



GEF

IA PROJECT ID:
COUNTRIES:

GLOBAL ENVIRONMENT FACILITY (GEF)

PROJECT EXECUTIVE SUMMARY

PIMS 1941
Burundi, DRC, Tanzania, Zambia

PROJECT TITLE: **Partnership Interventions for the Implementation of the Strategic Action Programme (SAP) for Lake Tanganyika.**

GEF IA: UNDP
Other Executing Agency: UNOPS, NEX
Duration: 48 months
GEF Focal Area: International Waters
GEF Operational Program: OP9 & CC Adaptation
GEF Strategic Priority: IW 1 - Catalyzing Financial Resources for Implementation of Agreed Actions.

Estimated Starting Date: March 2005
Pipeline Entry Date: 15 November 2000
IA Fee: \$987,000

FINANCING PLAN (US\$) GEF PROJECT/COMPONENT (Details pp16-18)	
Full Project	13,500,000*
PDF-B	595,000
PDF-B Supplemental	105,000
Sub-Total GEF	14,200,000
CO-FINANCING	
Governments	3,300,000
Private Sector -Burundi	1,200,000
Bilateral:	
NDF	8,000,000
INGO IUCN	1,000,000
Multilateral:	
ADB	30,000,000
Sub-Total Co-Finance All Confirmed	43,500,000
Total Financing	57,700,000
(* 5 mill CC-adaptation, 8.5 mill IW-1)	

CONTRIBUTION TO KEY INDICATORS OF THE BUSINESS PLAN: IW Strategic Priority #1, the Project will contribute to the GEF target in catalyzing mobilization of financial resources for implementation of stress reduction measures and reforms in agreed management programs as a contribution toward the WSSD POL.r. In this case ADB, NDF, EU/COMESA, FAO, IUCN and FINNIDA all support the implementation of the Lake Tanganyika Strategic Action Program (SAP) and the Lake Tanganyika Fisheries Framework Management Plan (FFMP) as an Integrated Programme expected to reach some 70 million US\$. This has been endorsed by Participating Countries and their Cooperating Donor Partners.

RECORD OF ENDORSEMENT OF GEF PROCESS BY THE FOUR GOVERNMENTS

On behalf of the	Date	Name/Title
Government of the Republic of Burundi	10 07 2000	Dr K Karimumunyango, DG of INECN
Government of the D R of Congo	7 10 2004	Mr K A Makonga Min Environ. DRC
Government of the United Republic of Tanzania	6 09 2004	Mr R Mollel, PS Vice President Office
Government of the Republic of Zambia	18 08 2004	Dr K Nkowane, Director Environment

Approved on behalf of the GEF IA Point. This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for work program inclusion.

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Date: 5 October 2004

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1. PROGRAM SUMMARY

a) Program rationale, objectives, outputs and activities

The Objectives, Outcomes, Outputs and Activities of this Integrated Multi-Donor Programme have been driven by the conclusions of the Lake Tanganyika Trans-boundary Diagnostic Analysis (TDA) and the Lake Tanganyika Strategic Action Program (SAP), both from July 2000; and the developing Lake Tanganyika Convention (signed in 2003), that were developed by the four riparian countries through stakeholders consultations during the first GEF sponsored project¹. This new Programme includes interventions to address the Lake Tanganyika Framework Fisheries Management Plan (FFMP) developed by FAO/FINNIDA/AGFUND via the Lake Tanganyika Research Project (LTR); as well as the SAP.

The TDA identified the major trans-boundary threats confronting the four countries in their efforts to manage the Lake and its Basin as: unsustainable fisheries, increasing pollution, excessive sedimentation and habitat destruction. The implications of these threats were the global loss of biodiversity, the loss of shared fisheries resources and the decline of water quality. The crosscutting barriers to addressing these threats are the lack of resources (including skills, infrastructure, institutions and funds), the lack of institutional coordination, poor enforcement of existing regulations, and few appropriate regulations for the management of the Lake. A STAP sponsored Great Lakes Regional Workshop (Malawi, Jan 2000) drew lessons from three GEF Lake projects (Malawi, Tanganyika and Victoria), and emphasised the need for cross-cutting learning mechanisms². The workshop first drew attention to the impact (existing and potential) of climatic fluctuations in the region and stressed the need to address these impacts.

The SAP and the FFMP outlined interventions to mitigate and/or eliminate these problems with an emphasis on the following areas: institutional coordination for the sustainable management of the Lake, reduction of the impact of fishing, control of pollution, control of sedimentation and the conservation of key habitats. With GEF financial support from an extended PDF B process, countries prioritized and developed detailed interventions to address these major trans-boundary issues confronting their attempt to manage the resources of Lake Tanganyika and its basin. The three interventions developed comprise:

- Pollution control into the Lake through wastewater management in the cities of Bujumbura (Burundi) and Kigoma (Tanzania).
- Sedimentation control into the Lake through catchment management interventions in the areas of Uvira (DRC), Kigoma (Tanzania) and Mpulungu (Zambia).
- Institutional support to policy process, convention implementation and monitoring programmes.

Countries worked with a donor partnership programme to develop further funding for SAP activity, via non-GEF financing; including African Development Bank/FAO/EU/NDF inputs to fisheries infrastructure and peace processes. These interventions help the countries to manage their wastewaters and catchment, hence reducing pollution and sedimentation into the Lake and protecting the habitats, which will result in improved water quality and global environment benefit; as well as assuring institutional sustainability.

GEF support enabled the countries to plan for regional interventions to address crosscutting institutional problems to allow multi-country coordination of lake management. This resulted in the negotiation of the Convention for the sustainable management of Lake Tanganyika and the signing of

¹ This was the Regional UNDP-GEF Lake Tanganyika Biodiversity Project from 1995 - 2000

² The GEF has now established such a global learning exchange Programme – “IW-Learn” with which this developing project has interacted.

the Convention on June 12, 2003. GEF support also allowed the design and development of an Interim Lake Tanganyika Management Authority; which will coordinate and monitor management of the Lake while waiting for the Convention to be ratified and for the permanent body, the Lake Tanganyika Authority, to be established.

GEF support has allowed the development of an integrated ecosystem approach to the sustainable management of the Lake through an Integrated Management Program for the sustainable development of Lake Tanganyika and its basin. This has been agreed upon and will be implemented by a partnership between UNDP/GEF, the African Development Bank, FAO, IUCN, and the Nordic Development Fund. In addition it is anticipated that FINNIDA, and the EU via COMESA will join this partnership. The partnership works with the riparian countries to assist them in providing additional resources for the development and implementation of the Program. The programme goals are to address major trans-boundary and socio-economic problems.

Within this partnership, UNDP/GEF will co-finance capacity building for regional management of the Lake and for the prioritized pollution (from urban waste-water hotspots) and sediment control interventions from key watersheds. ADB/FAO/NDF/ FINNIDA will co-finance the fisheries interventions. The NDF will co-finance part of wastewater pollution control activities. IUCN will co-finance the Lake's monitoring. It is expected that the EU/COMESA will co-finance the strengthening of the competitiveness of Lake Tanganyika fisheries and the Lake transport aspects such as the framework for navigation security, and enhancing of regional peace processes. The fisheries intervention will introduce a sustainable and responsible fishery co-management regime, thus reducing impact of fishing, which will have as a result the conservation of the shared fisheries resource, but at the same time will add value the fish products, thus contributing to the improvement of living conditions of the riparian populations. The monitoring component will help the countries to improve regulations and their enforcement, which in return would contribute to sustain the fisheries, reduce the pollution and sedimentation and improve the conservation of the habitats. More details about these parallel interventions can be found in the Partners Programme Document, annexed to this Brief (Annex 9).

The Rationale of GEF Funding

Lake Tanganyika is of great global, regional and local importance as was well documented before and during the first GEF Project (LTBP). In brief, Lake Tanganyika:

- Contains 17% of the world's free freshwater resources;
- Is Africa's second largest inland fishery (after Lake Victoria);
- Has extreme biodiversity value with over 2000 species of aquatic plants and animals.

The long-term scenario envisaged within the SAP is for a regional programme, coordinating several national project components dealing with identified hot spots and sources of trans-boundary problems, and supporting these components through institutional mechanisms for coordination, sharing lessons, monitoring and information exchange. The Lake Tanganyika Integrated Management Program, designed with the GEF and ADB/IUCN/FAO/NDF support is the regional program as envisaged in the SAP and the FFMP. It will coordinate a large integrated program of regional and national interventions dealing with institutional coordination, addressing identified hot spots and sources of trans-boundary problems as well as Lake monitoring and information exchange for improved management of the Lake's resources.

The implementation of this program will not be achievable without the active cooperation of all the riparian countries, their international donor supporters and all affected interests. Successful implementation of such a program will depend on well-coordinated interventions involving the full range of affected stakeholders, including the participating countries at regional, national, central and local levels, their development partners, the NGOs, the private sector and local communities. Such a level of international and regional cooperation will entail substantial efforts and transaction costs, but

these efforts and the costs are essential to the success of the Program. The central element of this regional coordination is the Lake Tanganyika Management Authority (ILTMA).

The implementation of such a large Program is clearly a high transaction cost indispensable to the adoption of a regional approach to address environmental issues around international waters. This falls directly within the remit of the GEF and thus is fully consistent with the GEF guidance in IW OP9. GEF financing is therefore critical to Program success. GEF finance has played a catalytic role in helping the countries to secure and enhance the strong partnership that has brought together the four countries, UNDP/GEF-UNOPS, AfDB-FAO, IUCN, Nordic Development Fund, in a coalition for the protection and sustainable development of Lake Tanganyika and its natural resources. This partnership can be summarized within the following matrix – linking the programme to the Priorities of the Strategic Action Programme (SAP). Within the Partnership, and the SAP, there are two GEF interventions:

- GEF Interventions to address International Waters issues (OP9)
- GEF Interventions to address Climate Change (Adaptation to Climate Change) issues.

These are discussed separately.

Table 1: Components of the Lake Tanganyika Integrated Management Programme

Lake Tanganyika Integrated Management Programme			
GEF SPONSORED COMPONENTS		CO-FINANCE COMPONENTS	
Establishment of the Lake Tanganyika Authority	Supporting Wastewater Treatment Plants in Bujumbura and Kigoma	Pilot Fisheries Co-Management; Infrastructure to Add Value Fish Products; Fisheries Monitoring / Systems (ADB, FAO and NDF)	Community infrastructure and the Establishment of Local Development Funds (ADB & NDF)
Demonstration Sites for Sustainable Catchment Management (DRC, Tz and Zambia)	Establishment of Lake Monitoring- Management System (with IUCN).	Construction of Wastewater Treatment Plant in Kigoma (NDF)	Capacity Building of Local and National Stakeholders (ADB, FAO and NDF)

a) International Waters: OP9 and Strategic Priority IW1

Interventions here are the standard OP9 issues arising from the TDA and the SAP for Lake Tanganyika. Countries prioritised the pollution issues – both the issues arising from inadequate wastewater treatment, and issues arising from sediment inflows. Both issues impact on overall lake productivity and on the lake biodiversity values. The rationale for GEF intervention over and above the national baseline inputs, is due to the scale of the great global biodiversity and quantum of freshwater significance of the lake.

b) Linking Climate Change to the Lake Tanganyika Environment.

The past TDA and SAP did not discuss issues of adaptation to climate change. These CC concerns are relatively recent, still somewhat controversial, and are less discrete to be able to document and to develop mitigation measures. As this is a relatively new subject, at continental level, let alone for this sensitive Great Lakes Region of Central Africa, it is discussed in some detail.

One immediate concern arises from recent scientific studies in Lake Tanganyika which drew attention to possible climate change effects (from increased surface water temperatures) leading to changing

water processes, plankton availability and fish stocks – and so reduced fisheries catches. The studies were published in the journals *Science* and *Nature*. However, other scientists dispute these conclusions, showing that fisheries catches have been reduced in areas of intense over-fishing only. A summary of this ongoing climate - fisheries debate for Lake Tanganyika is given in Annex 10. There is considerable supposition, but there are many immediate factors causing reduced fish catches – mainly over-fishing and poor fishing practice, which confound the analysis.

However this remains an issue of great, albeit potential, concern for many aspects of the environment of Lake Tanganyika. These concerns include:

- Reduced catches from the Lake Fisheries, which has potential impact on people's livelihoods.
- Catchment management, including both sediment and carbon sequestration issues.
- Overall lake environmental monitoring and analysis.

Over-fishing is already an issue, stressed by both the SAP and FFEM studies. The Co-finance for fisheries inputs from AfDB-FAO-FINNIDA partners (it was the FAO – FINNIDA fisheries project in the 1990s that produced the detailed scientific information now being debated) address this in four distinct ways:

- The fisheries components will increase the intensity of monitoring fish stock and catch data.
- Fisheries communities will be supported to change fishing practices (from surface sardine fisheries to deeper perch fisheries as needed), and reducing pressure by value-adding processing.
- The EU and AfDB components develop alternative income sources for marginalized fisher-folk, and provide mechanisms to mitigate against and adapt to vulnerability from changes in fish catch.
- The Monitoring processes built into programme design will address the issue of climate change and fisheries data. The Programme will build linkages to ongoing and potential lake scientific studies (eg IDEAL, Japanese research plans, research inputs from University of Arizona etc).

Catchment Management attracts the bulk of GEF funding - some 7.2 million \$. Predictions of changing climates in central and eastern Africa suggest increased intensities of climatic phenomena (more extreme rainfall events, more severe drought periods). In the absence of catchment interventions it is probable that erosion, soil loss and so lake sedimentation would be increased. Such catchment interventions (eg reduced deforestation, less exposed soils) will also increase carbon sequestration through improved carbon sinks and less soil oxidization. These are issues of concern to the GEF (see below).

Lake monitoring and management processes are addressed through this GEF intervention, working with IUCN co-finance. The project will update the SAP, to include these Climate Change Concerns. The project will put the climate change model on the monitoring agenda and seek additional finance from the partnership to adapt riparian communities and support mechanisms to potential patterns of change.

This overall partner intervention includes elements within both national and regional process that address directly the issues of adaptation to climate change. Co-finance addresses fisheries, whilst GEF funding has two components. At regional level, the GEF intervention includes developing a revised SAP, as well as environmental protocols and standards linked to the Lake Convention, that include indicators related to CC issues and mitigation measures to reduce vulnerability of communities and resources. Secondly the emphasis on catchment management – with components on maintaining woody cover, directly works to sequester carbon and maintain local catchments in ways that reduce climate change deleterious impacts.

These interventions have a distinct Adaptation to Climate Change (ACC) perspective, as provided for in the GEF paper on ACC (2002), which says (note: issues of immediate relevance to LT are in bold).

“Adaptation to the adverse effects of climate change is of high priority for all countries. Developing countries are particularly vulnerable, especially the least developed countries. Adaptation requires urgent attention and action on the part of all countries. Effective and result-based measures should be supported for the development of approaches at all levels on vulnerability and adaptation, as well as capacity-building for the integration of adaptation concerns into sustainable development strategies.”

In line with evolving scientific knowledge and political guidance, GEF expects to address adaptation within the framework of an integrated, flexible and phased process based on country needs and circumstances. This range of options would be used flexibly, emphasizing learning by doing and building on the results of best practices. Adaptation can be a major part of a country’s climate change response strategy, and can complement climate change mitigation efforts. Adaptation can include programs to:

- (a) Increase robustness of infrastructure and investments to climate change impacts;*
- (b) Discourage investments that would increase vulnerability in sensitive areas;*
- (c) **Increase flexibility of managed systems to accommodate and adapt to climate change;***
- (d) **Learn from and enhance resilience and adaptability of natural systems;***
- (e) Reverse maladaptive trends in development and resource management and use.*

Such measures can also produce “secondary benefits” including:

- (a) Improved protection against current climate variability and extreme weather events;*
- (b) **Improved management of weather-dependent sectors (e.g. agriculture, water, etc.);***
- (c) **Reduction of pollution, land degradation and erosion;***

*Given its mandate, mission and comparative advantage, the GEF will provide funding only to those adaptation measures that **produce and promote global environmental benefits in addition to local benefits**. Within this context, the GEF can focus on **barrier removal, capacity building, and policy development to incorporate climate change** into local development efforts in vulnerable sectors, leading to sustainable outcomes. Such activities may be formulated as “standalone” projects, including small grants and medium-sized projects, **as well as components of larger projects** in all operational programs as appropriate. They can also be single country **or regional projects** based on the area of intervention, needs and priorities of the countries.*

Integrated Land and Water Operational Program

*OP9 addresses the degradation of international waters within a multi-focal framework. It also stresses **prevention of degradation** as opposed to remedial changes emphasized in OP8. The focus is on **integrated approaches to the use of better land and water resource management with a long term objective of promoting sustainable development**. In doing so it has close synergies with other GEF focal areas such as climate change, land degradation and biodiversity. **These cross-sectoral linkages are most acutely focused in the OP’s specific provision to address the needs of Africa which is highly vulnerable to climate change, land degradation and biodiversity loss**. Types of activities funded include:*

- (a) Enabling and developing harmonization and cooperation between country’s legislative and policy frameworks and preparation of **SAPs to address improved water-shed and catchment management, sustainable land-use and conservation systems**.*
- (b) Capacity building management institutions to sustain **actions and implement SAPs**, paying particular attention to stakeholder participation, design and conducting social and ecological assessments;*
- (c) **Piloting demonstration projects** that test new interventions such as permit processes, water conservation, coastal zone planning and management (ICZM), sustainable management of fish stocks, **land and marine based sources of pollution** and vulnerability to climate change in SIDS;*

(d) Formulation of SAPs based on comprehensive trans-boundary analysis that establishes key threats;

(e) Targeted research to establish information systems, **simulation and modeling to build up predictive capability to improve environmental management.**

*The integrated character of OP9 projects has produced projects that have significant indirect adaptation benefits as they focus on groundwater, watershed and coastal management and strategic planning to address immediate human stress in areas which are very likely to be impacted by climate change. Moreover, although adaptation is not directly specified as an objective, several projects in Africa contain elements that enhance the ability of countries to adapt to climate change. These projects include the Lake Chad Basin project, the Niger Basin and Volta Basin, and there are similar projects in the Nile Basin, Aral Sea, Egypt, and **Lake Tanganyika.**”*

This guidance and the situation on the ground led to the decisions to address the issues of adaptation to climate change for the overall basin wide lake ecosystem within this multiple causation – multiple impacts programme. The lake seeks a joint management regime – integrating between countries, sectors and management agencies so as to ensure long term sustainability of ecosystem services and livelihoods.

The Lake Tanganyika Region and the Structure of this GEF Brief

The four riparian countries, whilst all sharing the resources for Lake Tanganyika and all expressing commitment to the sustainable management of these resources, do show considerable differences. Two countries are Anglophone and two are Francophone, with differences in law, policy, cultural process etc. However the positive experiences of cooperation from the first SAP project as well as recent PDF B process augur well for similar linkages and cooperation in this project.

Two countries are emerging from decades long conflict (Burundi and DRC). The levels of insecurity have now decreased to the point where interventions are not only possible – but also desirable³. But there has been little recent baseline to build on, and co-finance in the field of environment is limited (many donors are prioritizing reconstruction and development). Recent insecurity in eastern DRC (the Bukavu area in mid 2004) reduced the ability to get recent first hand information on baseline situations. Implementation modalities in eastern DRC remain complex.

This brief, covering a multi-donor regional programme for interventions in 4 countries has several sections. Following this Executive Summary and IC and LFA annexes come the separate Regional and four national intervention “GEF Briefs”. Each is written as a self contained document but with links to regional process. Then follow the standard GEF Annexes (summarized on page 23):

1. The GEF Executive Summary (p 1-22)
2. The Core GEF Annexes IC, Log-Frame, Results Matrix, STAP Review Annexes 1 and 2abc.
3. Regional Component Details (Coordination, Policy, M and E, Project Management) Annex 3.
4. National Component – Burundi Annex 4.
5. National Component – DRC Annex 5.
6. National Component – Tanzania Annex 6
7. National Component – Zambia Annex 7
8. The Standard GEF Annexes (Letters of Endorsement, Co-Finance, Map: Annex 8a-d).
9. The Overall Multi-Donor Programme Annex 9
10. Climate Change and Lake Tanganyika – A Summary of Issues Annex 10
11. Monitoring Programme Annex 11
12. The Lake Tanganyika Convention

³ For example, the WB has just commenced a major rural land management development project in Burundi, other GEF projects are underway in both Burundi and in DRC.

PROGRAMME OBJECTIVES

Long-Term Development Objective or Goal

The long-term objective of this Regional Integrated Management Programme is the improvement of the living conditions of the riparian populations through the implementation of the SAP, the FFMP and the Convention, together with the on-going and future efforts of riparian countries, so as to bring about an integrated sustainable management and protection of the Lake Tanganyika

Immediate Objectives

There are two Immediate Objectives within the Integrated Regional Management Programme. These form the two main components that are: the “Environmental Activities” of GEF finance, and the more “Developmental Activities” of the co-finance partners.

Immediate Objective 1. To implement prioritised activities of the Strategic Action Programme so as to achieve sustainable management of the environment and resources of Lake Tanganyika. GEF

There are four parts of this IO each leading to a distinct OUTCOME (linked to SAP priorities).

1. Establishment of the Lake Tanganyika Management Authority (LTMA);
 - a. Establishment of the Lake Tanganyika Management Secretariat (ILTMS);
 - b. Establishment of Inter-Ministerial Management Committees;
 - c. Promotion of ratification of the Convention; and subsequent protocols.
2. Reduction of water pollution by creating wastewater plants in Bujumbura and Kigoma.
3. Reducing sedimentation flows into the Lake by the establishment of demonstration sites for sustainable catchment management interventions in Uvira in DRC, Kigoma Rural District in Tanzania, and Mpulungu District in Zambia;
4. Establishment of a Lake Monitoring and Management System (with IUCN).

Immediate Objective 2. This leads to outcomes funded through other Partners Components (ADB, NDF, FAO, EU/COMESA).

- A) Establishment of mechanisms for pilot fisheries co-management, infrastructure to add value fish products, and monitoring systems for a responsible fisheries, including marketing, lake transport, navigation and peace processes (AfDB, FAO, NDF, EU/ COMESA).
- B) Improvement of community infrastructure through local development funds (AfDB).
- C) Construction of wastewater treatment plant in Kigoma township (through NDF funding).
- D) Capacity building of local and national stakeholders to provide them with skills to better manage the fisheries and the environment. (AfDB).

OBJECTIVES, OUTCOMES AND ACTIVITIES OF THE GEF COMPONENTS

Immediate Objective 1 To implement the prioritised activities of the Strategic Action Programme so as to achieve sustainable management of the environmental resources of Lake Tanganyika. (GEF)	
Outcomes	Country / Site
Outcome 1: Regional and national institutions have internalized the implementation of the SAP and FFMP and provide institutional support for the cooperative management of Lake Tanganyika under the ratified Convention.	Regional Activity
Outcome 2. The quality of the water of Lake Tanganyika is improved at two identified pollution hotspots through wastewater treatment.	Tanzania and Burundi
Outcome 3: Sediment discharge reduced from demonstration catchment management sites; providing significant livelihood benefits to local people, and seeking long-term adaptation measures to changing climatic regimes.	Tanzania, Burundi, Zambia

Outcome 4: Regional monitoring and management systems contribute to the long-term sustainable management of Lake Tanganyika.	Regional Activity
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OUTCOME 1: Regional and national institutions have internalized the implementation of the SAP (and FFMP) and provide institutional support for the cooperative management of Lake Tanganyika under the ratified Convention.

Output 1: The Lake Tanganyika Secretariat is established: staff, equipment, monitoring and management capacity are in place and functioning under oversight of Lake Tanganyika Authority.

Output 2: Protocols to Lake Tanganyika Convention are adopted; with environmental policies, regulations and development frameworks in place; providing interventions to a revised SAP. Revised SAP contains understanding of climate change phenomena in the Lake basin; and activities to mitigate impact and adapt to impacts. Funding at national and regional levels are leveraged, Information resource and mechanisms of its dissemination to stakeholders are in place. The Convention is ratified and domesticated.

Output 3: The GEF Project components are implemented in a cost-efficient and effective manner.

Rationale

The TDA identified one of the major trans-boundary constraints to cooperative management of the Lake as being the lack of institutional coordination. The SAP described the roles and responsibilities of such an institutional coordination. To provide an adequate response to this crosscutting issue, countries defined the Interim Lake Tanganyika Management Authority (ILTMA) and described its roles and responsibilities consistent with the SAP. Countries outlined their need to have the interim management authority in place as soon as possible. The establishment of the ILTMA would be instrumental in securing the requisite amount of transactional and cross-institutional collaboration necessary to the success of the Program implementation and the establishment of the permanent authority. The ILTMA has been designed as a transitional management body that will be replaced by the Lake Tanganyika Authority (LTA) when the Convention is fully ratified.

The Secretariat is the HQ of the Authority, and this will host the Regional Component of the GEF Intervention. The Regional Component has the responsibility for coordinating and reporting in the progress of the national interventions, and integrating these interventions into a single reporting structure. Output 3 under this outcome provides the management support to the project.

Climate change issues are of long-term concern within the Lake Basin (see Annex 9 to this Brief), The SAP needs updating to address these issues, which need internalising in the workings of the Lake Secretariat and Convention Protocols.

OUTCOME 2: The quality of the water of Lake Tanganyika is improved at two identified pollution hotspots, through wastewater treatment.

Output 2.1: The Wastewater Treatment Plant Network in Bujumbura City is connected to major effluent sources (industrial and domestic) to reduce raw discharge to the lake. The Plant operates efficiently and sustainably in the reduction of pollution. (USD 4.0m: 1.5 mil private sector and government, 2.4 m GEF)

Output 2.2: Management capacity for Kigoma Wastewater Treatment Plant is built within Kigoma Authorities (compliance, by-laws, monitoring). (USD 0.4 million, GEF)

Output 2.3: *The Nordic Development Fund (NDF) will construct a Wastewater treatment plant in Kigoma Township through NDF funding (USD 4.5 million)*

Rationale

Increasing pollution has been identified in the TDA as a major cause for loss of biodiversity and decline in water quality. Industrial and domestic waste water pollution in major cities on the lake's shore like Bujumbura which has the biggest population on the Lake's shores and the concentration of chemical industries has been identified as main sources of pollution into the Lake. The township of Kigoma has been identified as another high source of domestic waste pollution due to its increasing population.

OUTCOME 3: Sediment discharge reduced from demonstration catchment management sites; with the provision of significant livelihood benefits to local people.

Output 3.1: Demonstration sites for sustainable catchment management through best land use/agricultural practices, reforestation, fuel efficient technologies and alternative income generation activities are established in Uvira region (DRC); catchment management linked to climate adaptation processes. Capacity building, training programs are developed and conducted; Awareness raising programs on alien invasive species are conducted and control mechanisms for water hyacinth in the Rusizi Delta are established; Awareness-raising and environmental education campaigns on catchment – lake interaction are conducted (USD 2.5 million – GEF funded. Government input expected at 0.4 million in kind).

Output 3.2: Demonstration sites for sustainable catchment management through best land use/agricultural practices, reforestation, fuel efficient technologies and alternative income generation activities are established in Kigoma region (Tanzania);); catchment management linked to climate adaptation processes. Capacity building, training programs are developed and conducted; Awareness raising programs on alien invasive species are conducted. Awareness-raising and environmental education campaigns are conducted (USD 2.1 million – GEF funded, co-finance from UNDP expected for 1.036 million, government at 0.2 million in kind).

Output 3.3: Demonstration sites for sustainable catchment management through best land use/agricultural practices, reforestation, fuel efficient technologies and alternative income generation activities are established in Mpulungu District (Zambia);); catchment management linked to climate adaptation processes. Capacity building, training programs are developed and conducted; Awareness raising programs on alien invasive species are conducted. Awareness-raising and environmental education campaigns are conducted (USD 2.5 million – GEF funded, government funding in kind at 0.2 million).

Output 3.4: (AfDB Co-Finance) This provides further funding for catchment management in all four countries, with a focus on woodlot planting in degraded areas.

Rationale

In DRC, Tanzania and Zambia, sedimentation has been identified as the major threat to the Lake's biodiversity due to deforestation and inappropriate land use practices. The projects prepared are going to address catchment management in Bujumbura and Kigoma and Uvira, through pilot projects in sites selected as being the most severely deteriorated and capable of making an impact. Interventions incorporate lessons from global best practice; using cross-sectoral interventions at localized levels, with civil society support to ensure participatory process with sufficient incentive for changing land-use practices. Interventions are within forest, agriculture and land sectors. Interventions are also designed to increase the level of woody vegetation cover so as to increase the level of carbon sequestered, to reduce albedo changes and reduce the levels of dust entering the atmosphere, as part of the demonstration to reduce the impacts of CC processes.

The use of ICRAF as a regional support contract provides training and best practice demonstration through local agriculture research and training centres.⁴ ICRAF provides expertise to link catchment management to sediment loads, using both high resolution imagery and participatory monitoring methodologies. Studies through ICRAF will relate catchment health to sediment loads and to climate change phenomena.

OUTCOME 4 Regional monitoring and management system contribute to the sustainable management of Lake Tanganyika. (Co-financing from IUCN and AfDB/FAO)

Output 4.1: A regionally harmonized and integrated monitoring program for Lake Tanganyika's fisheries, water quality and catchment is established.

Output 4.2: National inter-sectoral management committees established in the four countries and responding to monitoring data at both national and regional levels with supporting decision support tools.

Output 4.3: Regional technical committees for fisheries, water quality and catchment are established and various indicators/targets (based on GEF 2000 process, stress reduction and environmental status framework) are agreed in the four countries and annexed as protocols to the Lake Tanganyika Convention. M & E processes will address CC phenomena within the basin area. Information is disseminated within the Great Lakes Region (ILEC) and globally through IW-Learn.

Rationale

Poor enforcement of existing regulations and lack of appropriate regulations and lack of harmonization have been identified in the TDA as one of the main problems for a sustainable management of the Lake. The Lake Monitoring and Management component has been designed to be consistent with the SAP and the FFMP to: provide tools and training in monitoring to national institutions; provide managers with relevant data and decision-support tools, and harmonize indicators and targets among the riparian nations. The aim here is to leave behind a fully functional lake monitoring system, based within mandated national institutions, working towards regionally agreed standards

b) PERFORMANCE INDICATORS (see GEF Nov 2000): ASSUMPTIONS and RISKS

Key **process indicators** (See Annex 2b) for measuring progress towards implementation of the SAP for the conservation and sustainable use of the natural resources of Lake Tanganyika and its basin are:

- Regional Institution is established to implement the SAP and FFMP, and fully operational by 2007;
- Protocols to Convention established to improve environmental (fisheries) policy and regulatory frameworks. Environmental regional plans developed and approved by countries by 2008;
- Wastewater plant efficiently and sustainably operationalized in Bujumbura by 2007; allowing additional quantities of wastewater collected and treated before discharge into the Lake 2008;
- Waste water plant constructed in Kigoma by 2008 (co-finance); allowing waste-water collection and treatment in Kigoma-Ujiji by 2008, with sustainable management systems in place;
- Demonstration pilot sites for sustainable catchment management established in Uvira, Kigoma and Mpulungu districts by 2008, covering at least 25,000 ha of critical catchment;
- Awareness and environmental education on the lake environment completed by 2008;
- Regional monitoring systems with functional environmental database established by 2008.
- Information Systems and web site in place and operational by 2006;
- Improvement in water quality monitoring data by 2008.

⁴ ICRAF provide technical support to similar initiatives in the Lake Victoria Basin. This project draws on those experiences.

Key Stress Reduction Indicators (impact performance indicators – see Annex 2b) are:

- The water quality of the Lake adjacent to Kigoma and Bujumbura shows significant and continuing improvement in pollution parameters from the TDA baseline data (targeting 50% reduction by yr 4).
- The quantity of sediment discharged from demonstration catchment sites is reduced by 50% from baseline levels established in TDA and 1st rainy season data before intervention. Area of 25,000ha.
- Catchment management treatment practices are adopted in at least three other sites by 2008.
- The Lake Management System functioning under the LTMA is supported by quality scientific data from monitoring and evaluation processes.

Environmental Status Indicators will be developed within the project, and with all country institutional partners. These will form the core content of the Lake Monitoring / Standards Protocols.

RISKS

The risks to Programme implementation and successful completion are largely based on the repetition of insecurity in the region during the programme's implementation period. Another critical risk is the inability for countries to contribute to the functioning of the Lake Tanganyika Authority. Mitigation to these risks lies in the firm and growing commitment to lasting peace processes going on in the region, by all stakeholder countries; and their support from a consortium of donors, the United Nations and the African Union. Countries had to commit to sustainable financing for the authority during their declarations and include studies to explore ways of self-financing (e.g. levies on fisheries, etc.)

Risk	Rating	Abatement Measure
RISKS IN INSTITUTIONAL PROCESS (Overall Process Risk is L-M - low - moderate)		
1 Resurgence of insecurity in the region.	M	Successful peace processes ongoing in the region, involving all countries and a donor consortium, the United Nations and the Africa Union suggest that the risk is declining, and insecurity will at worst be localized and temporary. The project, through the Convention involves the political process, and is in itself seen as a further instrument for cooperation and peace in the Region.
2 Reduced political willingness to continue and strengthen cooperation in the Region.	L	There is strong political commitment to cooperation by the four Governments at present (ref: their declarations). The strength of donor support suggests that there will be considerable pressure to maintain cooperation in all fields – both political and technical.
3 No commitment to ratify the Convention by countries of the Region.	L	Strong political commitment by the four Governments (reference their declarations over the Convention). The convention links to broader peace and cooperation processes.
4 Reduced commitments to create and contribute financially to the Authority.	M	Governments have committed to the basic costs of the Authority – ie staff salaries in the second year after parliamentary approval etc. Further commitment is expected. However demonstration of financial benefits from improved lake resource utilization (levies on fisheries, licensing, study for self-financing schemes, development funds, etc) will assist in leveraging further contributions.
RISKS IN MOVING FROM OUTPUT TO OUTCOME (Risk rated as L = low)		
5 Wastewater schemes are not utilized adequately to reduce pollution Outcome 3.	L	The project has built in considerable investment to compliance, EIA process, by-laws and awareness to ensure proper utilization. Water / sewage authorities are assisted to collect fees to ensure sustainability.
6 Sedimentation catchment management processes not adopted by villagers, and not replicated. (Outcome 4).	L	The project has built in considerable training and participatory expertise (based on successful examples pioneered by ICRAF elsewhere in eastern Africa, as well as locally eg TACARE in Tanzania). Funds are allocated for dissemination and lessons learned.
7. Regional Institutional Support not internalized and project activities not enhanced.	L	This links back to Risks 1-4 above, with concerns about regional cooperation being compromised with security problems and with countries reduced willingness to contribute to regional institutions.

2. COUNTRY OWNERSHIP

a) Country Eligibility

All four countries have ratified the Convention on Biological Diversity (CBD): Burundi on 15 April 1997; DRC on 3 December 1994; Tanzania on 8 March 1996 and Zambia on 28 May 1993. Under this Convention, the four riparian countries are eligible for technical assistance from UNDP and GEF. The four countries have all ratified the RAMSAR Convention. In addition, all the four countries are eligible under paragraph 9 (b) of the GEF Instrument.

b) Country Drivenness

i) At Regional Level. The origin and development of this Programme was driven by an international conference that took place in Bujumbura in 1991 following a request from the four riparian countries to donor community to provide assistance for the conservation and development of Lake and its natural resources. The four countries have developed with first phase GEF project support a TDA, a SAP and a Convention on the Sustainable Management of Lake Tanganyika. With FAO/FINNIDA support countries developed a Fisheries Framework Management Programme (FFMP). The four countries have all signed the Convention and are in the process of its ratification. Now the four countries have requested GEF for second phase inputs. The Convention provides for the creation of the Lake Tanganyika Authority and other institutions deemed necessary for the optimum management of the Lake. By signing the Convention, the countries have showed their strong commitment to the creation of the LTA and their willingness to cooperate and to continue project programs and approaches beyond the life of the GEF intervention.

The four countries have each adopted environmental, agricultural, fisheries policies and plans and poverty reduction strategies. The four countries have jointly prepared with GEF, ADB and IUCN assistance, a regional integrated management program for the sustainable management of the Lake and its Basin. The program will build on the ongoing efforts to further improve the management and the sustainable use of the Lake's Basin natural resources.

Countries approved the GEF Programme of Interventions at the Regional Steering Committee (GEF-UNDP components) in Lusaka in June 2004.

ii) At National Level. The policy and programmes within Tanzania are used to illustrate this for all four countries in the region. Details are in each country programme – Annexes 4,5,6,7.

Tanzania: The major policies and strategies that are considered relevant to the environment and biodiversity of Lake Tanganyika are: the Forest Policy (1998) and Forest Act (2002); the Fisheries Sector Policy and Strategy Statement (1998); the Water Policy (2002); the Wildlife Policy (1998), the Land Policy, the Village Land Act (1999) and the Land Act (1999); the National Environment Management Policy (1997), and the National Environment Management Act under draft; the Poverty Reduction Strategy Paper (2000) and a revised version thereof under final preparation; the Local Government Reform Programme as being implemented under the amended Local Government Act of (1982); as well as the National Agriculture and Livestock Policy (1997), the Agricultural Sector Development Strategy (2001) and the Rural Development Strategy (2001).

Water Policy (2002) provides a new set of water policies for Tanzania, which will facilitate considerable improvement in water management when implemented. The Policy recognises the importance of water for human needs, for the maintenance and integrity of ecosystems and biodiversity as well as its central role in the development of Tanzania's economy. In detailing the role of water in individual natural resource sectors, the policy highlights the need for appropriate measures to achieve regional cooperation in trans-boundary water management through developing agreed frameworks with neighbouring states. The Policy sets out a new approach that strives to achieve integrated, participatory, multi-sectoral, multi-disciplinary river basin management, through holism, subsidiarity and rational pricing. Water planning and management will be carried out within river basins at three levels: national, district and community level. In addition to rural water supply, the

Policy sets out new policies for rehabilitation of urban water and sewage management based on quality service provision, user charges, environmental standards and independent regulation.

The *National Environment Management Policy (1997)* sets out a multi-sectoral framework for mainstreaming and coordinating environmental protection in national decision-making and policy implementation through the provision of guidelines.

The *Forest Policy (1998) and Forest Act (2002)* focus on the decentralisation of natural forest management as a key strategy towards forest conservation. The majority of forest areas will be managed through Joint Forest Management between the FBD, districts and villages. The decentralisation of the forest sector complements the on-going Local Government Reform Programme, and provides the opportunity for villages to manage and protect their own forest resources through agreements with their district and the FBD.

The *Local Government Reform Programme* was approved by the Government in 1998 with the aim of improving the quality of and access to public services provided to Tanzanians by local authorities. The programme has enabled much greater district administrative and financial autonomy in the provision of primary social services (health and education), natural resource management, land-use planning, environmental protection as well as road infrastructure development and maintenance.

Land Policy (1995), Village Land Act (1999) and Land Act (1999) and subsequent supporting legislation recognize village-based control of land tenure and land-use planning. Long term support will be required to enable village land committees and their land managers to proficiently implement, and for villages to equitably benefit from, the new legislation.

Fisheries Sector Policy and Strategy Statement (1998) in recognising the significant productivity potential of Tanzanian fisheries sets out strategies for encouraging the participation of fishing communities in fisheries management and promoting sustainable fishing practices and improving fish products and their marketing. The policy identifies a need for improved fisheries status data and for ensuring that appropriate data are made available to resource users and resource regulators. The policy also dwells on the need for improved institutional capacity that complements heightened fisheries protection measures and conservation efforts.

GEF PROGRAMME AND POLICY CONFORMITY

Fit with GEF Operational Program and Strategic Priorities

The Program is fully consistent with the GEF IW Operational Program # 9 on Integrated Land and Water Multiple Focal Area. The Program also supports the objectives set out in GEF Operational Program # 2 on Coastal, Marine and Fresh Water Ecosystems. The Program aims to meet the objectives of these Operational Programs in that it will considerably reduce pollution and sedimentation into the Lake whose sources generate from land-based human activities. This will contribute sensibly to the protection of the Lakes biodiversity. Annex 10 shows programmatic fit under the Climate Change Adaptation window.

The Program is consistent with the GEF's Strategic Priority # 1 for the IW Focal Area on Catalyzing Financial Resources for Implementation of Agreed Actions in that it will facilitate participating countries to mobilize and make more available and effective use of resources for implementing the SAP and FFMP and supporting the LTA's activity and its sustainability. The donor partnership continues to grow.

SUSTAINABILITY

Commitment

The TDA, the SAP, the FFMP and the Convention, the regional and national project proposals all were achieved through a joint inter-ministerial exercise characterized by strong cooperation and openness. The fact that these achievements have been realized despite continuous political crisis and civil wars in the Great Lakes Region, affecting all four countries directly or through mass refugee movements, and,

despite the struggle to fulfill the elementary needs of the populations, demonstrates a strong commitment to sustain the joint regional program for the sustainable management of the Lake.

The four countries have already demonstrated their commitment to cooperative actions for the sustainable management and conservation of the Lake's resources through the implementation of regional activities under the LTR, the LTBP and the LTMPP. Both the LTR and LTBP came to the same fundamental conclusion that the sustainable management of the Lake will require a community based integrated approach, whether the objective is fisheries production or biodiversity conservation. The four countries have jointly implemented the LTMPP in designing project proposals to implement the SAP. They have negotiated and signed a Convention on the sustainable management of Lake Tanganyika. They agreed a framework to develop a management plan for the pelagic fisheries. In this regard, with support from ADB/FAO/NDF/FINNIDA, they developed a Fisheries Project for the implementation of the management plan. IUCN has extended its Water and Nature Initiative (WANI) to the four countries in offering its experience in Lake monitoring and management improvement.

The four countries are committed to cooperate in the implementation of the interventions actions described in the SAP and the Convention, both through undertaking joint regional initiatives and priority national actions developed by the LTMPP, the ADB/FAO/NDF and the IUCN within the regional framework. The four countries have endorsed the joint program and are seeking support to implement components of the program. The proposed projects cover institutional capacity and management, pollution control and habitat conservation, Lake monitoring, fisheries statistics, fisheries regulation and legislation, improved fishing practices and post harvest improvements, community based infrastructure, returning refugees resettlement and reinsertion and conflict resolution.

Financial Sustainability

Financial sustainability is enhanced by countries commitment to co-finance the integrated regional program in continuation and building upon the already substantial level of co-finance and the strong international donor support. The financial commitment of Governments to the program is at this time largely in-kind. The commitment of substantial resources to a the GEF SAP by the ADB-FAO-IUCN-NDF-FINNIDA-EU/COMESA partnership will result in the greater availability of resources, additional donors, and thus create more capacity for the Governments to commit to increased levels of self-financing, particularly as it relates to the mid and long term sustainability of the LTA. A financial plan that will make provision for future sustainable funding will be prepared during the Program implementation, including a feasibility study to determine options to assure continued self-financing of such ongoing costs as those associated with the running of these institutions. The present level of donor support will be enhanced during the Program implementation through continued leverage of donor and private sector financial support to increase the current level of co-finance and to secure funding for the development and implementation of new SAP/FFMP and Convention interventions.

REPLICABILITY

The Project has been designed taking into consideration the lack of human and financial resources, poor enforcement of regulations, lack of appropriate regulations and lack of institutional coordination within the lake region, and the need to strengthen its weak human resource, institutional, financial and regulation enforcement capacity. Capacity building will take into account the need for scaling up activity after project completion; capacity initiatives must therefore be sustainable within a broader non-project context.

The Project is the first project to address water quality improvement regionally in the Lake basin. It has local and regional replication plan to disseminate best practices and successful lessons to other localities around the Lake. Pilot projects in demonstrative catchment management sites and pilot fisheries co-management villages will be established using best practices and proven experience involving public services, Communities, NGOs and private sector. It is expected that successful lessons learned and experience gained from these demonstration pilot projects will be replicated by the

LTA in other areas of the region. The Project will play an active role in providing a catalytic and illustrative role through public awareness campaigns, consultation and information dissemination workshops, training and preparation of material for media campaigns and publicizing project experience with all stakeholders. The experience of public/private partnership and investment in the wastewater collection, treatment and management for a water quality improvement will serve as model of replicability in the entire catchment and could catalyze new private sector wastewater investments as well as demonstrating how private sector investments could be integrated into environmental policy / institutional reform. Dissemination requires vernacular outputs.

The project has considerable replication potential outside the lake basin as the first example of Lake based SAP implementation. Also, the project will offer lessons learned as to joint implementation between IW9 and CC – Adaptation.

STAKEHOLDER INVOLVEMENT

The major stakeholders to the joint regional program include the Governments at all levels:

- Central Governments (Environment/Natural Resources, Fisheries, Finance, Land, Water etc.),
- Local Governments; MPs, and local communities,
- Public agencies, NGOs and CBOs
- Program Partners from the donor community and private sector.
- Universities and research institutions.

Stakeholder participation was a key and successful ingredient for the achievement of the TDA, the SAP, the FFMP, the Convention and the development of the present project proposals during the execution of the PDF-B phase activities. The joint integrated regional program will build on and add to the level of stakeholder involvement in the implementation of the SAP, the Convention and the Fisheries Framework Management Plan as well as in further development of SAP/FFMP and Convention interventions. At national level, communities were consulted through discussions at sub-district level for both catchment management and fisheries (co-finance) components. Annex 8f describes GEF stakeholder involvement.

MONITORING AND EVALUATION

a) Monitoring Processes for the Lake and Lake Resources.

Outcome 4 of the GEF and IUCN Co-Finance Intervention is to ensure that a detailed and management responsive monitoring programme is put in place for Lake Tanganyika. This will be nationally implemented by national institutions, but to an agreed regional framework. The sharing of information and developing a regional database for the Lake and its resources is essential to such a process. There are four parts to this process (see Annex 11):

1. Data collection on agreed priority criteria within three sectors (fisheries, water quality, land cover) by mandated and strengthened institutions around the lake.
2. Monitoring institution specialists meet with sector specialists from national level in a national Lake Management Technical Committee, to agree the importance of trends from monitoring data sets, and what management responses should be.
3. National committee representatives meet regionally to agree coordinated regional responses.
4. These data sets help create lake water quality standards to be attached as protocols to the Lake Tanganyika Convention. Standards will link to the GEF IW M&E indicator best practice of 2002.

b) M and E Processes for the Project.

Project monitoring is a continuous process of collecting and analyzing information to measure the progress of a project toward expected results. Monitoring provides managers and participants with feed-back that can determine whether a project is progressing as planned. Evaluation is a periodic

assessment of project performance and impact. Evaluation documents what lessons are being learned from experience.

The Programme (ILTMA) activities and outputs will be regularly reviewed and evaluated annually by the ILTMC. The Programme performance will be subject to the various evaluation and review mechanisms of the UNDP, including the Project Performance and Evaluation Review (PPER), the Tri-Partite Review (TPR), and an external Evaluation and Final Report prior to termination of the Project. The Programme will also be subject of the annual Project Implementation Review (PIR) of the GEF. In addition, the Programme will be subject of the ADB and other IAs evaluation and review mechanisms. As a result of the emphasis placed on results-based management, the ILTMA will develop a detailed Monitoring and Evaluation work plan at the inception of its activities. The M&E overall plan will begin with the development of the critical indicators. The M&E work plan will allow an assessment of ILTMA performance by showing the schedule of the activities, their cost and the expected outputs and achievements according to the established benchmarks and milestones. The work plan will be the main tool for monitoring and evaluating the progress of the ILTMA. See Annex 2b on Results Matrix

4. FINANCIAL MODALITIES AND COST EFFECTIVENESS

The financing of the long-term programme involves a large number of institutions at country, bilateral and multilateral levels. The participating countries will contribute in kind to finance the on ground activities, totaling some 6.7 million USD, over the project lifespan. GEF financing is expected in the amount of 13.5 million USD essentially for coordination of lake management and convention processes activities at regional level; and pollution and sedimentation control activities within the catchment at national level. Of this 13.5 million\$, 5 million is linked to adaptation to climate change issues, as follows (with reference to GEF Guidance in italics):

- Catchment Management in 3 sites, reducing sediment, increasing woody cover. 4.0 m. *77b/c*
- Updating SAP, protocols, standards, LT Convention to address adaptation to CC. 0.9 m. *77a/d*
- Mainstreaming adaptation to CC in monitoring / management processes for LT. 0.1 m. *77e*

The ADB, the Nordic Development Fund (NDF) and FAO will support Programme activities through ADB/FAO/NDF/FINNIDA national projects fisheries related interventions for a total amount of \$ 43 million US. IUCN co-finance will support the Lake's monitoring programme for an estimated amount of 1 million USD, and FINNIDA are expected to co-finance the fisheries statistics along with the ADB/FAO/NDF intervention for 2 million USD. UNDP Tanzania invests in environmental capacity building in Kigoma Tanzania. The European Union is interested in supporting the rehabilitation of social infrastructure, resettlement of returning refugees and conflict resolutions with a co-financing of 15 million USD. ADB co-financing is conditional to the creation of the ILTMA and the early establishment of the LTA. The table below gives the details of co-financing sources.

OVERALL PROGRAMME FINANCIAL PLAN (Million US\$)

Project Components Components 1-4 are GEF Related	GEF		ADB	NDF	IU CN	FIN FAO EU	Govt & Private Sector	UN DP	Total
	IW	CC							
1 Establish LTA, Program Coordinate	1.9	0.9	4.41						7.21
2 Wastewater Bujumbura & Kigoma	2.9	0		4.5			2.0		9.4
3 Sustainable Catchment Management	3.6	4.0	1.0					**	9.64
4 LT Monitoring Management System	0.1	0.1	0.5		1.0	**		**	1.7
5 Awareness, Environment Education.			1.0						1.0
6 Fish Co-Management Infrastructure			11.0	3.5		**			14.5
7 Improving Community Infrastructure			7.0						7.0
8 Stakeholder Capacity Building			5.59			**			5.59
OVERALL TOTAL	13.5		30.0	8.0	1.0			**	

** Inputs here are pending. UNDP expected to be 1.06 mill US\$; Finnida / EU expected to be 17 mill US\$

GEF OUTCOME FINANCING PLAN (Million US\$)						
Outcome	Regional	Bur	DRC	Tanzania	Zambia	TOTAL
1 Regional Institutions	2.875					2,875
2 Waste-Water Interventions		2,435		0.300		2.735
3 Catchment Management	0.650	-	2,400	2.200	2.440	7.690
4 Lake Monitoring Processes	0.200					0.200
TOTAL	3,725	2,435	2,400	2,500	2,440	13.503

Co-Financing Sources/Types US \$ - both confirmed and negotiating co-finance				
Co-finance	Classification	Type	Amount	Status
ADB **	Multilateral	Concessional Loan / Grant.	30,000,000	Confirmed
NDF	Bilateral	Concessional loan	8,000,000	Agreed - planning detail
EU	Multilateral	Grant	12,000,000	Under Negotiation
IUCN	I NGO	Grant	1,000,000	Confirmed
UNDP Tanzania	Multilateral	Grant	1,036,000	Under Negotiation
FAO	Multilateral	Grant	1,000,000	Under Negotiation
FINNIDA	Bilateral	Grant	2,000,000	Under Negotiation
Government	Government	In-kind inputs	3,300,000	Agreed
Private Sector	Private Sector	Construction, in kind	1,200,000	Agreed
Total Co-finance	Negotiating	STILL DISCUSSING	16,036,000	Expected by Dec 2004
Total Co-finance	Agreed	Letters confirming in Annex 8	43,500.000	

** This input will increase with an additional grant to Burundi.

SUMMARY OF GOVERNMENT COFINANCING PLAN US\$ (in kind)					
Main Outcomes	Burundi	DRC	Tanzania	Zambia	TOTAL
1 Regional/National Institutions Project Mgmt	0.35	0.25	0.25	0.25	1.10
2 Waste-Water Interventions	0.40	-	0.20	-	0.60
3 Catchment Management	-	0.30	0.60	0.30	1.20
4 Lake Monitoring Processes	0.10	0.10	0.10	0.10	0.40
TOTAL	0.85	0.65	1.15	0.65	3.30
Inputs are Oversight Staff Time in M & E , Provision of Staff Expertise to Project Management – both regionally and nationally, Office support. Details in Country Annexes					

National Project Outcomes and Outputs, Regional Outcome		GEF Funding
TANZANIA		US \$
Outcome 1 : 'Sedimentation into Lake Tanganyika from pilot villages is reduced through integrated catchment management, thereby improving lake habitats'		2,200,000
1:	Awareness of key stakeholders raised and their catchment management capacity strengthened	257,000
2:	Sustainable land use practices and soil conservation measures adopted in pilot villages	550,000
3:	Heavily degraded areas rehabilitated	195,000
4:	Environmentally compatible livelihood strategies are introduced and adopted in pilot villages	225,000
5:	Deforestation in pilot areas reduced through adoption of bio-energy saving technologies	265,000
6:	Baseline and subsequent sediment flows into Lake Tanganyika from pilot areas monitored	100,000
7:	Project component efficiently and effectively managed, monitored and evaluated	600,000

TANZANIA		US \$
Outcome 2: 'Wastewater management at Kigoma – Ujiji Township strengthened, reducing point pollution levels of Lake Tanganyika waters and so improving biodiversity habitats'		300,000
1:	Institutional capacity for wastewater management system strengthened	135,000
2:	Wastewater management strategy/plan for Kigoma – Ujiji township established	30,000
3:	Updated wastewater system design for Kigoma - Ujiji township developed that satisfies Lake biodiversity conservation requirements	110,000
4:	Wastewater flows and quality into Lake Tanganyika known	25,000
5:	Project component efficiently and effectively managed, monitored, evaluated	See 1.7
Sub-Total		2,500,000
ZAMBIA		
Outcome: 'Stakeholders in the Lake catchment manage and sustainably use agricultural and forest resources to reduce sedimentation and conserve biodiversity'		
1:	Sustainable natural resource use practices established	1,036,000
2:	Sustainable alternative income generating activities developed	427,000
3:	Awareness of stakeholders of importance of sustainable natural resource management raised	126,000
4:	Capacity of local governance structures for sustainable natural resource management enhanced	351,000
5:	Project efficiently and effectively managed to achieve outputs and immediate objective, with monitoring and evaluation process to show impact.	500,000
Sub-Total		2,440,000
DEMOCRATIC REPUBLIC OF CONGO		
Outcome 1: 'Government and community natural resource management institutions strengthened'		350,000
1:	Government and community natural resource institutions reviewed and strengthened for achieving integrated catchment basin management	250,000
2:	The hydrology of priority high sediment load rivers investigated and river sediment reduction management plans developed and implemented	100,000
Outcome 2: 'The natural resource base in and around Uvira sustainably managed through improved land-use practices'		2,050,000
3:	Appropriate agro-forestry practices and soil management needs assessed with stakeholders in priority areas and piloted	500,000
4:	The capacity of government and communities to establish and manage catchment management processes with appropriate forestry and agroforestry species is strengthened	300,000
5:	Old managed forest areas rehabilitated and new community and private woodlots appropriately established and sustainably managed regenerating appropriate forest cover	250,000
6:	Appropriate energy-saving technologies assessed with stakeholders, advocated, piloted and widely adopted by targeted resource user groups	150,000
7:	Awareness of communities on soil erosion, deforestation, agroforestry management issues raised	350,000
8:	Project lessons and developments disseminated and replicated in priority outlying areas	100,000
9:	Project efficiently and effectively managed, monitored and evaluated	400,000
Sub-Total		2,400,000

BURUNDI	
Outcome: <i>‘Wastewater management in Bujumbura strengthened through infrastructure completion, standards implementation, and community awareness raising’</i>	
1: Tertiary wastewater collection network constructed and completed	700,000
2: The water treatment lagoon station commissioned and pre-treatment facilities operational (1,193,000 \$ Co-Finance)	Co-finance
3: Discharge standards established, approved and issued	788,000
4: Awareness of urban communities about the biodiversity and public health impacts of pollution raised and monitoring inputs developed	631,000
5: Implementation study is updated and the project component is efficiently managed.	316,000
Sub-Total	2,435,000
REGIONAL COMPONENT	
Outcome: <i>‘Regional and national institutions internalize the implementation of the SAP’</i>	
1: Lake Tanganyika Secretariat established, functioning	1,200,000
2: Environment Protocols to the Convention adopted	1,200,000
3: Project components implemented in a cost efficient/effective manner, with M and E.	1,325,000
Sub-Total (Rounded see Annex 3)	3,725,000
TOTAL	13,500,000

5. INSTITUTIONAL COORDINATION AND SUPPORT

a) CORE COMMITMENTS AND LINKAGES

The Programme aims to implement the Lake Tanganyika Strategic Action Program and the FFMP. The Program supports and links with national development plans and Sector-related Country Assistance Strategy (CAS) in the four countries: Poverty Reduction Strategy Paper, Environmental Strategy, National Biodiversity Strategies and Action Plans, Fisheries Management Policies, National Water Policy and Environmental Codes developed within the four riparian countries. The Programme is consistent with priorities of NEPAD, COMESA and World Summit on Sustainable Development.

b) CONSULTATION, COORDINATION AND COLLABORATION BETWEEN IAs & EAs

Donor Partners have established a working Programme Partnership Committee (GEF- UNDP, FAO, AfDB, IUCN, NDF, EU-COMESA) which meets regularly to improve coordination and linkage. The Programme will link with the WB Lake Victoria Environmental Management Project⁵ and the Lake Victoria Fisheries Organization, and to the developing Nile Basin Initiative, to share experiences.

In Burundi, the Program will link to the World Bank/GEF PRASAB “*Programme de Rehabilitation et d’Appui au Secteur Agricole au Burundi*” Project (USD 40 million WB & GEF funding). The PRASAB’s objective is the reduction of rural poverty by improving food security and increasing rural income of small-scale agricultural products producers. The project has environmental components in its implementation and covers part of the Lake’s catchment.

In DRC, the Program will link to the World Bank funded Emergency Economic and Social Reunification Support Project (USD 214 million WB funded). The project aims to assist the Government in the process of economic and social reunification. It helps mitigating the ongoing social and humanitarian crisis, hence contributing to the country stabilization. Project’s specific objectives

⁵ One immediate example is in the use of ICRAF to provide integrated watershed management training and support.

are to restore or introduce sound economic governance system, complement actions to address urgent needs of suffering population, activate implementing mechanisms to overcome capacity constraints and deliver results with efficiency and transparency in reunified provinces.

In Tanzania, the programme links closely with co-financed activity through UNDP “Assistance to the Implementation of the Regulatory Framework for Environmental Conservation”, is starting in Kigoma Region. Four components are relevant: Inventory of by-laws, Capacity assessment/support for enforcement institutions, Awareness raising of environmental legislation, awareness of sustainable development programmes. The Program will link to the ongoing WB Forestry Conservation Management Programme (USD 31 million), the Agriculture Sector Development Programme, the DANIDA supported SIMMORS projects on the upper Malagarasi in the Lake Catchment and the UNDP Small Grant Program.

UNDP is the GEF IA and UNOPS supports regional interventions of the GEF components. FAO will serve as the Executing Agency for ADB EA for fisheries co-management interventions, but also implements directly certain fisheries related activities.

c) PROGRAM IMPLEMENTATION ARRANGEMENT

General Implementation Processes

The oversight of the Programme activities will be the responsibility of the LTMC. The LTMC is comprised of country representatives at Permanent Secretary level, from both environmental and resource sectors (eg fisheries). The LTMC will serve as a steering committee of the Programme and will convene annually to review the Programme objectives, outputs and new and emerging issues. The Implementing/Executing Agencies will participate in the meetings of the LTMC.

The overall coordination role of the Programme will be the responsibility of the Lake Tanganyika Management Secretariat. The LTMS will comprise an Executive Director, a Senior Environmental Officer, a Senior Fisheries Officer, a Senior Finance/Accountant Officer, a Senior M&E Officer and an ICT Officer. The requisite administrative and secretariat support will be provided. These staff are provided by participating countries, although GEF provides funding to countries to meet these obligations for the first year of operation,⁶ and AfDB can support similar allowance packages.

Technical assistance will be provided through the donor interventions. GEF provides a CTA for four years (combining both technical expertise in the field of regional water-body institutional building, as well as coordination and reporting roles across all five GEF national and regional components) GEF provides an Environmental Advisor for two years, plus short-term consultant inputs (SAP, water-hyacinth control, policies, monitoring process).

The LTMS will also undertake the implementation of specific program activities: support the ratification of the Convention, establish the Lake Tanganyika Authority, support establishment of protocols to Convention and their enforcement, update the SAP etc.).

At country level, projects will be coordinated by a PCU under the direct responsibility of the relevant ministry/institution/local government of the participating country. Project partners at national level (Governments and UNDP) will designate the implementing institution (Government agencies at central and decentralised levels, or NGOs) of the projects. The PCU will be comprised of a Project Coordinator, the requisite administrative support, plus technical expertise as needed.

Inter-Ministerial Committees will be established to support the implementation of the Program at national and regional level and to ensure continued and increased level of political support to the co-operative management of the Lake and to the necessary support to the LTA, once in place.

⁶ By which time posts will have been approved through national processes.

Implementation Modalities for the GEF Components

This GEF Brief sets out broad implementation process, focusing on delivery for cost-effective impact, and nationally driven processes which lead to local capacities and so sustainability. There will be a mixture of both *NATIONAL Execution* arrangements in countries with strong UNDP-Government capacities, and *UNOPS Execution* arrangements where capacities are weaker (countries emerging from long periods of conflict – DRC and Burundi). The Regional component will be executed by UNOPS with sub-contracts to institutional expertise in the region for specific tasks (eg: catchment management training and support,

Monitoring

The principles of ensuring cost effective and sustainable implementation modalities, whilst adding incremental value to poorly performing baseline interventions to ensure that both global and national benefits are achieved, are of importance here. Detailed implementation modalities will be described in subsequent Operational Project Documentation, and will be dependent on practical realities in the field, as presented in the detailed Inception Report, due within 4 months of start-up. Annex 11 gives more details.

Key Lessons Learned from the PDF B Process and other Programmes.

Lessons have come from the WB-GEF and SIDA funded Regional Programmes for Lake Victoria (giving examples of Regional Lake Basin Management) as well as successful GEF Regional Programmes (eg: SABONET and Cross-Borders). A holistic programmatic approach, involving regional integrated planning, taking full account of regional cooperation and institutionalization as well as environmental, and socio-economic development constraints and opportunities was found to be the best way to address sustainably the environmental threats to the Lake's biodiversity (First Project and PDF B process). This implies the need to involve all sectoral departments and all affected or interested stakeholders and their cooperating partners in the decision-making process and action. Threats to the Lake's biodiversity are mostly generated from human activity on the land. Poverty and ignorance were the major roots causes of environmental degradation. Actions to address environmental threats should concentrate on land human activity and should also integrate socio-economics interventions to alleviate pressure on natural resources.

Purely environmental protection activities will not protect environment, neither attract extremely poor riparian populations unless they find their own benefits. Integrating improvement of livelihoods and living conditions of the population and benefit sharing to environmental protection activities are the warrants for a sustainable use and protection of the Lake's biodiversity. Building the capacity and the overall understanding of environmental trends within the beneficiary populations, communities and existing government structures, empowering and ensuring them ownership, involving them in decision-making appeared to be the sustainable way of achieving lasting results. Partnership, trust and confidence between riparian countries and their cooperating partners has made possible the planning of a substantial integrated management program. It is of paramount importance that they prevail and broaden to all affected/interested stakeholders.

Regional integration development processes requires patience, substantial commitment and long-term provision of financial and human resources to bear fruits. The Lake Basin is one of the most under-developed areas in the entire region. Developing it in a sustainable way on a long-term vision and planning is a financial challenge for riparian countries. Long-term financial support will strengthen riparian countries' ability to develop their own financial sustainability. Exchange of lessons and experience with other IW and river/basin management institutions, through IW:LEARN and other knowledge sharing mechanisms, will help apply developing best practices and innovation and thus fostering management capacities for the lake.

ANNEXES:

- 1 The Incremental Cost Analysis
- 2a The Logical Framework Analysis
- 2b The Results Matrix
- 2c Response to GEF Sec Reviews and STAP Review
- 3 Regional Component Details (Coordination, Policy, M and E, Project Management).
- 4 National Component – Burundi.
- 5 National Component – DRC.
- 6 National Component – Tanzania
- 7 National Component – Zambia
- 8 The Standard GEF Annexes
 - a) Letters of Endorsement,
 - b) Letters of Co-Finance,
 - c) Map of Lake Tanganyika.
 - d) Stakeholder Involvement Plan
- 9 The Overall Multi-Donor Programme
- 10 Climate Change and Lake Tanganyika – A Summary of Issues.
- 11 Summary of the Monitoring Programme for Lake Tanganyika
- 12 Lake Tanganyika Convention (This is signed by all three countries, awaits ratification).

ANNEX 1 INCREMENTAL COST ANALYSIS

1. Broad Development Objectives:

The over-riding national development objective for countries in the Lake Tanganyika Region is poverty reduction as elaborated in developing PRSP (Poverty Reduction Strategy Paper) processes. PRSP documents provide national blueprints for achieving these objectives. Poverty reduction does have a focus on the natural resource for livelihoods, energy and water. All countries in the region had demonstrated a strong and enduring commitment to biodiversity conservation by signing and ratifying the CBD and committing financial resources and political will to enable it implement and enforce the provisions of the Conventions. Countries have or are enacting several modern policies that provide an improved enabling environment for sustainable use of natural resources and protection of forests of global significance. These are the National Environment Policies; Forestry Policies; Agricultural Policies, Water Policies and Fisheries Policies. All countries are committed to principles of increased decentralised governance

These efforts are hampered by the many challenges the region faces, as a large proportion of the growing population continue to live under the poverty line and rural communities have limited alternatives not to over-exploit natural resources. Past insecurity in the region (especially in DRC and in Burundi) has greatly curtailed development efforts by governments, civil society and donor partners. The distances from the Lake Region to capitals in Dar es Salaam (Tz), Lusaka (Zambia) and Kinshasa (DRC) have meant that central government support has been less than needed for sustainable government.

This project will strive to reconcile the development and conservation agenda of the countries in the region by supporting efforts of governments in managing and protecting the resources of Lake Tanganyika and its Catchment. The project will provide technical capacity building for the regional, national and local institutions. Further support to governments, civil societies and communities for development aimed at enhancing community livelihoods will come from co-finance.

2. Global Environmental Objectives:

The overall goal of this Regional Integrated Management Programme is the improvement of the living conditions of the riparian populations through the implementation of the SAP, the FFMP and the Convention, together with the on-going and future efforts of riparian countries, so as to bring about an integrated sustainable management and protection of Lake Tanganyika.

Lake Tanganyika is an important resource both globally (biodiversity and quantum of freshwater) as well as regionally in Africa in terms of resources for local people and national economies. The Lake and Lake Basin are however threatened by a number of anthropogenic pressures, which if left un-addressed will lead to irreversible degradation of this important ecosystem. Global environment benefits include: the conservation of an exceptionally biodiversity rich region, reduction of transboundary pollution, conservation of endangered species relying on the un-spoilt lake waters for survival, reduction of land degradation, regulation of global climatic conditions as a carbon sink, and maintenance of land and water resources for future use values.

3. Project System Boundary

The scope of analysis was defined by the past Strategic Action Programme as:

- (i) Spatially, by the extent of the Lake itself, and the Lake Basin
- (ii) Temporally by the proposed life of the project (4 years);

- (iii) Thematically by the four bundles of strategic interventions proposed to conserve resources, and their accompanying baseline inputs, as shown on page 4 of this summary.

Four interventions bundles corresponding to the major thrusts of the project have been defined for the purpose of assessing the incremental costs and baseline. The Baseline includes a range of activities that are justified in terms of the four country inputs in the region supporting several sustainable development objectives – especially those focusing on livelihoods of communities around the lake. Incremental activities are classed as initiatives that will generate mainly global environmental benefits and that will not be pursued as part of the national development agenda if the decision were to be based solely on the domestic cost-benefit assessment.

4. Baseline

The principal threats and root causes to sustainable resource conservation and utilization in the Lake and Lake Basin are weak institutions, over-fishing, pollution from waste water discharge, sediment loads from poorly managed catchments and lack of capacity to monitor resource values. Over-fishing is addressed purely by co-finance with no GEF intervention. Baselines which in general low, are different within the region, DRC and Burundi, both emerging from conflict have smaller baselines and capacity in general, than Tanzania and Zambia. The baseline course of events, in the absence of GEF intervention, can be described as:

Regional Institutional Development for the Management of Lake Resources

At the regional level, Burundi, Tanzania, Zambia and the Democratic Republic of Congo met frequently during the first GEF Project and within the detailed PDF B process for this phase of investment. There are Lake meetings on security⁷, and on transportation issues. There are no fora for environment or development. In the absence of this GEF intervention, institutions concerned with conservation and development work will continue to work in isolation with ad hoc activities. Furthermore no monitoring and evaluation frameworks exist making it difficult to assess the success of interventions and to adapt activities appropriately.

The aggregate baseline is estimated to be **US\$ 100,000 over four years**. The lack of coordination and clear strategy will lead to reduced synergies or even counter-productive conservation efforts; the situation under the baseline will not allow for sustainable funding mechanisms to be identified for continued support for Lake and Lake Basin. The lack of monitoring capacity and interventions does not allow the Governments to monitor where investments have been most successful or where the financial needs to be directed. Donors will have difficulty to assess the impact of their contribution.

National Institutional Mechanisms

Local government processes (coordination and sector management (eg fisheries, forests, agriculture, water) do exist at District HQ along the lake, but capacities are low and staff turnover is high. Local Government is supported by national level inputs but with the exception of Burundi the lake areas are very distant from capitals and inputs are low and infrequent.

The government baseline is estimated at **US\$ 1,200,000** over the 4 year period, with 600,000\$ for Tanzania, 400,000\$ for Zambia, and 100,000\$ each for Burundi and DRC. In addition the NGO

⁷ Security recently greatly improved: Regional Commissioner Kigoma in July discussed reduced piracy as a result of improved cooperation and surveillance.

sector contributes an estimated **800,000\$**, and the still small Private sector a **further 300,000\$**. The Aggregate Baseline then is **US\$ 2,300,000**.

Support for conservation and sustainable management of Lake Basin Catchments.

Much of support provided to lake-basin catchment is through the salary inputs to civil aswervice activity. There is little intervention funding. Examples of relevant interventions are the WB supported PFM forestry work, ICRAF agro-forestry research, population control support via USAID to TACARE an NGO, and minor extension services to agriculture. Details are in Country Annexes. This is estimated at **US\$ 400,000** over the project period.

Linkages between lake & lake basin resource conservation and improved sustainable livelihoods

Local communities around the lake have a high dependence on the lake resources because of poverty and lack of alternative sources of livelihoods. A number of institutions are assisting local communities in the area through various initiatives that will be undertaken irrespective of the GEF intervention. It is estimated that the four **governments will spend US\$600,000** in the 4-year period on activities that improve the livelihoods of communities in the project sites. UNHCR finances refugee support in the catchment. World Vision and other development NGOs have inputs. The aggregate baseline is estimated to be **US\$250,000**.

An important balance has to be achieved between protecting the lake resources for conservation purposes and recognising the needs of the local communities who often depend on lake and catchment land resources to sustain their livelihoods. To be successful, conservation efforts must embrace local communities. Currently there is limited experience among institutions or capacity within communities to promote CBNRM initiatives. Subsequently, in the absence of the GEF intervention, communities will continue to be alienated from the management of resources and, without any responsibility for ensuring the long term sustainability of resources.

Waste Water Treatment and Pollution Control

Burundi has an extensive investment into waste water treatment for Bujumbura over the past decade, which ended with the plant being 85% completed when the civil unrest began and donor funding began. The total expenditure was over 30 million US\$, which could be construed as baseline. We use a more conservative figure here of 2 million US\$ in recognition of recent past investment. Kigoma has much more modest investment, assessed at 200,000\$ over the project lifespan. **The Aggregate therefore is 2.2million US\$.**

Lake and Lake Basin Monitoring.

Monitoring institutions do exist, for example the fisheries stations in the region, but they are poorly funded and have little regional co-ordination since the closure of past project inputs. The aggregate baseline is estimated to be **400,000\$ over the project lifetime.**

Summary of Baseline Investment

Issue	Detail	Cost
1	Regional and National Institutions	2,400,000
2	Catchment Sustainable Management/Livelihoods	1,250,000
3	Waste Water Management	2,200,000
4	Lake and Lake Basin Monitoring	400,000
Total	Total Baseline Expenditures (4 years)	6,250,000 US\$

5. The GEF Alternative

The proposed GEF Alternative includes activities designed to mitigate the threats to the shared Lake Tanganyika Ecosystem and achieve resource conservation objectives over and above those spearheaded in the baseline scenario. The programme will promote the participation of local communities in the management and utilization of natural resources. The GEF alternative has components for GEF and for non-GEF (ie Co-Finance) funding.

Four outcomes are proposed for GEF financing, which are supported by direct co-finance (Regional institutions, catchment, waste-water and monitoring) and four outcomes are for strictly Co-Finance intervention; all eight outcomes are necessary to achieve the Lake Tanganyika Project Goal:

Summary of GEF and Donor Programme Investment – The Overall Incremental Cost

Outcome	Detail	Total	GEF	Co-Finance
1 GEF/AfDB	Regional Institutions in Place*	+ 7,319,000	2,878,000	4,441,000
2 GEF/	Catchment Management**	9,690,000	7,690,000	2,000,000
3 GEF/NDF	Waste-Water Treatment #	7,235,000	2,735,000	4,500,000
4 GEF/IUCN	Project Monitoring Support	1,200,000	200,000	1,000,000
5 Co-Finance	Fisheries Management	14,500,000	-	14,500,000
6 Co-Finance	Community Infrastructure	7,000,000	-	7,000,000
7 Co-Finance	Waste-Water Burundi (see 3 above)		-	
8 Co-Finance	Stakeholder Capacity Building	5,590,000	-	5,590,000
Total		52,531,000	13,500,000	39,031,000

* Some regional money goes to ICRAF for Catchment Management. + includes awareness/training etc

** This is total for three countries (DRC, Tz, Za) plus the regional input to ICRAF. # - this is for two countries – Burundi and Tanzania.

6. Incremental Costs and Benefits

The baseline, comprising activities that would be pursued irrespective of project investment, has been estimated at US\$ 6,250,000.

Incremental costs amount to US\$ 52,531,000 of which the GEF would fund US\$13,500,000.

The total Alternative is \$58.781 m. The GEF contribution amounts to 24.5% of the cost of the alternative.

The GEF will provide funding for activities that generate clear global benefits, and could not be justified solely on domestic benefits. These benefits are documented in the following table.

SUMMARY OF DOMESTIC AND GLOBAL BENEFITS OF EACH GEF OUTCOME

INCREMENTAL COST MATRIX				
Component	Category	US\$ m	Domestic Benefits	Global Benefits
Lake SAP and the Lake Tanganyika Management Authority	Baseline = Regional & National Inputs	2.40	Possibility of establishing Lake Management Authority, but uncertainty with regard to timing and sustainability; Implementation of projects delayed	Potential improvement of management of Lake's ecosystems and biodiversity resources reduced
	GEF Alternative Plus fisheries inputs from AfDB/FAO	10.54	Establishment of the Authority brought forward, prioritised implementation of the SAP more certain. Improved regional cooperation in the management of Lake resources, with conflict resolution mechanisms in place. Living conditions raised	Sustainable management of Lake Tanganyika ensured, safeguarding one of the world's most biodiverse rich ecosystems. Multi-sectoral institutions working together in an effective harmonized manner towards biodiversity protection and sustainable development of the Lake.
	Increment GEF AfDB	8.14 3.73 4.41		
Waste Water Management (Bujumbura Burundi)	Baseline This is recent input to the infrastructure	2.0	Only 5.000 cubic meters of wastewater treated and discharged a day, out of installed capacity of 40.000 cubic meters of domestic and industrial wastewater.	Small amount of wastewaters managed; increasing levels of pollution in a global biodiversity hotspot.
	GEF Alternative	5.43	Some 40% of domestic wastewater treated; 100% industrial wastewater treated. Wastewater management and operation efficient and cost-effective, management capacity built; management sustainability ensured; public/private investment in the wastewater catalyzed. Possibility of replication in other Lake-shore cities.	Wastewater properly managed; greatly reduced wastewater pollution into the Lake; Restoration natural resources stocks; Biodiversity resources protected. Possibility of replication in other lake-shore cities.
	Increment Private Sector GEF	3.43 0.99 2.44		
Sedimentation Control in Uvira Region DRC	Baseline	0.2	Past public woodlots have disappeared. More recent private woodlots through church/local NGO groups (CEPAC-Uvira) face the same fate, because no alternative source of energy, only a handful people in Uvira communities cooking with electricity.	Unless alternative cooking solutions, deforestation to continue, and the steep slopes overhanging the Lake will continuously be subject to accelerated erosion, hence threatening survival of the biodiversity in Lake Tanganyika
	GEF Alternative	3.10	Effective community-based natural resource management and partnerships with district officials; Increased community and private woodlots for firewood and revenue in project demonstration sites. More families using improved charcoal ovens in order to reduce firewood demands. A decrease in deforestation and the rehabilitation of severely degraded areas in pilot villages; Improved and sustainable agricultural practices and diversified livelihoods.	Tangible and sustained reductions of sedimentation rates into the Lake at project demonstration sites that lead to improving habitats and biodiversity
	Increment GEF AfDB	2.90 2.0 0.50		

Catchment Management (Kigoma in Tz and Mpulungu in Zambia).	Baseline	1.05	Ongoing natural resource management developments Kigoma but less successful due to inadequate technical capacity and limited financial resources to properly address environmental issues in their respective districts. Past interventions aimed at forestation were undertaken but with little or no involvement of key stakeholders, thus undermining the sense of project ownership. These approaches result in poor management of catchment.	Localized positive results but still limited to some catchment areas with limited impact to reduce sedimentation threat on biodiversity
	Alternative GEF funding + some input from AfDB	7.21	Catchment management practices adopt best practices developed in past 5 years or so – which include holistic cross-sectoral interventions (across land, agriculture, forest, water sectors) within a participatory bottom-up framework that gives adequate incentives to local people for land-use change – and too improved livelihoods.	Tangible, growing and sustained reductions in sedimentation rates at project demonstration sites which lead to improved biodiversity habitats with potential for replication on a wider national scale
	Increment GEF AfDB	6.14 4.64 1.50		
Wastewater Management in Kigoma, Tz	Baseline	0.20	Kigoma Water Sanitation Authority have little ability to manage disposal of both solid and liquid human wastes. There is haphazard discharge of wastewater, including raw sewage, from institutions and residential areas into Lake Tanganyika. Lack of wastewater treatment is due to run-down and inadequate sanitary facilities, poor enforcement of byelaws, and insufficient human and financial capacity.	Outdated and unimplemented wastewater management plan. Continued haphazard discharge of wastewater, including raw sewage, from institutions and residential areas into Lake Tanganyika result in reduced biodiversity values.
	GEF Alternative	5.0	Strengthening the capacity of the urban water authority and local government to implement a wastewater management plan through improved institutional structures and linkages, practices and procedures including environmental monitoring and impact assessment	Effective wastewater management with GEF and NDF support leads to reduction of point sources of urban pollution and their negative impact on the aquatic ecosystem resulting in protection of the Lake's biodiversity. Possibility of replication in other Lake towns.
	Increment GEF Nordic D Fund	4.8 0.3 4.5	Co-finance from Nordic Development Fund builds the plant.	
Project Monitoring Programme	Baseline	0.4	Lack of monitoring information, and poor capacity to use data and feed data into meaningful management interventions results in non-efficient resource management and eg health problems	Inadequate information on status of global values, and poor response capacities to improve conservation
	GEF Alternative	1.6	Well functioning Monitoring Systems linked to Management decision making capacity both nationally and regionally means that resources are utilized more efficiently and that livelihoods improve.	Regional and national resource management authorities have greater capacity to manage the global values of the Lake.
	Increment GEF IUCN	1.2 0.2 1.0		
TOTAL	Baseline	6.25	Increment GEF	13.5
			Increment Co-Finance	54.0

ANNEX 2a: Programme and GEF Project Logical Framework (Details at country output level are in Country Component Annexes)

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>Development Objective at PROGRAMME level</p> <p>The long-term objective of this Regional Integrated Management Programme is the improvement of the living conditions of the riparian populations through the implementation of the Strategic Action Programme, the Fisheries Framework, the Convention and the relevant sections of national PRSP processes.</p>	<p>An overall improvement in Poverty Indicators including those related to the Millennium Development Goals (1 and 7).</p> <p>The revised SAP and FFMP are in use to guide development.</p> <p>The Convention is ratified and under implementation by partner countries.</p>	<p>National PRSP process – disaggregated to riparian regions and districts.</p> <p>Project led new resource and livelihood indicators, integrated into riparian institutions.</p>	<p>Continued country commitment to a regional approach.</p> <p>Management measures are taken and monitored.</p> <p>Security is maintained in the region</p>
<p>Immediate Objective 1. GEF</p> <p>To implement the prioritised activities of the strategic action programme so as to achieve sustainable management of the environment and resources of Lake Tanganyika.</p>	<p>The Interim LTMA and national institutions are established and operational by 2006; The LTA is established and operational by 2008.</p> <p>Policy and regulatory frameworks for sustainable fisheries and environment for Lake Tanganyika are improved at national level by 2007 and harmonized at regional level by 2008</p> <p>The Lake Tanganyika Strategic Action Program reviewed and updated by 2007</p> <p>Pollution at hotspots reduced Sediment rates at demonstration sites reduce significantly. Sediment control interventions begin to be replicated.</p>	<p>Meeting reports;</p> <p>Instruments of ratification of Convention, with environmental protocols;</p> <p>National policies/plans documents;</p> <p>Revised SAP document;</p> <p>Reports and data from the Programme M and E processes</p>	<p>Country support for the establishment of the LTA, Country commitment to ratify the Convention and establish the LTA and commit resources for sustainability;</p> <p>Countries strong support and involvement in the work of the Program;</p> <p>Countries exchange information Resurgence of insecurity on the Lake may impact on implementation. Mitigating this concern is the countries’ commitment to find a lasting solution through peace processes in the region. Countries to commit joint patrolling units on the Lake; Countries willing to commit necessary resources for LTA</p>

			sustainability.
GEF COMPONENTS Outcome 1 Regional and national institutions established and implementing the SAP and provide the institutional support for the cooperative management of Lake Tanganyika	ILTMA established; Inter-ministerial Committees established by 2006 Convention ratified by 2006; Protocols to Convention established Policies harmonized and regional master plans established by 2008; Additional resources leveraged for activities and sustainability by 2008; Information Resource developed and maintained by 2008 Lake Tanganyika Strategic Action Program is updated by 2007	Minutes of First Conference of Parties; Meeting reports; Instruments of ratification in LTMS; National environmental policy document; Master plans reports; Documented increased level of LTMS participation in Lake activity; Published progress reports on extent of SAP implementation; Increased commitment for regional level participation in the SAP. Revised SAP document;	Countries keep and concretize their commitment to ratify the Convention; The LTMS is able to lead the process of creation of the Lake Authority; Commitment to implementation of the SAP interventions; The countries will increase their participation in the ILTMA activities;
Outcome 2 The quality of the water of Lake Tanganyika is improved at identified pollution hotspots	Wastewater treatment plants are operationalised in Bujumbura and constructed in Kigoma by 2008; Improvement in water quality at identified hotspots by 2010	Project Steering Committee Reports	Capacity of central and local governments to ensure a timely and satisfactory implementation/execution of the projects
Outcome 3 Demonstration sites around the Lake show how sediment discharge can be reduced whilst providing significant livelihood benefits to local people	Demonstration pilot sites for sustainable catchment management established in Uvira, Kigoma and Mpulungu districts by 2008; Awareness and environmental education conducted by 2008; Improvement in water quality at identified hotspots by 2010	Work plans APR-PIR processes Published progress reports on projects implementation; Reports and records of meetings; Increased capacity to create national benefits through enhanced national projects management	Capacity of central and local governments to ensure a timely and satisfactory implementation/execution of the projects
Outcome 4 Regional monitoring decision-making support system to foster the Lake's management established	Monitoring unit is equipped by 2006; Internal and external network for communication within the Program is established by 2006; Standardization of parameters and targets for monitoring by 2007; A web site developed by 2007; Two reports are prepared each year to support decision-making at regional level by 2007	APR – PIR processes Documentation of the decision-making management support system; Documented reports on interactivity between work-plan and ILTMA activities; Documented reports on increased country commitment and local benefits	The LTMS will assist countries in recruiting Monitoring Committees; The LTMS will assist countries in assessing national monitoring processes; The LTMS will have the required technical expertise to develop monitoring capacity and to establish a decision-making management support system

Annex 2B: Results Measurement Template: Lake Tanganyika Project

Objectives	Key Performance Indicators	Target (Year 4)	Sampling Frequency	Notes
Project Objective (Purpose) To implement the prioritised activities of the strategic action plan so as to achieve sustainable management of the environment and resources of Lake Tanganyika.	The Lake Tanganyika Strategic Action Program reviewed and updated by 2007	Extra environmental activities are undertaken by countries in Region – from new SAP – eg Hyacinth control	Final Evaluation year 4	SAP is now 4 years old and requires revision with approval.
	Pollution at hotspots reduced. See Outcome 2	Waste water treatment plants are fully operational. Authorities are self-financing, and enforcing compliance	Final evaluation year 4	Pollution is built into sustained lake Monitoring Programme
	Sediment rates at demonstration sites reduce significantly. See Outcome 3.	Detail under Outcome 3. 30% decrease in silt load expected in project lifetime. Increase to 50% by year 10.	BL and year 4, plus post-facto M/E	Sediment is built into sustained lake monitoring programme
	Sediment control interventions begin to be replicated within the Region.	The catchment management regimes pioneered within three countries at demonstration sites are replicated within additional sites in each country and emulated in Burundi by project closure.	Final Evaluation year 4	
Outcome 1: Regional and national institutions established and implementing the SAP and provide the institutional support for the cooperative management of Lake Tanganyika	Convention is ratified, with environmental protocols setting standards for water quality and other environmental parameters	Ratification within year 2 of project. Protocols by end year 3, with standards accepted by year 4	Annual PIR and Final Evaluation	
	Revised SAP in place with additional environmental issues (eg hyacinth control, and links to adaptation for climate change).	Fully revised SAP in year 3, with uptake of new issues from SAP by project end.	Final Evaluation year 4	Hyacinth was not an issue in 2000, however known hyacinth populations are seen within 25 m of lake
	National and Regional Technical Task Forces/ Committees in place and functional	All committees meet with strong technical output linked to Lake environmental matters and which are implemented.	Annual reports and evaluation.	
Outcome 2: The quality of the water of Lake Tanganyika is improved at identified pollution hotspots	Waste-water treatment plants are fully operational in the two target sites	Infrastructure is complete. Authorities are in place enforcing compliance. Stakeholders are connected to facility	PIR and evaluations	
	Effluent from wastewater treatment is at least 50% better quality across key parameters than non-treated waste	50% improvement in selected parameters of health and environmental concern	Baseline and year 4	Assumption of course that treatment plants are in place.

Objectives	Key Performance Indicators	Target (Year 4)	Sampling Frequency	Notes
	Water quality in lake at sampling sites off-shore show increased quality in terms of environmental and health parameters	This is built into the Lake Monitoring Programme and links to associated biodiversity indices. Increased quality by 30% for key criteria		Regular monitoring programme for the lake is institutionalised
Outcome 3: Demonstration sites around the Lake show how sediment discharge can be reduced whilst providing significant livelihood benefits to local people	Demonstration pilot sites for sustainable catchment management established in Uvira, Kigoma, & Mpulungu by 2007; A total of 25,000 ha of critical risk catchment is placed under improved management.	All target sites with functional catchment programmes, with village assessments showing improved land-use, with increased woody cover and increased livelihood options	Baseline and final year (plus post facto)	ICRAF provides monitoring methodologies using both low-tech participatory approaches and high-tech satellite monitoring.
	Improvement in water quality at identified hotspots by 2009. Turbidity, sediment load parameters improve by 30%.	Water quality measurement off shore from target catchment sites shows significant change by year 4.	Baseline and in year 4.	Plus training within monitoring programmes
	Target rivers have reduced silt load in year 4 compared to baseline in year 1 and TDA	Measurements of sediment plume (satellite) and water sampling in river show 30% improvement by year 4	Baseline and in year 4	
	Participatory Monitoring Programmes (ICRAF) show significant improvement by year 4 on several indicators, including Threat Reduction Analysis.	Soil loss estimates, woody cover data, % of improved energy stoves all show improvement by 30% by project end.	Baseline and in year 4 and post-facto	See note on ICRAF methods above
Outcome 4: Regional monitoring decision-making support system to foster the Lake's management established	Monitoring unit is equipped by 2006;	All stakeholder monitoring units are networked and functional, collecting information to agreed regional specifications by year 4	PIR and evaluations	
	Standardization of parameters and targets for monitoring by 2007;	Links to Convention Protocols on standards, but here the management – monitoring teams are in place and functional.	PIR and evaluations	
	Two reports prepared each year to support decision-making at regional level by 2007.	Reports in year 3 and 4, reports continue post project – showing sustainability	PIR and Post Facto	

ANNEX 2c: RESPONSE TO REVIEWS

A) RESPONSE TO GEF SEC REVIEW

The GEF Secretariat Concept Agreement Review was 7 Nov 2000. This had no specific issues to be addressed in the full brief, but needed clarity on the Terms of Reference for the Lake Tanganyika Interim Organisations. This is described in detail in Annex 3.

The GEF Secretariat Review of this GEF Brief was 23 September 2004. Some issues were requested for clarification by Work Programme Inclusion and CEO Endorsement. These issues were:

Issue	Response
1 Replicability	This is addressed in the Executive Summary, stressing replication of activities within the Lake Tanganyika Basin – ie scaling up from the pilots within this SAP implementation phase. Replication also has relevance in this project proposal being the first of the GEF IW 9 projects to address SAP implementation processes.
2 M and E Programme needs amplification.	The new Annex 11 addresses this in general terms for long-term lake monitoring. Project Monitoring is strengthened, see the Pressure – State Responses criteria, included in Annex 2b at the end of the Log-Frame, these have further quantification of targets.
3 Co-Financing clarification is needed.	Co-Finance from FINNIDA is still pending. This is being negotiated via AfDB and addresses fisheries issues. Co-Finance from EU – COMESA is agreed in general, but the exact amounts/purpose are still being negotiated with countries. Co-Finance from UNDP – Tanzania is agreed in general, but exact scope and geographical coverage is being discussed as project is at start-up stage. These pending co-finance sources are removed from the cover page, but are included in the partnership financing plan in The Executive Summary. The confusing footnote has gone.

STAP REVIEW AND RESPONSE, RESPONSE TO GEF REVIEW

STAP ROSTER TECHNICAL REVIEW OF THE PROPOSED GEF-IW PROJECT:

**“LAKE TANGANYIKA INTEGRATED ENVIRONMENTAL MANAGEMENT PROGRAMME”
(BURUNDI, DEMOCRATIC REPUBLIC OF CONGO, TANZANIA, ZAMBIA)**

**by J. A. Thornton PhD PH CLM
Managing Director**

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Introduction

This review responds to a request from the United Nations Development Programme (UNDP) to provide a technical review of the proposed International Waters project entitled *Lake Tanganyika Integrated Environmental Management Programme*.

I note that I am a designated expert on the STAP Roster of Experts with particular experience and knowledge concerning lake and watershed management. I have served as Government Hydro-biologist with the Zimbabwe Government, Chief Limnologist with the South African National Institute for Water

Research, Head of Environmental Planning for the City of Cape Town (South Africa), and, most recently, as Principal Environmental Planner with the Southeastern Wisconsin Regional Planning Commission, a position that I hold concurrent with my position as Managing Director of International Environmental Management Services Ltd, a not-for-profit corporation providing environmental education and planning services to governments worldwide. In each of these positions, I have had oversight of projects and programs designed to manage multiple water uses in complex basins, and to develop appropriate and affordable measures to maximize human use of, while minimizing human impacts on the aquatic environment.

This review is based upon a thorough review of the project document, consisting *inter alia* of the Project Executive Summary (21 pages), and Annexes 1 to 10. Other, relevant documents served as reference sources, including the GEF *Operational Strategy, Agenda 21*, and related materials.

Scope of the Review

This review addresses, *seriatim*, the issues identified in the Terms of Reference for Technical Review of Project Proposals.

Key Issues

Key issue 1. Scientific and technical soundness of the project. The proposed program builds on the achievements of a previous GEF-funded intervention in the Basin that led to the formulation of a transboundary diagnostic analysis and strategic action program for Lake Tanganyika (TDA-SAP). The current intervention seeks to implement key strategic actions for the integrated management of the Lake and its water and living resources. The program is elaborated in Annexes 4 through 7.

Overall, the project appears to be scientifically and technically sound, although relatively few details are provided on the actual work elements within the major components. The approach proposed, which focuses on the implementation of recommendations set forth in the Strategic Action Program for Lake Tanganyika prepared under a previous GEF-IW project, includes tailored activities within each of the Basin countries, coordinated by a proposed regional authority. This approach is similar to that used in the neighboring Lake Victoria Basin.

The major scientific element of the project is the coordinated lake water quality and fisheries monitoring programs. Unfortunately, few details of the proposed methodologies are provided. The water quality parameters to be measured, frequency of measurements, and locations of the monitoring stations are not specified. The agencies to be tasked with the collection and analysis of the water quality data likewise are not specified, although the context of the proposal suggests that these agencies are likely to be the relevant national ministries and/or agencies. From a fisheries management perspective, the types of data to be collected, species to be monitored, and agencies to be involved are not specified, although the relevant national ministries and/or agencies and species of commercial importance are implied. A joint fisheries management organization, similar to that of Lake Victoria is mooted.

It appears, pursuant to Annex 3 that the data compilation and dissemination duties will be performed in part by the interim secretariat, supported in large part by the GEF funds. Continuity of all of these activities will be subject to the successful outcome of the project. Given the political instabilities in some of the Basin countries, data acquisition, and the continuity of the scientific program, would appear to be subject to a significant level of risk and uncertainty. These risks and mitigation measures are described in the Project Executive Summary

Notwithstanding, the inclusion of a multi-pronged program of proposed actions to address both point and non-point sources of water quality impairment, and multi-national management and control of the lake fishery, supported by monitoring data, provides a sound technical footing for the implementation of the SAP. Depending upon the degree of recruitment of local staff to fill the posts identified in Annex 3, and contingent upon the sustained provision of local support in terms of both staffing and office and equipment support, which forms the local counterpart contributions to the project, the risk of failure of the technical program can be minimized. This will require the firm commitment of the countries as

documented in the letters of support for the project, the continuity of funding for staff and facilities, and the open and transparent exchange of information and data.

Key issue 2. Identification of global environmental benefits and/or drawbacks of the project, and consistency with the goals of the GEF. The proposed project addresses the major causes of environmental stress within the aquatic environment, as identified through the previously completed TDA-SAP process; namely, unsustainable fisheries, water pollution, sedimentation, and habitat destruction. Lake Tanganyika, as one of the African Great Lakes, contains a reservoir of endemic fishes and supports a unique continental ecosystem that is currently being greatly stressed by the growth of human populations and their economic activities, both in the watershed draining to the Lake as well as within the shared, transboundary Lake. Both land and water resources have been identified as being at risk within the TDA, and, consequently, the SAP recommended actions to address both land-based and lake-based concerns. It is proposed that this project address these concerns by the targeted application of interventions at the pilot or demonstration scale, supported by the creation of an interim (and later permanent) agency that can disseminate knowledge of successful interventions throughout the Basin. While such dissemination is complicated by the variety of language groups present in the Basin, including a range of ethnic languages not officially recognized within the proposal, the production of multilingual documentation in a variety of media is not insurmountable with current technologies. It is, however, a challenge that must be recognized and addressed: presently, the project document identifies English and French as the working languages of the Basin.

The precise nature and locations of the demonstration projects are to be determined as an output of the project. Notwithstanding, the generalized locations of specific types of activities have been predetermined. For example, urban wastewater concerns have been identified at specific hotspots located near Bujumbura and Kigoma, and land use concerns have been identified near Uvira, Kigoma and Mpulungu. As these sites are within watersheds that drain to the transboundary waters of the Lake, transboundary benefit can be presumed, meeting the definition of global benefit pursuant to the GEF-IW usage.

In addition to the presumed direct global benefit, additional benefit accrues to this project through the fact that it addresses some of the most pressing of global concerns facing the African Great Lakes. As noted above, these Lakes are a major source of freshwater on a continent that is generally considered to be water-poor and largely at-risk from extreme water deficits. Beyond the mere presence of water, the African Great Lakes support unique and valuable fish communities, the value of which is reflected not only in their contribution to global biodiversity but also in their economic status as both food organisms for (primarily) local populations and inhabitants of aquaria around the world (although this latter aspect of the Lakes is centered in Lake Malawi and at risk in most other African Great Lakes due to past fisheries management practices that have sought to replace “low value” native species with “more valuable” food species). This particular aspect of the Lake Tanganyika implementation project appears to be de-emphasized relative to the commercial fisheries aspects of the loss of biodiversity (note: there is also significant risk to species from over-fishing, which aspect is addressed through co-financed activities within the current proposal).

The proposal describes the potential linkages between water resources management activities, especially fisheries management, with climatic variability. Such a link may be tenuous given that opening statements within the project document note that there is little evidence from related studies (on Lake Victoria) to suggest a strong linkage. Climatic variability is a fact of life on the African continent, more so than anywhere else except, perhaps, the Indian subcontinent where the monsoons play a major role in human economic activity on an annual basis. (It should be noted that the same phenomenon that governs the monsoonal rains on the Indian subcontinent affects rainfall within Africa; namely, the movements of the Inter-Tropical Convergence Zone or ITCZ.) This variability is well-known and relatively well-documented within the region. That said, the proposal rightly focuses on land management within the catchment surrounding Lake Tanganyika and proposes a set of actions to

address erosion, soil loss, deforestation, and loss of organic matter from the catchment, all of which have proven value, but still a poor track record of success in much of Africa.

Land management and land reform in Africa has a long history with few success stories. This is a recurring risk which has been successfully addressed only through the sustained application of external funding. The application of US \$ 7.2 million of the estimated US \$ 13.5 million GEF project budget may replicate this recipe for failure, unless lessons are learned from past experiences (i.e., by including an incentive-driven participatory process with cross-sectoral inputs etc). The linkage to ICRAF programmes around Lake Victoria is useful.

The project is consistent with the goals and objectives of OP 9, and is complementary to similar initiatives being carried out within the Africa region to address the same concerns around the other lakes of the African Great Lakes system. The participation of the Food and Agriculture Organization of the United Nations (FAO) in this proposed project, and the participation of the African Development Bank and bilateral donors in the complementary project components, strongly suggests that mechanisms have been considered to adequately operationalize the project outputs and results in an appropriate and acceptable manner. Given the GEF aim of incrementally funding projects that contribute to sustainable economic development in a replicable manner, the current proposal would seem to contribute to achieving such an aim. There is significant risk that any actions conducted under this project would either (i) not be internalized by the countries following withdrawal of project funding, and/or (ii) replicate past failures in investment through promoting actions that cannot be sustained by the poor infrastructure and organizational environment that exists on the continent. While some of these concerns may be addressed by the creation of the proposed intergovernmental agency for Lake Tanganyika, the proposal does not indicate an approach different from the traditional donor-recipient paradigm.

Key issue 3. Regional context. The participation in this project of the four riparian countries argues persuasively that adequate and appropriate consideration has been given to the regional context of the project. An especially important element of this regional approach is the creation of the Lake Tanganyika Management Authority (LTMA) from the project-supported Interim Authority. As noted above, the success of this organizational development action, and its longer term ability to manage both fisheries and water quality of Lake Tanganyika is wholly dependent upon not only the willingness but also the capacity of the countries to sustain this Authority upon completion of the GEF intervention. To this end, it would appear to be critical that the Interim Authority be staffed by competent locally-recruited individuals who will remain with the Authority after the completion of the GEF project. The extent of the international participation in the project, as documented in the project executive summary (based upon the allocation of project responsibilities, although it is not stated), should be minimized to increase the likelihood of success of this GEF-funded intervention.

While the proposal indicates an intent to disseminate information and results on a regional basis, it is somewhat less clear in terms of the mechanisms envisioned. Outcome 1 indicates the development of shared protocols, regulations and information dissemination mechanisms pursuant to the Lake Tanganyika Convention. This Convention should be linked with the project document either as an Annex or through an electronic means. Nevertheless, it is unlikely that the Convention specifies the level of detail that will permit reasonable review of the proposed activities envisioned within the project scope. Information on the proposed project activities, to the extent that it is presented, is currently scattered throughout the document, largely set forth on a “by country” basis in Annexes 4 through 7. This formatting dissociates the proposed project activities from the project document, but also reinforces the more traditional country-based approach rather than a resource-based approach more consistent with the GEF philosophy.

Further, although the inclusion of detailed information in an expanded form in the Annexes is not inappropriate, this reviewer recommends that each of the Components be identified and elaborated so as

to clearly summarize the following elements of each activity; namely, (1) the objectives of the Component, (2) the results or outcomes that this Component is intended to achieve, (3) the outputs or deliverables to be generated by the activities carried out under the Component, (4) indicative activities to be conducted, (5) the costs broken out as GEF funds requested, local share provided, and total cost of the Component, and (6) an indication of the likely stakeholders targeted to be participants in executing the activities. The current presentation of outcomes and outputs with a brief description of the rationale for the activity does not adequately address the issues of cost, partnerships, methodologies and modalities.

Key issue 4. Replicability. The implementation of demonstration projects as a key feature of this project clearly indicates a potential for replication of beneficial practices and techniques. The proposed but unspecified inclusion of mechanisms for disseminating information and results through the LTMA fosters replication of effective and successful measures throughout the region, and especially within the participating countries.

Annexes 4 through 7 clearly identify the relevant national policies, programs and legal/administrative frameworks within which the project is to be conducted. These frameworks appear to fully support the project goals and objectives and should sustain and replicate the project activities. Unfortunately, many of the programs and policies identified are at an early stage of formulation and there is little comment on the current status of implementation of these policies and programs. Given the widespread unrest within two of the participating countries, the likelihood of full implementation of many of the current organizational and institutional mechanisms that should support and sustain the project outcomes may be lacking, creating a significant degree of risk.

Outcome 2, describes the development of wastewater treatment facilities at Bujumbura. This is an output that is not fully supportable by the GEF as it is an infrastructure development activity with substantial national benefit. This activity was funded through national and past bilateral sources. Most new construction is through the private sector. Capacity building at Kigoma and Bujumbura is illustrative in that the means of sustaining the operation of these wastewater treatment facilities following the completion of the project through strengthened mandatory institutional processes is clearly stated, but is not specified in detail. The capacity building focus in the case of Kigoma merits mention as the provision of trained staff is a critical element in the sustainability and replicability of engineered interventions within Africa).

(Note: Outcome 3 does not have a Burundi input to in the catchment management activities, although a large World Bank-sponsored investment in sustainable agriculture and land management just starting.)

A further concern with respect to replicability is the dominant focus on governmental agencies and entities. Plans for community involvement are not clear. Given the major focus on soil conservation, consuming more than one-half of the project funds, there is a pressing need to work at the community, rather than at the governmental level, and to develop extension programs to replicate successful measures identified through the project activities. While both NGOs and universities are mentioned as stakeholders, there appears to be no clear plan for their active participation. This creates a major weakness and a gap that can seriously impact replicability of the project supported interventions.

Key issue 5. Sustainability of the project. The key aspect of sustainability is clearly and unequivocally stated in the project document; namely, the need to "...create more capacity for the Governments to commit to increased levels of self-financing..." This is a critical element of every "foreign aid" intervention on the continent and the one aspect that consistently has led to the failure of traditional aid programs in the region. This element is not adequately addressed in the project document. The note that this will be prepared during project implementation, while undoubtedly a true reflection of the state of the project, is largely contingent upon the successful creation and empowerment of the LTMA and, therefore, a significant risk element. There is little doubt that the project will produce documented

outputs and equally little doubt that the project can develop “sustainable” management methodologies. However, despite country commitments to participate, their ability to implement the outcomes on a sustainable basis is cause for serious concern. The project document is vague as to the likely mechanisms for “private sector investments” that are proposed to sustain the interventions after the completion of the project, with the exception of industry input to waste water in Bujumbura. To this end, while the partnerships with international agencies, regional banks, and NGOs are laudable, the long term viability of the actions remains in doubt, with no clear indication of an approach to resolving the lack of sustainability that has plagued similar interventions elsewhere in Africa.

Key issue 6. Targeted Research Projects. Capacity building and the demonstration projects, envisioned in the project brief, are the basic building blocks upon which this project will succeed or fail from the point of view of its sustainability and replicability, and essentially form the targeted research components of this project. Successful practices, well documented, will become the basis for replication elsewhere in the Basin and add to the existing best management practices data base being compiled by the GEF-IW focal area within the IW:LEARN program. It is essential that the lessons learned be well documented that both success and failure of specific management measures be recorded. In the realms of lake management, knowledge of what has failed to work is equally as valuable as knowledge of those measures that have proven successful. To this end, the inclusion of environmental monitoring activities within the project can provide the technical and scientific documentation necessary to clearly demonstrate the benefits of interventions and share those outcomes with other lake managers and lake management authorities worldwide. In this activity, the GEF-IW focal area can be catalytic, and recognition of this role is currently resulting in the compilation of best management practices under the auspices of the IW:LEARN program and related activities being carried out by the International Lake Environment Committee (ILEC) in partnership with LakeNet.

Secondary Issues

Secondary issue 1. Linkage to other focal areas. This project is formulated as an International Waters project under OP 9 of the GEF *Operational Strategy*. The project has been specifically linked to the cross-cutting area of climate change, although the project clearly has linkages to the cross-cutting areas of land degradation and the protection of aquatic biodiversity. The linkages to biodiversity and land degradation are not fully developed, even though there is clear reference to the importance of these aspects to Lake Tanganyika in the introductory paragraphs of the project document. This lack of linkage to these very important cross-cutting focal areas should be rectified, especially since one of the four major GEF-supported thrusts of the project is wholly dedicated to the aspect of prevention of soil loss and water quality impairment as a result of land degradation in the watershed. The linkage to climate change has been developed in a conceptual sense in the project executive summary, and the outcomes of the project will provide important information on the role of climate change and adaptation to climate change in the management of large African lakes and potentially to other lake ecosystems elsewhere on the globe. The linkage between climate and land issues is addressed by this project.

Secondary issue 2. Linkages to other proposals. The project recognizes the complementarities between the implementation of the strategic action program and related initiatives being carried out in the East African region. Specifically, the project seeks to develop strong linkages with associated organizations and NGOs, including the African Development Bank, Food and Agriculture Organization of the United Nations (FAO), and the International Union for the Conservation of Nature (IUCN), and bilateral funding organizations, including the Finland Agency for International Development and Nordic Development Fund, in the execution of the proposed project. While these linkages bring significant international expertise to the project, they also raise the concern that the project may not adequately develop local capacity that is essential to the sustainability of the project in the long term.

Notwithstanding, the project has identified ongoing projects within the Lake Tanganyika Basin, including the rural land development project of the World Bank being carried out by the World Bank and related GEF projects in Burundi and the Democratic Republic of the Congo.

Secondary issue 3. Other beneficial or damaging environmental effects. The project has no known or obvious damaging environmental impacts associated with the activities proposed to be executed. The beneficial impacts of the project have been fully articulated above, and include the control and management of land based sources of contamination that can degrade the aquatic ecosystem. The provision of trained staff at wastewater treatment facilities and adequate staffing of the proposed LTMA is needed to enforce and enhance existing environment and human health protection regulations and implement the alternative methods of production, and to disseminate successful management measures throughout the Basin. All of these benefits accrue not only within the project area, but, as a result of their wider dissemination using IW:LEARN and related mechanisms.

Secondary issue 4. Degree of involvement of stakeholders in the project. Stakeholder involvement, aside from involvement by appropriate governmental agencies, is not well documented in the proposal. This lack of specificity is a weakness in a project, the major element of which is the management of land based activities to minimise soil loss and delivery of contaminants to the lake environment. Outcome 1 of the project is geared toward the implementation of the LTMA, which is the principal mechanism for facilitating the involvement of stakeholders, specifically those private landowners and farmers that participate in the demonstration projects as well as the wider public who can be involved in the project. As previously noted, there is a pressing need to include the wider public and private sector in the execution and implementation of the project activities. Involvement of the extension services is also critical. Such involvement is in addition to the current level of involvement of the environment ministries, and is critical to the sustainability of the project and its expansion into areas not specifically involved in the demonstration projects. This area is not well developed in the project document, although more detail is set forth in Annexes 4 through 7. Unfortunately, specific organizations and partners are not fully elaborated, creating a weakness in the project design. This should be rectified in the operational project document and during the inception processes.

Secondary issue 5. Capacity building aspects. Outcome 1 is aimed in part at the creation of capacity within the Lake Tanganyika Basin, primarily through the creation and empowerment of the LTMA, initially in an interim form and later in a mature organization. In particular training is indicated for wastewater treatment plant staff, staff of the incipient LTMA, and monitoring personnel to be engaged in the water quality and fisheries management programs. This element should be conducted in liaison with complementary GEF International Waters initiatives, including the best practices data base being compiled by UNEP and the IW-LEARN initiatives being executed by the United Nations Development Programme (UNDP). Such dissemination of knowledge is an essential element in building capacity and strengthening institutions elsewhere in the region.

In addition to the dissemination of knowledge and information, the development of standard methods for analysis and impact assessment will benefit institutions and staff throughout the participating countries and the wider East African region. It is recommended that work elements be developed aimed at establishing a certification process for laboratories engaged in the analysis and assessment of the aquatic environment. Knowledge of such a certification process engenders confidence in the data generated by participating laboratories as an important element in reinforcing institutional capacity within the region. Maintaining such standards and certification requires trained individuals, actively and conscientiously applying their knowledge and skills for the public good.

Secondary issue 6. Innovativeness. Development of appropriate management practices for the integrated management of lakes within the context of their watershed is a continuing process in the context of the African continent. By selecting demonstration sites that span the range of likely conditions within the four participating countries, the project team has clearly attempted to develop lake and watershed management programs that will be accepted by the stakeholders in the Basin. By recognizing the linkages created through the landscape with the aquatic environment, the project team is clearly applying state-of-the-art watershed-based management concepts to resolving a problem that is of global

concern. For these reasons, the proposed project demonstrates an appropriate degree of innovativeness in its approach and in its anticipated results.

General Conclusion and Recommendations

Overall, it is the conclusion of this reviewer that the proposed project, *Lake Tanganyika Integrated Environmental Management Programme*, is consistent with the GEF International Waters operational program, its broader philosophy, and funding criteria. Consequently, this project is recommended for funding.

Notwithstanding, in implementing this project, the GEF Implementing Agency is enjoined to give specific attention to:

- Indication within the text of the nature of the water quality and fisheries monitoring programs, with a statement of the parameters to be measured and the frequency of sampling, including a statement of the means of compiling and disseminating the data and related information within the Basin,
- Recognition of the actual linkage between the international waters activities within the Lake Tanganyika Basin and the land degradation and biodiversity conservation portfolios of the GEF,
- Consideration of the need for innovative approaches to managing the risk associated with political instabilities in the region and the lack of capacity in the Basin for sustained investment in scientific endeavours,
- Inclusion of the text of the Lake Tanganyika Convention as an Annex to the project document, and restatement of the Outcomes as a logical sequence of objectives, anticipated results, deliverables, costs and partnerships,
- Integration of the country-based annexes, Annexes 4 through 7, into a regional overview for inclusion within the project document, thereby strengthening the regional aspect of the proposed project and re-enforcing the multi-country basis of this international waters project,
- Restatement of the degree of risk associated with the project to fully recognize the political instability in portions of the Basin,
- Indication of provisions for sustainability beyond the initial undertakings of the Basin countries by including specific actions designed to train and prefer local staff, encourage recruitment of local staff in the execution of the project, and ensure adequate funding for sustained operations of the LTMA, and
- Dissemination of results and outputs utilizing a variety of media but especially utilizing the global IW-LEARN network.

RESPONSE TO STAP REVIEW

This is a useful and thorough review of many of the issues in and around the project. We are aware of the insecurity problem in the region and the consequent risks for project success. Our indications are that the peace process is winning, and conditions do allow field and process interventions (see Risks section in the Executive Summary). We are also aware of the complex concerns of capacity and sustainability in the Great Lakes Region, and concerns about the pattern of donor interventions. These concerns are addressed in the formatted responses below.

No	Major issues identified in the STAP Review.	Response and measures to address the issue within the Brief.	Text Change
1	Limited detail on monitoring methodology in the text.	New detail in the text (Annex 3 and Exec Summary). A new annex with monitoring process set out is attached (annex 11). Methods and institutions follow those of TDA/SAP. Fisheries monitoring is responsibility of FAO / AfDB, as set out in FAO - International Fish-Code practice linked to the Africa Freshwater Fisheries Committee recommendations.	Annex 11. Annex 3, 2A
2	Continuity of activity after project ends: “sustainability”	This is a concern of most projects in central / eastern Africa. The strength of commitment to the regional lake process (as exemplified by the signing of the Convention, by willingness to seek loans for fisheries and water infrastructure, by investment in the Regional Authority and Secretariat augur well for continued involvement. The strength of the donor partnership and increasing leadership of the programme by governments are also strong signals for continuation. One major task of the Authority and Secretariat is to seek financial sustainability. This is written more precisely.	See Annex 3 – TOR for institutions is clarified.
3	Dissemination and Language	The government documentation will be in English and French. But following lessons from other UNDP-GEF regional projects in eastern Africa (eg Cross Borders Biodiversity) awareness materials and newsletters will be in vernaculars (eg Swahili, Kirundi etc).	See section on project replicability
4	Lessons learned from catchment process.	This issue was addressed in the SAP and in many other IW projects. What we call sedimentation and catchment management, the agriculture sector calls erosion and soil conservation. Soil conservation success in Africa over the past 50 years has not been great! But there is a great deal of experience which does point out recipes for success (participation, holistic cross sectoral interventions planned at site specific local community levels, with civil society support and incentive based activities. Recipes for disaster are equally clear – top-down planning with little site based realism and situation analysis, little enforcement, single sector dominance to pre-determined broad strategies, and exclusion of civil society.	See Lessons Learned section in Exec. Summ. and in Annex 4,5,6.
5	Is this the traditional donor-recipient paradigm?	No, this IW project has a range of project intervention / execution strategies. In two countries with much greater capacity (Tanzania and Zambia), execution is through government led NEX processes – perhaps the first major IW project to do so. The whole project is built around an inter-governmental institution - the Lake Tanganyika Management Authority, which has increasing responsibility for interventions.	
6	LT Convention to be annexed.	We attach the Executive Summary of the signed Convention as Annex 11, and link to the web-site for the full Convention text.	See new Annex 12.
7	Consistent format for all components	This is now more consistent in the text in National Components which sets out detail of outputs.	
8	There is no Burundi Catchment Component.	The Government of Burundi did not prioritise catchment management issues, seeing the Bujumbura as the most pressing concern (see TDA and SAP). Burundi has just started the implementation of a major WB led Sustainable Land Management Project, which will address many catchment issues, and	

		strengthen agriculture – land-use planning.	
9	Is Bujumbura Waste-Water Plant eligible for funding?	Govt of Burundi with past donor support has built 95% of waste-water infrastructure. The GEF increment over and above this baseline is in two parts – Industry provides continued investment into treatment processes, and GEF funds go to completion pipe-work for tertiary treatment 28%) and capacity building, awareness, training, monitoring support (72%). This is clarified in the text.	See Annex 7
10	Linkages to other focal areas (CC/BD/LD)	The Climate Change linkage is explained in some detail in the document – and the proposal requests funding through the CC – Adaptation window. The linkages to BD and LD are now clarified in the proposal, and much of the SAP is aimed at biodiversity values. Land Degradation is of course linked to sustainable land management of catchments through integrated land-use planning processes at site level.	Annex 9 on CC. BD and CC linkages in Ex Summ.
11	ILEC and IW-Learn	The linkages to ILEC and IW-Learn are now made more explicit.	
11	Lake Tanganyika Convention to be included in text.	This is now attached as Annex 12.	Annex 12.
12	Integration of National Components into a Regional Format	We discussed this in detail in the project development process. Certainly within the GEF aspects of the overall programme, ALL activities are national in nature, take place on national land and with mandated national institutions. Other activities – including monitoring programmes for the lake, institutional development of the Lake Authority, and some fisheries activities (on the lake) are more regional in nature and are not included in the national components. The need to ensure national ownership, clarity of implementation responsibility, accountability etc dictated the need to develop strong national process within the oversight of regional institutions. Wastewater treatment at Kigoma for example is NOT a regional issue, it is within the responsibility of the Kigoma Water and Sewage Authority. Catchment Management takes place at household – village level within the auspices of decentralised district governance structures; it is not a regional issue. The regionalism is at a higher level – ensuring that Kigoma DOES develop a waste-water plant that effectively reduces pollution, ensuring that Uvira, Mpulungu and Kigoma authorities do address catchments to reduce silt load in the lake. These views mirror best practice lessons from within other regional Projects (eg Cross Borders and Lake Victoria in East Africa. “You can only build strong regional process on top of strong national process” and “do not replace national mandates with non-sustainable regional institutions and processes”.	-