

Global Environment Facility
PROPOSAL FOR PDF-B FUNDING GRANT

Countries	Regional: Lake Tanganyika – Burundi; DR Congo; Tanzania; Zambia
GEF Focal Area	International Waters Operational Programme Number 9: Integrated land and Water Multiple Focal Area With additional linkages to Biodiversity Operational Programme Number 2: Coastal, Marine and Freshwater Ecosystems
Project Title	Developing Detailed Regional and National Project Proposals and Financing Mechanisms to Implement the Lake Tanganyika Strategic Action Programme
Objective	To prepare a SAP Implementation project proposal for the GEF. PDF-B Funding will be used to refine the SAP, and through further stakeholder consultation and public involvement, build country commitment for the Convention, and create the structures necessary to effect these aims.
Requesting Agency	UNDP
Executing Agency	UNOPS
Funding Requested	US\$ 595,000
Co-Funding	National Contributions US\$ 324,000 African Development Bank US\$ 73,000
Duration and Dates	March 2001 to March 2002
Previous Support	Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika: US\$ 10 million July 1995 to July 2000
Previous Outputs	The First Strategic Action Programme for the Sustainable Management of Lake Tanganyika The Lake Tanganyika Transboundary Diagnostic Analysis The Draft Convention on the Sustainable Management of Lake Tanganyika Scientific and Technical Reports on the State of the Lake Documented Public Participation and Stakeholder Involvement

The Context

1. Lake Tanganyika is the largest body of water in Africa, and indeed holds almost one sixth of the world's free fresh water resources. The lake is shared by the four riparian countries included in this proposal: Burundi; the Democratic Republic of Congo; Tanzania; and Zambia. The lake is a unique environment, exceptionally old and with possibly the greatest biodiversity of any lake on the globe. More than 1,300 species of fish, invertebrates and plants have been recorded in the lake basin, of which 500 are endemic.
2. About one million people live around the lake, with another ten million living in the watershed. The lake is a source of fish for consumption and sale; it provides a key transport and communications link, supporting the economic and social development of lakeshore communities and it is a permanent source of water for industrial and agricultural development as well as for domestic use.
3. The lake faces a number of environmental threats that compromise efforts to achieve the sustainable use of lake resources, with resultant threats to local and global biodiversity values in and around the lake. The most immediate threats are excessive loads of sediment and nutrients caused by erosion in the watershed, industrial and urban pollution (including boat discharges) and excessive fishing pressure. These problems are growing, and others such as oil and mineral exploitation and increasing lake-transport and associated risks of marine accidents pose major future threats.
4. These environmental problems have the potential for damaging the integrity of the lake as a whole, and as such their impacts on the lake are transboundary. However, the source of these threats is in many cases from a specific local activity. The solutions to these environmental problems, which have transboundary effects, are thus achieved through addressing localised problems within national territories

Background to the Proposal – GEF and the Management of Lake Tanganyika

5. In recognition of Lake Tanganyika's extraordinary biodiversity and the burgeoning threats against it, scientists from the four riparian states attended the First International Conference on the Conservation and Biodiversity of Lake Tanganyika, held in Bujumbura in 1991, to draw international attention to these issues. Subsequently, steps were taken to attract the interest of international funding agencies to support a regional project to address the identified problems. Funding was secured through GEF for a five-year project: Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika. The Phase 1 Project, relating to GEF interests in both biodiversity and international waters became effective in 1995, and following GEF strategy, placed considerable emphasis on management objectives for sustainable development.
6. While the project design was developed under the GEF pilot phase, implementation took place within the framework of the restructured GEF, and thus the four riparian states worked together to meet the new challenges of the Operational Strategy and Operational Programmes. The aim of the project was to help the riparian states produce an effective system for protecting and conserving the biological diversity and promoting the sustainable use of the natural resources of Lake Tanganyika. The project had four key outputs, developed through a process of documented stakeholder consultation and public involvement:

- The Strategic Action Programme (SAP) for the Sustainable Management of Lake Tanganyika
 - The Transboundary Diagnostic Analysis
 - The Convention on the Sustainable Management of Lake Tanganyika
 - Scientific and Technical Reports on the State of the Lake
7. The project also initiated a number of research and monitoring programmes directed at filling the information gaps needed to prepare the SAP. These Special Studies included Biodiversity, Fishing Practices, Pollution, Sedimentation and Socio-economics to provide the human context within which conclusions could be discussed, developed and implemented. The project also supported Environmental Education and Training, addressing issues of awareness and environmental behaviour at both national and political levels, as well as at local planning and community levels.
 8. The Special Studies added to the considerable experience of the local SAP/TDA Planning Team of managers and scientists who were responsible for developing the TDA and SAP, and enabled the Planning Team to effectively advise on the scope of the Convention. In addition to the Special Studies, the Food and Agriculture Organisation (FAO) has been and will continue to be actively involved in sustainable fisheries activities for lake Tanganyika. The UNDP-GEF, the FAO and the AfDB have agreed that they will work in mutually advantageous ways to bring about the long-term sustainable use of the resources of Lake Tanganyika. Specific activities to achieve this complementarity are described later in this PDF-B proposal.

The Strategic Action Programme and the TDA

9. The Strategic Action Programme defines a regional framework for a prioritised set of national and regional actions to achieve the objectives agreed upon by the participating countries and stated in the draft Convention. Fundamental to this is the recognition that management programmes have to be revised in response to changing circumstances, that there can be no final “programme” but rather one that evolves over time with changing environmental and socio-economic circumstances. The SAP therefore provides agreed planning and management *processes*, and an initial prioritised programme of *interventions* based on present knowledge.
10. More specifically, the SAP process is:
 - The result of a broad process of consultation and public involvement with the full range of affected stakeholders at national and regional level, resulting in
 - A Regional Programme defining a management framework to co-ordinate activities to promote the sustainable use of lake resources, and counteract and prevent negative impacts associated with increasing pollution, sedimentation and fishing pressure, with
 - Prioritised National Project Components, directed at defined hot spots within the national territories of the participating countries. These actions become the specific national responsibility of the participating countries and their own national institutions, but remain within the regional SAP framework.
11. The TDA defines immediate management objectives within the overall management goal of conserving the biodiversity of Lake Tanganyika, addressing global concerns

and ensuring the sustainable use of these and other resources for local communities into the foreseeable future. The evaluation started with a review of the major threats, and defined the specific problems and sub-components that together make up the threat and then proposed a sequence of management interventions to counteract each specific problem. The value of this approach is that what appeared to be an excessively ambitious and daunting management objective such as the Control of Pollution, was split into a series of manageable objectives addressing specific problems, many of which could be initiated by local institutions and implemented with available resources.

The Convention

12. In parallel with the development of the SAP and the TDA, the participating countries prepared a draft Convention – The Convention on the Sustainable Management of Lake Tanganyika. The Convention provides a legal framework for the future management of the Lake that sets out both relevant principles of general application and, where appropriate, specific obligations and procedures. The Convention is broad enough to encompass the present and future management requirements of the lake, and as such is based on the management requirements identified through the process of developing the SAP.
13. Although the Convention is designed for the particular circumstances of the Lake, it incorporates concepts and approaches adapted from a wide range of international agreements, including those which take an ecosystem approach to management, and which some or all of the participating countries have already consented to in other international legal documents. The SAP in turn draws upon the Convention and the environmental and social principles outlined in the Convention also underlie the objectives of the SAP. In particular, the principles in the Convention reflect:
 - the 1992 Convention on Biological Diversity which emphasises global concerns on sustainable development and the conservation of biodiversity
 - the 1995 SADC Protocol on Shared Watercourse Systems in the Southern African Development Community, a regional example of the management of shared water resources
 - the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses provides a basis for developing specific rules for Lake Tanganyika
14. While the Convention will remain a draft document until formally signed and ratified by the governments of the participating countries, the SAP can be initiated under interim management arrangements, and in advance of the formal ratification of the Convention. These interim arrangements would include provision for scientific input into the work of the project by way of assuring that the functions of the proposed Technical Committees foreseen in the Convention and added to on the advice of the project Steering Committee, would begin with project implementation. These Technical Committees include the Socio-economic Technical Committee, the Fisheries Management Technical Committee, the Biological Diversity Technical Committee, and the Pollution Technical Committee. The functions of these Committees are spelled out in the draft Convention.

The Full Project

15. As previously mentioned the TDA exercise conducted through the Pilot Phase project has resulted in a comprehensive assessment of threats and root causes to the

loss of globally important resources. In addition, activities have been proposed to mitigate these problems, although the final shape of the Full project and its set of activities and outcomes can only be determined after the necessary period of negotiation and fact finding necessary during the proposed PDF-B phase.

16. The threats and proposed actions to mitigate and/or eliminate these threats are detailed in the following Matrix of Main Issues to be Addressed, and Annex 1 (Tables describing Problems to be Addressed, Proposed Actions and Key Agencies, Stakeholders, and Uncertainties) attached to this document.

Matrix of Main Issues to be Addressed

Main Threat to Biodiversity and Sustainable Use	Cross-Cutting Transboundary Implications	Cross-Cutting Institutional Problems	General Action Areas	
Unsustainable Fisheries	Global Loss of Biodiversity	Lack of Resources	Reduce Impact of Fishing	
Increasing Pollution		Poor Enforcement of Existing Regulations		Control Pollution
Excessive Sedimentation		Loss of Shared Fisheries Resource	Lack of Appropriate Regulations for Lake Tanganyika	Control Sedimentation
Habitat Destruction		Decline in Water Quality	Lack of Institutional Coordination	Habitat Conservation

17. Considering that a certain level of flexibility has to be maintained in complex projects such as those addressing shared water resources among neighbouring countries, it is possible nevertheless, based on the proposed activities, to give a general description of what the Full project would look like. The Full project will :

- a) Engage the participating countries in concerted action toward finalization and ratification of the draft Convention. It should be kept in mind that the full process of Convention ratification will be a time consuming process that could take years, as has been the case with most existing Conventions, Treaties and Agreements of an international nature that deal with transboundary water resources,
- b) Address the priority issues described in the SAP and the TDA (See Annex 1) through priority projects and sub-components. More specifically:
 - address the priority hotspots described in the TDA
 - address the issue of excessive fishing pressure in the littoral zone
 - address the issue of excessive fishing pressure in the Pelagic zone
 - introduce measures to manage the ornamental fish trade
 - introduce actions to manage future mining operations

- introduce actions to help prevent and control major marine accidents
- introduce actions to promote sustainable agricultural practices which reduce non-point source pollution
- undertake specific measures to counteract deforestation; and
- build national capacity to support parks management

The Rationale for the PDF-B Request

18. The GEF has already made a major investment under Phase 1, in the improved management of the international waters of Lake Tanganyika, with the \$10 million financing of the project "Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika". The result of this investment has been the development of the TDA, the regional Strategic Action Programme and the draft Convention through a process of joint consultation and negotiation by the four riparian countries. The Executive Summary of the Final Evaluation of the Pilot Phase Project is attached as Annex 2.
19. In support of these primary objectives the project has produced a body of scientific and technical reports on the state of the lake. These reports were prepared by the Special Studies programmes, which included Biodiversity, Fishing Practices, Pollution, Sedimentation and Socio-economics to provide the human context, within which conclusions could be discussed, developed and implemented. The project also initiated a range of training and environmental education programmes.
20. In order to achieve these outputs, the project initiated a process of public involvement and stakeholder consultation in the design of the SAP and the Convention. Implemented at the national level, both the public and private sector, and NGOs helped in the detailed development of the national actions that were then prioritised at the regional level and form the priority national actions within the SAP.
21. The fact that this has been achieved despite continued disturbances in the Great Lakes region, affecting all four countries directly or through refugee movements, demonstrates strong commitment to the joint management of this major international waters and global biodiversity resource.
22. The long-term scenario envisaged in the SAP is for a regional programme, coordinating a large number of national project sub-components dealing with identified hot spots and sources of transboundary problems, and supporting these activities through monitoring and information exchange.
23. The financing of the long-term programme defined by the SAP is expected to involve a large number of institutions at regional and country levels. These will include a substantial base-line funding element from the participating countries, bilateral support to national projects, investment through the regional facilities such as the AfDB and private investment from commercial sources, as well as support from the GEF and other multilateral agencies. The AfDB hosted a UNDP-GEF/FAO meeting in Abidjan on November 13-14, 2000 to begin discussing the interface between FAO fisheries related work on Lake Tanganyika and the ongoing work of the GEF International Waters project. UNDP-GEF and the FAO have already begun discussions on how to assure complementarity of effort and the more precise discussions of co-funding that will be made available for implementation of the GEF

Full project. The AfDB will also sponsor a Donors Conference toward the end of PDF-B activity and the project provides funding for this activity.

24. The coordination of the implementation of the Convention and the SAP will be the responsibility of a permanent management body – The Lake Management Authority, which will become effective on the signing of the Convention. Until the Convention is signed and ratified, there is a need for an interim lake management body to implement the SAP and promote the Convention. The SAP therefore proposes the creation of an Interim Lake Tanganyika Management Body. However, the immediate requirement is for the support of a planning unit that will finalise the project proposals and negotiate funding for the long-term implementation of the SAP.
25. The PDF-B grant will therefore be used to support an interim detailed planning and donor recruitment period over one year that is essential before SAP implementation can take place. The proposal covers two key areas:
 - Detailed project design for SAP implementation including sub-projects addressing major issues, and negotiation for bilateral, multilateral, regional and national co-financing; and
 - The need to recruit additional donors to complement the funding that will be sought from the GEF.
26. The project design is very complex, as it covers several countries and will include the participatory design of many sub-projects, all of which will need to be detailed to such an extent that they can be stand-alone proposals for the purpose of leveraging. A major effort will also be put into actually leveraging co-financing for the project proposals. The funding request of the GEF is matched by considerable co-financing.
27. The grant will contribute to the running of the Lake Tanganyika Planning Support and Co-ordination Unit, a regional body with immediate responsibility for refinement of the existing SAP and the promotion of the Convention. The Unit, with staff recruited from within the region, will directly support national planning units in developing national project components of the SAP. The functioning of the Planning Unit will be overseen by a Project Steering Committee with strong regional presence.
28. The cost of managing the Lake Tanganyika Planning Support and Co-ordination Unit is clearly a transaction cost associated with adopting a regional approach to concerted action to address global biodiversity and international waters issues. This falls directly within the remit of the GEF, as it is a transaction cost, and the GEF may be expected to financially support the functioning of the unit, on an interim basis.
29. The project is fully consistent with the GEF International Waters Operational Programme Number 9: Integrated land and Water Multiple Focal Area and has additional linkages to the Biodiversity Operational Programme Number 2: Coastal, Marine and Freshwater Ecosystems.

Description of the PDF-B Project Proposal

30. The proposed PDF-B Project addresses the final details of design and financing negotiation for the regional and national project components identified as priorities

in the Strategic Action Programme for the Sustainable Management of Lake Tanganyika. Work undertaken during the PDF-B will also contribute to the eventual establishment of an Interim Lake Management body, as many of the national personnel employed in the work of PDF-B execution will likely be the same personnel who will have roles to play as part of the Lake Management Body.

31. The development of the SAP has been a regional exercise. The SAP identifies priorities for specific national actions addressing hot spots affecting the shared regional and global resources of the lake. It identifies the key national agencies responsible for leading these actions and the stakeholders that will need to be involved in the consultation and implementation process. It also indicates where resources are considered to be limiting.
32. The SAP process is not complete. A substantial list of remedial/preventative actions has been identified both at national and multi-country level, and the latest iteration of the SAP has ranked identified problems (e.g. urban pollution from Bujumbura, sedimentation from mid-sized catchments, over-fishing in the littoral zone, and habitat destruction) in priority order. These prioritized issues (activities) from the SAP are attached to this document as Annex 3 and define the what, why, where and, to some extent, the how of what needs to be addressed. However, further preparatory assistance will be required to bring greater specificity to, and define the exact funding necessary for, regional and national project components. Further, additional preparatory assistance will be required to prepare budget proposals for national activities that will have to be negotiated between national institutions and donor agencies.
33. An objective of the PDF-B project is to support regional and national planning teams in preparing detailed costed proposals for national and regional project components within the framework of the SAP. The project will continue to facilitate the process of public involvement in the further development of national and regional actions through a series of national consultative workshops that would be held in each country.
34. The PDF-B project specifically includes the development of co-financing arrangements for regional and national project components through national and regional negotiation with multilateral, bilateral, governmental and non-governmental agencies and commercial and private investors.
35. The output of the PDF-B project will be a fully-costed GEF project proposal (Project Brief and Project Document) indicating agreed incremental costs, the sources of baseline funding and co-financing required to implement national and regional projects, and information detailing the extent of specific country and additional donor commitments necessary for successful SAP implementation. The output and activities will expressly include:
 - A detailed and agreed proposal for a regional mechanism for coordinating and promoting the SAP implementation
 - A detailed and agreed proposal for implementing regional actions consistent with the Matrix above and Annex 1 of this proposal, including information management and free access to relevant information and implementation of regional cross-cutting interventions

- A set of agreed proposals for national project sub-components, drawn from the priority actions listed in the SAP and finalised through a process of stakeholder consultation
- A set of agreed proposals for public and private investment in national SAP priority interventions

The Lake Tanganyika Planning Support and Co-ordination Unit

36. The SAP has identified the need for an Interim Lake Management body to co-ordinate the implementation of regional and national actions and finalisation of the Convention, pending the creation of the permanent management authority under the Convention. The immediate requirement is therefore for a central planning support group to fulfil this function – the creation of a Lake Tanganyika Planning Support and Co-ordination Unit – with specific duties to co-ordinate project development and negotiate funding necessary to full SAP implementation. More specifically, the Unit would be responsible for activities such as that necessary to the maintenance of close and continuing contact with the FAO and with the AfDB, which has indicated a strong interest in supporting the FAO and the GEF on projects related to the Lake. The Unit will report to a regional project Steering Committee, and country Interministerial Committees will be formed and meet on an as needed basis to inform the work of the Interim Lake Management body as well as to facilitate important country political level commitment to the work of the project.
37. The Lake Tanganyika Planning Support and Co-ordination Unit will have a permanent office provided by the host country, Tanzania. Office equipment, a vehicle and other materials will be passed from the Phase 1 GEF project to the new office, minimising costs and delays in project start-up. The host country will cover the rent and maintenance of the office.
38. The Unit will be a full time senior level planning support group, led by a Chief Technical Adviser with staff recruited from within the region. It will have a significant role in supporting and in some cases initiating the negotiation of co-financing from the countries and with donors and the public and private sectors in both the Francophone and Anglophone countries.
39. The Project will recruit a full-time CTA as Team Leader to the PSCU, fluent in English and French and with considerable experience in project planning for sustainable development and natural resource programmes.
40. The Unit will need four additional regionally recruited support staff with expertise in socio-economics, project planning and costing, and environment and natural resource systems. The Unit will require additional secretarial and administrative support, as well as full-time translator.
41. The Project will have additional funds for the recruitment of regional or international consultants. These will support specialist regional planning needs and provide planning and training assistance in the four countries to develop detailed national project sub components.
42. Staff from the Unit will spend much of their time away from the office, working in the participating countries in support of national planning staff responsible for preparing and negotiating project components. The Unit will be responsible for ensuring coherence between proposals for different sectors and for related proposals in different countries, and for maintaining the framework of the SAP.

43. The Unit will be responsible for the organisation of the two tri-partite meetings of the Steering Committee.
44. Given the complexity of these tasks, the Unit will require a minimum operational time span of one year.

The National Planning Teams

45. The SAP identifies national project components (as described in Annex 1) within a regional framework. Through their formulation and support of the SAP and the Convention, the participating countries have affirmed their responsibility for implementing national project sub-components.
46. The Project will provide funds to support national workshops that will promote public involvement in the detailed design of national actions within the framework of the SAP. This will include further consultation with major groups, local communities, NGOs and the private and public sectors.
47. The Project will provide funds to organise donor meetings in the participating countries. During execution of this PDF-B activity, preparation for the Full Project, and after its completion, financial sustainability, will be assured by the recruitment of donors additional to the AfDB, and the incorporation of collaboratively identified priorities into the national budgets of the participating countries. The AfDB has expressed strong interest in the fisheries component of the project and has already begun a collaborative working relationship with the UNDP-GEF, FAO and the participating countries on this project priority. The AfDB has also agreed to host the Donor Conference that is part of this PDF-B proposal. These activities will act as a national focus for donor and commercial project funding discussions. While all national staff and office costs will be met from national contributions, the Project will provide essential support for overall national co-ordination of the development of national project sub-components.
48. Although planning mechanisms and protocols for negotiating with donors differ in each country, there are key agencies that will take a lead role in this process. In most cases national agencies already have a defined sectoral planning mandate and the SAP identifies the key agency responsible for developing a particular national project sub-component. There will be no single national planning team, inter-ministerial project planning teams will form and change in response to the particular requirements for consultation of each project sub-component.
49. At higher levels, the responsibility for coordinating these national project sub-components generally falls under a single planning authority and the negotiation of financial agreements lies with the treasury. It is anticipated that there will be regular meetings of national working groups to harmonise sectoral projects or project components.
50. The costs of these broad national planning teams will be covered by the operating budgets of their home agencies. The direct costs include staff salaries, office costs and materials. Given the demand led nature of national consultation processes, it is impossible to define the exact staff numbers and agencies, which will be working with the project. It is therefore difficult to assign precise values to national contributions, but the effort has been made to assign such values to the best ability of the project planners and the CTA.

51. The costs of national contributions are therefore based on the assumption that there will be the equivalent of four full time planners involved in national planning process, with additional costs associated with the provision of office facilities, and supported by the national working groups.

Project Implementation

52. The UNDP will assist the riparian governments in executing the PDF-B project through the Lake Tanganyika Planning Support and Co-ordination Unit. The implementation arrangements are expected to be put into place as soon as possible to maintain the momentum within the region that achieved the development of the SAP and the Convention. The present project agreement will be completed this year, with the present project office closing at the end of July 2000. The PDF-B project should therefore become effective as soon after this date as possible.
53. UNOPS will execute the project on behalf of UNDP-GEF. A final product of PDF-B will be a full GEF Project Brief and ensuing Project Document. Financial provision for this derives from already allocated funds for Regional Staff Support.

Project Financing

54. The total PDF-B grant request is \$ 595,000, out of a total Project cost of \$ 992,000. Out of the total request of \$ 595,000 there is an allocation of \$ 44,000, which is just under eight percent of the total costs, for the Executing Agency's support costs. The total amount requested from GEF was calculated consistent with the needs to complete a full project submission and undertake the requisite donor consultations.
55. The direct value of the inputs provided through national and regional contributions is \$324,000. National and regional contributions include the provision of office space for the Lake Tanganyika Planning Support and Co-ordination Unit, the salaries of national planning staff assigned to the development of national project components, the provision of national office facilities and the salaries of staff.
56. The critical factor in the project cost estimates is the period required for consultation and negotiation, and hence the length of time that the Planning Unit has to be supported. The project has a timeframe of twelve months. This is considered to be the absolute minimum to finalise detailed project proposals and negotiate financing and co-financing, and even then only the first few can be expected to become operational by the end of the PDF-B project period. Other project components can be expected to come on-stream over the following year or two as donor and commercial project evaluation and financing cycles are completed and national and regional institutions gain the capacity to implement interventions.
57. Following is the projected budget for PDF-B activities.

BUDGET

PDF-B Financing (US \$)	National	AfDB	GEF	Total
Regional Project Office	60,000			60,000
Project Staff/Travel		61,000	217,000	278,000
Project Office Running Costs			36,000	36,000
CTA (1 Year)			160,000	160,000
International Consultants			30,000	30,000
National Planning Staff Costs	192,000			192,000
National Planning Office Costs	24,000			24,000
National Working Groups	48,000			48,000
Stakeholder Consultation			15,000	15,000
Donor Consultations		20,000	28,000	48,000
National Coordination			40,000	40,000
Steering Committee Meetings			25,000	25,000
EA Support (8% of GEF Total)			44,000	44,000
Total Regional Contribution	324,000			
Total AfDB Contribution		81,000		
Total GEF Contribution			595,000	
Project Total:				1,000,000

Notes on Budget

National and Regional Contributions:

Project Office – will be provided by the host country based on \$ 5,000 per month, includes rent and maintenance costs.

National Planning Staff Costs – to be assigned by participating countries based on equivalent of four full time planners per country at \$ 1000 per planner per month.

National Planning Office Running Costs – will be used by national planning staff and regional support staff based on equivalent \$ 500 per country per month.

National Working Group Support – these are equivalent costs of provision of facilities, staff time and other resources at \$ 1000 per country per month.

AfDB and GEF/International Contributions:

Project Staff Costs and Travel – these will be based on an average monthly salary of \$3,000 for the four regionally recruited experts, who are each expected to make about one national support trip per month (estimated total of 43 trips) over 11 months, lasting between one week to ten days – airfares at US 1,000 each and subsistence at US\$ 1000; with an additional US\$ 4,000 per month to cover the salaries of the support staff (secretary and administrator, and translator).

Project Office Running Costs – to be based on \$ 3,000 per month, with all equipment and a vehicle provided from the Phase 1 GEF project;

Long Term CTA – based on one full time Chief Technical Advisor at \$ 160,000 per year, covering salary, housing, and travel and subsistence;

Regional/International Consultancies – based on six man-weeks at \$ 5,000 per week (fees, travel and subsistence). Charge rates may be reduced through the use of regional consultants and the savings used for additional consultancy support.

National Stakeholder Consultation Workshops – based on two workshops in each country at \$ 2,500 per event for the venue and facilities. The costs include direct costs to the National Working Groups in facilitating meetings.

National Donor Meetings – one to be held in each country to promote donor discussion and co-financing support, at \$ 2,000 per event for the venue and facilities, as well as an additional \$32,000 for the AfDB hosted donor meeting. The costs include direct costs to the National Working Groups in facilitating meetings.

National Co-ordination Support – based on US\$ 10,000 per year per country, supplementing the country contributions for National Working Group Support

Annex 1 – Tables Describing National Actions and Commitment

National Actions in Response to Excessive Fishing Pressure in the Littoral Zone

Specific Problem	Proposed Actions and Key Agency
<p>Burundi: Excessive fishing pressure</p> <p>Stakeholders: Fisheries administration (including MAE– Fisheries Dept and Territorial Admin.); Fishermen; Owners of fishing units; MINATE (INECN); NGOs; Local associations and communities; UB</p> <p>Uncertainties: Potential of resources</p>	<p>Ascertain potential, fishing standards and acceptable licensing quotas – MAE</p> <p>Support other income generating activities or those that supply animal proteins – MDC</p> <p>Strengthen capacities for Fisheries Dep. to control and supervise – MAE</p> <p>Raise awareness and train (fishermen, boat owners, administration) – MAE</p> <p>Update and issue draft law and by-laws, as well as ordinances – MAE</p> <p>Translation in Kirundi and extension – MAE</p>
<p>Congo: Excessive fishing pressure in the northern part of the lake</p> <p>Stakeholders: Min Env; Fishermen and associations of fishermen; Local authorities; CRH; Fish sellers; NGOs and local communities; MINAGRI</p> <p>Uncertainties: Maximal exploitable production</p>	<p>Strengthen regulations : introduce licence system (according to type of FU) with recording of existing fishermen; regional harmonisation – Min of Env</p> <p>Strengthen control – Min of Env</p> <p>Improvement of statistics – CRH</p> <p>Assessment of potential (maximal exploitable production) both in Northern and Southern zones – CRH</p> <p>Feasibility study of tax raising system aiming to regulate fishing effort (feeding at the same time a lake management fund) – CRH</p> <p>Identify reasons of catches increase in the South – CRH</p> <p>Identify actions to develop fish farming – CRH</p> <p>Raise awareness – information – Min of Env</p> <p>Research aiming at establishing how better fish conservation could decrease pressure on stock and favour transfer of demand towards bigger fish – CRH</p>
<p>Tanzania: Lack of quota on fishing licences</p> <p>Stakeholders: Fisheries; Communities; Local Authorities; TAFIRI</p> <p>Uncertainties: Optimal quota; Available Stock; Impact on Biodiversity</p>	<p>Review LTR conclusions – TAFIRI</p> <p>Assess relevance to fish biodiversity issues – TAFIRI</p> <p>Assess trend in expansion of licensing – Fisheries Dept.</p> <p>Review licensing procedures – Fisheries Dept.</p>
<p>Zambia: Excessive coastal fishing</p> <p>Stakeholders: Artisanal Fishermen; Subsistence Fishermen; Dep. Fisheries; Local Leaders; Community Based Organisations</p> <p>Uncertainties: Optimal level of extraction; Impact of fishing gear on fisheries and biodiversity</p>	<p>Promotion of alternative livelihoods – Community Development</p> <p>Assess impact of fishing gear – Dep. of Fisheries</p> <p>Raise awareness – Dep. of Fisheries</p> <p>Strengthen Dep. of Fisheries – Dep. of Fisheries</p> <p>Negotiate co-management with identified communities in specific fishing zones – Dep. of Fisheries</p>

National Actions in Response to Excessive Fishing Pressure in the Pelagic Zone

Specific Problem	Proposed Actions and Key Agencies
<p>Burundi: Excessive offshore fishing</p> <p>Stakeholders: Fisheries administration (including MAE– Fisheries Dept and Territorial Admin.); Fishermen; Owners of fishing units; MINATE (INECN); NGOs; Local associations and communities; UB</p> <p>Uncertainties: Acceptable catch</p>	<p>Establish standards and quotas for acceptable fishing practices – MAE</p> <p>Put in place a minimum capacity to control lake fisheries – MAE</p>
<p>Congo: Uncontrolled offshore fisheries</p> <p>Stakeholders: Min. of Env; Fishermen; Local Authorities; Fish traders; Net manufacturers; CRH; NGOs; Local Communities</p> <p>Uncertainties: Optimal mesh size and net type; Impact on biodiversity</p>	<p>Research into best mesh sizes and fishing methods – CHR</p> <p>Studies on secondary species – CRH</p> <p>Legislation distinguishing between three levels of activity, banning excessively fine nets, limited permits for appropriate net types and banning destructive fishing practices – Min of Env</p> <p>Support to control capacity – Min of Env</p> <p>Education and awareness raising – Min of Env</p>
<p>Zambia: Excessive Industrial and Artisanal Fishing</p> <p>Stakeholders: Commercial Fisheries; Artisanal Fishermen; Local Authority; Dep. of Fisheries; Community Based Organisations; Local Leaders; Licensing Committee</p> <p>Uncertainties: Optimal fishing levels; Market Distribution</p>	<p>Raise national and Local Political Awareness – Dept of Fisheries</p> <p>Negotiate interim acceptable fleet and means of reducing fleet – Dept of Fisheries</p> <p>Establish optimal fleet composition – Dept of Fisheries</p> <p>Integrate proposals with LTR Fisheries Programme – Dept of Fisheries</p> <p>Review licensing procedures – Dept of Fisheries</p> <p>Strengthen local capacity to monitor and enforce regulations– Dept of Fisheries</p>

National Actions to Control Urban Pollution

Specific Problem	Proposed Actions and Key Agencies
<p>Burundi: Pollution from urban waste Particularly from Bujumbura and Rumonga</p> <p>Stakeholders: MINATE (DG ATE ; INECN); Mayor (SETEMU); MCIT; CCIB; Regideso; MTPE; MSP; BBN; NGOs; Local associations and communities</p> <p>Uncertainties: Nature and quantity of effluents; Impact of pollutants on biodiversity</p>	<p>Expansion of treatment capacities – SETEMU</p> <p>Set up controlled site disposal and collect waste – SETEMU</p> <p>Raise awareness and train – MCIT</p> <p>Regulations for marketing of dangerous products for environment – MINATE</p> <p>Develop standards for enforcement of legislation relating to waste – MINATE</p> <p>Implement land use plans in the framework of planning schemes – MTPE</p> <p>Strengthen capacities for INECN to monitor and control – MINATE</p> <p>Support development of secondary urban centres – MTPE</p> <p>Surveying pollution and impact levels, monitor and follow up – MINATE</p>
<p>Congo: Pollution by domestic effluents and waste</p> <p>Stakeholders: Ministry of Environment; Local Authorities; Population; NGOs and Local communities; Urban services; INERA; Ministry of Energy</p> <p>Uncertainties: Nature and quantity of pollutants and impact on the Lake biodiversity</p>	<p>Identification of pollutants, evaluation of impact – CRH</p> <p>Sanitation (construction of latrines, installation of controlled disposal sites and waste collecting, setting up waste and sewage network connected to a treatment plant): Uvira, Mboko, Kalemie, Moba, Baraka – Min of Env</p> <p>Health education – Health Services</p> <p>Research – focused on recycling through agricultural and energy – INERA</p> <p>Develop appropriate legislation and support enforcement capacity – Min of Env</p>
<p>Tanzania: Discharge of untreated domestic waste, Kigoma Town</p> <p>Stakeholders: Local Council; Regional Authority; Min of Water; Min of Health; Min of Lands</p> <p>Uncertainties: Impact on biodiversity; Quantity and type of effluents</p>	<p>Review existing town development plans – Min of Lands</p> <p>Incorporate proposals for sewage, waste water and water supply – Min of Lands</p> <p>Propose developments & promote awareness to counteract existing situation of open drains etc. – Min of Lands</p>
<p>Tanzania: Discharge of untreated waste from institutions (Police, Prisons, Railway Station, Docks) Kigoma Town</p> <p>Stakeholders: Police; Prisons; TRC; Local Council; Min of Water; Min of Health; Min of Transport; Regional Authorities</p> <p>Uncertainties: Impact on biodiversity; Quantity and type of effluents</p>	<p>Enforce regulations – Min of Water</p> <p>Identify reasons for non-compliance – UWS&S Dept</p> <p>Promote Senior level awareness – Local Authorities</p> <p>Identify and propose practical treatment works and disposal sites – Min of Water</p> <p>Implement proposals and regulations – Min of water</p>

<p>Tanzania: Inappropriately sited solid waste dumps Kigoma Town</p> <p>Stakeholders: Local Council; Regional Authority; Min of Water; Min of Health; Min of Lands; Communities</p> <p>Uncertainties: Impact on biodiversity; Leaching and surface run-off</p>	<p>Identify appropriate sites – Town Council</p> <p>Review present collection and disposal procedures – Town Council</p> <p>Check existing and introduce appropriate local regulations;</p> <p>Develop appropriate landfills – Town Council</p>
<p>Zambia: Discharge of untreated domestic effluent, Mpulungu and Shoreline Settlements</p> <p>Stakeholders: Local Authority; Water Affairs; Fisheries Dept; Local Communities; District Health Management Team; D-WASHE; ECZ</p> <p>Uncertainties: Scale of problem and impact on biodiversity</p>	<p>Assess scale of problem and impact on biodiversity– ECZ</p> <p>Review design of existing sewerage systems, assess potential for alternatives – Local Council</p> <p>Link with existing D-WASHE programme– Local Council</p> <p>Implement alternatives– Local Council</p> <p>Monitor effluent disposal – ECZ</p> <p>Raise awareness of issues – ECZ</p>
<p>Zambia: Uncontrolled Waste Dumping in and around Mpulungu</p> <p>Stakeholders: Transporters; Fishing Companies; Local Authority; Water Affairs; Zambia Revenue Authority; Fisheries Dept; Local Communities; District Health Management Team; ECZ</p> <p>Uncertainties: Scale of problem and impact on biodiversity</p>	<p>Assess scale of problem and impact on biodiversity – ECZ</p> <p>Raise awareness of issues – ECZ</p> <p>Monitor disposal – ECZ</p> <p>Enforce regulations – Local Council</p>

National Actions to Control Harbour Pollution

Specific Problem	Proposed Actions and Key Agencies
<p>Burundi: Pollution in harbours</p> <p>Stakeholders: MTPET (Lake transport), Ship owners, EPB, INECN – MINATE (INECN), MCIT, Lake Guard</p> <p>Uncertainties: Scale of threats</p>	<p>Promulgation of Lake Traffic Act, and extension – MTPET</p> <p>Control enforcement of Act, and continue technical checking of ships – MTPET</p> <p>Evaluate scale of the problem of lake pollution – MINATE</p> <p>Harmonise regulations and supervising activities and control with the other riparian states – MTPET</p> <p>Establish a shipyard for maintenance and repairing of ships – MTPET</p>
<p>Congo: Harbour Pollution (Kalemie, Kabimba, Kalundu, Moba)</p> <p>Stakeholders: Ministry of Environment; Transport and Communication; CRH; Ship owners</p> <p>Uncertainties: Nature and quality of pollutants and impact on the Lake biodiversity</p>	<p>Raise awareness – Min of Env</p> <p>Update regulations (eco tax combined system dissuading from legal pollution and penalising illicit pollution) – Min of Env</p> <p>Strengthen control – Min of Env</p> <p>Installation of controlled disposal sites on dry land – Min of Env</p> <p>Identification of pollutants and assessment of their impact on the lake biodiversity – CRH</p>
<p>Tanzania: Pollution in harbours (particular concern over storage and handling of oil)</p> <p>Stakeholders: TRC; Ship Owners / Operators; Local Council; Oil Companies; Shipping Department; NEMC; Min of Transport</p> <p>Uncertainties: No information on specific handling problems; Impact on biodiversity</p>	<p>Identify specific causes of leaks and spillage – Min of Water</p> <p>Check and review regulations and recommended procedures – Min of Water</p> <p>Review reasons for non-enforcement of regulations – Min of Water</p> <p>Implement short term and long term remedial actions – Min of Water</p>
<p>Zambia: Pollution in harbours (particular concern over storage and handling of oil and other cargoes)</p> <p>Stakeholders: Mpulungu Population; Water Affairs; Maritime Department; Harbours Authority; Barge Owners; Fisheries Dept; Local Authorities; Police; Defence; ECZ; Disaster Management Unit</p> <p>Uncertainties: Impact on Biodiversity of Different Cargoes and Scenarios</p>	<p>Carry Out Risk Assessment – Maritime</p> <p>Review Potential Impact on Biodiversity – Fisheries</p> <p>Mitigate impacts and put in place emergency response capacity – Harbour Authority</p>

National Actions to Control the Ornamental Fish Trade

Specific Problem	Proposed Actions and Key Agencies
<p>Burundi: Excessive or uncontrolled extraction of ornamental fish</p> <p>Stakeholders: MINATE (INECN); MAE (Fisheries dep.); Exporters; Sellers; Customs; BRB; NGOs; Local associations and communities</p> <p>Uncertainties: Scale of problem and impact</p>	<p>Prepare list of threatened species and proposal of inclusion in CITES lists – MINATE</p> <p>Regulations, control, monitoring– MINATE</p> <p>Encourage fish farming of those species – MAE</p> <p>Raise awareness– MINATE</p> <p>Set up protected areas (demarcation, eco – tourism development, management plans) – MINATE</p>
<p>Congo: Excessive or uncontrolled extraction of ornamental fish</p> <p>Stakeholders: Local authorities; CRH; Customs; Exporters; Min Environ; ICCN</p> <p>Uncertainties: Vulnerability of all the species potential per species and per site</p>	<p>Improvement and strengthening of licence delivery (authorised species, quantities, extraction sites) – Min of Env</p> <p>Strengthen extraction and exporting control– Min of Env</p> <p>Establish natural reserves : Luhanga, Pemba, Kalamba, Kiriza(Ubwari) and Bangwe – ICCN</p> <p>Additional prospecting in order to expand the network of protected areas – CRH</p> <p>Inscription of lake Cichlides on CITES list, except fish identified as capable to support extraction – Min of Env</p>
<p>Tanzania: Excessive or uncontrolled extraction of ornamental fish</p> <p>Stakeholders: Licensed Traders; Fisheries; TAFIRI; Foreign Affairs; Home Affairs; Customs</p> <p>Uncertainties: Endangered species; Extent of threat</p>	<p>Identify threatened species – TAFIRI</p> <p>Regional agreement on exportable species by country of origin – Fisheries Dep.</p> <p>Monitor numbers and species exported – Fisheries Dept / Customs</p> <p>Raise senior level awareness of problems – Fisheries Dept</p> <p>Establish species quotas – TAFIRI</p> <p>Review number of licensees – Fisheries Dept</p> <p>Examine possibility of inclusion in CITES list – Fisheries Dept</p>
<p>Zambia: Excessive or uncontrolled extraction of ornamental fish</p> <p>Stakeholders: Commercial Fishers; Local Authorities; Fisheries Dept; Parks; Museums; Communities and Local Leaders; Revenue Authority</p> <p>Uncertainties: Scale / Impact of Extraction</p>	<p>Ascertain Scale and Impact – Fisheries Dept</p> <p>Raise Public Awareness – Establish Aquarium – Fisheries Dept</p> <p>Define Levels of Extraction – Fisheries Dept</p> <p>Review License / Export Fees – Fisheries Dept</p> <p>Establish Local Regulations – Fisheries Dept</p> <p>Evaluate Potential for Captive Breeding – Fisheries Dept</p> <p>Review Inclusion of Species in CITES – Parks</p>

National Actions to Manage Future Mining Operations

Specific Problem	Proposed Actions and Key Agency
<p>Burundi: Pollution from future mining and oil exploitation activities</p> <p>Stakeholders: MEM (DMC); MINATE; mining companies; oil companies</p> <p>Uncertainties: Scale of pollution and effects on lake</p>	<p>EIA prior to start mining – MINATE</p> <p>Review Oil and Mines Act in order to take into account environmental impacts – MEM</p> <p>Negotiate agreements with other riparian countries – MEM</p> <p>Support the existing chemical and biological laboratories – MINATE</p>
<p>Congo: Pollution from future mining and oil exploitation activities</p> <p>Stakeholders: Min Environment; CRH; CRGM; Min. of Oil; Ministry of Energy</p> <p>Uncertainties: Probability and site of works</p>	<p>Studies of impact on the environment – CRH/Min of Env</p> <p>Environment follow up of activities – Min of Env</p>
<p>Tanzania: Discharge of toxic substances from mine workings</p> <p>Stakeholders: “Smallholder miners”; Min of Energy and Mines; Min of Water; Regional / Local Authorities; NLUPC; NEMC; Min of Health</p> <p>Uncertainties: Scale of problem</p>	<p>Quantify scale and processes used different mining areas – Energy and Minerals</p> <p>Promote appropriate technology – Energy and Minerals</p> <p>Enforce existing regulations – Energy and Minerals</p>

National Actions in Response to Major Marine Accidents

Specific Problem	Proposed Actions and Key Agencies
<p>Burundi: Pollution from major marine accidents</p> <p>Stakeholders: MTPET (Lake transport), Ship owners, EPB; MINATE (INECN), MCIT, Lake Guard; MAE (Fisheries)</p> <p>Uncertainties: Scale of threats</p>	<p>Promulgation of Lake Traffic Act, and extension – MTPET</p> <p>Control enforcement of Act, and continue technical checking of ships – MTPET</p> <p>Evaluate scale of the problem of lake pollution – MINATE</p> <p>Harmonise regulations and supervising activities in riparian states – MTPET</p>
<p>Congo: Pollution from major marine accident</p> <p>Stakeholders: Min. of Environment; Transport and Communication service; CRH; Ship owners; CRSN; External Commerce; Congolese Office for Control</p> <p>Uncertainties: Nature and quantities of pollutants and impact on lake biodiversity</p>	<p>Raise awareness (ship operators and other stakeholders) – Min of Env / Transp. and Comms.</p> <p>Review regulations (navigation rules; pollution and security standards, transport of hazardous cargo) – Min of Env</p> <p>Strengthen control – Min of Env</p> <p>Technical control of ships (with anti-pollution and security standards) – Trans. and Comms.</p> <p>Pollution monitoring – CRSN</p> <p>Evaluate impact (scale of problem, frequency of discharge, risks, harmfulness of pollutants) – CRH</p>
<p>Tanzania: Pollution from major marine accident</p> <p>Stakeholders: Ship Owners / Barge Operators; Regional Authorities; Shipping Department; NEMC; Min of Transport; Min of Water; NEMC; Insurance Companies; TAFIRI</p> <p>Uncertainties: Level of Risk</p>	<p>Risk analysis – NEMC</p> <p>Develop contingency plan – NEMC</p>
<p>Zambia: Pollution from major marine accident</p> <p>Stakeholders: Large Transporters; Passengers; Maritime Department; Harbours Authority; Insurance Companies; Fisheries Dept; Local Authorities; ZRA; Police; Defence; Disaster Management Unit; Parks; ECZ</p> <p>Uncertainties: Impact on Biodiversity of Different Cargoes and Scenarios</p>	<p>Carry out risk assessment – Maritime</p> <p>Review potential impacts on biodiversity – Fisheries</p> <p>Put in place emergency response capacity – Maritime</p>

National Actions to Promote Sustainable Agriculture

Specific Problem	Proposed Actions and Key Agencies
<p>Burundi: Erosion from agricultural practices</p> <p>Stakeholders: MAE, MINATE, Territ. Admin., Farmers, Research Institutes, MTPE, NGOs, Local associations and communities</p> <p>Uncertainties: Impact on biodiversity, scale of sedimentation, relation between erosion and fragile areas receiving sediments at lake level</p>	<p>Evaluate impact of problem, study the extent of sedimentation in the lake and identify high risk erosion areas – MINATE</p> <p>Plan catchment (agro–forestry, anti–erosive practices), raise awareness and promote participative approach – MINATE</p> <p>Research – development and extension of suitable techniques – MAE</p> <p>Planning focused on sediment deposits in the valleys, traps for sediments – MINATE</p> <p>Define special standards and prioritise interventions to identified areas – MINATE</p>
<p>Congo: Inappropriate farming practices and extensive agriculture</p> <p>Stakeholders: Minagri (SNV); Ministry Environ; INERA; NGOs and local communities; CRH; Local authorities; AT</p> <p>Uncertainties: Sensitive zones</p>	<p>Education and awareness – MINAGRI/SNV</p> <p>Identification of sensitive erosion zones – INERA</p> <p>Regulation of soil use in these zones – Min of Env</p> <p>Implementing demonstrations (anti erosive techniques, agrozootechnical, agroforestry integration) – INERA</p> <p>Extension and support to enforcement capacity – MINAGRI/SNV</p>
<p>Tanzania: Erosion from agricultural land (particular concern on steep slopes and cultivating down the slope)</p> <p>Stakeholders: Min of Agriculture; Communities; NLUPC; Local Authorities; JGI/TACARE</p> <p>Uncertainties:</p>	<p>Identify with communities sensitive areas – NLUPC</p> <p>Demarcate hazardous areas and reforest – NLUPC</p> <p>Raise awareness of critical issues – Min of Ag</p> <p>Promote soil conservation measures – Min of Ag</p> <p>Check/review bye–laws – Local Authority</p> <p>Assist villages in preparing land use plans – NLUPC</p>
<p>Zambia: Erosion from agricultural practices (particular concern slash and burn and stream bank cultivation)</p> <p>Stakeholders: Farming Communities; Forestry Department; Ministry of Agriculture; Water Affairs; Local Chiefs; Chongololo Club; Local Authorities; Churches</p> <p>Uncertainties: Scale of Problem and Trend; Cultural and Economic Viability of Alternative Farming Practices</p>	<p>Assess Scale, Impact and Risks – Water Affairs</p> <p>Review Alternative Practices including Irrigation – MAFF Research</p> <p>Review Relevance of Existing Regulations – Water Affairs</p> <p>Promote Appropriate Farming Practices – Field Services</p> <p>Identify Critical Erosion Sites and Remedial Measures – Water Affairs</p> <p>Monitor enforcement of regulations – Water Affairs</p> <p>Monitor current practices – Water Affairs</p>

National Actions to Counteract Deforestation

Specific Problem	Proposed Actions and Key Agencies
<p>Burundi: Deforestation</p> <p>Stakeholders: MINATE, MAE; NGOs, Local associations and communities</p> <p>Uncertainties: Scale and distribution of clearings; State of resource</p>	<p>Inventory of forests and evaluate damage – MINATE</p> <p>Strengthen legal basis for Protected Areas – MINATE</p> <p>Expansion of network of Protected Areas to cover all natural forests – MINATE</p> <p>Demarcate PAs and national forests boundaries – MINATE</p> <p>Rehabilitation of destroyed parts of PAs and Forests</p> <p>Environmental education – MINATE</p> <p>Prepare participative management plans for woods and PAs and identify alternative resources – MINATE</p> <p>Promote agroforestry and private woods – MINATE</p> <p>Compensate people expelled from Pas – Government</p> <p>Reinforce the capacity to supervise and control PAs and forests and INECN capacities – MINATE</p>
<p>Congo: Deforestation</p> <p>Stakeholders: Ministry of Environment ; ICCN; Local authorities; NGOs and local communities; Population; Ministry of Energy; MINAGRI</p> <p>Uncertainties:</p>	<p>Education and awareness (including authorities) – Min of Env</p> <p>Promotion of private woods and agro forestry (extension, demonstration) – Min of Env</p> <p>Protection and restoring of public forests along rivers – ICCN</p> <p>Identification of forestry areas to be protected – ICCN</p> <p>Establish protected forest areas – Min of Env</p> <p>Update legislation – Min of Env</p> <p>Strengthen environmental services capacities – Min of Env</p> <p>Creation of micro hydropower plants in order to supply substitution energy to protect the catchment – Min of Env</p> <p>Action towards improved stoves, improved process for smoking of fish and alternative energy (biogas, solar etc..) – Min of Env</p>
<p>Tanzania: Deforestation</p> <p>Stakeholders: Local / Regional Authorities; Communities; Forestry Department; NLUPC; Min of Lands; TACARE; Min of Local Gov't.</p> <p>Uncertainties:</p>	<p>Identify critical encroachment and critical threatened zones – Forestry Dept</p> <p>Create political awareness of problems – Local Government</p> <p>Negotiate with communities to gazette sensitive areas – Local Authority</p> <p>Negotiate means of resettlement from sensitive areas – Local Authority</p> <p>Promote community forest management and access rights – Forestry Department</p> <p>Enforce bye-laws – Local Authority</p>
<p>Zambia: Deforestation</p> <p>Stakeholders: Local Communities; Forestry Department; Parks; Water Affairs; Local Chiefs; Chongololo Clubs; Politicians</p> <p>Uncertainties: Scale of Impact on Sediment Load</p>	<p>Assess Impact on Sediment Load – Water Affairs</p> <p>Negotiate Solution to Current Encroachment – MENR</p> <p>Rehabilitate sensitive areas – MENR</p> <p>Enable Enforcement of Current Regulations – MENR</p> <p>Raise Awareness of Issues, particularly at the Political Level – ECZ</p> <p>Promote afforestation – MENR</p> <p>Raise local awareness – MENR</p> <p>Promote sustainable forest management, agroforestry and promote alternative energy – MENR</p>

National Actions to Support Parks Management

Specific Problem	Proposed Actions and Key Agencies
<p>Burundi: Encroachment in the Rusizi Park areas</p> <p>Stakeholders: MAE (incl. Fishing dep.); MINATE (INECN); Territ. Adm.; Farmers; NGOs; Local associations and communities</p> <p>Uncertainties:</p>	<p>Compensation for expulsion from sensitive zones – MINATE (INECN)</p> <p>Demarcate the boundaries with a 20 metre planted zone between Gitara and Flugara – MINATE (INECN)</p> <p>Extend the reserve into the littoral; zone to 1000 metres offshore of the 774 metre contour – MINATE (INECN)</p> <p>Plant hedges to demarcate the reserve in the delta – MINATE (INECN)</p>
<p>Tanzania: Exploitation of Parks Fisheries</p> <p>Stakeholders: TANAPA; Fisheries Department; Local Communities</p> <p>Uncertainties: Compliance of local communities</p>	<p>Raise awareness of parks issues – TANAP</p> <p>Involve local communities – TANAPA</p>
<p>Zambia: Community Pressure on Nsumbu National Park</p> <p>Stakeholders: ZAWA; Lodge Operators; Local Communities; Fisheries</p> <p>Uncertainties: Support from Local Communities</p>	<p>Involvement of Communities in Parks Management – ZAWA</p> <p>Training in Aquatic Parks Management – ZAWA</p> <p>Define aquatic parks boundary – ZAWA</p>

Specific Problem	Stakeholders	Uncertainties	Proposed Actions
Burundi – Degradation of sensitive coastal areas	MAE (incl. Fishing dep.); MINATE (INECN); Territ. Adm.; Farmers; NGOs; Local associations and communities	Extent of lake shore activities and impact on biodiversity	Mapping supra littoral area and cultivated area Raise awareness Participative management and non destructive recovering of natural resources Isolate sensitive areas as protected areas (Murembwe, Nyengwe, Rwaba) Control lake shore vegetation exploitation
Congo – Risk of degradation of coastal zone; lack of protection of specific key zones (Rusizi, Lukuga, Lukanga, Kalamba, Kazimia)	ICCN; CRH; CRSN; NGOs, Local Communities		Establish a protected area – Lukuga Establish a protected area – Ruzizi Establish protection forsites of special scientific interest – Lukanga, Pemba, Kalamba, Kiriza, Kazimia Participative preparation of a management plans Hydrologic monitoring (rate of flow from lake)
Tanzania – Degradation of wetland	Communities; Fisheries; TAFIRI; Local Government; Tourism	Impact on Biodiversity Optimal size of protected areas Community Compliance	Negotiate access with communities Gazette areas Raise Awareness Ban destructive fishing practices Evaluate stock
Zambia – Damage to Sensitive Habitats Lufuba and Chitula Bay and Chisala River Mouth	Min. of Agriculture; Min. of Env.; Min of Tourism; Local Authorities; Local Communities; Traditional Leaders	Extent of degradation and impact on biodiversity	Evaluate destructive fishing practices Ban specific destructive practices (poison, explosives...) Negotiate designation of Chitula and Lufuba bays and Chisala river mouth as conservation areas Negotiate with communities acceptable management practices Develop procedures for capital empowerment of communities to alleviate impact of zone

designation
Negotiate designation
of Lufuba mouth as
Ramsar site
Monitor stock levels

Annex 2 – Executive Summary of the Final Evaluation

POLLUTION CONTROL AND OTHER MEASURES TO PROTECT BIODIVERSITY IN LAKE TANGANYIKA PROJECT (RAF/92/G32)

Terminal Evaluation

SUMMARY

The project 'Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika' (RAF/92/G32) initiated its activity in September 1995 and is scheduled to terminate in July 31, 2000. UNDP/GEF input into the project was \$ 10,000,000. UNOPS was the Executing Agency, and aNRI Consortium was responsible for its implementation.

The project's development objective was to demonstrate an effective regional approach to control pollution and prevent the loss of the exceptional diversity of Lake Tanganyika's international waters. For this purpose, the project should create a capacity in the four participating countries, namely Burundi, Democratic Republic of Congo, Tanzania and Zambia to manage the lake on a regional basis as a sound and sustainable environment.

The development goal was composed of six immediate objectives:

- Establish a regional long-term management program for pollution control, conservation and maintenance of biodiversity of Lake Tanganyika
- Formulation of regional framework for cooperative management of the lake environment
- Establish a program of environmental education and training for Lake Tanganyika and its basin
- Establish tested mechanisms for regional coordination in conservation management of Lake Tanganyika basin
- In order to produce a full Strategic Action Program for long-term application, some specific studies need to be undertaken. The special studies will also add to the understanding of the lake as a whole, and in some cases, provide the baseline and framework for long-term research and monitoring programmes
- Implementation and sustainability of the Strategic Actions Program

The project's implementation was delayed by shortage of qualified national staff, slow process of national institutions identification and by relatively low priority attached to the Lake's environment problems. The project perception by the government improved considerably after an Inception Workshop in March 1996. The quality of workshop and sense of working program ownership developed by the member countries created a momentum that helped in launching and then executing most of the project's program.

Execution of the whole program was disturbed by civil unrest in Burundi and RD Congo and, in consequence, by limited access to the lakeshore areas. In particular, the project could prepare but not put into practice the regional cooperation and the large scale environmental education campaign.

The fact that despite remarkable obstacles the project succeeded so well, is an outstanding achievement. The project realized the special studies. It prepared as well the Transboundary Diagnostic Analysis, the Strategic Action Program and drafted the Convention on the sustainable management of the Lake, all nationally driven and good quality documents.

UNOPS who executed the project was strongly supportive successfully helping to overcome the project's implementation and administrative difficulties. The UNDP/GEF helped the project in solving technical and organizational issues. The NRI provided experimented and dedicated staff and competent consultants. The Project achieved its objectives applying a participatory approach and building national consensus. The UNDP Offices of Burundi, Tanzania and Zambia followed attentively the project's progress and contributed to the Regional Steering Committee and Tripartite Review decisions. The supervision of the Steering Committee and Tripartite Review played an important role in validation of the work programs and evaluation of results. The national bodies: the National Steering Committees and National Working Groups were active as well, but they require revitalization.

In spite of the prevailing insecurity conditions and conflicts between the riparian states, representatives of all four countries worked well together in a spirit of collaboration and harmonization to achieve project objectives. Technicians from all four countries participated in technical workshops; technicians, resource managers and policy makers also worked together in regional TDA, SAP and Convention meetings.

What characterized the governments' involvement in the project activities was a steady increase in sharing the project's goals, and contributing to realization of the project's objectives.

The Project Management successfully responded to the changing environment.

As a result of review of the project's activities, the evaluation mission recommends:

Concerning the Immediate Objective I:

1. The Project Management should prepare a synthetic document actualizing the knowledge about Lake Tanganyika, indicating the remaining important studies to conduct, both to better understand the Lake's uniqueness and ways to protect it. Such a document will be of great value for future Lake Tanganyika management projects and for other countries of the region currently engaged in similar water

protection activities. It will raise as well the Lake's visibility in the opinion of the public and decision makers of the riparian countries.

Since the present project could not fully involve the local people in the project activities

2. It is recommended to the governments that future research or applied research efforts aiming at Lake biodiversity protection involve the stakeholders as well, and their results contribute to solving specific practical problems.

3. It is further recommended that future Lake protection projects sponsored by GEF compare expected benefits from the financed research with the research costs.

Since the countries' citizens' perception of the environment protection projects is so important for their success

4. It is recommended that the UNDP/GEF projects incorporate into their working programs activities that will help them follow the project's perception in the eyes of the key stakeholders.

Due to the delays and work plan execution difficulties, the Strategic Action Program was drafted and finalized before the end of the specific studies. As a consequence, the technical (or scientific) justification of many of the envisaged actions is not as specific as it could be.

5. It is recommended that further editions of the Strategic Action Plan and the Transboundary Diagnostic Analysis use fully the results of the specific studies. It is also recommended that the final documents describing the results of the studies clearly indicate the link between the achieved results and national actions aimed at Lake protection.

6. It is recommended that the governments of the riparian countries maintain the SAP groups (or equivalent bodies) and charge them to promote the SAP implementation, and guide the country administration and private sectors investing in the SAP priorities.

Concerning the Immediate Objective II:

As the SAP, the Convention draft produced by the riparian countries delegates after extensive national consultations is a great project achievement. To assure its implementation it is recommended that

7. The Project Management jointly with the national governments install national interim bodies that will be responsible for facilitation of the Convention signature and ratification process.

The Convention will be binding for the riparian states. However, the Lake may be endangered by activities or events that occurs in other countries situated in the lake proximity.

8. It is recommended that the Convention addresses as well the threats to the Lake originating in non-riparian countries.

Concerning the Immediate Objective III:

Environmental education campaign necessary to the Lake's protection measures implementation requires technical capacity and financial means largely superior to those given to the project. By training the trainees and massively involving the national personnel in the studies and surveys, the project team, nevertheless, took the first step in environmental education.

9. It is recommended that the project describes the first results of the launched activities, evaluates their costs, and reports about the achieved impact in terms of improvement in fishing practices, sustainable land use and reduced deforestation.

10. It is recommended that the national institutions continue monitoring impact of the project's launched environmental education.

11. The government and donors should incorporate recommendations and lessons from the project's launched environmental education into other development activities in the Lake Tanganyika region. The expected benefits to Lake protection of the planned projects should be one of the criteria for their funding priority.

12. Future poverty alleviation projects for the people living in the Lake's surroundings should take into account the results of the special studies. Regional coordination of such future projects would be most beneficial both for the population and for the Lake.

Concerning the Immediate Objective IV:

Since the national involvement is crucial to the success of regional initiatives it is recommended

13. That the Project Management and National Coordinators facilitate the creation of national structures charged with implementing the Authority's decisions on the national level. These structures can act as a counterpart to the regional initiatives launched by the Authority, and transmit national preoccupations to the Authority.

According to the proposal included in the SAP, the project should be immediately succeeded by an interim structure called the Interim Lake Tanganyika Management Body. This structure should assure regional cooperation until the signature of the Convention and implementation of the Lake Authority. The Interim Body will facilitate the Convention signature and assist the countries in implementation of the Strategic Action Program priorities. The whole structure will be financed by donors. Close scrutiny of the proposed structure shows that there is no provision for a supervisory body, and it is not clear who will be national partner.

14. It is recommended that the Project before its termination, propose such a structure in the form of an Interim Regional Steering Committee as a supervisor and Interim National Coordinating Committees as national counterparts.

Concerning the Immediate Objective V:

The project have found that preservation of the Lake biodiversity status should go through sedimentation reduction and improvement of land management in the Lake's surrounded areas. This improvement requires national commitment and massive investment in education, training and input availability. The Project should largely disseminate the study results to catalyze such a commitment.

15. It is recommended that the Project Management, and after the project termination, the national institutions and concerned technical ministries assure the highest visibility of the results of the sedimentation reduction and land management studies and raise awareness of the countries' citizens and the authorities about the importance of these problems both for the Lake and for the well being of the rural populations.

Another danger to the Lake's biodiversity comes from the Lake pollution. The project studied the problem and identified the major pollution sources. However, the studies are not yet completed. The unfinished work concerns integration of the current knowledge about the Lake pollutants into the existing model of particle transportation in the Lake, and formulation of detailed pollution survey systems.

16. It is recommended that the Project Management identify the steps needed to implement an integrated pollution monitoring system. This integration means from one side integration of pollution monitoring with biodiversity and sedimentation monitoring, and from the other side creation of permanent links with law enforcement and awareness-raising national agencies

The biodiversity special studies described the present state of the Lake's biodiversity, advanced practical proposals concerning installation of protecting areas and created national capacity in biodiversity monitoring. The implementation of the biodiversity study findings is left to the national institutions and regional bodies charged with Lake Tanganyika biodiversity conservation.

17. It is recommended that the Project Management and National Coordinators identify the governmental structures that will be in charge of Lake biodiversity monitoring and creation of areas for the biodiversity and fish reproduction protection.

The special study concerning fishery produced some general information about fish exploitation in the Lake and fishing in the littoral zone, important for the biodiversity. It may be expected, that the final document will include more of specific and important managerial information.

18. It is recommended that the available data concerning fishing in the lake are analyzed from the standpoint of requirement of specific priority programs identified in the SAP. The Project Management may recommend to the national agencies to assure complementary or follow-up studies.

The socio-economic studies have shown once again that excessive fishing and inappropriate land exploitation are at the origin of threats to the Lake's biodiversity.

19. It is recommended that social studies aiming at reducing impact of human activity on the Lake's biodiversity are attached to any project dealing with sustainable management of the Lake and its catchment. The present project should identify the most appropriate institutions within the region that may continue to collect and analyze the information from all social and socio-economic studies.

Concerning the Immediate Objective VI:

It seems that there is one predominant, general conclusion stemming from the project's studies: the Lake's biodiversity is threatened principally by inappropriate human exploitation of the Lake itself and the land in the lake watershed.

20. It is therefore recommended that the project and national institutions that will assure the follow-up of the launched activities, closely collaborate with local administrations and existing poverty-alleviation programs

The project member countries should be fully informed about the actual state of knowledge about the Lake and be assured that they may easily access this information.

21. It is recommended that the Project Management and the National Coordinators assure the transfer of all information sources and databases to the countries.

Identification of areas needing further studies is one of the tasks of the special studies.

22. The project and its national partners should prepare an inventory of the research areas and prioritize them according to their importance to the Lake management, SAP implementation, and the Lake biodiversity understanding.

It is expected that in the final report the project will suggest creation of underwater parks and indicate their location.

23. It is recommended that the national authorities include these suggestions in the future version of the SAP.

Other Impacts

The awareness of Lake Tanganyika's unique biodiversity did not yet reach a satisfactory level. (Although it is higher, among populations having direct contact with the lake and among the citizens of countries such as Tanzania and Zambia that benefited from extensive awareness-raising campaigns.) The project did not evaluate the awareness level.

24. It is recommended that the national authorities evaluate the level of awareness of the concerned stakeholders. Such an evaluation will indicate the effort needed for awareness-raising, the stakeholders to address, and inform the authorities about the most appropriate tools.

The lives and economy of millions of people is intimately linked to the Lake. Most of them live in extreme poverty and are ignorant to the medium-term consequences of unsustainable land exploitation. Raising awareness of these citizens is an important humanitarian responsibility of the project's follow-up institutions.

25. It is recommended that the Project Management and the National Coordinators assure large visibility of the project's results that may have a short and medium -terms impact both on the countries' citizens' welfare and the Lake environment.

General Recommendation

The project indicated ways to achieve self-sustainable management and preservation of the Lake biodiversity. Probably, the most valuable contribution to the Lake Tanganyika biodiversity protection will be investment in a new generation of environmental projects that will put into practice the present project results in the frame designed by the Strategic Action Program and by the Convention.

26. It is therefore recommended to the Regional Steering Committee and governments of the riparian countries to identify donors susceptible to support the next phase of the Lake Tanganyika biodiversity protection projects. During this phase, that may correspond to the interim period between the present project termination and the Convention implementation, the projects may concentrate on such activities as:

- **Promotion of the SAP integration in national development programs, and the Convention signature and ratification facilitation**
- **Assistance in formulating specific Lake protection projects in accordance with the SAP**
- **Test the importance of benefits generated by Lake protection activities**
- **Promote the Lake protection approach among donors for the riparian countries**
- **Disseminate the present project results among all stakeholders**

Annex 3

Strategic Action Program (SAP) Priority Issues to be Addressed During SAP Implementation

1.1 Baseline Monitoring

58. *The conclusions of the special studies include proposals for a critical baseline level of monitoring. This monitoring is considered to be necessary to determine patterns of change in the state of the environment and in the use of the lake resources that would guide future management interventions.*
59. *This monitoring will be supplemented by any additional monitoring or research considered necessary to guide and evaluate the impact of proposed activities implemented by the SAP. Specific monitoring or research linked to project activities is included as an action within that activity.*

1.2 Development of a Sustainable Fisheries

60. *The objective is to conserve/protect biodiversity, the mechanism is to develop a sustainable fisheries as well as direct protection interventions.*
61. *Fishing pressure is potentially detrimental through associated impacts of disturbance of habitat, as well as directly through species loss.*

1.21 Reduction/Control of Fishing in Litoral Areas

62. *A major increase in the number of fishermen has been observed throughout large parts of the lake shore. Many people are now exploiting the coastal waters which are the richest in biodiversity.*
63. *The problem is not easy to solve, insecurity restricts the areas in which fisheries officers can operate and their capacity is further constrained by lack of equipment, but some solutions are identified. The additional benefits would be in the creation of a more sustainable fishing.*

1.22 Reduction/Control of Use of Beach Seines

64. *Beach seines are widespread, although currently banned by law in both Tanzania and Zambia, and used in the coastal strip, rich in biodiversity. The method is not very selective, and is thought might cause additional benthic damage, and hence be prejudicial to a large number of species.*

1.22.1 Limiting Fishing in Sensitive Areas

65. *Sensitive areas include spawning grounds (usually seasonal) and key areas for biodiversity, these two categories overlapping in a large part. The problem is believed to be serious as in addition to inflicting high mortality on immature fish, it disturbs habitats that are often limited in extent and distribution, and with sensitive biodiversity.*
66. *The problem is not easy to solve, but solutions are identified and facilitated by the fact that they are relatively concentrated in space.*

1.22.2 Limiting Excessive or Uncontrolled Extraction of Ornamental Fish

67. *The problem is believed to be serious for biodiversity because the targeted species are endemic, rare, localised and hence vulnerable.*
68. *The problem is not very easy to solve, but exporters are specialised, few in number, identifiable; the problem can also be addressed through the end market.*

69. *A reasonable management of this exportable resource could provide sustainable economic benefits.*

1.23 Pollution Control

1.23.1 Reduction/Control of Industrial pollution

70. *The problem is considered to be serious in most of the countries. Despite the low development of industrialisation, limited to Tanesco in Kigoma, Kiliba and Kabimba in Congo and the industrial base in Burundi, the fact that the lake is effectively a closed system, the emission of non biodegradable pollutants will result in an accumulation process which could threaten the lake.*
71. *Solutions are identified and facilitated by the concentration of pollution sources.*
72. *Controlling the problem would allow for the preservation of water quality for domestic and industrial use, while also protecting the fishing industry. Particular benefits will go to the public health sector, while the recommended recycling of industrial waste provides also opportunity for economic savings.*

1.23.2 Reduction/Control of pollution from urban waste

73. *The problem is considered as relatively serious. Despite recent efforts in Bujumbura, domestic waste is a major and increasing source of organic and chemical pollution*
74. *Solutions are identified and interventions are facilitated by the concentration of those sources of pollution. They also receive political support as a result of their social and health benefits. Some sources, such as the Kigoma institutions, are very localised and hence easy to control.*
75. *Controlling the problem would improve water quality for the benefit of many direct users. The main impacts would be on public health, and since the most polluted areas are also those where the users are more numerous; in Bujumbura, benefits could be localised and immediate.*

1.23.3 Reduction/Control of Harbour pollution

76. *Harbours are identified as an important source of pollution, sometimes deliberate as waste is dumped into the lake (Mpulungu); pollution is however estimated to be less than that of factories and towns; precautions have already been taken (Bujumbura) or are envisaged (Mpulungu).*
77. *Actions are identified and will be facilitated by the concentration of those sources of pollution; some immediate actions are easy to undertake, although total eradication of the problem will be difficult as boat and harbour operators will not be willing to bear all additional costs.*
78. *Controlling the problem would allow for the preservation of water quality for its use (domestic or industrial) and for fishing.*

1.23.4 Limiting pollution from future mining activities or oil exploitation

79. *Very serious damage could result from those activities if no measure is taken (pollution from the mercury used by some gold washers, pollution from other heavy metal contained in ores, eutrophication from phosphates, pollution from hydrocarbons).*
80. *This potential problem is not easy to address, but preventive measures are identified (particularly by EIAs).*

81. *Controlling the problem would allow for the preservation of water quality for its direct use (domestic or industrial) and for fishing; controlling the usage of mercury by gold washers is a crucial issue in terms of public health.*

1.23.5 Avoiding/Reducing major risks of marine accident

82. *The problem is considered as serious because of the potential danger of an accident causing oil slicks or spillage of dangerous products (pesticides or others). As the lake has numerous endemic species limited to very confined habitats, there is a big risk that accidental pollution may cause irreversible extinction, even if the quality of water can restore itself. Although no major accident have yet occurred, the risk is ever present and increases with trade and development.*
83. *The risk cannot be eliminated, but progress is possible towards reducing of risks and planning better intervention in case of disaster.*
84. *Controlling the problem would allow for the preservation of water quality for its direct use (domestic or industrial) and for fishing; in addition, prevention of accidents favours directly transport activities and, indirectly, dependent economic sectors.*

1.24 Sediment Management

The management of sediment through soil and water conservation brings benefits to farm and forestry systems while protecting the aquatic environment from the impacts of sediment.

1.24.1 Reduction/Control of Erosion from inappropriate farming practices

85. *The problem is believed to be serious because the cumulative impact of poor agricultural practices forms the major erosion source, including those which release sediments into the fragile lake ecosystems.*
86. *The problem is not easy to solve, because of its scale, the large number of concerned farmers and the constraints they are confronted with. However technical solutions are well known and efforts are underway and intervention strategies are improving on the basis of previous experiences. Despite the scale of the problem, interventions can be concentrated according to the two criteria of agriculture viability and lake protection.*
87. *However there are major social and economic benefits from a sustainable agricultural development, reduced loss of fertility and associated reduced need for fertilisers.*

1.24.2 Reduction/control of Deforestation

88. *Deforestation, including diffuse deforestation, largely associated with agricultural expansion, is a primary cause of accelerated erosion. The problem is considered to be particularly serious in forest reserves gazetted as protection forests, on the basis of their catchment protection value. The problem covers agricultural clearing, woodland destruction through burning, wood exploitation (particularly for charcoal and, in Tanzania, for tobacco curing).*
89. *The problem is hard to solve, but multiple responses are known, and are locally implemented. A favourable social climate exists in at least in one part of the region and despite the scale of the problem, it is possible to focus efforts on the most critical areas.*
90. *A control of deforestation and actions in favour of agroforestry would lead to obvious benefits in terms of production of wood and other products, land conservation, water control and conservation of forest biodiversity (including regional endemic species).*

1.25 Habitat Conservation

91. *Part of the problem has been described under sediment, pollution and overfishing.*

1.25.1 Protection of sensitive habitats

92. *This include both the degradation of the supra littoral area (semi-flooded band of the lake) in Burundi, and risks threatening coastal wetlands including the large deltas (Ruzizi, Malagarazi) or the outlet (Lukuga). These play a role in the lake hydrology and the water quality and are also critical habitats for important elements of biodiversity. Taken together, the problem seems to be fairly difficult to solve, but actions are possible at the level of fragile zones correctly identified.*