests and which provides the vast bulk of urban domestic energy in the country. It will not be solved quickly or easily, and the overall approach under the SRBMP project is to initialize some limited policy and pilot activities under the first phase of the APL which should lay a basis for more concerted action during the second phase. Consequently, charcoal production is not a major direct focus of the GEF SFM investments, but conditional on community forest management systems being successfully established, there is an intention to pilot licensing of sustainable charcoal production within those communities that have demonstrated sound forest stewardship. The licensing would focus on the management of the forest resources from which the charcoal was produced and assurance that it could not be used to launder non-sustainable charcoal. Details, such as types of charcoal kilns will be dealt with closer to the time. Whilst there are other environmental considerations with the use of charcoal as a fuel, the facts on the ground are currently that this industry is massive, illegal and entirely unmanaged. Therefore any steps towards ensuring charcoal production form a sustainable resource base would be a significant achievement towards eventual formulation of a comprehensive program that would have to include other elements such as fuel efficiency, substitution, etc.

4. The statement on global environmental benefits is good. However, further details are needed on how biodiversity conservation and carbon stocks will be measured and monitored. For carbon stocks, one option could be to use the tools from the UNEP-GEF Carbon Benefits Project.

Response: Additional detail has been included in this CEO memo. Biodiversity survey is a major component of the GEF-funded activities. Baselines and specific methodologies for carbon stock assessment are currently being established through assessments based on ALOS imagery (being conducted through JICA support to the Department of Forestry) and results of studies on miombo carbon densities from Mozambique. This work will be completed by the start of the SRBMP and will provide an approach for repeat assessment under the Basin M&E system.

3. Response to comments from the German Council

The activities and methodology envisaged to achieve the mentioned outcomes and outputs under each project component need to be elaborated more explicitly, e.g. with regard to the involvement of partners listed and community participation. Thus, in addition to the technical comments of STAP (date of screening: October 8, 2011), more specific reflections on activities and the methodology applied for each project component should be given in the final proposal and reflected in the ongoing reporting requirements.

Response: The Council's comment was taken into account during the preparation stage and design of the components The Project document and this CEO memo both address the councils concerns. Please refer to responses above for better clarity.

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF/LDCF/SCCF/NPIF RESOURCES

<i>Position Titles</i>	<i>\$/ Person Week*</i>	<i>Estimated Person Weeks**</i>	<i>Tasks To Be Performed</i>
For Project Management			
Local			
International			
Justification for travel, if any:			
For Technical Assistance			
Local			
Co-management & NRM advisor	1,500	240	Work with international long-term forest advisor to support activities at all field sites, with particular focus on community engagement and CBNRM
Forest management advisor	1,500	36	Support application of national community forestry model within Neno district
Forest facilitators [2]	250	336	Support Neno district forestry officers in working with target communities
Civil engineer	1,000	30	Design and quality assurance of small works in Lengwe & Elephant Marshes - tracks, fence, buildings, etc
International			
Forest management advisor	2,500	176	Provide long-term technical support to planning and field activities at all sites, and design biodiversity survey program
Biodiversity surveys	2,500	160	Set of field studies, will involve multiple taxa specialists - to be structured during early implementation following collation of existing information
Hydraulic engineer	2,500	10	Part of Firm contract to conduct feasibility study to determine whether to invest in check dams or solar pumps to provide additional water points at Lengwe
Bridge engineer	2,500	10	Part of Firm contract to design study for wet season stream crossings at Liwonde
Elephant Marshes studies	2,500	120	Part of Firm contract for set of studies on hydrology, ecology & livelihoods of Marshes; will involve one or more teams
Justification for travel, if any: Will involve significant travel to field sites.			

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* Provide dollar rate per person week. ** Total person weeks needed to carry out the tasks.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

N/A

B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

N/A

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>				<i>Cofinancing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
Total		0	0	0	0	0

* Any uncommitted amounts should be returned to the GEF Trust Fund. This is not a physical transfer of money, but achieved through reporting and netting out from disbursement request to Trustee. Please indicate expected date of refund transaction to Trustee.

ANNEX E: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

N/A