

AFRICA
Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

Project Appraisal Document

Africa Regional Office
AFTU2

Date: January 21, 2003	Team Leader: Tracy Hart
Sector Manager: Inger Andersen	Sector(s): Water supply (60%), Central government administration (40%)
Country Manager/Director: Ali Khadr	Theme(s): Water resource management (P) , Pollution management and environmental health (P), Environmental policies and institutions (P), Regional integration (S)
Project ID: P070252	
Focal Area: I - International Waters	

Project Financing Data

☐ Loan ☐ Credit ☒ Grant ☐ Guarantee ☐ Other:

For Loans/Credits/Others:

Amount (US\$m):

Financing Plan (US\$m):	Source	Local	Foreign	Total
BORROWER/RECIPIENT		0.33	0.08	0.41
UK: BRITISH DEPARTMENT FOR INTERNATIONAL DEVELOPMENT (DFID)		0.94	3.75	4.69
GLOBAL ENVIRONMENT FACILITY		0.58	2.32	2.90
NETHERLANDS: MIN. OF FOREIGN AFFAIRS / MIN. OF DEV. COOP.		0.39	1.58	1.97
SUB-BORROWER(S)		0.35	1.40	1.75
UN DEVELOPMENT PROGRAMME		1.41	5.64	7.05
WORLD WILDLIFE FUND		0.03	0.12	0.16
Total:		4.03	14.90	18.93

Borrower/Recipient: LAKE CHAD BASIN COMMISSION (LCBC)

Responsible agency: PROJECT MANAGEMENT UNIT (PMU)

Lake Chad Basin Commission

Address: B.P. 727 N'Djamena, Chad

Contact Person: Muhammed Sani Adamu

Tel: (235) 524.145

Fax: (235) 524.137

Email: lcbc@intnet.td

Other Agency(ies):

United Nations Development Programme

Address: UNDP-GEF One United Nations Plaza New York, NY 10017

Contact Person: Maryam Niamir-Fuller

Tel: (212) 906-6076

Fax: (212) 906-6362

Email: Maryam.niamir-fuller@undp.org

Address: United Nations Office for Project Services

Contact Person: Andrew Menz

Tel: (212) 457-1875

Fax: (212) 457-4044

Email: AndrewM@unops.org

Estimated Disbursements (Bank FY/US\$m):

FY	2003	2004	2005	2006				
Annual	0.67	1.27	0.69	0.27				
Cumulative	0.67	1.94	2.63	2.90				

Project implementation period: 4 years

Expected effectiveness date: 02/01/2003 **Expected closing date:** 01/31/2007

OCS PAD Form: Rev. March, 2000

A. Project Development Objective

1. Project development objective: (see Annex 1)

The development objective is to build capacity within the Lake Chad Basin Commission (LCBC) and its national committees so that it can better achieve its mandate of managing land and water resources in the greater conventional basin of Lake Chad.

Project history, context and phasing. The project was first prepared by the United Nations Development Programme (UNDP), and a PDF-B was approved by the Global Environmental Facility (GEF) in 1995 and executed by UN Department of Economic and Social Affairs (UNDESA). Work at that time resulted in an update of a Diagnostic Study, an update of a LCBC Master Plan, as well as elements of a strategic action plan. At the end of the PDF-B preparation phase in 1999, the World Bank was asked to partner UNDP in order to use each institution's comparative advantage: UNDP for supporting capacity building in LCBC and member countries, and the Bank for strategic vision, convening power, and to leverage International Development Association (IDA) funding at a later date. It was only at this time that Sudan began the process of joining the LCBC. The GEF Secretariat also approved PDF-C funds at this stage. It has been added to both the UNDP and Bank documentation since the GEF Secretariat approved the Project Brief.

The project has six components, three are to be implemented by UNDP, two are to be implemented by the World Bank, and one component will be jointly implemented by UNDP and the Bank. This last component comprises six pilot projects, with each institution responsible for three pilots. The World Bank responsibilities are for components 2 and 6 as well as for three pilot projects in component 5:

- Component 2: Enhanced regional policy initiatives and institutional mechanisms to address transboundary issues during and beyond the life of the project (US\$1.08 million);
- Component 5: Creation of regional programs and initiation of demonstration projects to test and validate methodologies, secure stakeholder involvement and develop implementation modalities:
 - Lake Fitri pilot in Chad (US\$0.5 million)
 - Komadougou-Yobe pilot in Niger and Nigeria (US\$0.475 million)
 - Chari-Logone pilot in Cameroon and Chad (US\$0.475 million); and
- Component 6: Strategic Action Plan (SAP) designed and endorsed with donor support mobilized (US\$0.36 million);

To prevent confusion, the component numbering is being kept as it was in the discussions with LCBC and its members, and the GEF Implementing Agency (IA), UNDP. This project is the first phase of a two phase GEF project. Phase 2 will build on momentum generated by leveraging IDA funds. It will also work towards greater coordination by drawing upon the constituency that was built in Phase 1.

2. Key performance indicators: (see Annex 1)

LCBC is to be held accountable for the following indicators:

- Increased numbers of stakeholders involved in local and transboundary water resource management issues, ability to influence decision making processes as a result;
- Increased awareness of the impact of national policies on shared water resources by constituency groups;
- Implementation support for the Bank's three pilot projects;
- Completion and adoption of the Strategic Action Plan (SAP), with a framework, timeline, and financing plan for implementation of priority activities;
- Increased donor involvement in and support for the SAP and LCBC Plan implementation.

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)

Document number: various **Date of latest CAS discussion:** various

The Lake Chad Basin GEF project includes five member countries with five Country Assistance Strategy (CAS) related linkages.

Document number: various **Date of latest CAS discussion:** various

Cameroon's 2000 CAS Progress Report discusses results from the Cameroon Poverty Profile, noting rural access to water at 20 percent compared to urban areas at 70 percent. The Progress Report also recognizes water resources among other environmental issues where little work has been done. The focus of IDA lending is governance, public expenditure management, HIV/AIDS prevention, community development, and rehabilitation of education and health sectors.

Central African Republic's 1998 Poverty Note states agriculture as the most likely source for poverty reduction and economic growth, and also states that the northern savanna regions are beginning to suffer the effects of increased environmental degradation.

Chad's 2002 draft CAS notes access to water as one of two main challenges that Chad faces, the other being reliance on the Chadian environment. Improving governance, improving human capital, and reducing economic vulnerability are listed as the three main objectives.

Niger's 1997 CAS document earmarks water as one of three pillars of Niger's development strategy, with human capital development and exploitation of regional growth opportunities as the other two. A Water Resource Management Review, a Water Supply Project, and a Private Irrigation Promotion Project, and a River Basin Strategy are recent projects launched in support of this strategy, which also aids in strengthening regional ties related to water use.

Nigeria's 2002 Interim Strategy Update continues to cite land degradation as the most serious environmental problem facing Nigeria. The Strategy has an emphasis on economic governance, private sector lending, and local community empowerment.

1a. Global Operational strategy/Program objective addressed by the project:

Global operational strategy. The global operational strategy is to facilitate a basin-wide constituency and participation in the development and implementation of sustainable management practices for Lake Chad's land and water resources.

Program objective addressed by project.

The project will facilitate the development of a broad based constituency for regional mechanisms to ensure the LCBC member countries collaborate and coordinate their use of the Lake Chad resources. This it will do by:

- Building awareness of how national policies impact on regional resources, and capacity among the riparians and stakeholders;
- Augmenting the existing constituency through the design of a SAP;
- Donor coordination; and
- Coordinating with other GEF projects.

2. Main sector issues and Government strategy:

Sector Issues

Shrinking Lake and Climate Change: Historically, Lake Chad was Africa's fourth largest lake. However, due to persistent drought and human activity, its surface area has decreased from a peak of 25,000 sq.km to approximately 1,350 sq.km, making it now the fifteenth largest lake in Africa. Due to its shallow depth, on average 1.5 m and 7 m at its deepest point, Lake Chad is particularly susceptible to seasonal and inter-annual fluctuations in size. The lake is fed by monsoons falling between June and August in the upper watershed. Though the hydrographic basin extends over 2.3 million sq.km, the hydrologically active basin is less than half that area at 0.97 million sq.km. A recent rebound in lake levels has been noted, but it is unclear whether this is due to climate variations or human-based factors.

Decreasing Flows into Lake Chad: Persistent drought has resulted in a drier climate and less rainfall, that in turn has led to increased demands for the water feeding Lake Chad. For example, the discharge of the Chari-Logone river system at N'Djamena is 75 percent less than before; and the demand for irrigation water has also increased in response to the drier climate and the large-scale schemes upstream of the lake. It is estimated that between 1966 and 1975, the lake shrank by 30 percent, of which five percent was due to extraction for irrigation. Between 1983 and 1994 irrigation extraction quadrupled, which contributed to the 50 percent decrease in the lake's surface area.

Persistent Rural Poverty: More than 20 million people (expected to increase to 35 million by 2020) depend upon the Lake Chad basin's resources to support a wide range of economic activities including recession agriculture, pastoralism, forest regeneration, fish breeding and production, and drought-fall-back security. The symbiotic relationship between poverty and environmental degradation is particularly strong in the Lake Chad basin with arid conditions coupling with human pressures such as deforestation and unsustainable agricultural practices to exacerbate desertification.

Measures to tackle the environmental issues are severely limited by regional poverty. The basin's population is having to deal with the consequences of the shrinking of the lake and its associated aquifers, such as declining perennial vegetation and increased vulnerability to erosion. Especially hard hit is the fishing sector. The smaller lake has restricted fishing access for Niger and Nigeria. For example, small-scale fishers from Niger must cross the political boundary to fish the smaller lake. Nigeria is also experiencing increased problems accessing surface water resources for its large-scale irrigation projects.

National workshops undertaken as part of the PDF-B process across the region identified the threats they face if the countries do not coordinate their actions and work in collaboration. These issues are as follows: (i) misallocation of water resources, particularly between large irrigated systems and elements of the natural system; (ii) spirals of degradation, with one harmful action having a cascading effect, resulting in additional harmful actions; (iii) increased competition for the natural resources leading to disputes and tension between countries; and (iv) further deterioration of the natural environment.

Short-Term Policy Focus: A focus on the short-term often results in unsustainable policy decisions. The consequences of these unsustainable policy decisions include the absence of an integrated approach to water resource management at the national and basin levels, costly investment that is abandoned because of unforeseen changes in water availability, and construction of large upstream dams without taking sufficient account of downstream human and ecosystem considerations. Further, mining operations are often not sufficiently co-ordinated with regional water and environmental policies. This short-term

policy focus is further characterized by the failure of development strategies in rural areas, including those related to human health, and the development of agricultural and industrial activities geared to production quantities often at the expense of environmental sustainability.

Strengthened Riparian Commitment and LCBC Capacity: The Lake Chad Basin Commission established in 1964 by four of the riparian countries (Cameroon, Chad, Niger and Nigeria), was expanded in 1994 with the Central African Republic (CAR) membership. Sudan is currently in the process of joining the LCBC via ratification of the Convention. Though the founding riparians gave the LCBC a broad mandate relating to prior notification, monitoring studies and works related to water resources, and the authority to examine complaints and to contribute to the resolution of differences among member countries, the countries have often bypassed the Commission in developing their national works.

The countries of the Lake Chad basin recognize that such uncoordinated development is unsustainable in terms of investment, socio-economic and ecosystem welfare, and that they needed to coordinate their national plans and actions with each other at the regional level. With the renewed interest in regional coordination the member countries have agreed to undertake a review of the LCBC. For the LCBC to assume a more central role within the basin, working with the countries and regional projects, its capacity will need to be strengthened. A stronger LCBC would then be well positioned to assume complete executive responsibility in the next phase of the GEF project, implementing the SAP.

Non-existent or Unsuitable Water and Environmental Management Policies: Generally, there is insufficient knowledge of water resources, and specifically, how aquatic systems function. There is no effective system for monitoring the quantity and quality of freshwater resources, nor are there effective water quality protection programs. Water-demand management is ineffective and little attention is paid to adapting production methods to natural resource limitations. In economic policies, there is little value accorded to water and the environment. There is an absence of economic instruments, incentive measures, and specific programs to promote and support local initiatives.

Poor Intersectoral Program Coordination with Limited Public Participation and Impact: Low-level public participation and inadequate mechanisms to secure such participation further characterize the region. There is insufficient cooperation between and among sectors within countries, and between and among the countries themselves. Environment-centered public education is virtually non-existent and enforcement is weak. Little efforts has been undertaken to harmonize legal frameworks at the regional level in order to protect the use of shared water resources. National and regional organizations do not respond or adapt to rapidly changing circumstances. This poor adaptive capability makes it difficult, if not impossible, to effectively and equitably manage shared water resources.

Governmental strategy

National Water Management Initiatives: Support for regional water management through the Lake Chad Basin Commission is due to the existence, stability, and progress of a number of national-level institutions as follows:

- **Cameroon** - the Ministry of Environment and Forests, which manages land and water resources, including wetlands and protected areas;
- **Central African Republic** - the Direction of Hydraulics of the Ministry of Mines and Energy, which formulates national water policy and will create a national water agency;
- **Chad** - the National High Committee on the Environment, which includes the Prime Minister, the Ministry of Environment and Water, and other ministers, has been strengthened as a result of petroleum-related environmental management activities;

- **Niger** - the National Committee for the Environment and Sustainable Development, which includes the Cabinet leader, ministers, civil society, university and NGOs, is the primary vehicle for gathering and expressing community opinion on water resource management; and
- **Nigeria** - the Federal Environmental Protection Agency is backed by the National Advisory Council (made up of governmental organizations, private sector, NGOs, community organizations, university) and by the National Council on the Environment (States). Almost all states in the Federation have prepared a long-term Environmental Action Plan. A National Water Resources Master Plan (1995-2020) was prepared to protect the supply of water resources, and in 1993, a legal framework for the development of water resources was set up at the Ministry of Water Resources.

3. Sector issues to be addressed by the project and strategic choices:

The project will address the following sectoral issues previously mentioned above: Short-term Focus; Non-existent or Unsuitable Water and Environmental Management Policies; and Poor Intersectoral Program Coordination with Limited Public Participation and Impact. It will also address the following strategic choices. It will strengthen existing regional mechanisms rather than create new ones. It will work using each GEF IA's comparative advantage. It will build upon regional cooperation demonstrated thus far in the preparation phase and in national water management capacity building initiatives in order to design the Transboundary Diagnostic Analysis (TDA) and SAP. The parallel design and implementation of the TDA, SAP and pilot projects will be implemented in order to stimulate public participation, donor interest and confidence. The primary development objective will be to strengthen capacity in the LCBC, by placing a project management unit (PMU) to work within and alongside it, to work together in implementing the project, so that LCBC may be able to execute fully in Phase 2.

C. Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

The project has three components:

Component 2:

- Enhanced policy initiatives and institutional mechanisms to address transboundary issues;
- LCBC members review and recommit to the institution;
- Lessons learned from different international waters GEF projects in the region;
- Define and promote integration of transboundary water and environmental policies into national development plans;
- Review and recommend means to harmonize relevant national frameworks so as to get integrated regional approach to long-term management of resources; and
- Establish regional structures that review, harmonize and coordinate management of shared resources and uses.

Component 5:

- Pilot projects to test and validate methodologies, stakeholder involvement and implementation modalities;
- Formulating new institutional mechanisms to link regional, national and local planning initiatives; and
- Test, review and further strengthen regional initiatives and the mechanisms by which these are

translated onto the ground.

Component 6:

- LCBC strategic action plan endorsed with implementation methodologies validated on regional level;
- Finalization of TDA with regional agreement on SAP; and
- Donor support mobilized for SAP and LCBC Plan implementation.

World Bank GEF Components

Component	Indicative Costs (US\$M)	% of Total	Bank financing (US\$M)	% of Bank financing	GEF financing (US\$M)	% of GEF financing
Enhanced Policies and Institutions	3.67	40.1	1.08	37.2	1.08	37.2
Pilot Projects	4.05	44.3	1.46	50.3	1.46	50.3
TDA/SAP Finalization and Donor Coordination	1.43	15.6	0.36	12.4	0.36	12.4
		0.0		0.0		0.0
	0.00	0.0	0.00	0.0	0.00	0.0
	0.00	0.0	0.00	0.0	0.00	0.0
Total Project Costs	9.15	100.0	2.90	100.0	2.90	100.0
Total Financing Required	9.15	100.0	2.90	100.0	2.90	100.0

2. Key policy and institutional reforms supported by the project:

Although the project will not undertake national-level policy or institutional reforms, it will strengthen existing regional policies and institutions to better manage the shared Lake Chad resources. This will occur by drawing support from LCBC member countries in order to raise awareness of impacts at regional level of national policies, and therefore, the need to harmonize national actions at the regional level. This should, in turn, translate into stronger regional mechanisms and coherence, as voiced in the SAP, and raise donor interest.

Links to policy and institutional change and renewal in each component are highlighted as follows: In Component 2, the LCBC members will: (i) review and recommit to the institution; (ii) define and promote integration of transboundary water and environmental policies into national development plans; (iii) review and recommend means to harmonize relevant national frameworks so as to get integrated regional approach to long-term management of resources; and (iv) establish regional structures that review, harmonize and coordinate management of shared resources and uses. In Component 5, the pilot projects constitute the country-identified most urgent priority actions, and since successful country and LCBC efforts to implement these priority actions are deemed necessary to build donor confidence in the region, implementation of the pilot projects should begin as soon as possible after project approval. Formulating these new institutional mechanisms will link regional, national and local planning initiatives. These pilots will test, review and further strengthen the regional initiatives, and the mechanisms by which these are translated onto the ground. Component 6 will build upon the SAP design process and existing regional cooperation and reach out to donors for further policy and institutional dialogue.

3. Benefits and target population:

Benefit. The primary regional benefit of this project is a stronger LCBC for the decision-making process at the regional, national and local level. This should result in: (i) strengthened regional institutional capacity for coordinated decision-making; (ii) local communities more empowered in managing the Lake Chad and Fitri resources; (iii) design of an effective mechanism to translate regional policies at the local level for managing the natural resources; and (iv) regional consensus and support for the next phase of work as voiced in a SAP.

Target populations. (i) The LCBC will be stronger, as it will be able to build more commitment from members, more capacity to implement projects, and serve its members efficiently; (ii) member governments will have mechanisms in place with which to harmonize their activities, will be better prepared to attract donor support and investment for next phase, and will perceive the benefits of longer-term perspective; and (iii) local communities will be more involved in decision-making processes to manage the natural resources that they depend upon.

4. Institutional and implementation arrangements:

Project coordination. The Lake Chad Basin Commission is the executing agency for this 4-year project. A project management unit will be established in N'Djamena in the LCBC, and will be staffed with a Project Manager, Director of Administration and Finance, and other locally recruited personnel. Procurement and disbursement will be handled by the United Nations Office for Project Support (UNOPS). UNDP will have direct oversight for the project coordination component.

Project monitoring and evaluation. LCBC will report to the Bank and be responsible for ensuring that all GEF-funded activities are carried out in compliance with the project design and contracts. The project will comply with monitoring and evaluation procedures as required for the Mid-Term Review and Implementation Completion Report. The evaluation will rely on both qualitative and quantitative criteria using Bank guidelines, "Monitoring and Evaluation of Program Impacts." Resources have been set aside to support the conduct of both these evaluations by independent reviewers. The Mid-Term Review will provide suggestions on possible improvement of the implementation plan and steps that could be taken to ensure achievement of the project's goals in the remainder of the implementation period. The Mid-Term review will be conducted during the first-half of the third year of implementation and the Implementation Completion Report (ICR) will be completed within six months of project completion. The Project Implementation Manual (PIM) will outline the review process.

Accounting, Auditing and Reporting Requirements. The Project will comply with the "Guidelines for Financial Reporting and Auditing of Projects Financed by the World Bank." The Bank, together with LCBC, will agree upon reporting requirements for financial monitoring reports (FMRs). Project progress will be reported through annual, semi-annual and quarterly project progress reports, and an ICR.

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

It should first be stated that the decision to bring the World Bank into the project as a GEF co-IA is in itself a project alternative that was considered and accepted by GEF, UNDP, and LCBC on behalf of its member states. The involvement of the World Bank was considered in order to engage its comparative advantage, looking to the longer-term with the development of the SAP and with support of the Bank, lead to a second phase and donor support for a broader investment package. The Bank was also engaged so as to strengthen regional mechanisms for collaborative and coordinated management of Lake Chad

resources.

A primary structural decision criteria was to have pilot projects run parallel to the design of the TDA and SAP rather than afterwards. This was due to the need to test the mechanisms and have stronger public participation and ownership in the design process. Secondly, the decision to establish a PMU, in lieu of having direct execution of the full project by the LCBC, was an important decision made during project preparation discussions, and discussed again with the change of LCBC Executive Secretary. Given LCBC's current capacity, the decision was to have LCBC focus their capacities on the organizational review of roles and responsibilities, cross-project learning opportunities, hosting TDA and SAP workshops, and learn from these processes, rather than fully engage on the project all at once. Therefore, allowing the LCBC to participate in the project, but not carry the whole burden of implementation at once. By Phase 2, in four years' time, it is anticipated that the LCBC will have more capacity and be solely responsible for project implementation.

The selection of pilot projects was made by a LCBC-GEF project preparation steering committee, which met twice. The pilots were selected from among a list of projects originally developed in the LCBC Master Plan but modified in order to highlight transboundary and land and water degradation aspects. Though more than five pilot projects were selected originally, the number was reduced to five pilots to ensure financial feasibility, project realism, and the possibility to replicate successful outcomes later in the full project phasing.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed			
Africa Region	Niger River Basin GEF Project		
Africa Region	Senegal River Basin GEF Project		
Cameroon	Forest and Environment Sector Program		
Cameroon	Regional Environmental Information Management Program		
Chad	Rural Development Pilot		
Niger	Natural Resource Management	S	S
Niger	Water Sector Project		
Nigeria	Water Rehabilitation Project	S	S
Nigeria	National Fadama Development Project I	S	S
Nigeria	National Fadama Development II		
Nigeria	Micro-Watershed and Environmental Management Project		
Nigeria	Urban Water Sector Reform		

	Project		
Other development agencies			
UNEP	Niger-Nigeria Shared Watersheds		
DFID	Hadejia-Nguru Wetlands Restoration		
Finland/multilateral	Hadejia-Nguru Wetlands Project		
The Netherlands/EU	Waza National Park and Yaere Flood Plains		

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in the project design:

The project's design includes a number of lessons that have been learned from other GEF projects by the LCBC staff and colleagues:

- *A long-term approach is needed to ensuring sound management of shared water resources.* The project is working with existing regional mechanisms in the Lake Chad Basin to ensure that in the long term they have the capacity and constituency to coordinate and harmonize national policies at the regional level.
- *Inclusive decision-making supports better water resource management.* At the regional level, the design of the SAP will be an inclusive process building upon existing regional cooperation. The project will also elicit links to national institutions and activities and the pilots will bring users at the local level into the decision-making process. The pilots will also test the mechanisms by which regional policies will be translated on the ground.
- *Political support from riparian countries is needed to strengthen regional mechanisms.* Recipient countries are all LCBC members and are increasingly expressing their commitment to improving the environmental management of Lake Chad. The project builds upon the long established institutional infrastructure within the Basin, which complements existing national and local institutions. All activities build upon existing networks established by the member countries.
- *Linkages with other ongoing activities are necessary to optimize benefits for recipient countries.* The project design has links with other GEF IW projects in the region – Niger and Senegal – where appropriate. Participation in the Africa Land and Water Initiative (ALWI) program will also facilitate cross-learning with other projects with similar land and water objectives, based in Ethiopia, Madagascar, Limpopo (Mozambique), Niger, and so forth.
- *Capacity building is critical for effective decision-making and management at all levels.* The project objective is to build regional, national and local capacity to strengthen the decision-making process for sustainable ecosystem-based management of Lake Chad's resources.

4. Indications of borrower and recipient commitment and ownership:

Recipient commitment. Funding of a full project from GEF and bilateral donors will serve a catalytic role to augment what has already been a multi-country, regional organization, and multi-stakeholder effort. The long-term commitment of the LCBC members, including Sudan, has been demonstrated by their strong participation in unequivocal endorsement of efforts to better manage the Lake Chad Basin for over a decade. These efforts include the UNEP/FAO/LCBC cooperative endeavours in developing a diagnostic study and Master Plan, the GEF supported PDF-B, and their continuing, endorsement of the LCBC's work. This commitment has occurred at the highest levels and has drawn on support from other projects in the region. For example, through a decree signed by the Prime Minister on September 3, 1999, the Government of Chad established cross-sectoral institutional arrangements and mechanisms at three levels of central coordination for water management (technical, strategic, and political) and paved the way for other decentralized mechanisms and internalization of environmental and shared water issues.

Recipient ownership. The LCBC member countries have demonstrated ownership of the project and its objectives through their GEF focal points who have engaged in the project preparation and identification of the pilot sites. And that several member countries have actively sought to ratify the Bureau of the Ramsar Convention on Wetlands. For example, the Federal Government of Nigeria recently passed this convention, with Lake Nguru now certified as a Ramsar site and thus eligible for certain types of external funding.

5. Value added of Bank and Global support in this project:

The Bank's added value is twofold in assisting riparian countries of the Lake Chad Basin to put in place sustainable management practices of their transboundary water resources. One, to support the strengthening of regional mechanisms for water resources management. And two, to guide riparian countries in leveraging funding for a SAP to be implemented in Phase 2 that would cement the benefits derived from the current GEF project. The project's regional focus will make available financial resources to meet "incremental costs" that will address transboundary issues by buying down the cost for actions by the recipient countries. GEF funds will specifically assist in providing linkages and harmonizing national and local actions with regional environmental objectives. Without the combined regional experience of the Bank, UNDP and other actors, such as International Union for the Conservation of Nature (IUCN), and the incremental resources of the GEF, the project's implementation would proceed at a slower pace and would not fully benefit from the integration, coordination and management actions promoted by this project.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

- ☐ Cost benefit NPV=US\$ million; ERR = % (see Annex 4)
- ☐ Cost effectiveness
- ☒ Incremental Cost
- ☐ Other (specify)

Consistent with GEF operational policy, requested GEF funds would only be used to finance incremental costs associated with addressing transboundary costs in the Lake Chad Basin. The GEF Alternative Scenario has evaluated a series of critical measures for transboundary management that require support from GEF and other international sources to remove barriers to regional management of the Basin. The

project comprises some key activities needed to improve transboundary management of the freshwater ecosystem. Support from GEF is necessary for transaction costs for cooperation to: (i) provide linkages and develop common approaches to protect Lake Chad; (ii) facilitate strengthening of regional, national and local planning initiatives for sustainable transboundary management; (iii) augment links among existing water policy work in certain riparian countries that will feed into the GEF project; and (iv) leverage donor support for the environmentally sustainable development of the Basin's transboundary resources.

Incremental costs attached to this GEF project are linked principally to overcoming barriers to concerted management of the Basin, completion of a TDA, and subsequent development and negotiation of the SAP. The incremental cost of realizing these benefits have been estimated at US\$33 million and are additional to what each government could be reasonably expected to finance if national benefits alone were included in the economic analysis. Overcoming the barriers has specific capacity-building implications and associated costs that lie beyond the domestic baselines of riparian countries. Annex 4 presents a summary of domestic and global benefits and costs, together with a matrix of individual country baseline and alternative costs associated with each project objective. The project complements GEF investments made for the management of the Senegal and Niger river basins.

Incremental Costs. Total costs for the project are calculated at US\$19.6 million (including US\$693,500 of PDF-A, -B and -C funding) of which the GEF contribution is US\$9.6 million and co-financing is US\$9.3 million, based on government contributions, anticipated GEF Implementing Agency inputs and expressions of interest received from NGOs and bilateral donors. The co-financing calculation does not include World Bank active and proposed projects, UNDP programs, and contributions from other organizations that directly complement, and will assist in the execution of specific project components. World Bank activities in the Lake Chad area in eleven projects to run concurrently with the GEF project results in an additional co-financing of \$74 million developed from a baseline of \$712 million. These projects are described in Annex 4.

2. Financial (see Annex 4 and Annex 5):

NPV=US\$ million; FRR = % (see Annex 4)

Project Financing. Funding the project within the context of the SAP will be ensured by the commitment of all six governments and bilateral and multilateral donors who have expressed an interest in supporting LCBC and the SAP process. Co-financing figures are indicative of the anticipated participation of ongoing projects to related activities of the GEF-financed project. As an example, UNDP is funding in Chad US\$2.6 million in water and land resource projects. Ten percent of this amount will be directed toward transboundary activities.

LCBC has an annual budget, funded by member states, of US\$1.18 million, of which LCBC has committed an equivalent percentage to be applied over the lifetime of the project (US\$411,800). The contribution in kind, accepted by the six governments through their on-going projects, represents a total of US\$1.75 million. The total co-financing is US\$9.3 million. The Government of the Netherlands, through DGIS, is providing co-financing of US\$1.97 million, and the UK through DfID is providing an additional US\$4.69 million.

The German Cooperation Agency (BMZ) funded a LCBC's regional project "Study of the Chari-Logone Groundwater Resources" for US\$0.62 million, which recently closed. It is expected that outputs of this project will be developed and used by the GEF-financed project. BMZ is preparing a follow-on project which will work closely with the GEF project, but which cannot be included as co-financing due to its

early identification phase.

Fiscal Impact:

The project is finite in terms of approach, i.e. pilot activities will be sustained at community levels, while capacity-building activities at the level of the member states and the LCBC will result in additional human capacity and will not contribute to additional long-term incremental costs for these institutions.

3. Technical:

Technical issues are to be discussed in detail in the Annex 2, Detailed Project Description. They will also be delineated in the Project Implementation Manual to be drafted with the Lake Chad Basin Commission GEF team during the appraisal mission and finalized prior to negotiations.

4. Institutional:

4.1 Executing agencies:

Project Management Unit. The Lake Chad Basin Commission, which was established in 1964, will execute the World Bank managed portion of the project, and procurement assessment to this effect will be carried out by the World Bank. The LCBC will act on behalf of LCBC member countries, and be responsible to the World Bank (as the GEF Implementing Agency) and GEF to ensure that applicable rules and procedures are adhered to. The project described here is a pre-SAP implementation project, which will emphasize completion of a TDA, the development of a SAP, which will be implemented in a follow-on GEF project with substantial, additional country and donor cofinance. As an inherent strategy within the project is to build national and regional capacity, especially within the LCBC so that it is responsible for executing the SAP, a project management unit will be established to work closely with the LCBC. LCBC will have overall responsibility for activities associated with the pilot demonstration activities that are described in Annex 2, specifically coordination responsibilities, such as monitoring and evaluation. The PMU staff will be housed at LCBC headquarters and comprise an internationally recruited Project Manager, a regionally recruited Director of Administration and Finance, and other locally recruited staff.

4.2 Project management:

Project Steering Committee. The Project Steering Committee (PSC) will be chaired by the Executive Secretary of the LCBC, with one member designated from of the LCBC member state, and two representatives of the LCBC staff. Additionally, the PSC will be comprise a representative of the two GEF implementing agencies, one member from UNOPS, and the Project Manager, who shall serve as an ex-officio member. Other members may be added to the PSC at the discretion of the PSC at any time. The precise functions of the PSC are to be found in the Project Implementation Manual.

Inter-Ministerial Coordinating Committees. Each of the participating countries shall convene an Inter-Ministerial Coordinating Committee. The LCBC will assist the countries in this activity. Each IMCC will coordinate country level activities necessary to the formulation of the Transboundary Diagnostic Analysis and the Strategic Action Plan. As part of country specific TDA activities, each country will formulate and prioritize its project-related, activities on a sector by sector basis. Further, working with and through the Project's TDA formulation process, they will determine, in priority sequence, the transboundary issues that confront the Lake Chad Basin as a whole. Each participating country shall, with the assistance of the LCBC, name a Lead Country Official who will chair the IMCC.

Provision has been made for staff assistance to each of the designated Country Chairs. Limited financial provision has also been made for meetings of each country IMCC.

4.3 Procurement issues:

Procurement and Disbursement Agency. Given the LCBC's current limitations regarding financial management, as described in Section 4.4 below, it was agreed that it would need additional support in executing the project's procurement and disbursement needs. The execution and implementation arrangements are as follows:

- The Bank managed portion of the project will be executed by the LCBC. In order to demonstrate best practice, however, it has been agreed with LCBC that a contractual arrangement (Management Services Agreement) will be made between the LCBC and UNOPS for delivery of Bank implemented GEF Project components, thereby, ensuring that the standard procedures for the World Bank are followed.
- UNOPS is directly executing the UNDP implemented components in cooperation with LCBC. UNOPS will establish a project management unit at the LCBC in Ndjamen, staffed with technical and managerial human resources. The PMU will provide technical and managerial support to the LCBC in overseeing the implementation of the project. This PMU will be responsible for contracting, fund management, procurement, disbursement, program administration and project level monitoring (see Annex 11).

As the project will be executed by UNOPS, and further as no procurement actions will be undertaken directly by the LCBC, a procurement capacity assessment of the LCBC is not required. However, two LCBC staff members, the Director of Administration and Finance and the Comptroller, have recently taken Bank-certified procurement training in Dakar and Nairobi, respectively. The LCBC and the N'Djamena World Bank Country Office worked together on several workshops during the PDF-C preparation phase, which helped to build exposure to Bank procurement issues.

Procurement of works and goods financed will follow the World Bank's "Guidelines for Procurement under IBRD Loans and IDA Credits" dated January 1995, and revised January and August 1996, September 1997 and January 1999. Procurement of services will follow the World Bank's "Guidelines for Selection and Employment of Consultants by World Bank Borrowers" dated January 1997 and revised September 1997 and January 1999. The World Bank's latest editions of standard bidding documents and contracts will be used.

Consultant Services. It is envisaged that a large percentage of the consultants used on this project will be individual consultants, many of whom will be selected from the Lake Chad Basin countries, who will work directly with specific aspects of the different components with both national and basin-wide teams implementing those components. Consultant firms will be used primarily for major studies and training exercises. Bank-managed resources budgeted for individual consultants amount to a total of \$1.3 million. It is not expected that consultant services will be bundled, although this may happen for the translation and interpretation services.

4.4 Financial management issues:

Financial Management Issues. A financial management assessment of the Lake Chad Basin Commission has been undertaken as part of the pre-appraisal. The findings of the assessment report are maintained in the permanent files of the project. After the assessment was completed the decision was made to have UNOPS implement the project. UNOPS will therefore produce the Financial Monitoring Reports (FMRs) and provide technical and managerial support to the PMU. No further financial management assessment of UNOPS is required at this time.

LCBC Financial Management Capacity. During the pre-appraisal mission in January 2002, a Bank Financial Management Specialist reviewed LCBC's financial management system. Despite an accounting system that is partially computerized, the assessment concluded that the current system should be able to produce FMR. However, the system needs strengthening to be fully computerized. Since its establishment, LCBC's financial statements have been audited by a Board of Auditors comprising a representative of each member country. Concerning the audit of the financial statements as of December 31, 2000, the auditors have expressed a qualified opinion due to the management of the Social Security Fund.

The LCBC is staffed with professionals who are familiar with projects financed by donors, such as UNDP, the Islamic Development Bank and the African Development Bank. To ensure that Phase 2 of this project can be executed by the LCBC, its staff and that of the current project management unit have, and will, receive formal financial management, procurement and disbursement training from the World Bank. Therefore, the LCBC Director of Administration and Finance and the Comptroller attended two procurement trainings, administered by the World Bank, in March and April 2002. In addition, the LCBC has been advised to put in place a fully computerized accounting system in order to produce more accurate financial statements by the latest at the date of the mid-term review.

Financial Management System of the Project Management Unit. UNOPS will be responsible for executing the financial management and procurement procedures of the respective implementing agency (World Bank or UNDP) as applicable to the proper component or subcomponent. To start the project, the PMU will put in place, assisted by UNOPS, a financial management system, which will be attempt to both parallel that of LCBC and also be able to report to UNOPS and the respective IAs. Just as for LCBC, the PMU has been advised that their system be fully computerized by the mid-term review date. The World Bank and LCBC will sign a Grant Agreement, and, in turn, the LCBC will sign a Management Services Agreement that will channel Bank administered funds directly to UNOPS. Disbursements, based on justification papers, will be made directly to a project advance account in N'Djamena. An annual audit will be done by external auditors, no later than six months after the closing of the fiscal year. Financial management risks that currently exist will be offset by UNOPS's assistance to the PMU and by regular Bank supervision missions.

5. Environmental:

Environmental Category: B (Partial Assessment)

5.1 Summarize the steps undertaken for environmental assessment and EMP preparation (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

This project has been assessed as a Category B project. The Integrated Safeguards Data Sheet (ISDS) has been written, circulated, and signed off by the appropriate environmental and social reviewers, sector managers, and task team leaders. A joint World Bank-LCBC Environmental and Social Assessment was conducted in the field in October 2001. The report was written in November 2001, circulated for comment in December 2001, and a final version was cleared in January 2002. It has been translated into French for circulation to LCBC member states. A short version of the Executive Summary was drafted by the Department of Water Resources and Environment of the LCBC in English and French as a public notice for circulation to LCBC member states for publication in national and local media outlets in January 2002.

The environmental assessment, natural habitat, forestry, and international waterways safeguard policies were tagged as being possibly applicable to this project. All GEF projects trigger the Environmental Assessment Operational Policy (OP). The Natural Habitats OP has been triggered due to the presence of wetlands within the conventional basin and, more specifically, within several of the pilot project areas.

The Lake Chad Basin GEF project has worked with World Wide Fund for Nature (WWF) and Ramsar to create preproject conditions of effectiveness for each Lake Chad shoreline country to designate their shoreline as a transboundary Ramsar site in order to qualify for participation and thus funding implementation in the local community resources component of the Lake Chad management plan pilot project. This has specifically triggered the OP on Involuntary Resettlement as it pertains to reallocation of resources within a protected area. The Lake Fitri pilot project will function similarly to the Lake Chad shorelines pilot, but in a smaller scale, and also triggers the Involuntary Resettlement OP. Initial field visit assessments conducted also found potential dam safety issues with the Maga (Chari-Logone pilot) and Tiga Dams and Challawa Gorge (Komadougou-Yobe pilot). A dam safety specialist has subsequently visited these sites and has prepared a draft report, which has been disclosed to the InfoShop, the LCBC, and member states. Safeguard policies, as applicable to the pilots, are summarized below in tabular form:

World Bank Safeguard Policies Triggered by Pilot Project Interventions

	Chari Logone	Komadougou-Yobe Basin	Niger-Chad Northern Basin	Lake Chad Shoreline	Lake Fitri	CAR Chad Transboundary
4.01 Environmental Assessment	Applies to all pilot projects including co-financed components. Requires public consultation and dissemination of conclusions					
4.04 Natural Habitats	Enhanced or no significant changes					
4.30 Involuntary Resettlement (and OP/BP 4.12)	Although no one will be displaced or resettled, most pilots involve management plans, which introduce or modify natural resource access rights.					
4.37 Safety of Dams	Proposals to increase releases from existing dams		Not applicable			

5.2 What are the main features of the EMP and are they adequate?

Components of the Environmental Management Plan include funds for conflict resolution training, especially in areas with histories of conflict over access to resources, such as the Lake Fitri area. There is also a component on Public Consultation which will be built into the member states as well as into the Lake Chad Basin Commission, which will include drawing out stakeholder interests as part of its development.

5.3 For Category A and B projects, timeline and status of EA:

Date of receipt of final draft: January 7, 2002

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted?

The stakeholders were consulted to the extent that they were visited during site visits by consultants hired to prepare initial technical demonstration reports, as well as when the Environmental and Social Assessment team travelled to the area of the pilot project during the period of October 2001. For the demonstration projects of Chari-Logone and Komadougou-Yobe, these are established projects with ongoing relationships between communities and project teams. For the other four proposed project sites, consultation mechanisms have been to ask NGO or government contacts to call ahead and set up a representative site to visit a day or two in advance. Then a small, joint LCBC-World Bank-UNDP team would visit a community within the proposed pilot project area to assess the community's interest in the overall development objective as well as the specific pilot project and the proposed mechanisms by which that pilot would operate within the community's jurisdiction. A townhall meeting, a small group, a visit to a family, an individual interview were all employed at some point.

5.5 What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

Project objectives, outputs and emerging issues will be regularly reviewed and annually evaluated by the Project Steering Committee (PSC). The project will be subject to various UNDP evaluation and review mechanisms, including the Project Performance and Evaluation Review (PPER), the Tri-Partite Review

(TPR), and an external Evaluation and Final Report prior to project termination. It is expected that the two Implementing Agencies will attempt to coordinate monitoring and evaluation activities to the greatest extent possible. It is anticipated that the Scientific Technical Advisory Program (STAP) committee will be instrumental in assuring the scientific quality and standard of project implementation and reporting. The project will also participate in the annual Project Implementation Review (PIR) of the GEF. Particular emphasis will be given to emerging GEF policies with regard to monitoring and evaluation in the context of GEF IW projects. This document, and more specifically the logframe, will be generally used to identify relevant Indicators, Stress Reduction, and Environmental Status Indicators that will inform the M&E process and be adopted by the participating countries.

6. Social:

6.1 Summarize key social issues relevant to the project objectives, and specify the project's social development outcomes.

The greater conventional Lake Chad basin covers parts of five LCBC member states, over a surface area covering from the headwaters of CAR to the northern borders of Lake Chad on the Niger-Chad edge. The TDA-SAP process and several of the pilots, most notably the Lake Fitri and the Lake Chad shorelines pilots, will address downstream and common property externalities, respectively, on basin inhabitants as part of the project. The most specific social development outcome of the project is LCBC's capacity assessment and technical skill set building so that LCBC can serve as a facilitator in the region with its national level counterpart institutions. Also, the pilot projects have social issues as well, and will have each social development outcomes. With respect to Lake Fitri, as there have been previous conflicts between identified social groups in times of water stress, the pilot has a specific objective to prepare these groups for conflict resolution. With respect to all three pilots, there are competing water demands at work through implementation of a management plan in an area with multiple livelihoods social development outcomes are to involve stakeholders in the decision-making process for implementing the flow regime in the Waza Logone and Hadejia-Nguru pilots.

In the process of project preparation, World Bank screening concluded that, under OP 4.12 (Involuntary Resettlement) some of the pilots might involve physical resettlement of population. A Resettlement Framework was therefore necessary in order to ensure that involuntary resettlement, which can be traumatic, debilitating and financially crippling, is fully addressed. The guidelines are clear that there is a need to involve communities in the planning and implementation of interventions that result from these policies and in most cases this implies the need for a conflict resolution mechanism. Another reason that the Resettlement Framework is required is because of the risk of dam failure. OP 4.12 was also triggered because the project intends to designate protected areas (Ramsar sites), which could limit the availability of resources within these sites for surrounding inhabitants. The instrument used to mitigate against reduced access to resources within a protected area or national park is a Process Framework. Although this does not relate to involuntarily displaced people, the effect is the same to the population (loss of income, deterioration of standard of living). The nature of restrictions, as well as the type of measures necessary to mitigate adverse impacts, is determined in consultation with the displaced persons during project implementation. Both the Resettlement Framework and Process Framework which are funded and available in English and in French, have been disclosed at the InfoShop, the LCBC and in the LCBC members' First Commissioners offices, and are summarized in Annex 12. Additionally, a Dam Safety Plan is summarized as Annex 13.

6.2 Participatory Approach: How are key stakeholders participating in the project?

Stakeholder participation was a key and successful ingredient of work undertaken during the execution of PDF-B activities. The current project proposal will build on and add to the level of public involvement that began in the PDF-B phase. It will do this through the recruitment of stakeholders from the NGO

community, community and commercial fishers, herders, representatives from the agricultural sector, and representation from the private sector, most particularly the petroleum industry. Stakeholder participation will also be sought in the development and implementation of all other elements of the project, with particular emphasis on various pilot demonstration projects and finalization of the TDA and the SAP. The above discussion is relevant to Component 2. The Process Framework and Resettlement Action Plan both include discussion of the methodology of identification of Project Affected Persons (PAPs) to facilitate further stakeholder compensation at the level of the pilot projects, which are Component 5. With respect to Component 6, key stakeholders are identified to be donors, as LCBC member state governments, bilateral and multilateral funding agencies, NGOs, international financial institutional, banking institutions, etc. These stakeholders are sought after in order to engage with the LCBC and its member states for mutual benefit.

6.3 How does the project involve consultations or collaboration with NGOs or other civil society organizations?

The project collaborates with several international and local NGOs, most specifically on implementation of several, if not all, of the pilot projects currently being prepared. The international NGOs and Secretariats with whom we are engaged in an ongoing discussion include IUCN, WWF, the Bureau of the Ramsar Convention, UNCCD, Green Cross International, and the Nigerian Conservation Foundation. International NGOs have been engaged via several avenues: (i) as consultants who have close ties to the NGO's work to prepare the pilot projects in the Lake Chad region; (ii) making project funds available for NGOs to accompany World Bank and UNDP staff on missions; (iii) as full members on the Project Steering Committee meetings during project preparation and in interim email, telephone, and office consultations. Regarding the involvement of local NGOs, the UNDP pilot project Niger-Chad Northern Basin may be executed by a consortium of regional NGOs led by the Nigerian Conservation Foundation.

6.4 What institutional arrangements have been provided to ensure the project achieves its social development outcomes?

A transboundary analysis carried out in project preparation identified a set of hydro-environmental issues, transboundary impacts and their principal causes. The causes are grouped into climatic and human. A clear separation between cause and specific impact cannot be made, but it is important to note that the primary climatic causes of lake decline, which is decrease in rainfall over the region, have significant impacts on the population in the Lake Basin who rely upon lake and floodplain recession agriculture, pastoralism and fisheries. The third component of the project has as its objective strengthened engagement of stakeholders. As the TDA and SAP processes are able to more clearly delineate how community behaviors contribute to and detract from the well-being of the Lake, its surface and groundwater sources, and the lands in those basins, the public participation program should be able to educate and engage. Appropriate monitoring and evaluation indicators will be developed to measure this outcome.

6.5 How will the project monitor performance in terms of social development outcomes?

A Monitoring and Evaluation Specialist will be employed during the first year of the Bank project to develop a participatory M&E program, which will link the pilots to the rest of the components, as well as to the UNDP components. (UNDP protocol, as outlined in Section 5.5, is the same for environmental and social development outcomes).

7. Safeguard Policies:

7.1 Are any of the following safeguard policies triggered by the project?

Policy	Triggered
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Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Natural Habitats (OP 4.04, BP 4.04, GP 4.04)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Forestry (OP 4.36, GP 4.36)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Pest Management (OP 4.09)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Cultural Property (OPN 11.03)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Indigenous Peoples (OD 4.20)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Involuntary Resettlement (OP/BP 4.12)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Safety of Dams (OP 4.37, BP 4.37)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)*	<input type="radio"/> Yes <input checked="" type="radio"/> No

7.2 Describe provisions made by the project to ensure compliance with applicable safeguard policies.

The Environmental Management Plan, summarized in Annex 12, details additional funding provided the project to manage compliance with applicable safeguard policies. Similarly, a framework Dam Safety Plan, attached as Annex 13, sets out proposed first-stage mitigation measures to be reviewed by relevant LCBC member states and project areas for agreement and co-financing.

F. Sustainability and Risks

1. Sustainability:

Government Commitment. There has been consistent and committed effort from the LCBC headquarters and member states in preparing and participating in national and regional workshops, working groups and steering committees.

Financial Sustainability. The financial commitment of the riparian governments is largely in-kind. There has been recent renewed donor commitment to direct and related objectives of the GEF-financed project as evidenced by assistance from the German BMZ, the EU, and the Islamic Development Bank. Countries continue their financial commitment to the LCBC and contribute ten percent or more to each project that has been the subject of donor assistance. As the project is implemented, the PMU and LCBC will consult on an ongoing basis with the World Bank to seek IDA investment during the project implementation and post-project period. The World Bank will be the lead GEF IA in organizing the donor conferences through implementation of Component 6.

2. Critical Risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1):

Risk	Risk Rating	Risk Mitigation Measure
From Outputs to Objective		
The PMU will work in isolation from the LCBC.	M	Create incentives to balance project implementation with LCBC institutional capacity-building in Project Implementation Manual.
LCBC member states do not realize long-term benefits deriving from a regional approach to water use issues.	S	Strengthen role of LCBC and continue parallel national-level water resource management dialogue for concordance to LCBC agenda.
The LCBC works in isolation from	S	Identification and involvement of successful

local-level land and water resource initiatives in Lake Chad Basin member countries.		community-based stakeholders and local NGOs early during the Phase 1 process would help to mitigate this risk. Involvement of local successful NGOs in one or more pilot projects would also mitigate this risk.
Data is not sufficient / appropriate in terms of quality and reliability for needs of LCBC and basin countries.	N	LCBC and active bilaterals are experienced in this regard. Identification of data gaps, updating of hardware, and more open dissemination of data to regional partners are all areas of risk mitigation.
The pilot projects are not sufficiently supported, in terms of financing, implementation and technical support, in order to have meaningful results in terms of demonstrability and replicability.	H	Executing agency arrangements are being identified which can most directly work with the local communities to serve their needs as well as serve the interests of the basin.
Donor and IDA concurrent interest and cofinancing in the project has been limited to date.	N	Constituency building is to occur within the GEF project, which should encourage more meaningful and focused dialogue with donors.
From Components to Outputs		
Overall Risk Rating	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

Long-term success of regional scale management programs, such as the one proposed here depend, *inter alia*, on the political willingness of participating countries to cooperate, to continue project programs and approaches after the life of the GEF intervention, and the extent to which activities successfully engage end users at the community level. In relation to political willingness, the level of project risk is seen as moderate. Participating countries have few economic resources, have witnessed recent national and regional strife and, with the continuing drought, lack of donor support and short-term priorities (such as human health, education, basic sanitation, and nutrition) it is difficult to focus on what appears to be long-term environmental imperatives. This situation is somewhat mitigated, however, by a growing realization on the part of the countries that environmental sustainability is inextricably linked to food production, tourism, sanitation, population movements, and thus, regional stability.

This growing realization has led the countries to effectively participate in the work undertaken during the Diagnostic Study, Master Plan, the PDF-B and, subsequently, in other endeavours. There is growing evidence to support a conclusion that the countries, notwithstanding the focus on short-term priorities at the expense of environmental integrity, are increasingly committed to a regional approach to shared environmental concerns as a means of ensuring sustainability of their fragile resources. Political will and cooperation were expressed for the project and its aims by country participation in, and high-level formal endorsement of the results of the Diagnostic Study, the Master Plan, and the PDF-B Strategic Action Plan.

The risk of GEF project programs, and activities related to them, ending after the life of the project are seen as moderate. It is unlikely that the countries can, without greater donor support than is now the case, sustain project efforts. The ability of the countries, with GEF assistance, to solicit enhanced donor support will be crucial to sustainability of project efforts.

3. Possible Controversial Aspects:

The LCBC is actively pursuing an inter-basin water transfer project. At the last LCBC Summit, the Heads of State agreed to contribute US\$1 million to fund a feasibility study and also directed the Executive Secretary to pursue donor support. The goals and objectives of the inter-basin water transfer project are often in conflict with those of the GEF project, though they need not be. It is precisely the role of the LCBC to manage multiple use within its jurisdiction. Accordingly, the GEF affiliated partners and LCBC staff have had frank and productive discussions on this matter, and intend to continue to discuss the prospect of managing both environmental concerns as well as increasing agricultural and urban water demands.

G. Main Conditions

1. Effectiveness Condition

- Recruitment of the Project Manager and the Director of Administration and Finance;
- LCBC has entered into a Management Services Agreement for project services execution satisfactory to the Bank;
- Preparation of the Project Implementation Manual by LCBC in form and substance acceptable to the Bank; and
- Yearly audit of the PMU accounts, as conducted by UNOPS-provided auditors, as well as yearly audits of LCBC accounts to be disclosed to the implementing agencies.

2. Other [classify according to covenant types used in the Legal Agreements.]

Mid-term review will take place before November 1, 2004. LCBC must provide estimated budgets and work programs for the Bank review by October 31st, and finalize the budgets, taking the Bank comments into account, by December 31st of each year.

H. Readiness for Implementation

- ☐ 1. a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
- ☒ 1. b) Not applicable.
- ☒ 2. The procurement documents for the first year's activities are complete and ready for the start of project implementation.
- ☒ 3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.
- ☐ 4. The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

- ☐ 1. This project complies with all applicable Bank policies.
- ☒ 2. The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.

The Bank's new policy on Standard Disbursement Percentages (SDP) requires that disbursement percentages for consultants and PMU staff be downwardly adjusted to take into account estimated income/profit tax obligations arising in the borrower's country. The SDP policy allows an exception for projects in which the recipient of the financing holds a non-profit designation under the local law. This is the case for this project and therefore, the SDPs for Chad have not been used.

Tracy Hart
Team Leader

Inger Andersen
Sector Manager

Ali Khadr
Country Manager/Director

Annex 1: Project Design Summary

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
<p>Sector-related CAS Goal: <u>CAS Goal:</u> Poverty alleviation through environmentally and socially sustainable economic growth.</p> <p><u>Sector-related CAS Goal:</u> Improve environmental management and assessment.</p>	<p>Sector Indicators: Per capita income.</p> <p>Poverty indicators.</p> <p>Adherence to international conventions.</p>	<p>Sector/ country reports: National assessments and socioeconomic survey data.</p>	<p>(from Goal to Bank Mission) (Goal to Bank Mission) National Environmental Action Programs are effectively implemented.</p> <p>Government adopts and expands this approach</p>
<p>GEF Operational Program: Achieve global environmental benefits through implementation of International Waters (IW) projects which integrate the use of sound land and water resource management strategies.</p>	<p>Outcome / Impact Indicators:</p>		<p>Over time, the full range of technical, economic, financial, regulatory, and institutional measures necessary to protect the international waters environment are taken by collaborating countries to accompany the leveraged development assistance of regular programs of the two GEF IAs, international co-funding of investments, and private sector action.</p> <p>Recipient and donor countries commit funding for needed baseline and additional actions.</p> <p>Lessons learned are put into practice by countries</p>

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Global Objective: Sustainable management of Lake Chad through constituency building, capacity building, awareness raising to get riparians to work together on Lake Chad A stronger constituency for the LCBC among its member countries	Outcome / Impact Indicators: Increased numbers of stakeholders involved in local and transboundary water resource management issues, ability to influence decision making processes as a result; Increased awareness of the impact of national policies on shared water resources by constituency groups; Implementation support for three pilot projects; Completion and adoption of the Strategic Action Plan, with a framework, timeline, and action plan for implementation of priority activities; Increased donor interest in and support for the SAP and LCBC Plan implementation;	Project reports: PMU documents - sign-in sheets, LCBC committee meetings, etc. PSC Meeting agendas and minutes Project committee and work group meeting agendas and minutes Publicize monitoring / progress reports Financing plan for implementation of priority activities in SAP	(from Objective to Goal) Continued country commitment to a regional approach. Project capacity to adequately conceptualize and implement community based approaches for pilot demonstration projects. Key regional institutions and national governments working cooperatively. Negative changes in economic political and social conditions may detract from country commitment to a regional approach.

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Output from each Component: 2. Enhanced transboundary institutional mechanisms	Output Indicators: 2. New and updated national water policies in each country that take into account transboundary water issues, encourage environmental protection and are incorporated into National Action Plans (NAPs). Specific recommendations to effect changes in existing relevant legal frameworks to enhance prospects for an integrated regional approach to long-term, sustainable basin management. Specific, country-endorsed, and implemented proposals to create a more effective LCBC. Improved, regional agreements to improve transboundary management of power generation, irrigation, downstream riparian considerations, fisheries, water quality and effluent standards, diversions and consumptive uses, and creation of economic instruments. Country-agreed, regionally-based methodology for the conduct of environmental impact studies.	Project reports: 2. Updated national water policies and NAPs. Approved work plans for review of relevant legal frameworks. Approved workplan for review of the functions and authorities of the LCBC. Written report and recommendations for effective changes in existing legal frameworks. Written recommendations and country-commitment to bring about a more effective LCBC. Written, country-endorsed agreements with specific mechanisms to improve the extent to which transboundary considerations, especially downstream, are taken into account in power generation, irrigation, and other water uses. Written, country-agreed methodology for the conduct of EIS. Agendas and minutes of relevant PMU and IMCC meetings. Interviews at targeted sites with key, affected stakeholders	(from Outputs to Objective) 2. Countries see the long-term benefit deriving from a regional approach to water use issues. The risk is that individual countries will give priority to those uses that accrue to the greatest domestic benefit without taking into account downstream interests. Strengthening the role of the LCBC is crucial to mitigating this danger. Countries may seek to develop alternative, bi-lateral approaches to resolving existing and future potential disputes rather than taking a broader regional approach. Again, strengthening the role of the LCBC is crucial to obviating the risk Countries will not be willing to make national legislative or regulatory changes that are narrowly targeted to one portion of the country. Countries develop regional approaches that minimize the extent to which existing country wide legislation needs to be altered.
5.2 Execution of Lake Fitri demonstration pilot in order to demonstrate the “cross-pollination function” of conservation and development, in the context of a small Sahelian water body.	5.2 Workshops in communities to identify gaps in management plan, in terms of knowledge gaps, consensus gaps, hotspots, etc . Determination of initial communities as sites for priority community financed activities. Expansion of community-based development activities outward from initial sites. Stakeholder communication established. Plan for lake and shoreline management for length of project vetted in communities. Conversion of management plan into list of possible activities for financing. Framework for	5.2 Summary of previous work in Lake Fitri area within 2-3 months. Meetings held in key Lake Fitri communities, with records kept of dialogue and all opinions. A published plan document, to be made available. Public notice of project activities and application process. Audit of application process received as part of Tripartite Review and Mid Term Review. Cross-check with SAP and TDA processes	5.2 Absence of local-level conflict between parties. Subsidence of project fatigue in Lake Fitri area. Variable means of transport to Lake Fitri sites in rainy season. Proper coordination with executing agency and local governmental agencies. Community interest in development activities / GEF interest in conservation activities

	<p>application program for expanding program to Lake Fitri communities. Selection of community-based development activities in the Lake Fitri catchment area which reduce poverty and threats to conservation values. Community activities with clear development and conservation objectives, including sustainable agricultural and natural resource management practices;</p>		
5.5 (K-Y) Efficient water allocation options analysis of the Komadougou-Yobe basin. Threatened wetlands areas identified and efficient management activities developed. Wetlands use option guidelines prepared.	<p>5-5 (K-Y) Operational model flows release prepared and calibrated. Hydrodynamic model upgraded. Wetlands guidelines adopted and disseminated. Agreement on water allocation and release among institutions and stakeholders. Improved management activities in wetlands sites. Fisheries ponds developed. Protocol on fishery practices and technology prepared and approved. Redesign of efficient water uptake structure for Kano City Water Supply prepared.</p>	<p>5-5 (K-Y) Reports and maps of wetlands evolution in the basin. Map flood extent prepared. Integrated water management plan prepared. Eco-monitoring reports available for wetlands. Timely collection and availability of hydrological information. Water resource uses and demands reports.</p>	<p>5-5 (K-Y) Appropriate modules and trainings provided to relevant stakeholders. Inclusiveness of relevant institutions and stakeholder groups. Means and capacity to undertake data collection and dissemination. Commitment of relevant institutions and stakeholders. Capacity and resources to identify those areas. Successful involvement of stakeholders in the preparation of the guidelines.</p>
5.5 (W-L) An equitable and timely allocation and distribution of water resource in the sub-basin in place and its institutional framework established, with use options and conservation incentives of floodplain, Waza and Kalamaloue national parks developed.	<p>5.5 (W-L) Workshops for stakeholders to develop policies and guidelines. An agreement upon water resources management plan by relevant stakeholder groups established. Flood pulse of Waza-Logone floodplains improved through additional openings, canal construction, pond excavation as needed. Conflict management framework for water resources user groups in place. At risk floodplain areas and WNP & KNP sites identified and mapped. Biodiversity management tested in the WNP & KNP.</p>	<p>5.5. (W-L) Protocol of fishery practices and technology prepared and approved. National parks use and conservation guidelines adopted and disseminated. Improved management and conservation practices in selected Chari-Logone Basin areas. Access to periodical report on the water and related resources, guidelines on water allocation and uses for stakeholders. List of trained participants.</p>	<p>5.5. (W-L) Technical capacity and resources to prepare this assessment. Inclusiveness of relevant of relevant stakeholder groups and institutions in decision making process. Capacity and resources to identify those areas. Stakeholders involved in the design of biodiversity management framework. Successful involvement of stakeholders in the preparation of the guidelines. Appropriate modules and trainings provided to relevant stakeholders. Inclusiveness of relevant institutions and stakeholder groups.</p>
5.6 Lessons learned from pilots midstream into SAP process	<p>5.6 Pilots represented at SAP planning workshop. SAP consultant visits to pilot sites.</p>	<p>5.6 Pilot yearly evaluation reports, UNDP and World Bank as well as with bilateral donor, where relevant. GEF-specific monitoring and evaluation criteria.</p>	<p>5.6 Parallel process of launching pilot implementation and TDA/SAP draws cross-fertilization.</p>
6. Hold two donor conferences and increased donor participation throughout the life of the project and beyond.	<p>6. Two donor conferences planned and executed on: (i) Lake Chad basin management and political process and (ii) SAP activity funding. Systematic procedure established to use the GEF project to leverage other donors for direct and indirect</p>	<p>6. Relevant agendas and minutes of the PMU and the PSC. Regional strategy formulation.</p>	<p>6. A key assumption is that suitable levels of cooperation can be established and maintained between the UNDP and the WB and that the LCBC and participating countries will be actively involved in preparation and attendance of donor</p>

	support to project activities. Increased donor support for direct and indirect assistance to project related activities.		conferences. This assumption seems well-grounded in that IA cooperation has already begun between this project and other projects in the region under the auspices of both the UNDP and the World Bank.
Project Components / Sub-components: 2. Enhanced Mechanisms (World Bank) 5. Demonstration Projects (World Bank) 6. SAP and LCBC Plan Implementation (World Bank)	Inputs: (budget for each component) \$1.08 M \$1.46 M \$0.36 M	Project reports:	(from Components to Outputs)

Annex 2: Detailed Project Description

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

A. Overview

Lake Chad basin(s). Lake Chad is Africa's fourth largest lake. Its surface area changes in accordance with inflows and from a peak of 25,000 sq.km, it is now approximately 2,000 sq.km, and the average depth is only 1.5 m. Though the topographic basin extends over 2.3 million sq.km, the hydrologically active basin is less than half that area at 0.97 million sq.km. A further delimitation, "the conventional basin," arose with the signing, in 1964, of the Convention for the Lake Chad Basin Commission by four riparian countries – Cameroon, Chad, Niger and Nigeria. With Central Africa Republic joining in 1994, a "new conventional basin" was delimited that matches the hydrologically active basin as it now includes the Chari-Logone and Komadougou-Yobe river systems. Currently, Sudan, which shares the Basin's deep fossil aquifers on its western border with Chad, is in the process of becoming the sixth member.

Socio-economic dependency. The Lake Chad Basin's development situation is characterized by the twin issues of poverty and environmental fragility. Over 20 million people, who lack viable alternatives, are dependent upon the Lake Chad resources to support a wide range of economic activities, including recession agriculture, pastoralism, forest regeneration, fish breeding and production, and drought-fall-back security. This population is expected to rise to 35 million by 2020. Human development indicators, per capita, such as mean GDP, food production and daily calorie intake, are all decreasing in the region despite increases in the developing world.

Ecosystem fragility. Lake Chad is the second largest wetland in Africa, and together with its associated wetlands, hosts a biodiversity of global significance. For example, it hosts over 370 inventoried bird species, of which a third are migratory; endangered species, such as the Lake Lere manatee and endemic plants of agronomic importance threatened with extinction, that are only found in the Basin; and a biosphere reserve – Waza National Park in Cameroon. The ecological and economic integrity of the Basin is being threatened by the large decrease in the Basin's hydrological yield. This has been induced by long-term reductions in mean rainfall in the region, coupled with the impacts of burgeoning human demands upon land and water resources. If transboundary issues are not addressed, direct and indirect threats to this international water body will result in the progressive breakdown of the hydrological and ecological integrity of the Lake Chad Basin system.

Lake Chad Basin Commission. The Lake Chad Basin Commission (LCBC), which was established in 1964 by the four countries who bordered the lake (Cameroon, Chad, Niger and Nigeria) with the signing of the Fort Lamy Convention. Central African Republic (CAR) joined the LCBC in 1994, and brought with it the Chari-Logone and Komadougou-Yobe river systems. Further expansion is anticipated with the Sudanese Government as prepares to ratify the LCBC Convention in Parliament.

Mandate. The LCBC is mandated to: (i) collect, evaluate and disseminate information on projects prepared by member states and recommend plans for common projects and joint research programs in the Lake Chad Basin; (ii) promote regional cooperation and coordination of regional programs; and (iii) plan, execute and follow-up of national projects with regional significance.

Institutional management structure. The LCBC's organization structure is headed by member countries' Heads of State who convene every two years, and the 10th summit was held in July 2000 in Chad. The structure also includes a Council of Ministers, a Technical Committee of Specialists, and a Secretariat, which has an Executive Secretary, an Assistant Executive Secretary, and four Divisions each headed by a Director from a member country. Member states also second staff to the LCBC.

Funding Mechanisms. Contributions to the LCBC from its member countries are based upon a payment formula: Cameroon gives 26 percent; Chad gives 11 percent; Central African Republic gives 4 percent; Niger gives 7 percent; and Nigeria gives 52 percent. The Commission's development budget is used to service the counterpart components of regional projects financed by external donors, who also provide technical assistance. A fund of US\$100 million was set up by member states to finance development projects.

Focusing upon water resources. The Commission's strategy and work program have recently been changed so as to concentrate on water-related and regional projects. The member countries aim make a total of 2.5 million hectares (9,650 square miles) a protected area. In August 2000, member countries signed an agreement to conserve Lake Chad and make it a Ramsar site. While the LCBC appears to have a good institutional foundation, it is likely to remain dependent upon external support, particularly for the enhancement of its planning capabilities in water resources.

Strengthening regional management mechanisms. Socio-economic pressures on the region's limited water resource base have resulted in significant levels of investment in water infrastructure in riparian countries. Though reliant on the water resources of the same basin, this development has been uncoordinated at the regional level, and questions remain regarding the sustainability of the investment, its uses to ensure food security and sound water management at the regional level. Uncoordinated development within the Basin poses a threat to the resource base. Therefore, to reduce stress to the international waters environment, it is important to promote coordinated water management policies and activities at the national level by strengthening the regional mechanisms. Therefore, this project will augment and expand existing regional dialogue on the management of Lake Chad by building capacity in the LCBC, and facilitating further cooperation between it and riparian countries. The project will also provide linkages with ongoing programs in the region and implement priority actions that address transboundary environmental issues, to achieve sustainable development and use of the Lake Chad's resources.

Riparian countries and cooperating parties. The recipient countries include five of the Lake Chad Basin riparians — Cameroon, Central African Republic, Chad, Niger, and Nigeria. The cooperating parties include the Lake Chad Basin Commission, Germany, the Netherlands, United Kingdom, UNDP, IUCN and WWF. Project preparation has been coordinated with the LCBC, UNDP, IUCN and WWF.

Project goals and objectives. The project will facilitate the development of a broad based constituency for regional mechanisms to ensure the LCBC member countries collaborate and coordinate their use of the Lake Chad resources. This it will do by: (i) building awareness of how national policies impact on regional resources, and capacity among riparians and stakeholders; (ii) augmenting the existing constituency through the design of a SAP; (iii) facilitating donor coordination; (iv) collaborating with ongoing work supported by other donors; and (v) drawing on lessons learned on regional water management by coordinating with the GEF projects in the Senegal and Niger river basins.

Project components. The project has three components. (To remain consistent with the overall GEF project, the components are numbered as shared with UNDP). Therefore, the Bank is responsible for

Component 2, parts of Component 5 and Component 6. The budget is US\$2.9 million to be implemented over a four-year period (but five fiscal years) from 2003 to 2007. The components feed into one another, and the overall strategy of strengthening regional mechanisms for joint management of Lake Chad.

- Component 2 – Enhanced regional policy initiatives and institutional mechanisms to address transboundary issues (US\$1.08 million)
 - Activity 2.1 Review current functions and responsibilities of the LCBC;
 - Activity 2.2 Identify national actors in water resource and related land and environmental policy implementation;
 - Activity 2.3 Coordinate activities with other related GEF projects;
 - Activity 2.4 Define and promote the integration of transboundary water and environmental policies into the National Action Plans;
 - Activity 2.5 Assess relevant legal frameworks in each country; and
 - Activity 2.6 Establish regional structural arrangements for participating countries to review, harmonize and coordinate frameworks, regulations and approaches to ensure improved management of transboundary resources.
- Component 5 – Creation of regional programs and initiation of pilot projects (US\$1.46 million)
 - Activity 5.2 Lake Fitri pilot project (US\$0.5 million);
 - Activity 5.5(a) Komadougou-Yobe pilot project (US\$0.48 million);
 - Activity 5.5(b) Chari-Logone pilot project (US\$0.48 million); and
 - Activity 5.6 Lessons learned from pilots projects as input into the SAP process (US\$50,000).
- Component 6 – Strategic Action Plan designed and endorsed (US\$0.36 million)
 - Activity 6.1 Develop and implement a plan for continuing donor contact;
 - Activity 6.2 Plan and implement 2 donor conferences, one shortly after GEF project approval and one immediately prior to SAP implementation;
 - Activity 6.3 Present the TDA and the SAP to the Inter-Ministerial Coordinating Committees and the LCBC and formalize a regional agreement on the SAP; and
 - Activity 6.4 Develop donor conference reports and prepare a strategy for ongoing project funds.

The performance indicators for these phases are summarized in Annex 1.

B. Project Management and Administration

Project Management Unit. LCBC will execute the World Bank managed portion of the project. A Procurement Assessment to this effect will be carried out by the World Bank, whereas UNOPS is executing the UNDP components by establishing a project management unit. The LCBC will act on behalf of LCBC member countries, and be responsible to the World Bank (as the GEF IA) and GEF to ensure that applicable rules and procedures are adhered to. The project described here is a pre-SAP implementation project, which will emphasize completion of a TDA, the development of a Strategic Action Plan, which will be implemented in a follow-on GEF project (Phase 2) with additional country and donor cofinance.

As an inherent strategy within the project is to build national and regional capacity, especially within the LCBC so that it becomes responsible for executing the SAP, a project management unit will be established to work closely with the LCBC. The PMU will provide technical and managerial support to the LCBC in overseeing the project's implementation. This PMU will be responsible for contracting,

fund management, procurement, disbursement, program administration and project level monitoring. LCBC will have overall responsibility for the activities associated with the pilot demonstration activities that are described in this document; specifically, coordination responsibilities such as monitoring and evaluation. The PMU staff will be housed at LCBC headquarters and comprise an internationally recruited Project Manager, a regionally recruited Director of Administration and Finance, and other locally recruited staff.

Procurement and Disbursement Agency. In January 2002, a Bank Financial Management Specialist reviewed LCBC's financial management system. Though the LCBC currently uses the Bank's 1995 revised "Financial Accounting, Reporting and Auditing Handbook," its financial management system needs strengthening. For example, despite being audited annually (the auditors have a qualified opinion on the accounts), LCBC does not do an annual inventory of its assets (of which it does not have a written record), nor a periodic and physical inventory of available funds. Despite an accounting system that is only partially computerized, it is updated daily and financial statements are prepared on time. However, statement of expenses are missing, and it is difficult to check the LCBC's account balance.

Given these current limitations it has been agreed that LCBC will need additional support in the execution of the project. Therefore, the execution and implementation arrangement is that the project will be executed by LCBC. In order to demonstrate best practice, however, it has been agreed with LCBC that a contractual arrangement (Management Services Agreement) will be made between LCBC and UNOPS, thereby ensuring that the Bank's standard procedures for project procurement and disbursement are followed.

However, to ensure that Phase 2 can be executed by the LCBC, its staff and that of the current project management unit have, and will receive formal financial management, procurement and disbursement training from the World Bank. In addition, the LCBC has been advised to put in place a fully computerized accounting system in order to produce more accurate financial statements by January 2003.

Project Steering Committee. The Project Steering Committee will be chaired by the Executive Secretary of the LCBC, with two members designated from each LCBC member states, and two LCBC staff members. Additionally, the PSC will be comprise a representatives of the two GEF IAs, one member from UNOPS, and the Project Manager, who shall serve as an ex-officio member. Other members may be added to the PSC at its discretion at any time.

Inter-Ministerial Coordinating Committees. Each participating country shall convene an Inter-Ministerial Coordinating Committee. The LCBC will assist countries in this activity. Each IMCC will function to coordinate country level activities necessary to the formulation of the Transboundary Diagnostic Analysis and the Strategic Action Plan. As part of country specific TDA activities, each country will formulate and prioritize its project related, country specific activities on a sector by sector basis. Further, working with and through the project TDA formulation process, they will determine, in priority sequence, transboundary issues that confront the Lake Chad Basin as a whole. Each participating country shall, with the assistance of the LCBC, name a Lead Country Official who will chair the IMCC. Provision has been made for staff assistance to each of the designated country chairs. Limited financial provision has also been made for meetings of each country IMCC.

By Component:

Project Component 1 - US\$ million

Project Component 2 - US\$1.08 million

C. Project Component 2: Enhanced regional policy initiatives and institutional mechanisms to address transboundary issues

Introduction.

The need for regionally coordinated development. In the Lake Chad Basin, national development has occurred without consultation or coordination across borders. The countries of the Lake Chad Basin recognize that such uncoordinated development is unsustainable in terms of investment, socio economic and ecosystem welfare. Yet, the need for development remains as strong as it has in the past, if not stronger, with the population dependent upon the Basin expected to rise to 35 million by 2020. Riparian countries of the Basin recognized that they needed to coordinate their national plans and actions with each other at the regional level.

Strengthening existing regional mechanisms. Since 1964, four of the riparian countries (Cameroon, Chad, Niger and Nigeria) have had a regional mechanism, the Lake Chad Basin Commission. This mechanism was further strengthened with the inclusion of the Central African Republic in March 1994, and more recently with Sudan expressing interest in joining LCBC. The Commission has been mandated with broad provisions relating to prior notification, monitoring of studies and works related to water resources, and the authority to examine complaints and to contribute to the resolution of differences among member countries. However, in practice, the countries have, from time-to-time, turned to other authorities to address issues on the conventional basin without LCBC's involvement, even though the issues to be addressed fell within its mandate. But now, with a renewed interest in regional coordination, member countries have agreed to undertake a review of the Lake Chad Basin Commission. If the LCBC is to assume a leadership role in the next phase – SAP implementation – its responsibilities, prerogatives, and resources must be adequate to the task.

Activities. The activities within Component 2 aim to enhance regional policy initiatives and institutional mechanisms to address transboundary issues during and beyond the life of the project by: (i) reviewing current functions and responsibilities of the LCBC; (ii) identifying national actors in water resource and related land and environmental policy implementation; (iii) coordinating activities with other related GEF projects; (iv) defining and promoting the integration of transboundary water and environmental policies into the National Action Plans; (v) assessing relevant legal frameworks in each country; and (vi) establishing regional structural arrangements for participating countries to review, harmonize and coordinate frameworks, regulations and approaches to ensure improved management of transboundary resources.

Activity 2.1: Reviewing current functions and responsibilities of the LCBC

- Review LCBC's current functions and responsibilities – report by an river basin institution expert;
- Workshop with member countries to discuss report and how they want LCBC to serve them. Record recommendations;
- Based upon recommendations, outline areas where LCBC needs capacity strengthening; and
- Conference of member countries – put recommendations to the Council of Ministers (COM) and discuss means of ensuring LCBC has sufficient financing for operations.

Activity 2.2: Identifying national actors in water resource and related land and environmental policy implementation

- Workshop in each country (6 workshops) to identify national actors involved in water and natural resource management. Together with LCBC, brainstorm how each can better support the other in transboundary water resources management. Include one-day seminar and exercise on coordinating water use regionally and the alternatives of unilateral use; and
- Establish a network from country counterparts, with whom LCBC liaise regularly.

Activity 2.3: Coordinating activities with other related GEF projects

- Lessons learned workshop – LCBC invites project management staff from other GEF international waters projects in the region (Niger, Senegal and Volta basins) to learn from their experience. LCBC and the Lake Chad PMU explore the need for technical exchanges and field visits; and
- Form a network with other regional GEF international waters projects so they can draw on their advice during the different phases of implementation.

Activity 2.4: Defining and promoting the integration of transboundary water and environmental policies into the National Action Plans

- Workshops in each country (6 workshops), with country networks that were established in Activity 2.2, to define each country's National Action Plans (NAP) and priority issues vis-à-vis transboundary waters. Brainstorm on how to integrate and promote transboundary water and environmental management into NAPs.

Activity 2.5: Assessing relevant legal frameworks in each country

- Report by river basin institutional expert and international water lawyer to assess current, relevant agreements, protocols, conventions statutes and other relevant legal frameworks in each country, including recommendations for incentives and harmonized legal frameworks to enable an integrated regional approach toward long-term management of the Basin's resources.

Activity 2.6: Establishing regional structural arrangements for participating countries to review, harmonize and coordinate frameworks, regulations and approaches to ensure improved management of transboundary resources

- Workshops (6 national) with country networks and LCBC to review and coordinate regulatory frameworks and approaches on transboundary issues such as power generation, irrigation, downstream riparian considerations, fisheries, water quality and effluent standards, diversions and consumptive uses, and the creation and use of economic instruments. Each workshop makes recommendations; and
- A regional workshop – to review recommendations from the national workshops and find consensus on regional approach.

Project Component 5 - US\$1.46 million

D. Project Component 5: Creation of regional programs and initiation of demonstration projects.

Given that this is a pre-SAP implementation project, it is imperative to ensure that the Lake Chad basin, its Commission and member countries are better placed to further engage in regional management of their shared water resources. One step in this process is to test methodologies in the design of mechanisms that form the backbone of future work at the regional level. Thus, three pilot projects are being implemented early in the project so as to elicit lessons that can be incorporated into the design of a basin-wide strategic action program. The pilots are in the following areas – Lake Fitri (activity 5.2), the

Komadougou-Yobe basin (activity 5.5a) and the Waza-Logone floodplain (activity 5.5b). Lessons will be drawn from these experiences for inclusion in the SAP design in activity 5.6.

Activity 5.2 Lake Fitri Management Plan

Introduction. A normally permanent, freshwater, Sahelian lake, fed by seasonal rainfall and runoff from the seasonal Batha river, Lake Fitri, in Chad, has a surface area of 30,000 ha during the dry season and is part of a larger biosphere reserve covering 195,000 ha. In 1987, the lake was designated a Ramsar site, and in 1990 a biosphere reserve. Unlike Lake Chad, Lake Fitri is one of the very few Sahelian water bodies that has yet to undergo a large-scale hydrological change, though it became desiccated in 1984-85 during a period of severe drought.

It is considered to be a mini Lake Chad because of similarities, such as being an inland lake heavily dependent upon inflows from one river, and its economic and ecological importance. Up to 50,000 seasonal grazers and their livestock spend the dry season (November-June) around the lake. The lake also supports a productive fishery, with an annual catch in excess of 3,000 tons. Lake Fitri is of international importance as a wintering area for water birds and as a drought refuge for Afrotropical species, and is important for elephants during the dry season. However, Lake Fitri's ecosystem is coming under increasing pressure from the different users - pastoralists, agriculturists and fishermen who are also conflicting over use of the lake, especially during droughts. The most significant potential threat to the site's ecological character comes from the cumulative impact of small dykes and dams diverting seasonal runoff and river flow into the lake. With a high potential for degradation and conflict, there is a clear need to develop new regulation and access rules. Fortunately, Lake Fitri is within the Sultanate of Yao, which is a strong and widely respected traditional institution.

Pilot project's primary focus. To safeguard the ecological system and mitigate the conflicts arising from use of the lake's water resources, support is to be provided to the Government of Chad to manage the wider biosphere reserve. A pilot project will be initiated with the following aims:

- To obtain consensus on the future management of the Lake Fitri ecosystem, based on the interests of local population groups and (international) conservation values;
- To identify threats to the Lake Fitri catchment and solutions to mitigate; and
- To demonstrate the "cross-pollination function" of conservation and development, in the context of a small water body in Sahelian Chad.

It is anticipated that the experience gained from the Lake Fitri pilot project will assist in developing comparable strategies for Lake Chad, which is larger and more complicated, and its associated water bodies. The budget is US\$450,000, with cofinancing from the Government of Chad (US\$20,000) and LCBC (US\$30,000). An initial project duration of two years is proposed, with the knowledge that this timeframe may be influenced by the rainy season. If the rains are heavy, the Lake Fitri area can get cut-off for up to 6 months a year, which implies problematic access.

Participating institutions. The Lake Fitri pilot was initially developed by IUCN, and included in the Lake Chad Basin Master Plan (CBLT 1992). The Dutch government had shown an interest in financing the Lake Fitri pilot as a complement to its activities through SNV in rural development in the area. However, due to local communal violence, the Dutch government withdrew from the area. The LCBC will provide implementation support, with the Project Steering Committee providing budgetary oversight, and a Memorandum of Understanding to be signed directly with UNOPS in order to make explicit its subcontractual relationship for transfer of budget on a quarterly basis or as found to be most appropriate. The Lake Fitri executing agency, whether NGO or private sector entity, will be selected by a competitive

bidding process.

Sub-activities. The sub-activities within Activity 5.2 are proposed to be: (i) validating the existing management plan from 1992; (ii) reviewing existing studies; (iii) collating additional information as necessary; (iv) implementing the agreed upon management plan; and (v) identifying and facilitating priority actions at the community level that can be met with micro-grants or credits.

Sub-activity 1: Validating the existing management plan.

- Procure management plan, translate into local languages, and disseminate broadly;
- Identify the sites (location and number) that will be used to demonstrate the project together with LCBC, IUCN, local NGOs and the Chad government;
- Hold workshops at each site to discuss the existing management plan, incorporate the recommendations; and
- Determine components that can be implemented immediately.

Sub-activity 2: Reviewing existing studies

- Compile and review existing studies;
- Consult with key institutions in the Government of Chad, NGOs, donors (bi- and multi-lateral agencies) such as the Direction de la Faune et des Aires Protégées, Direction de Pêche, Direction des Ressources en Eau et de Météorologie, Laboratoire de Farcha, SECADEV, DOP and SAWA; and
- Prepare report of results.

Sub-activity 3: Collate additional material

- Compare the recommendations from the workshops in sub-activity 1 with the report in sub-activity 2;
- Prepare a program of studies if there is a need for additional studies or updating of existing information in consultation with the LCBC; and
- Identify staff to do the additional studies.

Sub-activity 4: Implement components within management plan

Sub-activity 5: Identify and facilitate priority actions at the community level

- Additional workshops and dialogue at selected demonstration sites to identify and select priority actions to be funded through micro grants and credits, drawing upon SECADEV's experience in the area;
- Establish mechanisms to disburse funds to recipients; and
- Establish monitoring and evaluation procedures and arrangements for activities relating to priority actions.

Activity 5.5 (a) Outline Definition of a GEF Pilot Project on Integrated Wetlands Managed in the Komadougou-Yobe Basin

Introduction.

Komadougou-Yobe basin. The Komadougou-Yobe sub-basin, in the Lake Chad Basin, covers 148,000 sq.km in Niger and Nigeria, and contains an extensive floodplain where the Hadejia and Jama'are rivers confluence. Although referred to as the Hadejia-Nguru wetlands, after the two principal towns in the

area in northeastern Nigeria, much of the floodplain is dry for some or all of the year. The current contribution of the Komadougou-Yobe to the northern part of Lake Chad wetlands is locally significant, though minor in terms of the overall balance.

Dependency upon the Hadejia-Nguru wetlands. Designated a Ramsar site by Nigeria, the wetlands have high biodiversity with an extensive variety of Sahelian and migratory species. The Hadejia-Nguru wetlands also provide essential income and nutrition benefits for approximately two million people through agriculture, non-timber forest products, fuelwood, fishing, dry-season grazing for semi-nomadic pastoralists, groundwater recharge of the Chad Formation aquifer and 'insurance' resources in drought conditions.

Pressure upon the Hadejia-Nguru wetlands. However, recently the Hadejia-Nguru wetlands have come under increasing pressure from drought, and water resource schemes. The failure of the rains in 1992, and a sustained drought up to 1994 was exacerbated by water diversions upstream to irrigation projects and large dams like the Tiga and the Chalawa on the Hadejia River. In addition, increased demand for irrigation water downstream of the wetlands may divert water past the wetlands using bypass channels. Irrigation increased greatly during the 1980s due mainly to small petrol-powered pumps and a ban on wheat imports in 1988. The combined effect of drought and development has impacted upon the wetlands and a loss of plant and animal habitat resulting in certain large mammal species being considered locally extinct, and agricultural production becoming more precarious. Conflicts are also emerging between farmers and pastoralists as farmers move closer to the diminishing water, occupying grazing grounds and blocking traditional herding routes; and between small and large farmers for access to land.

Hadejia Nguru Wetlands Conservation Project. The Hadejia-Nguru Wetlands Conservation Project (HNWCP) was jointly established in 1987 by the Federal Government of Nigeria, the Nigerian Conservation Foundation, IUCN, the Royal Society for the Protection of Birds (a British NGO) and the International Council for Bird Preservation (now renamed Birdlife International). The objectives of the project were:

- To explore appropriate use options for water resources for the benefit of wildlife and human communities;
- To monitor wildlife resources, especially migrant water birds;
- To develop conservation education and public awareness program; and
- To train the staff in the State Wildlife Departments.

Augmenting the Hadejia-Nguru Wetlands Conservation Project. Wise use of the Hadejia-Nguru wetlands demands a proper understanding of environmental and socio economic changes that are occurring and of those that may be predicted. The HNWCP focused primarily upon the environmental management of the Hadejia-Nguru wetlands, but recognized that a basin-wide approach is needed that includes other wetlands and water uses within the Komadougou-Yobe basin. This approach needs to take a multisector approach and work in conjunction with other agencies in the Basin; thereby allowing for: (i) improved coordination, integration and efficiency in water resources management in the Komadougou-Yobe basin; (ii) biodiversity conservation and restoration of the basin's wetlands; (iii) sustainable use and increasing productivity of the ecological resources (fisheries, forest products, grazing lands, farming lands) of the basin's wetlands; and (iv) effective control of the desertification process. In particular, an institution is needed that can coordinate water development activities within the Komadougou-Yobe basin so as to avoid uni-sectoral, project-by-project development approach, and to monitor, evaluate, and exchange data. It is also important to upgrade the hydrological network to improve data collection, and refine wet season releases from the Tiga and Chalawa dams.

Komadougou-Yobe pilot project. Based upon recommendations from the Lake Chad Basin Commission's member countries and institutions involved, and guided by integrated ecosystems management principles and GEF objectives, the Komadougou-Yobe pilot project aims to support the HNWCP by promoting the sustainable management and use of the Basin's resources (water, biodiversity) by relevant institutions and communities; and developing and implementing an effective monitoring and evaluation system that looks at the overall ecosystem, hydrology and socio economic issues. It will operate in Niger and Nigeria, over a period of three years. The GEF budget is US\$475,000 with co-financing from DfID (US\$4,687,500), LCBC (US\$30,000) and from each LCBC member country (5 x US\$20,000). Though overall executing responsibilities remain with the LCBC, its executing partner for this pilot project will be the Hadejia Nguru Wetlands Conservation Project.

Participating institutions. The Hadejia-Nguru Wetlands Conservation Project has been selected as the executing agency for this pilot project and will be working closely with its partners (the Nigerian Conservation Foundation, IUCN, the Royal Society for the Protection of Birds and Birdlife International), the governments of Niger and Nigeria, and other relevant institutions. The LCBC will provide implementation support, with the Project Steering Committee providing budgetary oversight, and a Memorandum of Understanding to be signed directly with UNOPS in order to make explicit its subcontractual relationship for transfer of budget on a quarterly basis or as found to be most appropriate.

Sub-activities. The sub-activities within Activity 5.5 are proposed to be: (i) identifying and developing a management plan; (ii) reviewing existing studies; (iii) collating additional information as necessary; (iv) implementing components within the management plan; (v) establish monitoring and evaluation mechanisms; (vi) identify and facilitate other priority actions at the community level; and (vii) training and advocacy programs.

Sub-activity 1: Identifying and developing a management plan

- Workshop 1 – institutions that will be executing the pilot project to identify project site, initial good practices relevant to the area and monitoring and evaluation criteria and responsibilities. Identifying the need for training within the institutions. Involve governments of Niger and Nigeria, HNWCP partners, LCBC and other relevant institutions experienced in the local socio-economic issues;
- Workshop 2 – bringing the institutions and identified communities together to discuss relevant good practices, jointly develop a management plan, and identify any training or advocacy needs within the communities; and
- Determine which components of the management plan can be implemented immediately, and what additional information or action is needed to implement the remaining components.

Sub-activity 2: Reviewing existing studies

- Compile and review existing studies;
- Consult with key institutions in the governments of Niger and Nigeria, NGOs, donors (bi- and multi-lateral agencies); and
- Prepare report of results.

Sub-activity 3: Collate additional material

- Compare the recommendations from the workshops in sub-activity 1 with the report in sub-activity 2;
- Prepare a program of studies if there is a need for additional studies or updating of existing information in consultation with the LCBC; and
- Identify staff to do the additional studies.

Sub-activity 4: Implement components within management plan

Sub-activity 5: Establish monitoring and evaluation mechanisms

Sub-activity 6: Identify and facilitate other priority actions at the community level

- Additional workshops and dialogue at the selected demonstration sites to identify and select priority actions to be funded through micro grants and credits;
- Establish mechanisms to disburse funds to recipients; and
- Establish monitoring and evaluation procedures and arrangements for the activities relating to the priority actions.

Sub-activity 7: Training and advocacy programs

- Develop training and advocacy programs for institutions involved in project execution and the communities;
- Identify and collaborate with key trainers; and
- Hold training sessions for institutions and communities involved.

Activity 5.5 (b) Rehabilitation and Integrated Management of the Hydrological and Ecological Resources of the Waza-Logone Floodplain

Introduction.

Chari-Lagone basin. Rising in the Central African Republic, the Chari-Logone river system contributes approximately 95 percent of Lake Chad's inflow, as a result the ecological integrity of Lake Chad depends heavily upon the integrity of the Chari-Logone system. Lake Chad's inflows have decreased from a peak of 54 cubic km per year in 1955-56, to 7 cubic km per year in 1984-85. The Logone river forms the border between Cameroon and Chad until N'Djamena where it flows together with the Chari river northwards to the lake. These rivers have a tropical regime with a single flood occurring at the end of the rainy season (August to November). The Waza-Logone floodplains cover approximately 8,000 sq.km in northern Cameroon. The plain starts to flood during the rainy season and is augmented by the Logone river's flooding until December. The floodplain contains the Waza National Park (1,700 sq.km) which is a biosphere reserve and the Kalamaloue National Park (45 sq.km), which holds significant biodiversity.

Dependency upon the Waza-Logone floodplains. The Waza-Logone floodplains are very important ecologically due to its high biodiversity, and economically as it supports more than 100,000 people with its resources. The inundated plains are highly productive, providing breeding grounds for fish, dry season pastures that support cattle, and fertile land for growing rice and forestry products. Fish, which constitute the backbone of the regional economy are harvested intensively by the sedentary population and fisherfolk. Nomadic and transhuman herders, whose cattle constitute a critical component of the economy of the sub region, benefit from the grazing.

Pressure upon the Waza-Logone floodplains. The annual flooding of the floodplains is critical for their ecological and economic integrity. Coupled with the effects of poor rainfalls and the over-harvesting of natural resources through the construction of dams (Lake Maga in Cameroon) and irrigation infrastructure there has been a marked reduction in the flooding, of approximately 2,000 sq.km, resulting in declining wildlife and biodiversity, collapse of the fishing industry, reduced grazing capacity and a

shortage of surface water in the dry season.

IUCN Waza-Logone or CACID Project. The IUCN Waza-Logone Project (WLP), which is also known as the Cellule D'Appui a la Conservation et aux Initiatives de Développement Durable (CACID), was started in 1987 with the support of the Government of the Netherlands. Over three phases, CACID did the following: (i) gathered data and conducted studies in socio-economic, ecological and hydrological issues; (ii) provided training for villages, and study tours and seminars for project and government staff; (iii) undertook ecomanagement activities regarding resource management for livestock, sustainable forest use, formed apiculture groups, ecotourism and water and sanitation; (iv) actively encouraged community participation and awareness through a communication program; (v) catalyzed pilot releases for floodplain rehabilitation through a large-scale reinundation program; (vi) audited releases made in 1994 and 1997; (vii) jointly with the communities drafted proposals for the sustainable use of the floodplains' natural resources; and (viii) assisted in developing management plans for the Waza and Kalamaloue National Parks.

Augmenting the CACID project. In spite of the Waza-Logone floodplains' strategic importance for the economy and stability of Cameroon, Chad and Nigeria, there is little intervention to safeguard it other than the CACID project. This in comparison to the Komadougou-Yobe basin across the border in Nigeria. There are national initiatives that focus on particular sectors such as fisheries, livestock, agriculture or forestry, but they are neither integrated nor do they have a common focus. Therefore, there is a need to consolidate the progress made thus far by the CACID project, to maximise efforts towards reversing ongoing land and water resources degradation in the Lake Chad Basin, and to establish methodologies for the conservation and good use of transboundary ecosystems. To this end, three NGOs were established by CACID: (i) CFAID – a support unit for training in development initiatives that works with farmers to secure and improve agricultural production together with FAO; (ii) AIDR – supports rural development initiatives, including credit schemes, working with fishing groups and women organizations with support from DEDC (a German organization); and (iii) ACEEN – support environmental education initiatives, that is working with WWF.

Waza-Logone pilot project. Based upon recommendations from the Lake Chad Basin Commission's member countries and institutions involved, and guided by integrated ecosystems management principles and GEF objectives, the Waza-Logone pilot project aims to support the CACID project and its partners by promoting the sustainable management and use of the basin's resources (water and biodiversity) by the relevant institutions and communities; and developing and implementing an effective monitoring and evaluation system that looks at the overall ecosystem, hydrology and socio economic issues. It will operate in Cameroon, over a period of three years, at three geographical scales: (i) water management issues will be addressed at the Chari-Logone Basin level; (ii) natural resources use will be addressed at the Waza-Logone floodplain level; and (iii) biodiversity conservation will concentrate in Waza and Kalamolue National Parks. The GEF budget is US\$475,000 with co-financing from the Dutch Directorate-General for International Cooperation (DGIS) (US\$1.97 million), LCBC (US\$30,000) and from each LCBC member country (5 x US\$20,000). Though overall executing responsibilities remain with the LCBC, its executing partner for this pilot project will be the CACID project.

Participating institutions. CACID is the executing agency for this pilot project and will be working closely with its partners (IUCN, WWF, AIDR, CFAID, ACEEN), the governments of Cameroon and Nigeria, and other relevant institutions. The LCBC will provide implementation support, with the Project Steering Committee providing budgetary oversight, and a Memorandum of Understanding to be signed directly with UNOPS in order to make explicit its subcontractual relationship for transfer of budget on a quarterly basis or as found to be most appropriate.

Sub-activities. The sub-activities within Activity 5.6 are proposed to be: (i) identifying and developing a management plan; (ii) reviewing existing studies; (iii) collating additional information as necessary; (iv) implementing components within the management plan; (v) establish monitoring and evaluation mechanisms; (vi) identify and facilitate other priority actions at the community level; and (vii) training and advocacy programs.

Sub-activity 1: Identifying and developing a management plan

- Workshop 1 – bringing together the institutions that will be executing the pilot project to forge partnerships, and identify project site, initial good practices relevant to the area and monitoring and evaluation criteria and responsibilities. Identifying the need for training within the institutions;
- Involve the governments of Cameroon and Nigeria, LCBC and other relevant institutions experienced in the local socio-economic issues;
- Workshop 2 – bringing institutions and identified communities together to discuss relevant good practices, jointly develop a management plan, and identify any training or advocacy needs within the communities; and
- Determine which components of the management plan can be implemented immediately, and what additional information or action is needed to implement the remaining components.

Sub-activity 2: Reviewing existing studies

- Compile and review existing studies;
- Consult with key institutions in the governments of Cameroon and Nigeria, NGOs, donors (bi- and multi-lateral agencies);
- Development or upgrading of models, especially the LCBC Hydrodynamic model; and
- Prepare report of results.

Sub-activity 3: Collate additional material

- Compare the recommendations from the workshops in sub-activity 1 with the report in sub-activity 2;
- Prepare a program of studies if there is a need for additional studies or updating of existing information in consultation with the LCBC; and
- Identify staff to do the additional studies.

Sub-activity 4: Implement components within management plan

Sub-activity 5: Establish monitoring and evaluation mechanisms

- Formulate the baseline surveys and indicators for monitoring; and
- Appraise the project's activities.

Sub-activity 6: Identify and facilitate other priority actions at the community level

- Additional workshops and dialogue at the selected demonstration sites to identify and select priority actions to be funded through micro grants and credits;
- Establish mechanisms to disburse funds to recipients; and
- Establish monitoring and evaluation procedures and arrangements for activities relating to priority actions.

Sub-activity 7: Awareness, training and advocacy programs

- Develop awareness, training and advocacy programs for institutions involved in project

execution and communities, such as capacity building for participation in decision-making and implementation;

- Identify and collaborate with key trainers;
- Hold training sessions for institutions and communities involved; and
- Implement integrated management awareness programs.

Activity 5.6 Lessons learned from pilots projects as input into the SAP process.

Introduction. Not only is it a pre-condition to SAP implementation, but clearly regional initiatives and mechanisms will need to be implemented through national, regional and local level mechanisms. Notwithstanding the member countries' high-level agreement on priority actions that need to be urgently addressed, and the commitment made during the GEF PDF-B phase, the precise mode of involvement in each sub-basin needs to be determined and tested with local and national actors and explicitly linked to regional initiatives. Therefore, pilot projects were chosen during the GEF PDF-C phase based upon recommendations by the LCBC's technical committees and consultants. These pilot projects will demonstrate methodologies that can be applied in developing a strategic action program for the whole Lake Chad Basin. These projects will now build on existing development and environment initiatives and will be designed to add global value to these interventions by addressing transboundary priorities. Upscaling the lessons learned through the pilot projects and including them in the SAP design process, will allow for more efficient and effective implementation of the SAP.

Participating institutions. The LCBC is the overall executing agency, and will be working closely with the governments of Cameroon, Chad, Niger and Nigeria, SECADEV, the Hadejia-Nguru Wetland Conservation Project management unit, the Nigerian Conservation Foundation, IUCN, the Royal Society for the Protection of Birds, Birdlife International, CACID, WWF, AIDR, CFAID, ACEEN and other relevant institutions.

Sub-activities. The sub-activities within Activity 5.6 are proposed to be: (i) identifying lessons learned from each pilot project; and (ii) incorporating the lessons into the SAP proposal.

Sub-activity 1: Identifying lessons learned

- Facilitated Workshops held at each pilot site to identify the lessons learned, and those that have regional implications; and
- Reports from all three workshops are consolidated into one report with recommendations for the SAP process.

Sub-activity 2: Incorporating the lessons into the SAP proposal

- Lessons learned presented at SAP planning workshops; and
- SAP consultants visit the pilot sites to augment these lessons.

Project Component 6 - US\$0.36 million

E. Project Component 6: Strategic Action Plan designed and endorsed

Introduction. The riparian countries of the Lake Chad Basin have recognized that uncoordinated national development is unsustainable. However, with the pressure to develop the Basin's resources growing, avenues have to be found that tap the development potential within the Basin. In this light, the design of a strategic action program that looks to regional mechanisms and initiatives (and has the full backing of the riparian countries) is a critical step towards realizing the development potential within the Lake Chad basin. Drawing upon its experience in the region and its comparative advantage, the World Bank will play a lead role in coordinating and organizing donor support for the SAP. Donor consultation, both informally and through a formal donor conference, will occur soon after the project is approved so that donors are brought onboard early-on in this project. (Provision has been made for an additional donor conference, during the third year of the project, which will assist in securing broad donor support for SAP implementation.)

Activities. The activities within Component 6 are: (i) developing and implementing a plan for continuing donor contact; (ii) planning and implementing two donor conferences, one shortly after GEF project approval and one immediately prior to SAP implementation; (iii) present the TDA and the SAP to Inter-Ministerial Coordinating Committees and the LCBC, and formalize a regional agreement on the SAP; and (iv) develop donor conference reports and prepare a strategy for ongoing project funds.

Activity 6.1: Develop and implement a plan for continuing donor contact

- Together with the LCBC design and implement a program for donor contact

Activity 6.2: Plan and implement donor conferences

- Hold a donor conference soon after project approval; and
- Hold a second donor conference prior to SAP implementation

Activity 6.3: Present the TDA and the SAP to Inter-Ministerial Coordinating Committees and the LCBC; and formalize a regional agreement on the SAP

- Regional workshop 1 – to present the Transboundary Diagnostic Analysis (TDA) and SAP to the IMCC and LCBC; and
- Regional workshop 2 – to formalize a regional agreement on the SAP.

Activity 6.4: Develop of donor conference reports and prepare a strategy for ongoing project funds

- Report on the donor conferences; and
- Prepare a strategy for ongoing donor support to the SAP.

Annex 3: Estimated Project Costs

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

Project Cost By Component	Local US \$million	Foreign US \$million	Total US \$million
Enhanced regional policy and institutional mechanisms	0.20	0.72	0.92
Demonstration projects to test methodologies, stakeholder involvement and implementation modalities	0.27	1.01	1.28
Donor support mobilized for GEF SAP and LCBC Plan implementation	0.04	0.16	0.20
	0.00	0.00	0.00
Total Baseline Cost	0.51	1.89	2.40
Physical Contingencies	0.00	0.00	0.00
Price Contingencies	0.10	0.40	0.50
Total Project Costs¹	0.61	2.29	2.90
Total Financing Required	0.61	2.29	2.90

Detailed Costs

¹ Identifiable taxes and duties are 0 (US\$m) and the total project cost, net of taxes, is 18.93 (US\$m). Therefore, the project cost sharing ratio is 15.32% of total project cost net of taxes.

Annex 4

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem Incremental Cost Annex

A. Regional Context and Broad Development Goals

General poverty characterizes the development situation in the Basin. Poverty is also a key factor for all environmental threats. The five countries are among the last forty countries in the Human Development Index (HDI) ranking. Two countries are among the last ten, and one country is in fact just before the last one in the world. The mean real GDP per capita for those countries is decreasing (in 1987 equivalent US\$) from 1980 (US\$463) to 1990 (US\$425) and 1995 (US\$378) (UNDP Human Development Report 1998, p.142). At the same time, the mean figures for the same indicator are increasing for developing countries (taken as a whole). The same observation can be made for this specific region for two other indicators: food production per capita and daily per capita supply of calories. They are also decreasing, whereas the opposite trend can be observed, on average, for developing countries.

Socio-economic pressures on the region's limited water resource base have driven significant levels of investment in water infrastructure, particularly in Nigeria. In Chad, new irrigation projects are planned. In both countries, questions remain concerning financial constraints, food security, sustainability and efficiency of those investments, particularly in terms of water management. The development baseline appears to be insufficient in this region to overcome current trends, despite some positive signs for West Africa, concerning a new dynamism in economic growth, in conflict resolution, and in civil society participation. UNDP and the World Bank are already funding water resource management programs in Chad, Niger and Nigeria. The governments of the five countries have provided funds to LCBC (since 1964, and 1994) and have committed funds to environmental assessments of their part of basin.

B. Global Environmental Objective and Incremental Cost Analysis

The significance of the Basin has been highlighted by the international interest in the hydro-ecological state of the Basin flood plains and biodiversity they support. The incipient degradation under the baseline conditions will threaten aquatic flora and their associated fauna, both in the Lake Chad area and in the source sub-basins. If transboundary issues are not addressed, direct and indirect threats to this international water body will result in the progressive breakdown of the hydrological and ecological integrity of the Lake Chad Basin (LCB) system. This will cause the global community to forfeit sizable conservation benefits (including direct and indirect use values, and existence and option values).

C. Baseline

The scope of the baseline is spatially set by the natural limits of the LCB and the locus of external demands upon the Basin's resources; thematically, by project objectives (concerted management, water resource analysis and planning/programming), and temporally, by project life (4 years). Basin sectoral activities that involve direct water abstraction and disposal from and to LCB watercourses are distinguished from activities that relate to mechanisms for concerted management, water resource analysis for the LCB, and programming and planning of water related investments in the LCB. A proportion of these non-operational activities carried out by each country will be diverted into the alternative.

The GEF project completed an inventory of the existing, or signed, water and environment programs funded by donors in each riparian country. This specific inventory is limited to the new conventional Lake Chad Basin and for the duration of the proposed program. Detailed tables of this **baseline** (split into structural and non-structural investments related to the GEF proposed activities) are given in Annex 1 of the agreed Lake Chad Strategic Action Plan. The **detailed incremental cost matrix** is provided as Annex 1 and compares, in terms of outputs and costs, the baseline with the proposed activities.

D. The GEF Alternative

An alternative regional program will generate benefits for the overall environment, while striving to promote actions that are compatible with the economic and social interests of each country. It would create new opportunities for regional development by harmonizing policies and enabling the requirements of all players within the basin to be taken into account. In a basin as complex and sensitive as that of Lake Chad, it is vital to integrate development and environmental policies, which are closely interdependent, right from the outset. The agreed "Lake Chad Strategic Action Plan", (and in particular the way in which the Program of Action is implemented with GEF support, and the progressive support of major donors), should aim at ensuring a flexible process whereby this integration of policies can take place. A GEF project for protecting the overall environment will be a vital means of mobilizing, catalyzing and generating national development projects, making the environment an essential component. Reciprocally, these national development programs concerned with water and the environment, coordinated within a comprehensive strategic approach basin-wide (the SAP) will be decisive in upgrading the capabilities that need to be mobilized throughout the region to save the Lake Chad Basin ecosystem. In conclusion, it may be predicted that without a regional back-up program, sized to handle the scope of the work that has to be organized and carried out, there will be no other initiatives in the short or medium terms to provide the region's countries with complete assistance to deal with the environmental problems linked with the international waters of Lake Chad.

To avoid the environmental risks identified above, with the support in kind of governments. Existing basic framework within the Basin (regular operations of the LCBC) is covered by the member state. Certain other priority regional programs would benefit from being cofinanced with other donors in order to generate more wide-ranging action, and thus have a more rapid impact on the human and physical environments. These programs will be formulated during Phase 1 (2003-2006) and discussed with interested and concerned partners. At the national level, the components financed by the GEF could help to support existing or future programs, integrated into national sustainable development programs and into the Strategic Action Plan for the entire Basin.

E. Scope of Analysis

The functional system boundary for water, land, forest and wildlife comprise much smaller sub-sets of the basin's geographic limit. This is because the hydrologically active area of the Basin is much smaller (966,955 km²) and involves five riparian states. The topographic limits of the Basin (2,381,635 km²) which cover large parts of desert areas in Niger and Chad are effectively de-coupled hydrologically and hydrogeologically from Lake Chad. In 1964, four countries created the Lake Chad Basin Commission, to handle the problems of development centered on Lake Chad in an area formally referred to as "*the conventional basin*". This convention did not include the Central African Republic and excluded the large desert expanses of Algeria, northern Niger and Sudan and, in particular, excluded the upstream part of the active basins of the Chari-Logone and Komadugu-Yobe. This "*old conventional basin*" covered

about 427 300 km². Since 1994, the Central African Republic has been a member of the LCBC and "*the new conventional basin*" has been enlarged to include the upper basins of the Logone-Chari and Komadugu-Yobe systems. It may now be considered that LCBC's mandate covers the entire active Basin (also referred to as the new conventional basin), which now covers 966,955 km², divided as follows between the 5 countries:

Country	New area of conventional basin (km ²)	Population in 1991 (in thousands)	Density in 1991 (inh/km ²)
Cameroon	56,800	2,100	37
CAR	197,800	700	3.5
Niger	162,375	240	1.5
Nigeria	188,000	13,856	74
Chad	361,980	5,048	14
Total	966 955	21 944	22.7

According to LCBC (areas) and Harrison and Kolawole (population: PDF-B)

This new definition of the active Lake Chad Basin thus takes into account almost all the water resources that supplies the lake, the Yaérés and the aquifers in the lake area. It is now possible, in each sub-basin, and for the whole Basin, to envisage a concerted water resources management.

The thematic limits for this analysis are set by the project objectives to prepare for the implementation of a program of concerted management through strengthened institutional mechanisms, transboundary analysis and program design. Requisite institutional strengthening across related sectors is of essence. The design of the proposed project has taken into full consideration its complementarity with other existing projects in the region, particularly World Bank and UNDP funded water reviews in Nigeria.

Temporal boundaries for this analysis are set by the anticipated period of preparation for implementation and program formulation, a four-year period. Project benefits will clearly continue to accrue beyond this time boundary of both the first stage defined by the project and the second stage of program implementation. Baseline expenditures have been estimated across a time horizon (from 1995 to 2005) to capture relevant development and project budgets.

Sunk costs, incurred prior to 1998, have been omitted from the analysis. The baseline captures investments within the LCBC and specific elements associated with extra-basin demands for water. The alternative captures additional actions required to secure project objectives within the system boundary. There will be substantial leveraging of domestic baseline costs that address concerted management and basin analysis towards the globally preferred alternative.

F. Project Financing

Total baseline expenditures amount to US\$23.66 million and reflects investments associated with water policy initiatives, including management and environmental protection, at national (and to a lesser extent) at regional levels, over the period 1995 to 2005. The GEF would provide US\$9.6 million in incremental cost financing for the alternative, which represents 40 percent of the total baseline amount. This funding is targeted specifically at overcoming barriers by defraying transaction costs associated with sustainable management of transboundary waters, and associated resources and ecosystems.

Co-financing figures are indicative of the anticipated participation of on-going projects to related activities of the GEF project. As an example, UNDP is funding (in Chad) US\$2.6 million in water and land resources project. It has been estimated that 10 percent of this amount will be valuable used in concerted operations. LCBC has an annual mean budget, funded by the member states, of US\$1.18 million. It has been agreed by LCBC that it will make available US\$411,800 over the lifetime of the project. The contribution in-kind accepted by the five governments through their on-going projects represents a total of US\$1.75 million. The total co-financing is US\$9.3 million.

In the longer term, the removal of barriers to sustainable use will widen the menu of development options available at the local level. But in the short term, the generation of the program to address transboundary issues will result in mainly non-pecuniary benefits. For riparian countries, tangible costs exceed tangible benefits in the intermediate term, providing little incentive to undertake this initiative without external assistance.

PROJECT INCREMENTAL COST MATRIX

Long-term objective: "To achieve regional and global benefits through, broad, basin wide participation in the development and implementation of measures that ensure that Lake Chad is sustainably protected by concerted, integrated management of the basin's resources"			
Cost/Benefits	BASELINE (B) 2	ALTERNATIVE (A) 2003-2006	INCREMENT (A-B)
<p>Domestic Benefits</p> <p>The baseline comprises only the directly relevant activities dealing with water policy and management. It does not include associated infrastructure investments which are estimated to amount to approximately US\$557 million.</p>	<p>1. Countries unwilling to take unilateral action to strengthen water and environmental management, and bilateral, assistance unwilling to fund water projects without any clear knowledge, or agreement, on sustainability of water uses, upstream and downstream.</p> <p>2. Environmental management policies, strategies and programs within countries are uncoordinated; by themselves, national efforts are insufficient to mitigate threats to river systems. National capacities to effect integrated land and water body management are limited.</p> <p>3. National local players poorly sensitized to environmental concerns.</p> <p>4. Countries face growing environmental, social and economic costs and a decrease in available natural resources, from degradation of the Lake Chad Basin system.</p>	<p>1. Harmonization of policies and standards for water and environmental management according to a common strategy (SAP) at basin level, with information and support of donors.</p> <p>2. Coordination of management efforts between riparian countries through international cooperation. Institutional and human capacity building in the arena of integrated land and water management and basin space planning.</p> <p>3. Targeted education and awareness efforts for sustainable development in the Lake Chad basin.</p> <p>4. Efforts targeted at removing the root causes of water resources and environmental degradation, both current and future.</p>	<p>1. Countries able to strengthen water and environmental management without losing development funds for other critical short term priorities and without losing competitive position.</p> <p>2. Interventions more effectively targeted at removing the root causes of threats, thus improving the efficacy and cost-effectiveness of national management endeavors. National capacities to implement a holistic resources management method at all levels are strengthened.</p> <p>3. Civil society more responsive to environmental protection measures.</p> <p>4. The ecological sustainability of development activities in the Lake Chad basin will be better assured, for each country.</p>

Global/Regional Benefits	<p>1. The policy framework for coordinating river management of the Lake Chad Basin is inadequate; regional cooperation is mainly limited to central and political levels. Donors, like others, are not informed and involved.</p> <p>2. Lack of regional, sub-regional, national and local institutions able to coordinate strategy and action to plan and manage finite and vulnerable international water resources in a sustainable manner.</p> <p>3. Limited avenues for public involvement in overall environmental management of the Lake Chad system.</p> <p>4. Lack of a common instrument able to simulate long-term impacts of current decisions on regional stability and food security.</p> <p>5. Lack of common cross-borders activities for measuring water resources, for exchanging information, for analyzing costs-benefits of alternatives, for protecting wetlands and flood plains and for averting possible pollution threats.</p>	<p>1. Strengthening of policy and incentives for regional cooperation, involving all main players, in order to remove institutional barriers and make international waters a catalyst for regional cooperation, instead of a source of potential conflicts.</p> <p>2. Create institutional mechanisms to guide and coordinate national plans and actions within a common regional vision and framework.</p> <p>3. Develop mechanisms for engendering public participation in sound development planning and management at basin-ecosystem level.</p> <p>4. Building of an enabling environment leading to a dynamic regional instrument able to aid regional decisions for maximization of economic and social impacts, for all countries and communities, and minimization of environmental impacts.</p> <p>5. A set of horizontal activities are launched across sectors and borders in order to stimulate cooperation and capacity building.</p>	<p>1. Policy and incentive framework for effective regional cooperation for addressing cross-border problems are politically supported through a regional and basic agreements on policy/institutional/legal and financial adjustments at national and sub-national levels.</p> <p>2. Establishment of institutional framework across sectors, and across countries for addressing cross-border impacts and regional capacities are enhanced.</p> <p>3. Public participation in management increases the sense of ownership of civil society over management efforts and in turn enhances prospects for sustainable basin development.</p> <p>4. A common long-term vision for cooperative basin-wide water allocation, protection and planning.</p> <p>5. An applied strategy towards integrated and sustainable management of the international waters of the Lake Chad basin, is launched.</p>
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Output 1: An established Project Management Unit (PMU) and a Lead Agency in each of the participating countries to ensure inter-sectoral coordination for duration of the project.			
Cost/Benefit	BASELINE (B) (US\$ 1000)	ALTERNATIVE (A) 2003-2006 (US\$ 1000)	INCREMENT (A-B) (US\$ 1000)
<p>Activity 1.1 Recruit the Project Manager, public participation and communication expertise, and requisite technical, administrative and secretariat support.</p>	<p>No regional executing agent is active in multi-level and multi-disciplinary coordination of IWRM activities in connection with existing projects.</p> <p>Total : Zero baseline</p>	<p>Recruitment of highly qualified consultants and experts to support the full program implementation during 4 years.</p> <p>Total : 945</p>	<p>Appropriate human capacities developed to promote and support participatory practices, at all levels, and to insure a permanent evaluation and follow-up of transboundary activities.</p> <p>Cost to GEF: 945</p>
<p>Activity 1.2 Create and organize the Project Manager Unit (PMU) to facilitate and coordinate the work program of the project.</p>	<p>No operational and technical support available for a full regional project</p> <p>Total : Zero baseline</p>	<p>Creation of a PMU</p> <p>Total : 415</p>	<p>An appropriate regional unit is equipped and organized in order to efficiently deliver project outputs, give technical assistance and manage program activities.</p> <p>Cost to GEF: 415</p>
<p>Activity 1.3 Create and make provision for the conduct of meetings of the Project Steering Committee (PSC).</p>	<p>Total : Zero baseline</p>	<p>Regular meetings between external donors and UN and GEF technical agencies</p> <p>Total : 115</p>	<p>Co-ordination of GEF actions with UN and/or other donors.</p> <p>Cost to GEF: 115</p>
<p>Activity 1.4 In cooperation with the participating countries and through the LCBC, create country specific Inter-Ministerial Coordinating Committees to assist in the work specified in Activity 2.3 and output 3</p>	<p>No inter-ministerial body at country level for IWRM of Lake Chad national sub-basin .</p> <p>Total : Zero baseline</p>	<p>Support for the creation, in each country, of an Inter-Ministerial Coordinating Committee (IMCC) for Lake Chad Basin.</p> <p>Total : 438</p>	<p>National coordination reconciling, <i>at sub-national basin level</i>, regional development, land uses, food security, ecosystem health, and finite, vulnerable natural resources.</p> <p>Cost to GEF: 438</p>
<p>Activity 1.5 Support a Lead Agency for each participating country and a senior official to assume leadership of project activities and represent the participating country in meetings of the Project Steering Committee (PSC).</p>	<p>No operational lead agency in each country</p> <p>Total : Zero baseline</p>	<p>Five national (small) secretariats in order to manage national components of the full program, directed by a senior lead official, to ensure country program coordination with the project.</p> <p>Total : 420</p>	<p>Cost to GEF : 420</p>
TOTAL OUTPUT 1	0	2,338	2,338

Output 2: Enhanced regional policy initiatives and institutional mechanisms to address transboundary issues beyond the project life

INCREMENT (A-B) (US\$ 1000)	BASELINE (B) (US\$ 1000)	ALTERNATIVE (A) 2003-2006 (US\$ 1000)	INCREMENT (A-B) (US\$ 1000)
<p>Activity 2.1 Review current functions and responsibilities of the LCBC with a view to strengthening and improving its functional capabilities and ensuring a sufficient level of finance for its operations.</p>	<p>LCBC staff salaries funded with limited operational budget. Weak operational capacity for Integrated Resources and Environment Management (I.R.E.M.) through cooperation between stakeholders at all levels. LCBC's role is mainly at political level, and LCBC operational activities are of limited effectiveness. No evaluation of LCBC functions. Operational budget of LCBC during 3.5 years.</p> <p>Total: 2,352</p>	<p>Evaluation of LCBC functions, capacities and financial means and proposals in order to strengthen this regional organization. Identification of needs and discussions to design terms of reference.</p> <p>Total: 2,438</p>	<p>Strengthening the role of the LCBC is crucial to obviate the risk that individual countries will give priority to greatest domestic benefits without taking into account downstream Interests</p> <p>Type: Complementary (not a national priority, necessary for overall benefits)</p> <p>Cost to GEF: 86</p>
<p>Activity 2.2 Identify stakeholders in water resource and related land and environmental policy implementation in each country.</p>	<p>Limited operational support geared toward changes in national/sub-basin water management, in relation with environmental protection and transboundary water issues. FAO and UNDP/DESA supports work in Chad. UNDP in Niger. KFW in CAR. WB in Nigeria.</p> <p>Total: 300</p>	<p>Updated national water policies</p> <p>Total : 526</p>	<p>National water policies take into account transboundary water issues and encourage environmental protection</p> <p>Type: Complementary (domestic benefits but not a national priority)</p> <p>Cost to GEF: 226</p>
<p>Activity 2.3 Through the PMU and the LCBC coordinate activities with other related GEF projects in the Niger and Senegal River Basins including technical exchanges and field visits as necessary.</p>	<p>During the PDF-B process, additional UNDP resources funded DESA technical missions and harmonized national consultations inside 10 countries of Lake Chad, Niger and Senegal basins. This led to UNDP-GEF preparatory assistance (Lake Chad and Niger Basins).</p> <p>Total : 50</p>	<p>Follow-up and coordination between three regional river basin programs (and possibly others in future) covering almost all the Sahel region.</p> <p>Total : 170</p>	<p>In support to the Convention against Desertification, harmonization and optimization of environmental assessment (EA) approaches as a contribution to a regional policy - at local, national and basin levels - for an integrated, concerted and sustainable management of water, land and other resources in the Sahel region.</p> <p>Cost to GEF : 226</p>
<p>Activity 2.4 Define and promote the integration of transboundary water and environmental policies into the National Action Plans.</p>	<p>National development plans and projects are uncoordinated in relation with the management of water, and other basin common resources, and with the broad protection of those resources.</p>	<p>Promotion of Policy/institutional/legal/financial adjustments at national and sub-national levels by legal decrees Study of consequences of each updated national water policy</p>	<p>Changes are promoted for National plans and projects design in order to take into account up-dated national water policies</p> <p>Type: Complementary</p>

	GEF-PDF-Project	on national development plans and on major programs or projects.	(domestic benefits but not a national priority)
	Total: 50	Total: 722	Cost to GEF: 272
Activity 2.5 Undertake an assessment of current, relevant agreements, protocols, conventions statutes and other relevant legal frameworks in each country, including recommendations for incentives and harmonized legal frameworks to enable an integrated regional approach toward long-term management of the Basin's resources.	National legal frameworks generally do not take into consideration specific regulations for integrated water management at basin level, including transboundary water issues and environmental protection. LCBC meetings and contribution to the bi-lateral Niger-Nigeria commission. Total: 517	Facilitation of a harmonized legal framework for Integrated Resources and Environment Management (IREM) across sectors and countries, leading to enhanced cooperation. Total : 692	Enhanced cooperation facilitated by harmonized legal national frameworks concerning water. Type: Complementary (domestic benefits for local sustainable development, necessary for overall benefits) Cost to GEF: 175
Activity 2.6 Establish the necessary structural arrangements for participating countries to review, harmonize and coordinate frameworks, regulations and approaches for the improved transboundary management of such issues as power generation, irrigation, downstream riparian considerations, fisheries, water quality and effluent standards, diversions and consumptive uses, and the creation and use of economic instruments.	Local existing development projects –see SAP – funded by: World Bank, FED, BAD, FIDA, CFD/FAC, KFW, DANIDA, Netherlands, UNDP, UNICEF, WWF, without links at the level of resources management: the sub-basin. Total : 2	Immediate implementation of an Interim Basin Committee for Strategic Planning. International agreement on principles of cooperation for sustainable and integrated water management for reconciling, at basin level, regional development, land uses, food security, ecosystem health, (and other water uses), and finite, vulnerable water resources. Total : 2	Written, country-endorsed agreement with specific mechanisms to improve the integration of water uses management, and the coordination of project supports, at sub-basin and basin levels basin. Type: Complementary (not a national priority, necessary for overall benefits) Cost to GEF: 202
TOTAL OUTPUT 2	3,669	4,750	1,081

Output 3: Strengthened community level participation and education, involve stakeholders through development of local planning initiatives (mini-Agenda 21's)

Cost/Benefit	BASELINE (B) (US\$ 1000)	ALTERNATIVE (A) 2003-2006 (US\$ 1000)	INCREMENT (A-B) (US\$ 1000)
Activity 3.1 Create and provide resources for a Steering Committee for the creation local development initiatives	Total : Zero baseline	Total : 90	Cost to GEF: 90
Activity 3.2 Formulate and execute 15 consultations (3 in each participating country)	Total : 1,292	Support 15 local planning initiatives for community level stakeholders to establish their sustainable development plans in line with sub-basin planning frameworks Total : 2,008	Cost to GEF: 716
Activity 3.3 Support for 15 final workshop reports, including recommendations for pilot projects in the SAP implementation phase of the GEF project	Total : Zero baseline	Lessons learned from local consultations Total : 75	Cost to GEF: 75
Activity 3.4 Support for preparation of a final report, including recommendations, to assist governments and the LCBC to begin implementation of key results from the mini-Agenda 21 exercises	Total : Zero baseline	Lessons learned from coordination between local, national and regional initiatives Total : 15	Cost to GEF : 15
Activity 3.5 Develop a regionally based methodology for the conduct of environmental impact studies, ensuring provision of stakeholder participation and the communication of results to stakeholder groups.	No basin-based methodology, despite national projects with environmental components involving local stakeholders. Waza-Logone project and specific studies on the Hadejia-Nguru wetlands. Total : 4,800	A designed basin methodology Total : 5,131	A country-agreed methodology for the conduct of environmental impact studies (EIS), with information and involvement of stakeholders. Cost to GEF: 331
TOTAL OUTPUT 3	6,092	7,319	1,227

Output 4: A completed TDA and a modelling framework for concerted management of the basin			
Cost/Benefit	BASELINE (B) (US\$ 1000)	ALTERNATIVE (A) 2003-2006 (US\$ 1000)	INCREMENT (A-B) (US\$ 1000)
<p>Activity 4.1</p> <p>Compile existing scientific, hydro-environmental and socio-economic data and information (including groundwater, aquatic ecosystems and water consumption). Prepare a descriptive basin framework and establish key processes and hot-spots. Data and descriptive models to be hosted by the LCBC.</p>	<p>Piecemeal data collection in the framework of current local development projects. No spatial data on existing situation, nor extensive and reliable data concerning water resources, nor data concerning socio-economic and environmental impacts of basin resources uses. Loss of data collected in the field by past and on-going projects and duplication of effort. No regional synthesis of available data and information existing in each country.</p> <p>Total : 2,397</p>	<p>With the support of each national IMCC. (created with activity 1.4), country reports on a detailed inventory of existing relevant data and projects, with an evaluation of the quality of basic data, and of existing data bases and GIS. Collection of data bases on water resources in an agreed sub-basin and basin framework.</p> <p>Total: 2,632</p>	<p>Updated knowledge of the current status, location and reliability, of existing data, databases and GIS, in each country. Existing data, information, and information systems concerning Lake Chad Basin are synthesized in a report for broad distribution through LCBC.</p> <p>Cost to GEF: 235</p>
<p>Activity 4.2</p> <p>Undertake a gap analysis of existing data to define further needs to the establishment of a basin-wide monitoring network</p>	<p>A data-gap analysis and a basin-wide approach of monitoring are missing.</p> <p>Total: zero baseline</p>	<p>Gap analysis of existing data (physical and socio-economic information), hydraulic models, hydrological and groundwater models. Analysis of new projects or recent studies concerning: rainfall pattern, climatic modifications, surface water and groundwater resources, regional impacts of climate variability on desertification and biodiversity. Identification of needs.</p> <p>Total: 100</p>	<p>Recommendations and program of action to meet further needs for the establishment of a basin-wide monitoring network.</p> <p>Cost to GEF: 100</p>
<p>Activity 4.3</p> <p>Support for the development of key measures (e.g. updating of rating curves of existing hydrological stations to determine low flow and flood conditions, specific water quality measurements, piezometry, pumping tests and topographic surveys) and the establishment of the hydrostratigraphy in Chad Formation in order to refine and complete the TDA</p>	<p>Hydrological measurement stations are generally abandoned or poorly reliable. Only one national project for water resources monitoring in a part of Nigeria.</p> <p>Total: 1,480</p>	<p>National and regional specialists and authorities finalize the TDA.</p> <p>Key measurements of: low-flows and flood discharges, topography and salinity of the Lake, water quality of rivers, aquifer levels, and survey of flooding dynamics and recharges. Commission specific hydrological studies on the two main rivers and on the Lake water-balance.</p> <p>Total: 50</p>	<p>A finalized TDA.</p> <p>A reliable scientific data base to be built at regional level during three years and lessons are learned of the actual situation in order to guide TDA, future SAP implementation, priorities and methodologies of future sub-programs.</p> <p>Cost to GEF: 50</p>
<p>Activity 4.4</p> <p>Establish key environmental</p>	<p>A "Diagnostic Study of</p>	<p>First definition and agreement</p>	<p>First step of achieving basin</p>

indicators in the Lake Chad Basin to verify compliance with existing and future management plans and, ultimately, to assist in evaluating SAP implementation.	<p>Environmental Degradation" of the old "conventional" basin (1990) and recent analysis on basin resources, current uses and constraints, environmental threats, transboundary issues and a Strategic Action Plan are available.</p> <p>A definition of key environmental indicators for the Chad Lake Basin is missing.</p> <p>Total: Zero baseline</p>	<p>on key environmental indicators and key physical variability and uncertainties, for the Lake Chad Basin, in relation with the objectives of existing management plans and of the Strategic Action Plan.</p> <p>Total: 50</p>	<p>monitoring capability, beginning with agreement on the definition of relevant indicators and with a common understanding of the level of countries compliance with its national and regional management plans or regulatory structures.</p> <p>Cost to GEF: 50</p>
Activity 4.5 Develop risk analysis capability within the participating countries with the objective of, among other things, assessing regional-level hydro-environmental risk and identification of risk-management systems and approaches	<p>Risk alert system is limited to a flood-alert system within Chad country.</p> <p>Total: 100</p>	<p>Regional training in risk assessment, focusing on transboundary impacts related, or transported, with water (agricultural, industrial, biological and natural risks). National inventories and assessment of risks, and of response/adaptive capabilities. Common design of risk-management systems and approaches with the objective of risk reduction.</p> <p>Total : 275</p>	<p>Regional agreement on identified main risks and on remedial actions to be jointly implemented by countries, with the support of environmental assessment (EA).</p> <p>Cost to GEF: 175</p>
Activity 4.6 Assemble a basin-wide synthetic framework for surface/groundwater interaction within the Lake Chad Basin to pre-identify long-term consequences of development alternatives	<p>The Komadougou-Yobe river and upper aquifer is studied by the "National Fadama Development Project" in Nigeria, funded by the World Bank and Federal Gvt. Of Nigeria. The Chari-Logone flood plain, and the Komadougou-Yobe river have been modeled with some assumptions concerning infiltration and topography.</p> <p>Total : 1,000</p>	<p>The active WB projects and new GEF outputs and commitment will be used by the PMU, the participating countries and the LCBC to leverage other donors to complete selected surface water and groundwater assessment work and models within the basin.</p> <p>Total : 1,491</p>	<p>Additional work and assessment, in particular concerning sub-basin links between groundwater and surface water management, will be carried out, taking into account new needs and priorities identified by the PMU.</p> <p>Cost to GEF : 491</p>
TOTAL OUTPUT 4	4,977	7,032	2,055

Output 5: Regional Program Development and Demonstration projects to test methodologies, stakeholder involvement and implementation modalities

Cost/Benefit	BASELINE (B) (1000 US \$)	ALTERNATIVE (A) 2003-2006 (1000 US \$)	INCREMENT (A-B) (1000 US \$)
Activity 5.1 Develop and begin implementation of a regional program to improve existing and define new protected areas, including the creation of corridors to link existing and new protected areas	Protected areas have been identified in previous diagnostics and in PDF-B. New project has been recently formulated (Parc National de Manda in Tchad). Total: 1,058	Additional outputs of this component will be focused on improved regional cooperation to enhance existing protected areas, in relation with shared waters, with new protected international corridors to be identified and discussed for implementation. Total: 1,358	Agreement and formulation of a regional program for the coherent and participatory implementation of protected, cross-border corridors between protected areas. Regional and participatory contribution to the bio-diversity conservation on the basin. Cost to GEF: 300
Activity 5.2 Develop and begin implementation of a regional program, including establishment of pilot demonstration sites, to protect immediately threatened aquatic ecosystems	Some projects, mainly in Niger and Chad, without regional cooperation to address cross-border water impacts and/or harmonization of good practices Total : 748	In addition to the threatened Kanem dunes and Goudoumaria's oasis ponds, other pilot demonstration sites will be implemented in Nigeria and Cameroon, with a strong emphasis on stakeholder participation and technology transfer. Joint (regional) detailed inventory, evaluation and program formulation Total: 1,199	Identify and devise tested solutions for <u>land degradation</u> and for the conservation of threatened aquatic ecosystems, in particular those of key drought sensitive ponds and lakes. Subsequent formulation of an appropriate regional program. Type: Complementary (domestic benefits but not a national priority) Cost to GEF: 451
Activity 5.3 Develop a regional program aimed at reducing growing water demand with an emphasis on identified hot-spots identified in the LCB Strategic Action Plan.	Some projects and activities (mainly in Nigeria) without regional cooperation to address cross-border impacts of water demand management. Total: 3,068	Develop a regional program after full assessment of the current situation (technical, economic, social, environmental) in five selected demonstration sites, with a strong emphasis on stakeholder participation. Total: 3,568	Regional agreement on joint assessments of water management in hot-spot sites. Local agreement on workable alternative of water demand management. Design of an appropriate regional program involving five demonstration projects. Cost to GEF: 500
Activity 5.4 Support development of a regional mechanism to create and implement a regional program to anticipate future pollution threats and build capacity to prevent their occurrence	Limited activities, mainly in Central African Republic, without regional cooperation to address cross-border water impacts Total: 750	In cooperation with affected stakeholders (public, private, local populations, professional associations, and fishermen) implement a regional mechanism capable of discussing survey results and the design of a future regional program to prevent pollution threats. Total: 1,031	First step for a concerted joint effort to prevent future pollution threats. Cost to GEF: 281
Activity 5.5 Support a regional mechanism	Completed projects in	Support a pilot demonstration	A basin approach to flood

to develop integrated basin approaches (including floodplain management) in the Kamadagou-Yobe and Chari-Logone sub-basins. Using with full stakeholder participation, design and initiate basin development and management plans, with supporting decision aid tools, to maintain the integrity of sensitive wetlands systems downstream and promote sustainable development.	Cameroon and in Nigeria: Waza-Logone project, and Hadejia-Nguru project with limited regional cooperation to address cross-border water impacts, and without full integration of water management of dam releases, current and long-term water uses, aquifer recharges and downstream impacts on wetlands and human habitats. Total: 3,300	project to test the efficacy of altering current upstream regulation to provide water to sensitive wetlands downstream. Develop two regional programs for Komadogou-Yobe and Chari-Logone sub-basins, for a sub-basin integrated approach to flood plain long-term management. Total: 4,306	plain management has been developed and tested, in particular to provide water to sensitive wetlands downstream Cost to GEF: 950
Activity 5.6 Feedback of demonstration results into SAP design	Total: Zero baseline	Incorporation of project results into the design of the SAP Total: 50	Cost to GEF: 56
TOTAL OUTPUT 5	8,924	11,461	2,537

Output 6: Donor support mobilized for GEF SAP and LCBC Plan implementation. Finalisation of the TDA and regional agreement on GEF SAP			
Cost/Benefit	BASELINE (B) (US\$ 1000)	ALTERNATIVE (A) 2003-2006 (US\$1000)	INCREMENT (A-B) (US\$1000)
Activity 6.1 Development and implementation of a plan for continuing donor contact.	Total: Zero baseline	Total: 75 (CTA- Activity 1.1)	Cost to GEF: 84
Activity 6.2 Planning and implementation of two donor conferences, one shortly after GEF project approval and one immediately prior to SAP implementation.	Total: Zero baseline	In kind contribution from riparian countries Total : 115	Cost to GEF: 65
Activity 6.3 Develop and finalize the SAP through the use of Inter-Ministerial Coordinating Committees and the LCBC	No strategic program to address transboundary is available Total: Zero baseline	National and regional specialists and authorities finalize the SAP, through a multi-sectoral dialogue in each country. (see activity 1.4) Total: 175	A TDA and SAP in GEF format. Cost to GEF : 190
Activity 6.4 Preparation of donor conference reports and development of a strategy for ongoing project finance.	Total: Zero baseline	Total: 10	Cost to GEF: 23
TOTAL OUTPUT 6	0	362	362
TOTALS	23,662	33,262	9,600

F. World Bank Co-Financing

In addition to the GEF contribution the increment will include \$74 million of co-financing from the World Bank. These co-financing contributions have been selected in such a way as to relate directly to Components 2, 5, and 6 of the project, i.e the non-GEF funded World Bank increment of the project. They are summarized as follows:

Central Africa Regional and Environmental Information Management Program (\$20 million total), in which the Governments of Central Africa Republic and Cameroon participate, thus amounting to \$5.0 million viewed as a sub-project. The **Cameroon** Forest and Environment Program has a \$10 million GEF component which will contribute to improvement in land and water resources in the Lake Chad and adjoining watersheds, with \$20 million total. In **Chad**, both the Agricultural Services and Producer Organizations Project (ASPOP), with a total project cost of \$39 million, and the Local Development Project (PRODEL), with a total project cost of \$41 million, contain components which will be demanding and managing Basin surface water resources; co-financing is estimated at \$5 and \$2 million, respectively. An Integrated Ecosystem Management Project in Chad, with a \$48 million total budget and \$10 million GEF financing, will complement the Lake Chad regional work at the community level. In **Niger**, the Community Action Project (\$34 million) contains a GEF component of \$4 million to implement microgrant works, whereas an estimated \$4 million of the \$80 million Water Sector Project contributes to

water resource management, urban sanitation, and similar works. **Nigeria's** Second Fadama Project of \$100 million has a corresponding GEF project of \$15 million developed in concert. The Local Empowerment and Environmental Management Project is receiving \$8 million of its \$81 budget in GEF grants to finance microgrant activities and other related programs. An estimated \$10 million of the Urban Water Sector Reform Project, currently budgeted at \$205 million, will be dedicated to water resource management institution building and an urban sanitation pilot. Lastly, the entirety of the Nigeria Small Town Water Pilot of \$5 million has been counted as co-financing due to the dire need for urban sanitation in Nigeria small towns and cities and the potential to leverage learning from this pilot

Annex 5: Financial Summary
AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin
Ecosystem

Years Ending FY2006

IMPLEMENTATION PERIOD				
	FY03	FY04	FY05	FY06
Total Financing Required				
Project Costs				
Investment Costs	5.21	5.30	3.88	1.93
Total Project Costs	5.21	5.30	3.88	1.93
Total Financing	5.21	5.30	3.88	1.93
Financing				
GEF/World Bank	0.67	1.28	0.69	0.27
Borrower/Recipient	0.17	0.08	0.08	0.08
DFID	1.87	1.87	1.87	1.87
DGIS	0.79	0.66	0.52	
Sub-Borrower	0.67	0.41	0.41	0.26
UNDP	2.00	2.13	1.63	1.29
WWF	0.06	0.03	0.03	0.03
Total Project Financing	6.23	6.46	5.23	3.8

Annex 6: Procurement and Disbursement Arrangements

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

Procurement

Procurement Arrangements. The Lake Chad Basin GEF Project is a stand-alone Global Environment Facility (GEF) Project. Procurement of works and goods will follow the World Bank's "Guidelines for Procurement under IBRD Loans and IDA Credits" dated January 1995, and revised January and August 1996, September 1997 and January 1999. Procurement of services financed by the GEF Trust Fund will follow the World Bank's "Guidelines for Selection and Employment of Consultants by World Bank Borrowers" dated January 1997 and revised September 1997, January 1999, and May 2002. The World Bank's latest editions of standard bidding documents and contracts will be used. The Bank managed portion of the project will be executed by LCBC. Given LCBC's current limitations and to ensure successful implementation of the Project, it has been agreed with LCBC that a contractual arrangement (Management Services Agreement or MSA) will be made between LCBC and UNOPS for delivering Bank-implemented GEF Project components. Finalization of this MSA, as to be agreed between the LCBC and UNOPS, and to be reviewed for clearance in accordance with World Bank procurement, disbursement, and legal procedures, will be one of the Conditions for Effectiveness for the GEF Grant. UNOPS will establish a project management unit (PMU) at the LCBC in N'Djamena staffed with the appropriate technical and managerial staff, including adequately qualified procurement staff. This PMU will be responsible for the implementation of the project, including the procurement function. As the Project will be executed by UNOPS and no procurement actions will be directly undertaken by LCBC, a procurement capacity assessment of LCBC was not required.

Advertising. An initial General Procurement Notice (GPN) has been published in the UN Development Business (UNDB) on-line and in hard copy. Subsequent GPNs will indicate all the procurement contracts estimated to cost the equivalent of US\$100,000 or more where the International Competitive Bidding (ICB) method of procurement will be used. The GPN will be updated on a yearly basis and will show all outstanding International Competitive Bidding (ICB) for goods contracts and all International Consulting Services (ICS). Specific Procurement Notices (SPN) for goods to be procured under ICB and Expressions of Interest for consultant services estimated to cost the equivalent of US\$150,000 and above will also be published in the UN Development Business as well as in the international and national press. In addition, expressions of interest may be sought from prospective consultants by advertising in national newspapers of riparian countries or technical magazines. In the case of assignments estimated to cost US\$150,000 or less the assignment may be advertised nationally in riparian countries and the shortlist may be made up entirely of national consultants provided that at least three qualified national firms or individuals are available in the participating countries and foreign consultants who wish to participate are not excluded from consideration.

Procurement Planning. An Overall Procurement Plan (OPP) for consultant services and goods, which will be part of the Project Implementation Plan (PIP) for the PMU, has been prepared and will be finalized at effectiveness. The OPP includes relevant information on consulting services and goods as well as the timing of each milestone in the procurement process. The first year's Detailed Procurement Plan (DPP) has been prepared and will be finalized and cleared at effectiveness. The DPPs for the remaining years of the project, indicating the procurement method and processing time for each contract, will be submitted to the Bank every year for its review and comments not later than three months before the end of each fiscal year.

Goods and Equipment (US\$0.4 million). Technical equipment and other goods costing US\$150,000 and more per contract will be subject to International Competitive Bidding (ICB) requirements. For goods in the range between US\$50,000-US\$150,000 contracts will be awarded on the basis of National Competitive Bidding (NCB) – it should be noted that for this project, NCB includes all of the participating riparian countries. For goods contracts below US\$50,000, contracts will be awarded either on the basis of the Banks' International Shopping (IS) or National Shopping (NS) procedures, where price quotations will be obtained from at least three qualified suppliers from at least two eligible countries, for the former or off-the-shelf goods based on comparison of quotations obtained from at least three domestic suppliers for the latter.

Consultants' Services, including training and workshops (US\$1.5 million). As the majority of work undertaken in this project is capacity building and technical assistance to the Lake Chad Basin riparian countries, a large percentage of the expenditure will be for consultant services, much of which will be based in the Lake Chad Basin. Based on agreed upon criteria, the PMU will maintain and update a list of consultants which will be used to short-list Consultant firms financed under the Project will be selected in accordance with Bank consultant guidelines through a quality and cost-based selection (QCBS), and by using the Bank's Standard Request for Proposals. Specialized local consultant services, will be selected on the basis Consultant Qualifications (CQ) from a pre-determined roster of qualified consultants or, on rare occasion, on a sole-source basis. Section III of Consultants Guidelines gives more information regarding the delineation and application of QCBS, CQ, and sole-source methods. Training under the project will be implemented according to an annual training plan that the PMU will prepare and submit to the Bank for approval before implementation.

In hiring consultants, the project will seek complementarities between local experience and good practice at the regional and international levels. National / regional consultants with specialized knowledge of the local conditions will be sought. If the project needs an intervention based upon a broader experience, an international consultant will be hired to work alongside the national / regional consultant. This will ensure a highly localized intervention that is supported by international good practice as needed. An added benefit will be the creation of a network of skilled consultants at the national, regional and international levels who are familiar with the Lake Chad project

The following selection procedures would be used:

(a) Quality-and-Cost-based Selection: All consulting service contracts costing more than US\$100,000 would be awarded through Quality and Cost-Based Selection (QCBS) method. To ensure that priority is given to the identification of suitable and qualified national consultants, short-lists for contracts estimated at or less than US\$150,000 equivalent may be comprised entirely of national consultants from the Lake Chad riparian countries (in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines), provided that a sufficient number of qualified individual or firms (at least three) are available. However, if foreign firms have expressed interest, they would not be excluded from consideration.

(b) Consultant's Qualification Selection may be used for consulting services for research, and targeted interventions for which organizations with specialized expertise, strong capacities to work with multi-national groups and proven track records would be recruited. The amount of the contract is estimated to cost less than US\$50,000.

(c) Consultants for services meeting the requirements of Section V of the Consultant Guidelines will be selected under the provisions for the Selection of Individual Consultants method. Individual Consultants (IC) will be selected through comparison of curriculum vitae against job description requirements of those expressing interest in the assignment, or those having been identified directly by the PMU. Consultants hired under the project cannot be civil servants.

(d) The use of non-governmental organizations (NGOs) and/or the private sector will be used for the execution of the pilot demonstration projects in Component 5. NGOs are voluntary nonprofit organizations that may be uniquely qualified to assist in the preparation, management, and implementation of projects, essentially because of their involvement and knowledge of local issues, community needs, and/or participatory approaches. The criteria used for narrowing the list of potential candidates for project execution in the case of the Lake Chad Basin GEF project includes: previous and current project implementation capacities; knowledge of community economic needs and potentials, including local language capacities; demonstrated ability to work with local and regional government officials across several sectors, including agriculture, livestock, fisheries, rural hydraulics; and experience working with UNOPS or other supra-contracting agencies. The NGOs which have been selected to execute the Komadougou-Yobe and Waza-Logone pilot demonstration projects have been selected on a single-source basis, according to the criteria outlined in Section 3.9. In two of these cases, single source selection was deemed appropriate due to the natural continuation of the NGOs Hadejia-Nguru Wetlands Conservation Project and Waza-Logone Wetlands Conservation Project of their previous work in the same physical project area.

In order to provide for this continuity in piloting of community-based land and water resource management techniques, the PMU will work with the NGOs in the following manner: the initial Request for Proposals (RFP) shall outline this prospect and, if practical, the factors used for the selection of the Consultant should take the likelihood of continuation into account. The RFP will emphasize continuity in the technical approach, experience acquired, and continued professional liability of the same NGOs, which may make continuation with the initial NGO preferable to a new competition subject to satisfactory performance in the initial assignment. For such downstream assignments, the PMU shall ask the initially selected NGO to prepare technical and financial proposals on the basis of TOR furnished by the PMU, which shall then be negotiated.

In the case of the Lake Fitri pilot demonstration project, which is newly designed, the executing agency will be put to competitive bid, to be selected from among NGOs, and the private sector. This was confirmed during the appraisal mission in April 2002, which conducted a site visit to the Lake Fitri area, including numerous interviews with local community members to ask about preferred service providers. The criteria used for narrowing the list of potential candidates for project execution in the case of Lake Fitri will includes: previous and current project implementation capacities; knowledge of local community economic needs and potentials, including local language capacities; demonstrated ability to work with local and regional government officials across several sectors, including seasonal lakebed agriculture, livestock watering, community and commercial fisheries, biodiversity, especially migratory birds, and rural hydraulics; and experience working with UNOPS or other supra-contracting agencies.

Training, Workshops, and Conference. Training, workshops, conference attendance and study tours will be carried out on the basis of approved annual programs that will identify the general framework of training and similar activities for the year, including the nature of training/study tours/workshops, the number of participants, and cost estimates.

Prior Review Thresholds (Table B). The World Bank will conduct a prior review of the following procurement documentation:

a) Goods and Equipment: All ICB contracts, and the first contract to be procured using NCB, and the first contract to be procured using shopping will be subject to prior review, with all following contracts subject to post review.

b) Works: All ICB contracts, and the first contract to be procured using NCB will be subject to prior review, with all following contracts subject to post review.

c) Consultants' Services: The first contract with a firm, and all subsequent contracts with firms above US\$100,000, will be submitted for prior review. Individual consultant contracts above US\$50,000 will all be subject to prior review. With respect to any contract for the employment of a consulting firm or an individual consultant under the project, the draft Terms of Reference shall be submitted to the Bank for its prior review and approval. All single-source selection shall be subject to the Bank's prior review.

d) Operational expenses: All individual long term contracts (greater than six months) for project staff will be subject to prior review.

e) The contracts that would not be subject to prior review would be subject to ex-post review.

Processing: All procurement packages will be prepared by the PMU following the procurement plan and procedures agreed with the Bank. The PMU will forward these packages, via UNOPS, to the Bank for prior review and 'no objection', as required.

Frequency of procurement implementation support missions: It is suggested that procurement implementation support be provided to this project twice a year as needed, which would include a focus on post-review/audits as specified above. It is also suggested that this procurement implementation support be given to LCBC/PMU headquarters in N'Djamena as well as UNOPS-New York.

Procurement methods (Table A)

Expenditure Category	Procurement Method				
	ICB	NCB	Other	N.B.F.	Total Cost
1. Works	0.00 (0.00)	0.26 (0.26)	0.00 (0.00)	0.00 (0.00)	0.26 (0.26)
2. Goods, including vehicles	0.00 0.00	0.00 (0.26)	0.40 0.00	3.82 0.00	4.22 (0.26)
3. Microgrants	0.00 0.00	0.00 0.00	0.13 (0.13)	0.00 0.00	0.13 (0.13)
4. Consulting Services and Audits	0.00 (0.00)	0.00 (0.00)	2.75 (1.50)	8.81 (0.00)	11.46 (1.50)
5. Training and Workshops	0.00 0.00	0.00 0.00	0.40 (0.40)	0.51 0.00	0.91 (0.40)
6. Incremental Operating Costs	0.00 (0.00)	0.00 (0.00)	0.00 (0.10)	2.64 (0.00)	2.64 (0.10)
7. Unallocated					(0.00)

Total					19.62 (2.90)
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Table A1: Consultant Selection Arrangements (optional)
(US\$ million equivalent)

Consultant Services Expenditure Category	Selection Method							Total Cost ¹
	QCBS	QBS	SFB	LCS	CQ	Other	N.B.F.	
A. Firms	0.55 (0.55)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.16 (0.16)	0.64 (0.64)	0.00 (0.00)	1.35 (1.35)
B. Individuals	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.90 (0.15)	0.40 (0.00)	8.81 (0.00)	10.11 (0.15)
Total	0.55 (0.55)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	1.06 (0.31)	1.04 (0.64)	8.81 (0.00)	11.46 (1.50)

1\ Including contingencies

Note: QCBS = Quality- and Cost-Based Selection

QBS = Quality-based Selection

SFB = Selection under a Fixed Budget

LCS = Least-Cost Selection

CQ = Selection Based on Consultants' Qualifications

Other = Selection of individual consultants (per Section V of Consultants Guidelines), Commercial Practices, etc.

N.B.F. = Not Bank-financed

Figures in parenthesis are the amounts to be financed by the Bank Grant.

Prior review thresholds (Table B)

Expenditure Category	Contract Value Threshold (US\$ thousands)	Procurement Method	Contracts Subject to Prior Review (US\$ millions)
1. Goods	>150 50 - 150 <50	ICB NCB Shopping	All First contract only First contract only
2. Works	>150 50 - 150 <50	ICB NCB Community participation and/or minor works	All First three contracts, then post-review Post-Review
3. Services -- Firms	>100 <100	QCBS CQ LCS SS	All First contract only All All TORs
4. Services -- Individuals	<50	CQ SS	First ten contracts All SS contracts All project long-term staff (>6 months) All TORs

N.B. (i) All terms of reference for consulting services will be subject to the Bank's prior review; (ii) Procurement performance (including MSD's procurement activities) will be assessed on an annual basis (in the form of procurement audits by an external agency), and the threshold levels for various methods of procurement may be revised based on the assessment results; (iii) Training abroad and in-country, workshops and study tours will be carried out on the basis of approved annual programs that would identify the nature of training/study tours/workshops, institutions where training/study tours/workshops would be conducted (selection of institutions and justification thereof), cost estimates and contents of the course.

Disbursement

Allocation of grant proceeds (Table C)

The proposed allocation of grant proceeds is shown in Table C. Disbursements of GEF funds will finance: (i) 100% of all expenditures in foreign currency; (ii) 80% of civil works local costs; (iii) 100% of local consultants services and training and (iv) 100% of incremental operation expenses. The Lake Chad Basin Commission (LCBC) has non-profit status in Chad and therefore is exempt from the Standard Disbursement Percentage (SDP) requirement. This exemption has also been documented in Section I: "Compliance with Bank Policies" of the Project Appraisal Document. All applications to withdraw proceeds from the grant must be fully documented, except for contracts not subject to prior review by GEF. For the rest of the contracts, disbursements will be made against Statement of Expenses (SOEs) certified by the Project Manager of the PMU.

Use of statements of expenditures (SOEs):

Requests for funds withdrawals will be properly documented for all expenditures to be paid out of the GEF Grant, except for the following contracts for which disbursements will be made against SOEs certified by the Project Manager: (a) contracts for goods with a unitary value below US\$100,000 equivalent; (b) contracts with consulting firms with a unitary value below US\$100,000 equivalent and with individual consultants for an amount below US\$75,000 equivalent; (c) additional operating expenses; and (d) training. Documentation of such SOEs will be retained by the PMU and made available for review, on request, to procurement and financial auditors and to WB/GEF supervision missions.

Special account:

In order to facilitate local disbursements UNOPS will establish an Imprest Account in a local bank managed by the PCU to meet the operational needs of the project. The imprest level will normally be set at 1½ months of anticipated expenditure to ensure that funds are available at the beginning of the current month while awaiting replenishment from UNOPS or local UNDP office. The level will be reviewed periodically and adjusted by UNOPS Finance and Budget Section in consultation with the Imprest Holder. All transactions reported through Imprest Accounts are to be made in accordance with UNOPS Financial Regulations, Financial Rules applicable to UNOPS, and the relevant administration directives and procedures.

Financial Management:

UNOPS and the PMU will be responsible for preparing the annual consolidated financial statements. All documentation relating to procurement, contracts and invoices will be retained and made available to supervision missions and auditors.

The Bank has assessed the management system which will be used at the PMU in order to determine whether it can provide, with reasonable assurance, accurate and timely information on the status of the project as required by the Bank (refer to report on "the evaluation of Project Management Unit "financial management system" in the project's files). This assessment concluded that the system is adequate for the Project to proceed to Board approval and should be able to produce Financial Monitoring Reports (FMR) by effectiveness. The replenishment of the Imprest Account will be made against transaction-based (SOEs). In addition to the financial statements that have to be submitted each year, the PMU will submit quarterly monitoring reports on financial statements, physical implementation and management of contracts for goods, works and consultants' services.

During negotiations, the LCBC provided assurances: (a) that project financial statements will be audited in accordance with internationally recognized auditing standards by UNOPS according to previously agreed standards between UNOPS and the World Bank. The audit reports and financial statements will be submitted to the Bank within 6 months of the end of the fiscal year; (b) that, in addition to an opinion on the financial statements expressed in their succinct report, the auditors will be asked to review in depth all SOEs, which include payments made through Imprest Accounts, and internal control procedures used for their preparation during the period under review, in order to express a separate opinion on them; and (c) that, finally, the auditors will carry out a detailed review of the project's system of internal controls, with a view to identifying its main weaknesses and making recommendations for improvement. The results of this review will be incorporated into a letter to Management to be submitted along with the auditors' reports.

It is the responsibility of UNOPS to have the project's financial statements audited annually and the audit reports submitted to the Bank and UNDP. The auditors will be provided by UNOPS internally according to Annex VI of the Management Services Agreement.

Financial management risks

There are some financial management risks related to the fact that the current financial management system is not fully computerized. However, these risks will be mitigated by: (i) the technical and managerial assistance to be provided by UNOPS and (ii) regular Bank missions including SOE reviews and timely follow up on management letter issues.

Annex 7: Project Processing Schedule

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

Project Schedule	Planned	Actual
Time taken to prepare the project (months)	12	36
First Bank mission (identification)	06/30/2000	06/30/2000
Appraisal mission departure	03/31/2001	04/15/2002
Negotiations	09/01/2001	08/02/2002
Planned Date of Effectiveness	01/01/2002	02/01/2003

Prepared by:

Tracy Hart, Franklin Cardy, Inger Andersen, Ousmane Dione, World Bank;
 Undala Alam, World Bank and UNDP
 David LaRoche, UNDP;
 Jacob Burke, FAO;

Preparation assistance:

Marie-Adele Tchakounte Sitchet, Armele Vilceus, and Marjorie Kingston, World Bank

Bank staff who worked on the project included:

Name	Speciality
Tracy Hart	Senior Economist
Franklin Cardy	Principal Water Resource Management Specialist
Ousmane Dione	Water Resource Management Specialist
Undala Alam	Water Resource Specialist
Marie-Adele Tchakounte Sitchet	Language Program Assistant
Armele Vilceus	Language Team Assistant
Marjorie Kingston	Team Assistant
Robert Robelus	Senior Environmental Assessment Specialist
Kristine Ivarsdottar	Senior Social Development Specialist / Anthropologist
Karen Hudes	Senior Counsel
Magaye Gaye	Financial Management Specialist
Agnes Albert-Loth	Senior Financial Management Specialist
Tesfaalem Iyesus	Procurement Specialist
Samuel Redji Mobeal	Resource Management Specialist
Jeff Lecksell	Cartographer
Alessandro Palmieri	Lead Dam Safety Advisor
Christophe Crepin	AFR GEF Coordinator / AFR Peer Reviewer
William Leeds Lane	AFR Peer Reviewer
Rune Castberg	ECA Peer Reviewer
Willem Zijp	AFR Quality Assurance Advisor
Richard Verspyck	Lead Economist, Quality Assurance

Annex 8: Documents in the Project File*

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

A. Project Implementation Plan

Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem Project Implementation Manual (PIM)

B. Bank Staff Assessments

C. Other

GEF Proposal for a PDF-C Block C Grant Regional: Lake Chad Basin Countries

GEF Approved Project Brief: Development and Implementation of a Strategic Action Program (SAP) for the Lake Chad Basin Ecosystem (4 January 1999)

UNDP Expedited Project Document, "Reversal of Land and Water Degradation Trends / Lake Chad Basin Ecosystem"

February Intersessional Work Program: Comments from Council Members (Reference to GEF/IS/6) - February 9, 2000

The Lake Chad Convention Basin: A Diagnostic Study of Environmental Degradation (Kindler et al., November 1989)

Project Outline: Impact Assessment of Changing Land Use in the Head Waters of the Lake Chad Basin (Central African Republic)

Project Outline: Lake Fitri Management Plan Definition

Contribution to the Development of an Integrated Management Plan for the Lake Fitri, Chad

Projet Pilote Transfrontalier Tchad-Niger de lutte l'Ensalement et Inversion de la Tendance des Degradations des Eaux du Lac Tchad

Outline Definition of a GEF Pilot Project on the Continued Funding and Extension of Current Work to Monitor Current Releases in the Area of the Waza National Park to Cover the Chari River, Including Updating of the Hydrodynamic Model for the Area

Outline Definition of a GEF Pilot Project on Integrated Wetlands Management in the Komadougou-Yobe Basin

Pilot Project for the Sustainable Management of the Lake Chad Shoreline, Through the RAMSAR Management Planning Process

Environmental and Social Assessment Report, January 2002

Maga Dam, Tiga Dam and Challawa Gorge Dam Safety Assessments, March 2002

Memorandum of Agreement between the Lake Chad Basin Commission and UNDP for Management and Other Support Services to be Provided by UNOPS in Respect of a World Bank Implemented LCBC/GEF Project

Global Environmental Facility Trust Fund Grant Agreement

[*Including electronic files](#)

Annex 9: Statement of Loans and Credits

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

Project ID	FY	Purpose	Original Amount in US\$ Millions			Cancel.	Undisb.	Difference between expected and actual disbursements ^a	
			IBRD	IDA	GEF			Orig	Frm Rev'd
P071233	2001	MULTICOUNTRY HIV/AIDS PROGRAM FOR AFRICA	0.00	0.00	0.00	0.00	106.61	0.00	0.00
P036037	1999	OIL SPILL CONTINGENCY	0.00	0.00	3.15	0.00	2.40	1.24	0.00
P000003	1998	REIMP(CEN.ENV.,INFO)	0.00	0.00	4.10	0.00	1.93	2.16	0.00
P000001	1996	COMM CONSERV & WILDL	0.00	0.00	4.40	0.00	2.82	3.89	0.00
Total:			0.00	0.00	11.65	0.00	113.75	7.29	0.00

AFRICA
STATEMENT OF IFC's
Held and Disbursed Portfolio
Jan-2001
In Millions US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1999	AIF	0.00	74.80	0.00	0.00	0.00	8.55	0.00	0.00
1999	AIM	0.00	0.20	0.00	0.00	0.00	0.10	0.00	0.00
1993	Africa Fund	0.00	7.50	0.00	0.00	0.00	7.50	0.00	0.00
1999	ETI	0.00	3.75	3.75	0.00	0.00	3.75	3.75	0.00
2000	MSICIH	0.00	10.00	0.00	0.00	0.00	10.00	0.00	0.00
1999	PROPARCO AL	17.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Portfolio:	17.72	96.25	3.75	0.00	0.00	29.90	3.75	0.00

FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic
1999	AIF	0.00	0.00	25000.00	0.00
2000	MSICIH	0.00	0.00	3500.00	0.00
	Total Pending Commitment:	0.00	0.00	28500.00	0.00

Annex 10: Country at a Glance

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

POVERTY and SOCIAL	Lake Chad Basin Commission	Low & middle income
2001		
Population, mid-year (<i>millions</i>)	168.0	5,177.8
GNI per capita (<i>Atlas method, US\$</i>)	300	1,160
GNI (<i>Atlas method, US\$ billions</i>)	50.4	5,990.3
Average annual growth, 1995-01		
Population (%)	2.6	1.5
Labor force (%)	2.7	1.8
Most recent estimate (latest year available, 1995-01)		
Poverty (% of population below national poverty line)	..	..
Urban population (% of total population)	43	42
Life expectancy at birth (<i>years</i>)	47	64
Infant mortality (<i>per 1,000 live births</i>)	87	58
Child malnutrition (% of children under 5)	27	..
Access to an improved water source (% of population)*	56	79
Illiteracy (% of population age 15+)	38	24
Gross primary enrollment (% of school-age population)	77	104
Male	85	107
Female	69	100

Development diamond*

KEY ECONOMIC RATIOS and LONG-TERM TRENDS	1981	1991	2000	2001
GDP (<i>US\$ billions</i>)	71.3	45.4	54.2	54.3
Gross domestic investment/GDP	23.6	20.2	..	..
Exports of goods and services/GDP	23.0	30.6	..	..
Gross domestic savings/GDP	18.1	24.3	..	..
Gross national savings/GDP	..	17.3	..	..
Current account balance/GDP	-10.5	-3.1	2.7	-1.9
Interest payments/GDP	1.2	5.0	1.1	1.7
Total debt/GDP	21.9	95.6	86.8	..
Total debt service/exports	10.3	22.0	6.5	..
Present value of debt/GDP	..	..	65.8	..
Present value of debt/exports	..	..	141.9	..
	1981-91	1991-01	2000	2001
(<i>average annual growth</i>)				
GDP	2.7	2.5	3.5	4.4
GDP per capita	-0.3	-0.3	1.1	2.0
Exports of goods and services	3.1	3.7	-1.9	4.7

Economic ratios*

STRUCTURE of the ECONOMY	1981	1991	2000	2001
(% of GDP)				
Agriculture	29.2	30.3	34.3	..
Industry	33.4	38.7	36.9	..
Manufacturing	9.2	8.2	6.2	..
Services	37.3	31.0	28.8	..
Private consumption	69.9	63.2	..	..
General government consumption	11.9	12.5	..	..
Imports of goods and services	28.5	26.5	..	..
	1981-91	1991-01	2000	2001
(<i>average annual growth</i>)				
Agriculture	3.5	4.2	4.7	..
Industry	1.2	0.8	6.7	..
Manufacturing	1.6	1.4	7.4	..
Services	2.7	2.0	0.9	..
Private consumption	-1.7	-2.8	-30.6	-7.2
General government consumption	-1.0	8.9	69.2	14.0
Gross domestic investment	-4.9	7.0	32.3	17.5
Imports of goods and services	-10.3	5.9	15.5	20.8

Growth of investment and GDP (%)

Growth of exports and imports (%)

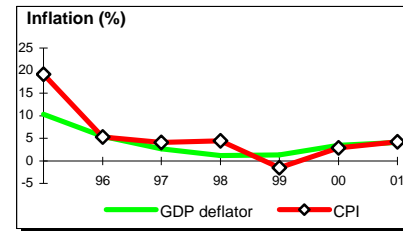
Note: 2001 data are preliminary estimates. This table was produced from the Development Economics central database.

The Lake Chad Basin Commission includes Chad, Cameroon, Central African Republic, Niger, and Nigeria.

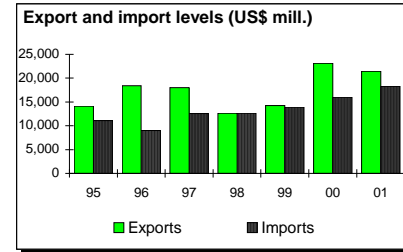
* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

PRICES and GOVERNMENT FINANCE

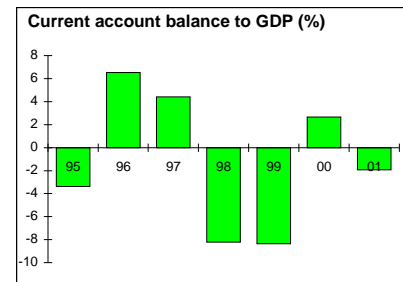
	1981	1991	2000	2001
Domestic prices				
(% change)				
Consumer prices	..	2.1	2.9	4.2
Implicit GDP deflator	10.6	3.1	3.5	4.0
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	16.3	35.8	37.1
Current budget balance	6.4	-0.3	16.7	14.2
Overall surplus/deficit	..	..	1.0	-1.5

**TRADE**

(US\$ millions)	1981	1991	2000	2001
Total exports (fob)	20,140	14,875	23,143	21,426
Manufactures	77	353	411	396
Total imports (cif)	25,538	10,865	16,016	18,306
Food	3,669	1,025	1,961	2,265
Fuel and energy	499	98	284	340
Capital goods	388	655	560	586
Export price index (1995=100)	..	..	..	..
Import price index (1995=100)	..	..	..	..
Terms of trade (1995=100)	..	..	..	..

**BALANCE of PAYMENTS**

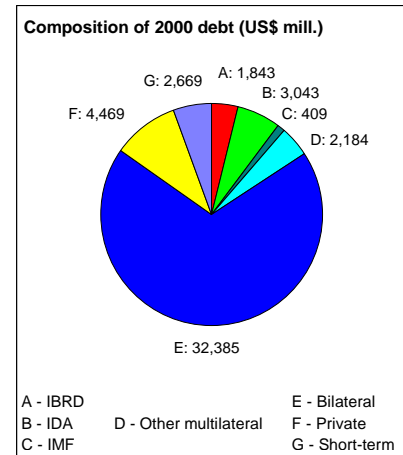
(US\$ millions)	1981	1991	2000	2001
Exports of goods and services	20,963	15,538	24,770	23,042
Imports of goods and services	25,138	13,404	20,217	22,357
Resource balance	-4,175	2,134	4,552	685
Net income	-2,826	-3,770	-4,975	-3,689
Net current transfers	112	225	1,863	1,958
Current account balance	-7,458	-1,411	1,439	-1,046
Financing items (net)	1,215	1,725	2,793	2,231
Changes in net reserves	6,243	-314	-4,233	-1,185

**Memo:**

Reserves including gold (US\$ millions)	..	..	..	..
Conversion rate (DEC, local/US\$)	..	..	..	..

EXTERNAL DEBT and RESOURCE FLOWS

(US\$ millions)	1981	1991	2000	2001
Total debt outstanding and disbursed	15,593	43,345	47,002	..
IBRD	730	4,021	1,843	..
IDA	358	1,298	3,043	..
Total debt service	2,284	3,505	1,640	..
IBRD	88	713	452	..
IDA	8	17	51	..
Composition of net resource flows				
Official grants	210	823	450	..
Official creditors	488	458	-137	..
Private creditors	2,044	-165	-231	..
Foreign direct investment	682	711	1,149	..
Portfolio equity	0	0	2	..
World Bank program				
Commitments	..	..	341	592
Disbursements	143	465	240	..
Principal repayments	39	346	356	..
Net flows	104	120	-116	..
Interest payments	57	385	147	..
Net transfers	47	-265	-263	..



Note: 2001 data are preliminary estimates. This table was produced from the Development Economics central database.

8/23/02

Inflation figures are median values. Balance of payments items excluding exports and imports are simple sums and may not reconcile. The Lake Chad Basin Commission includes Chad, Cameroon, Central African Republic, Niger, and Nigeria.

Additional Annex 11
Project Description of UNDP and World Bank components
AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

A. Overview

Lake Chad basin. Situated in the eastern part of the Sahel region of Africa, at the southern edge of the Sahara desert, Lake Chad and its active basin constitutes an important freshwater resource shared by Cameroon, the Central African Republic, Chad, Niger and Nigeria. The surface area of the lake varies considerably with the amount of annual rainfall, and the recent historical variation in the surface area of the lake has ranged from approximately 25,000 sq.km to 1,350 sq.km. Lake Chad was Africa's fourth largest lake (in terms of surface area) after Victoria, Tanganyika, and Nyasa. Lake Chad is shallow – its average depth being 1.5 m, and is of relatively small volume. One of Lake Chad's tributaries, the Chari River, supplies approximately 95 percent of the lake's surface water input. The lake is subject to considerable evaporation and yet is not saline.

Hydrological context. The geological and geomorphological development of the basin has been conditioned by the slow and 'cool' rifting of the West and Central African Rift System which has formed a regional hydrological sink - the Lake Chad waterbody. The contributing sub-basins are underlain by basement complex in the upper source areas and by a progressively thick sequence of sedimentary deposits toward the Lake. The hydro-stratigraphy in the sedimentary aquifers underlying the lake are only partially understood and the hydro-dynamic linkages to the Lake Chad waterbody therefore conjectural. However, it is apparent that the close interaction between rainfall, evaporation, the generation of lateral inflow to the lake and the groundwater leakage under the body of the lake influence the overall lake balance. A distinction has to be made between hydrological and hydrogeological context of each influent tributary, and the aggregate water balance of Lake Chad itself. Equally there is a marked distinction between a humid period (prior to 1973) and the current drought regime that has persisted over the last three decades. The significant feature of the hydrological context is the persistent change in the rainfall patterns over the basin as a whole. In the last 30 years isohyetal contours of mean rainfall have shifted to the south by an order of several hundred kilometres. The results of this shift are that areas that had experienced a mean rainfall of 320 mm (for example, over the lake itself) now receive less than 210 mm. In the hydrologically active upstream basins, the decrease in mean rainfall of hundreds of mm per year, has brought about a proportionally larger decrease in basin yield as river runoff and effluent groundwater flow is reduced and flow thresholds reduced. This persistence in the rainfall regime is therefore resulting in a very attenuated basin yield and has to be set against burgeoning human demands upon the land and water resources of the system generally.

Ecological context. Historically, the most pronounced feature of the Lake Chad basin (LCB) has been its wetlands. Lake Chad itself is the second largest wetland in Africa, and hosts biodiversity of global significance. The richness of the basin's floodplains support a wide range of economic activities – recession agriculture, pastoralism, forest regeneration, fish breeding and production, drought fallback security, and tourism potential. Because no species appear to be restricted to the lake, regeneration of the fishery is possible as long as floodplain habitat remains accessible and fishing is controlled, particularly during dry periods when the stocks are more vulnerable. For this reason the fish stocks have had the capacity to rebound dramatically, even after the complete disappearance of the surface lake in the 15th century. Recently, basin fisheries have suffered from a combination of influences and practices that include drought, over-fishing, diversion or blockage of instream flows, increased juvenile catch through use of smaller mesh sizes, and the near complete disappearance of the lake's northern basin. In addition to the fishery, the basin contains other significant wildlife of regional and global importance. Over 370

species of birds have been inventoried in the basin, a third of the bird species being migratory. Concerns for the health of existing birdlife include a diminishment of nesting areas for the black-crowned crane and wintering grounds for intercontinental migrants such as the ruff. Other wildlife species in the basin include the oryx, Damas gazelle, Dorcas gazelle, slender-horned gazelle, elephants, black rhinoceros, the Lake Lere manatee, and other water dependent species such as crocodile, hippo, sitatunga and waterbuck. Concerns about these species revolve around poaching, the drought, and lack of trained cadre to protect, maintain and restore certain species.

Socio-economic dependency. For thousands of years Lake Chad has been a centre of development, trading and cultural exchange between the people's living to the north of the Sahara and those to the south. Close to twenty million people depend for their livelihood on activities carried out in the lake and its active basin, which includes important wetlands and floodplains covering 966,955 sq.km. By the year 2020, the population that depends on the lake and its associated resources is projected to reach 35 million.

Lake Chad Basin Commission. Lake Chad's topographic basin extends over 2.3 million sq.km, but the hydrologically active basin is less than half that area at 0.97 million sq.km. A further delimitation, "the conventional basin", arose with the signing, in 1964, of the Convention for the Lake Chad Basin Commission by four riparian countries – Cameroon, Chad, Niger and Nigeria. With Central Africa Republic joining in 1994, a "new conventional basin" was delimited that matches the hydrologically active basin as it now includes the Chari-Logone and Komadougou-Yobe river systems. Currently, Sudan is expressing an interest in becoming party to the convention.

Long-term project objective. The long-term objective of the GEF project is to achieve global benefits through broad, basin wide participation in the development and implementation of measures that ensure that the integrity of the Lake Chad system is protected by integrated management of the basin's resources. This requires orchestration of both national and regional activities through a working system of basin governance. Measures are targeted to, among other things, mitigate the causes and effects of desertification in the region and building of capacity at regional, national and local levels to create enhanced adaptive and anticipatory capability. Special attention will be given to the Africa Land and Water Initiative of the GEF IAs. The project will complement, benefit from, and project personnel will create direct links to other GEF international waters projects in the Senegal, Niger and Volta river basins, all of which are concerned with desertification issues and are part of the overall GEF effort to address land degradation issues in Africa. This long term vision and adaptability has been formally agreed by the riparian countries.

Riparian commitment. In relation to political willingness, the level of project risk is seen as moderate. The participating countries have few economic resources, have witnessed recent national and regional strife and, with the continuing drought, lack of donor support, and short term priorities such as human health, education, basic sanitation, and nutrition, it is difficult to create a focus on what appears to be longer term environmental imperatives. This situation is somewhat mitigated, however, by a growing realisation on the part of the countries that environmental sustainability is inextricably linked to food production, tourism, sanitation, population movements, and thus regional stability. This growing realisation has led the countries to participate effectively in the work undertaken during the Diagnostic Study, Master Plan, the PDF-B and, subsequently, in other endeavours. There is growing evidence to support a conclusion that the countries, notwithstanding to focus on short term priorities at the expense of environmental integrity, are increasingly committed to a regional approach to shared environmental concerns as a means of ensuring sustainability of their shared, fragile resources. Political will and co-operation were expressed for the project and its aims by country participation in and high level,

formal endorsement of the results of the Diagnostic Study, the Master Plan, and the PDF-B developed Strategic Action Plan.

Financial sustainability. The financial commitment of the governments is at this time largely in-kind. There has been recent re-invigoration of donor commitment to direct and related objectives of the GEF project as evidenced by assistance from BMZ, the EU, and Islamic Development Bank. Countries continue their financial commitment to the LCBC and contribute 10 percent or more to each project that has been the subject of donor assistance. As the project is implemented the UNDP will consult on an ongoing basis, at the Task Team Leader level, with regard to the provision of resources necessary to securing World Bank assistance to seek project-related investment both during the project implementation period and post-project. The World Bank will take the lead implementation agency role in organizing donor conferences.

Project purpose. The purpose of the project is threefold. First to overcome barriers to the concerted management of the basin through enhanced collaboration and capacity building among riparians and stakeholders. Second to complete a TDA and prepare a descriptive framework for the concerted water management across the basin. Third to prepare a SAP for long term implementation of priority actions to address transboundary issues. The implementation modalities will be tested under this project through pilot projects, stakeholder involvement, and demonstration of the capacity of riparian countries to implement. The SAP is distinct from the LCB - 'Strategic Action Plan' prepared under the PDF-B activities since it will seek to study, test and formulate identified sub-programmes and design a programmatic intervention to address these specific transboundary issues. The agreed LCB-Strategic Plan is much broader in terms of a phased programmatic approach for sustainable development of the basin and seeks to involve all donors and actors along a common long term vision and a corresponding global strategy.

Project goals and objectives. The project will facilitate the development of a broad based constituency for regional mechanisms to ensure the LCBC member countries collaborate and coordinate their use of the Lake Chad resources. This it will do by: (i) building awareness of how national policies impact on regional resources, and capacity among the riparians and stakeholders; (ii) augmenting the existing constituency through the design of a SAP; (iii) facilitating donor coordination; (iv) collaborating with ongoing work supported by other donors; and (v) drawing on lessons learnt on regional water management by coordinating with the GEF projects in the Senegal and Niger river basins.

Project components. The project has six components with a total GEF budget of US\$9.6 million (see Table 1 below). UNDP is the GEF IA for Components 1, 3, 4 and parts of 5, with a budget of US\$6.7 million. The World Bank is responsible for Component 2, parts of Component 5 and Component 6, with a budget of US\$2.9 million. The project is to be implemented over a four-year period from 2003 to 2007. With some components feeding into one another, there is a natural lag-time between the start of some components. This lagged implementation supports the strategy of strengthening regional mechanisms for joint management of Lake Chad.

Table 1. Summary GEF Project Financing (US\$)

Project Outputs	TOTAL	Co-financing	GEF
Comp.1: Project Mechanisms - An established Program Management Unit (PMU) and country lead agencies	2,988,800	650,800	2,338,000
Comp.2: Enhanced regional policy and institutional mechanisms	1,742,800	661,800	1,081,000
Comp.3: Strengthened stakeholder participation and education, involvement of stakeholders through development of local initiatives	2,220,200	993,200	1,227,000
Comp.4: Key Measurements, TDA and synthetic basin framework	2,499,600	444,600	2,055,000
Comp.5: Demonstration projects to test methodologies, stakeholder involvement and implementation modalities.	9,015,500	6,478,500	2,537,000
Comp.6: Donor support mobilised for SAP and LCBC Plan implementation	462,000	100,000	362,000
TOTALS	18,928,900	9,328,900	9,600,000
PDF (Blocks B and C)	693,500	0	693,500
Total Project Financing	19,622,400	9,328,900	10,293,500

Component 1 – UNDP:

Project Mechanisms: An established program management unit (PMU) and nominated lead agencies to drive and co-ordinate TDA completion, pilot projects, policy initiatives and institutional linkages (US\$2.3 million)

- Activity 1.1 Recruit the Project Manager, public participation and communications expertise, and requisite technical, administrative and secretarial support;
- Activity 1.2 Create and organise the PMU to facilitate and co-ordinate the work program of the project;
- Activity 1.3 Create and make provision for the conduct of meetings of the Co-implementation Project Task Force;
- Activity 1.4 Promote, in co-operation with the participating countries and through the LCBC, country specific inter-ministerial, and local co-ordinating committees, as necessary, and a scientific advisory committee to assist in the work specified in Component 3; and
- Activity 1.5 Support a lead agency for each participating country and a senior official to assume leadership of project activities and represent the participating country in meetings of the Project Steering Committee (PSC).

Component 2 – World Bank:

Enhanced regional policy initiatives and institutional mechanisms to address transboundary issues (US\$1.1 million)

- Activity 2.1 Review current functions and responsibilities of the LCBC;
- Activity 2.2 Identify national actors in water resource and related land and environmental policy implementation;

- Activity 2.3 Coordinate activities with other related GEF projects;
- Activity 2.4 Define and promote the integration of transboundary water and environmental policies into the National Development Plans;
- Activity 2.5 Assess relevant legal frameworks in each country; and
- Activity 2.6 Establish regional structural arrangements for participating countries to review, harmonize and coordinate frameworks, regulations and approaches to ensure improved management of transboundary resources.

Component 3 – UNDP:

Strengthened engagement of stakeholders (US\$1.2 million)

- Activity 3.1 Create and provide resources for a steering committee for the engagement of stakeholders and key user groups at all levels;
- Activity 3.2 Formulate, plan and execute 15 stakeholder group exercises (3 in each participating country);
- Activity 3.3 Support for 15 final workshop reports including recommendations for pilot projects in the SAP implementation phase of the GEF project;
- Activity 3.4 Support for preparation of a final report, including recommendations, to assist governments and the LCBC to begin implementation of key results from the user group exercises; and
- Activity 3.5 Develop a regionally based methodology and mechanism for stakeholder participation at all levels including provision for environmental impact studies.

Component 4 – UNDP:

A completed TDA and a synthetic framework for concerted management of the basin (US\$2.1 million)

- Activity 4.1 Compile existing scientific, hydro-environmental and socio-economic data and information (including groundwater, aquatic ecosystems and water consumption). Prepare a descriptive basin framework and establish key processes and hot-spots. Data and descriptive models to be hosted by the LCBC;
- Activity 4.2 Undertake a gap analysis of existing data to define a basin-wide monitoring network;
- Activity 4.3 Support for the development of key water resource measures (e.g. the hydrostratigraphy in the Chad Formation, updating of rating curves of existing hydrological stations to determine low flow and flood conditions and specific water quality measurements) in order to refine the lake and sub-basin water balances and complete the TDA;
- Activity 4.4 Establish key environmental indicators in the Lake Chad basin to verify compliance with existing and future management plans and, ultimately, to assist in evaluating SAP implementation;
- Activity 4.5 Develop risk analysis capability within the participating countries with the objective of, among other things, assessing regional-level hydro-environmental risk and identification of risk-management systems and approaches; and
- Activity 4.6 Assemble a basin-wide synthetic framework for surface/groundwater interaction within the Lake Chad basin to pre-identify long term consequences of development alternatives.

Component 5 – UNDP and World Bank:

Creation of regional programs and initiation of demonstration projects (US\$2.5 million)

- Activity 5.1 Develop and begin implementation of a regional program to improve existing and define new protected areas, including the creation of corridors to link existing and new protected areas (UNDP);
- Activity 5.2 Lake Fitri pilot project (World Bank);

- Activity 5.3 Develop a regional program aimed at reducing growing water demand with an emphasis on identified hot-spots identified in the LCB Strategic Plan (UNDP);
- Activity 5.4 Support development of a regional mechanism to create and implement a regional program to anticipate future pollution threats, including those that may derive from increased oil exploration, drilling, production and transport, and build capacity to prevent their occurrence (UNDP);
- Activity 5.5(a) Komadougou-Yobe pilot project (World Bank);
- Activity 5.5(b) Chari-Logone pilot project (World Bank); and
- Activity 5.6 Lessons learned from pilots projects as input into the SAP process (World Bank).

Component 6 – World Bank

Strategic Action Plan endorsed with donor support (US\$ 0.36 million)

- Activity 6.1 Develop and implement a plan for continuing donor contact;
- Activity 6.2 Plan and implement 2 donor conferences, one shortly after GEF project approval and one immediately prior to SAP implementation;
- Activity 6.3 Present the TDA and the SAP to the Interministerial Coordinating Committees and the LCBC; and formalize a regional agreement on the SAP; and
- Activity 6.4 Develop of donor conference reports and prepare a strategy for ongoing project funds.

The performance indicators for the World Bank components are summarized in Annex 1.

B. Project Management and Administration

LCBC and UNOPS. A major objective of this project is to build capacity within the LCBC. The LCBC will be involved in certain specific elements of project execution, with regard to, among other elements, the pilot demonstration activities described in this project document. The exact modalities of LCBC's project execution role will be determined during the early stages of full project implementation and will be the subject of a Memorandum of Agreement between the United Nations Office for Project Services (UNOPS) and the LCBC. UNOPS will executive the UNDP components as it is experienced in successfully managing UNDP-GEF international waters projects, and ensuring that a PMU has the support it needs to adhere to standard UNDP practice with regard to, among other things, the hiring of personnel, the transport of personnel to duty stations, recruitment processes, contracting, equipment purchase and disposition rules and regulations, and the coordination of monitoring and evaluation functions. UNOPS itself is a project management entity, and as such does not involve itself in the execution of substantive project activities, and will work through the Project Steering Committee to involve other executing partners for specific project activities based on their comparative advantage.

Project Steering Committee. The Project Steering Committee (PSC) will be chaired by the Executive Secretary of the LCBC, with one member designated from each of the each of the LCBC member states, and two LCBC staff members. Additionally, the PSC will be comprise a representatives of the two GEF IA, one member from UNOPS, and the Project Manager, who shall serve as an ex-officio member. Other members may be added to the PSC at its discretion at any time.

Project Management Unit. The PMU will provide a coordination and management structure for the development and implementation of the UNDP-GEF Lake Chad Basin project in accordance with the rules and procedures of GEF-UNDP and based on the general guidance provided by the PSC. The PMU will be comprise a Project Manager, Director of Administration and Finance, and other staff as will be determined by the Project Manager. The Project Manager shall be responsible for the overall coordination of the project, and will liaise directly with designated officials of the participating countries,

the IAs, the executing agency, UNDP and World Bank country offices, existing and potential additional project donors, National Focal Points, and others as seen necessary by the PSC or by the Project Manager. The budget and associated work plan will provide guidance on the day-to-day implementation of the approved project document and on the integration of the various donor funded parallel initiatives. The Project Manager will be responsible for delivery of all substantive, managerial and financial reports from and on behalf of the project. They will provide overall supervision for all GEF staff in the PMU.

Inter-Ministerial Coordinating Committees. Each of the participating countries shall convene an Inter-Ministerial Coordinating Committee (IMCC). The LCBC will assist the countries in this activity. Each IMCC will function to coordinate country level activities necessary to the formulation of the TDA and the SAP. As part of country specific TDA activities, each country will formulate and prioritize its project related, country specific activities on a sector by sector basis. Further, working with and through the project TDA formulation process, they will determine, in priority sequence, the transboundary issues that confront the Lake Chad Basin as a whole. Each participating country shall, with the assistance of the LCBC, name a Lead Country Official who will chair the IMCC. Provision has been made for staff assistance to each of the designated country chairs. Limited financial provision has also been made for meetings of each country IMCC.

C. UNDP managed project components

Component 1 Project Mechanisms: An established program management unit (PMU) and nominated lead agencies to drive and co-ordinate TDA completion, pilot projects, policy initiatives and institutional linkages

Introduction. There is a need for a core co-ordinating unit that must work closely with the LCBC, the institution designated by the countries as the responsible entity for projects of a regional nature. This mechanism will be created in consultation with the respective GEF country focal points, the LCBC, UNDP Resident Representatives, and government officials as necessary. In addition to this basic project need, it is intended that activities of the project be made complementary with activities of related, other GEF projects in West Africa. Most notably these include the UNDP-Bank GEF project in the Niger River Basin and the Bank-UNDP GEF Project in the Senegal River Basin.

Activities. The activities are:

- Activity 1.1 Recruit the Project Manager, public participation and communications expertise, and requisite technical, administrative and secretarial support;
- Activity 1.2 Create and organise the PMU to facilitate and co-ordinate the work program of the project;
- Activity 1.3 Create and make provision for the conduct of meetings of the Co-implementation Project Task Force;
- Activity 1.4 Promote, in co-operation with the participating countries and through the LCBC, country specific Inter-ministerial, and local co-ordinating committees, as necessary, and a scientific advisory committee to assist in the work specified in Activity 1.6 and Output 3; and
- Activity 1.5 Support a lead agency for each participating country and a senior official to assume leadership of project activities and represent the participating country in meetings of the Project Steering Committee (PSC).

Component 3 Strengthened engagement of stakeholders

Introduction. Strategies and discrete actions that can protect and lead to the effective management of the Lake Chad basin aquatic ecosystems must be undertaken at the local level where the greatest capacity for adaptability resides. While all affected interests will have access to project participation activities, special attention will be given to affected local populations that rely on the resources of the Basin for their sustenance, and have shown an ability to adapt to rapidly changing natural and human-induced changes in the natural system. Provision will thus be made to ensure that people living within the basin are given full opportunity to participate in project definition and project implementation. Local level participation, including NGOs and, to the extent practicable the private sector, will be actively promoted during the project as their participation is deemed as essential to project success. Involvement of the private sector would become especially important as a means of assessing the environmental implications of an oil field exploitation and a pipeline that is planned to transect an environmentally sensitive area of the Lake Chad Basin in Cameroon and Chad.

Within the framework defined for each sub-basin, and in collaboration with existing basin sub-commissions and other support mechanisms, local authorities and populations can undertake local sustainable development initiatives, in effect developing local Agenda 21s. The results of these locally driven exercises would include project specific suggestions that would be reviewed by the Basin Committee for Strategic Planning (BCSP), an entity that has already been created through the LCBC to assist in the creation of the local planning initiatives. The BCSP would select, based on the principles of sustainability, replicability, and “scale-ability”, the most promising project suggestions and existing, sustainable local practices for funding as pilot demonstrations in the SAP implementation phase of the project, and as necessary continue to function beyond the life of the GEF project.

Activities. The activities are:

- Activity 3.1 Create and provide resources for a steering committee for the engagement of stakeholders and key user groups at all levels;
- Activity 3.2 Formulate, plan and execute 15 stakeholder group exercises (3 in each participating country);
- Activity 3.3 Support for 15 final workshop reports including recommendations for pilot projects in the SAP implementation phase of the GEF project;
- Activity 3.4 Support for preparation of a final report, including recommendations, to assist governments and the LCBC to begin implementation of key results from the user group exercises; and
- Activity 3.5 Develop a regionally based methodology and mechanism for stakeholder participation at all levels including provision for environmental impact studies.

Component 4 A completed TDA and a synthetic framework for concerted management of the basin

Introduction. An adaptive and anticipatory capability requires good information. Previous efforts, such as the Diagnostic Analysis, the Master Plan and the PDF-B project, have generated substantial information on many of the issues confronting the participating countries. The TDA will need to determine the precise linkages between environmental and socio-economic systems and their transboundary impacts. It is expected that the finalised TDA will refine the priorities identified in previous studies and consultations. It is expected that these will include the definition of threats to the overall basin and lake balance, the social and related environmental transboundary nature of population movements, cross-border fisheries issues, navigation and trade, and the transboundary aspects of

inter-community dependence emanating from the activities within the basin. The TDA will build upon work undertaken during the PDF-B project. In particular, work undertaken by the participating countries during the PDF-B project concluded that the means for accurate and monitoring of resource flows and uses do not exist. This seriously impedes the reconciliation of existing and emerging disputes. Specific hydro-environmental data is lacking and a broad range of relevant scientific studies in the region have not been synthesised into a working basin-wide framework. In addition, there is little monitoring of industrial discharges. Data analysis at the national level, to the extent that data is available and has been analysed, is not effectively disseminated among the relevant institutions at national and international levels. Even where raw data is available, the mechanisms for national and international analysis are absent. Therefore a long term objective of the countries and the LCBC is the establishment of a sustainable, functional, basin-wide meteorological, hydrological and hydrogeological network. GEF funding can only be used to support the completion of the transboundary (international) analysis. To the extent possible key measurements will be taken over the first three years of the project to establish an international datum for the LCB. Work will then be undertaken to identify sustainable financing mechanisms for a Lake Chad basin monitoring system.

Unless the essential character of the LCB groundwater resources are known, anticipatory planning and adaptive capability will not be possible. It is clear that some aquifers systems of the basin are already under pressure and that groundwater in general will become increasingly critical for the provision of potable water supplies and water for crop and livestock maintenance. As indicated, a clear regional hydrogeological overview is not available and specific knowledge about the groundwater resources will need to be sharpened. Without more detailed knowledge of such issues as surface-groundwater interactions and the identification of hot-spots, planning for the sustainable use of the key aquifers is impossible. Activity 4.3 will fill specific gaps on groundwater knowledge and other hydraulic issues in the basin as a basis for management decisions. Activity 4.3 will also complement work in the Chari-Logone aquifer that is being funded by BMZ and executed by UNESCO. The recently closed BMZ project and GEF commitment will be used by the PMU, the participating countries and the LCBC to leverage other donors to undertake detailed groundwater assessments.

Activities. The activities are:

- Activity 4.1 Compile existing scientific, hydro-environmental and socio-economic data and information (including groundwater, aquatic ecosystems and water consumption). Prepare a descriptive basin framework and establish key processes and hot-spots. Data and descriptive models to be hosted by the LCBC;
- Activity 4.2 Undertake a gap analysis of existing data to define a basin-wide monitoring network;
- Activity 4.3 Support for the development of key water resource measures (e.g. the hydrostratigraphy in the Chad Formation, updating of rating curves of existing hydrological stations to determine low flow and flood conditions and specific water quality measurements) in order to refine the Lake and sub-basin water balances and complete the TDA;
- Activity 4.4 Establish key environmental indicators in the Lake Chad basin to verify compliance with existing and future management plans and, ultimately, to assist in evaluating SAP implementation;
- Activity 4.5 Develop risk analysis capability within the participating countries with the objective of, among other things, assessing regional-level hydro-environmental risk and identification of risk-management systems and approaches; and
- Activity 4.6 Assemble a basin-wide synthetic framework for surface-groundwater interaction within the Lake Chad basin to pre-identify long term consequences of development alternatives.

Component 5 Creation of Regional Programs and initiation of demonstration projects to test and validate methodologies, secure stakeholder involvement and develop implementation modalities.

Introduction. The regional initiative and supporting mechanisms require implementation through national, regional and local level mechanisms. These are mechanisms over which a regional initiative has no jurisdiction. However, a pre-condition to the implementation of the strategic action program is that SAP interventions can be executed at national and local levels. Notwithstanding the commitment made during the project PDF-B, in which countries reached high level agreement on priority actions that need to be urgently addressed, the precise mode in each sub-basin needs to be determined and tested with local and national actors and explicitly linked to the regional initiatives through an integrated basin approach in order address the priority transboundary concerns. Therefore specific demonstration projects will be articulated at the end of the first year of the project on the basis of the TDA findings. These will build on the existing development and environment initiatives and will be designed to add global value to these interventions by addressing transboundary priorities. This initiative is anticipated in the priorities identified in the LCBC Master Plan and also in work undertaken during the PDF-B, the articulation of the LCB Strategic Plan and the subsequent agreements reached by the LCBC Council of Ministers. It will focus on new institutional mechanisms to link local, national and regional planning initiatives. In addition, an additional PDF-B support to be executed by the World Bank will aim to pre-identify suitable mechanisms and targets at regional national and local level. Taking into account the findings and results of the synthetic framework (Activity 4.6), the country-identified priorities requiring immediate implementation will result in the following activities, each of which will have provision for stakeholder participation:

Activities. The activities are:

- Activity 5.1 Develop and begin implementation of a regional program to improve existing and define new protected areas, including the creation of corridors to link existing and new protected areas;
- Activity 5.3 Develop a regional program aimed at reducing growing water demand with an emphasis on identified hot-spots identified in the LCB Strategic Plan; and
- Activity 5.4 Support development of a regional mechanism to create and implement a regional program to anticipate future pollution threats, including those that may derive from increased oil exploration, drilling, production and transport, and build capacity to prevent their occurrence

D. World Bank managed project components

See Annex 2

Additional Annex 12

Environmental Management Plan Overview

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

The Environmental Management Plan (EMP) consists of a set of mitigation, monitoring and institutional measures to be taken during implementation and operation to eliminate adverse environmental impacts of the LCBC project, offset them or reduce them to acceptable levels. This plan also includes the actions needed to implement these measures. The EMP (a) identifies the set of responses to potentially adverse impacts; (b) determines requirements for ensuring that those responses are made effectively and in a timely manner, and (c) describes the means for meeting those requirements.

The EMP only addresses the biophysical impacts of the proposed project e.g. deforestation. The mitigation plans in relation to social impacts e.g. loss of access to resource and/or displacement of populations are addressed in the Process Framework and Resettlement Framework respectively.

The chart below gives the proposed set of mitigated activities with funding in place for each demonstration pilot in the project – there are detailed plans available upon request through the InfoShop, the Lake Chad Basin Commission, the LCBC member states, the World Bank and UNDP. These detailed plans give more information, specifically, on Performance Indicators, Monitoring, and Capacity Development and Training, please refer to the Environmental Management Plan in full.

Chari-Logone Pilot Activity and Impacts: (i) rehabilitation/creation of a wildlife pond in Waza National Park. Impact - overgrazing and degradation of habitat.(ii) cleaning/enlarging of a channel connecting two streams on the floodplain. Impact – possible resettlement impact, however minor.

Activities	Total US\$
Spread water points over greater area / limit grazing pressure / increase amount of browse material	\$2,000
Maintain an area of upland forest with no water points, as an example of unmodified habitat.	\$1,500 (monitoring)
Prepare a resettlement plan of families having to move from channel clearing area	\$4,000
TOTAL	\$7,500

The **Komadougou-Yobe** pilot will include clearing blockages on floodplain channels to facilitate flow to floodplains, reducing water consumption and developing systems of negotiated access to common property resources to reduce land/water resource use in the wetlands. This pilot project is a continuation of the existing Hadejia-Nguru Wetlands Conservation Project (HNWCP), which has been working in northern Nigeria since 1987. To date, the project has carried out research on land use, fisheries, grazing pressure, hydrology and bird habitats.

Activities	Total US\$
Monitor unknown effects of blockages on floodplain channels to facilitate flows to downstream locations and floodplains.	No additional cost to Komadougou Yobe - M&E system in place

Stakeholder identification and approval for water allocation for water planning. Promote upgrading of existing water management plan for the basin, including catering for rainy season releases	\$6,000
Establish a process of participatory project design and conflict resolution. Identify and document all stakeholders who have traditional tenure or use rights over area. Negotiate specific mitigating measures with all parties. Coordinate with DFID.	
Identify wetlands for conservation in consultation with local population. Compensate population on resource foregone (e.g. fisheries). Supply other source of wetland resource from sustainable source e.g. firewood, reeds, thatch	
Study the impacts of conservation of threatened cultivars <i>in situ</i> and <i>ex situ</i> e.g. accidental escapes of cultivars into non-native territory	\$5,000
Ensure establishment or re-establishment of fisheries management system based on biology and ecology of fisheries resource, especially if sound traditional systems exist.	
Study potentially negative impacts of redesign for an efficient water intake structure for Kano Water Supply	\$5,000
TOTAL	\$16,000

The **Lake Chad Shorelines and Niger-Chad Northern Diagnostic Basin Pilot** projects will produce a management plan and monitoring scheme for Lake Chad and its shores according to RAMSAR guidelines. The project area is defined as the shoreline of Lake Chad and the lake itself, although this varies widely (3,000 km² to 25,000 km²). The hydrology of the lake is unique and not fully understood. The southern part of the lake is more like a delta than a conventional lake. The "northern pool" is like a shallow lake, but it only fills from overflow from the southern pool. This did not happen during the 1980s and most of the 1990s, and the northern pool remained dry, although it received waters again in the past few years. About 120 species of fish have been recorded in the lake. The importance of the lake and its wetlands for migratory birds makes it a site of global biodiversity importance. Cropping on the lakebed and recession agriculture have become important in the recent decades of drought. There are no traditional tenure systems for this and conflicts are common. Large numbers of livestock use the lakebed and the wetland margins in the dry seasons – conflicts are also common between herders and farmers.

In July 2000, the LCBC declared the entirety of Lake Chad a "*Transboundary RAMSAR site of International Importance*", however, as yet none of the countries have designated any specific sites around the lake as Ramsar sites.

The Northern Diagnostic Basin project proposes to work in the areas of sand dune fixation, range management, water point development and agricultural improvements on upland, rain fed sites. This pilot project will address land/resource degradation and desertification in the area to the north and east of Lake Chad in Niger and Chad. This area is the largest "drainage" area in the basin. However, there is virtually no surface flow from this area into the lake. Moving sands and recent "ergs" cover the majority of the area. Wind erosion is a normal phenomenon, and is exacerbated by poor land use practices. Overgrazing and cultivation have resulted in the loss of the vegetation that held the dunes in place. The activities that have direct and significant environmental and/or social impacts are dune stabilization and range management with associated water point development. Range management would involve radical changes to access to range resources – this could potentially affect indigenous transhumant pastoral groups. The project should be guided by OP/BP 4.12 on the need for participatory processes in drawing up the plans for managing access rights. This specifically includes the need to take account of the needs

of vulnerable groups and especially those below the poverty line, the landless, the elderly, women and children, indigenous peoples and ethnic minorities.

Under sand dune fixation, dunes that pose immediate threats to important infrastructure or valuable lands will be selected. They will be fixed using a combination of physical and biological techniques. The physical techniques will require large amounts of plant materials to construct a checkerboard-like pattern of fences or barriers across the dunes to be stabilized. These structures are intended to minimize sand movement long enough for biological controls to be put in place. The biological dune fixation measures consist of planting perennial trees and shrubs. If the areas treated are very small, then the impacts will be relatively insignificant. If the project addresses the fundamental reasons that cause stable dunes to become live, the impacts could be very significant.

Activities with potential impacts and their mitigation measures: (i) designation of Ramsar sites; Impact – depends of implication of ‘wise-use’, disillusionment if no follow-up action; (ii) management planning exercises for communities around Lake Chad; (iii) development and implementation of community-based natural resource-use action plans. Impact – restricted access for some, disillusionment.

Activities	Total US\$
Determine what actions to be funded	Within project scope - \$0 \$0
Designate sites and develop management plan	
Be clear about possibilities of project. Make no false promises.	
TOTAL	\$0

As dune stabilization is the primary activity, a list of numerous potential (negative) impacts follows: site degradation, invasive species introduction, restrictions on agriculture, prohibitions on open-access grazing, degradation of stabilized areas after project close, increased evapotranspiration, change in access rights to range resource, some transhumant groups omitted from planning process, risk of conflict due to change in access rights, risks to disadvantaged groups due to increased management of resource under new range management regime.

Activities	Total US\$
Import plant material from sites where their harvest is sustainable. Study use of alternative plant materials.	\$5,000
Study and propose alternative, native species if they exist, if necessary	
Study species that do not increase evapotranspiration. Do not vegetate areas that were not "naturally" vegetated before they were degraded	
Put institutions, incentives or systems in place for managing or protecting the dunes after stabilization. Create "water point user associations" to generate revenue.	\$8,000
Increase awareness of necessity of prohibition. Suggest other livestock rearing methods e.g. tethered, fenced. Provide other sources of fodder.	
Increase awareness of necessity of restriction. Offer compensation on a per hectare basis. Launch alternative income activities.	
Ensure that transhumant populations are consulted.	\$0

Increase awareness and educate on need to change access rights. Ensure equitable redistribution of resource, in consultation with inhabitants.	
Increase awareness and educate on need to change access rights. Supply alternatives e.g. corrals, fences, alternative sources of fodder during new range management	
Changes in access rights must be negotiated using participatory planning, stakeholder involvement and include minority and disadvantaged groups. Educate and increase awareness on need to change access rights. Use successful examples e.g. the Pilot Pastoral Project (PPP). Institute "rangeland user associations" and charge fees for use.	
TOTAL	\$13,000

The activities of the **Lake Fitri pilot** are to support implementation of a management plan, including execution of a microcredit program. Two main groups use the lake: sedentary Bilala farming communities and transhumant Arab pastoralists. Clearly there are already issues of access rights and conflicts between pastoralists and sedentary farmers and between different groups of pastoralists. The project proposes to develop management plans at various scales that will involve negotiation between different user groups, and advocacy to maintain the rights of minority groups. The activities and potential impacts are (i) small-scale development activities, Impact - introduction of exotic species into the project area; (ii) small-scale conservation inputs, as yet unidentified. Impact – unknown, risk of inhabitants of region becoming disillusioned if no action is taken.

Activities	Total US\$
Use of native species	Within project scope - \$2000 for native species monitoring \$0
Determine activities	
Be clear about possibilities of project. Make no false promises.	
TOTAL	\$4,000

The **Chari Basin** pilot proposes a participatory planning approach to develop strategic and sustainable actions designed to reverse current resources degradation. Impacts will be beneficial, although a potential negative impact will be that people will eventually become disillusioned and uncooperative if nothing positive for them comes out of the process.

Activities	Total US\$
Be clear about possibilities of project. Make no false promises.	\$0
TOTAL	\$0

Additional Annex 13 Dam Safety Plan

AFRICA: Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem

Although the project does not plan to construct dams, the safety of dams (OP 4.37) does enter into the project because the project will rely on the performance of existing dams, and failure of dams upstream to project activities and structures is relevant. Bank procedure therefore requires that independent dam safety specialists inspect and evaluate the safety status of the existing dams, review and evaluate the owner's operation and maintenance procedures and provide a written report of findings. Reviews for the three dams involved in the project (Maga, Tiga and Challawa) were completed by an international dam safety expert recruited by the Bank.

Maga Dam, Cameroon: part of Waza-Logone pilot project (Component total US\$475,000)

It was strongly speculated in the Environmental and Social Assessment that the Maga Dam is not a safe structure, however the recent report of a dam specialist seems to indicate otherwise. There is no direct risk of failure of Maga dam, which is a 30 km long earthen structure. However, the dam is threatened by erosion, wave action, overtopping and seepage. If the dam fails, several thousand people are at immediate risk to their lives, and approximately 20,000 are at risk of being flooded.

There is a need to implement management activities to make the operation of the dam safe. These activities would proceed as follows:

1. **Lowering of Reservoir Level** as a short-term, non-structural measure, which can minimize overtopping by floods while measures are studied to implement longer-term, structural measures. This also has a cost in terms of reduced water availability in storage system.
2. **An Emergency Preparedness Plan (EPP)**, which is the only mitigating factor which should be executed immediately. This would entail a dam-break analysis, flood propagation study, population awareness, and training. The formal EPP would be summarized in a report describing how to react in the case of mis-functioning of the dam, the chain of actions and parties to be notified. The EPP task would include an experienced consultant, together with a good NGO for community training. Cost estimate: US\$100-200,000, unfinanced.
3. **An Engineering Modification to the Left Abutment Spillway:** A pre-feasibility study of such intervention should result in a cost estimate and suggest an implementation plan. The cost of the study, excluding site investigations, should they be required, would be in the order US\$200-300,000, unfinanced.

The project should provide regular reports on the process of resolving the issues of safety and water release from Maga dam if the Bank chooses to proceed. The plan should also be updated in accordance with a management plan to be implemented. The engineering modification should be developed as a project to be proposed to the Donors Conference within the Component 6 of the project.

Tiga Dam, Nigeria: part of the Komadougou-Yobe pilot project (Component total US\$475,000)

At Tiga the main threats are, in decreasing order of probability: internal erosion due to arching of fill material over cut off trench, internal erosion caused by a fracture of one of the two secondary outlet pipes, and slope failure under seismic load. Probability of failure is considered high for this 8 km zoned earthfill embankment. The main threat is from "piping" (water creating channels through the dam). The number of people at risk at Tiga is in the tens of thousands.

There is a need to implement management activities to make the operation of the dam safe. These activities are recommended (not step-wise) as follows:

1. **Lowering of Reservoir Level** as a short-term, non-structural measure, which can minimize overtopping by floods while measures are studied to implement longer-term, structural measures. This also has a cost in terms of reduced water availability in storage system.
2. **Improved Monitoring:** The performance of the dams are already being monitored but the extent of the monitoring at Tiga should be improved. Increased seepage is the best indicator of impending piping failure, so it is recommended that the seepage measurement and monitoring system should be improved, extended and automated. An accurate level survey should be carried out along the dam crest and downstream shoulder at least once a year at the end of the dry season. Elements for improved monitoring are (a) upgrading instrumentation system (if necessary); training local staff; local staff for surveillance and quality control; independent review on annual basis initially. Essential records that should be kept are: (i) daily readings of reservoir; (ii) weekly readings of seepage flows; (iii) monthly readings of piezometers and wells; (iv) annual level survey of the dam crest. Most importantly, vulnerable areas: the downstream toe, especially in the vicinity of the outlets, should be inspected weekly throughout the year by the maintenance staff and twice yearly by qualified dam engineers. An annual report should be compiled describing the performance of each dam should be prepared. These reports should detail instrument readings and their analysis. Cost estimate: To be determined.
3. **Early Warning System:** The warning would comprise sirens in communities immediately downstream and radio or telephone links to the civil authorities elsewhere in the area of inundation. This area should be determined from a dam break analysis if this has not already been carried out. The Hadejia-Jamaare River Basin Development Authority (HJRBD) should cooperate to the fullest extent with the civil authorities in the preparation of an action plan. Cost estimate: To be determined.
4. **An Emergency Preparedness Plan (EPP),** which is the only mitigating factor which should be executed immediately. This would entail a dam-break analysis, flood propagation study, population awareness, and training. The formal EPP would be summarized in a report describing how to react in the case of mis-functioning of the dam, the chain of actions and parties to be notified. The EPP task would include an experienced consultant, together with a good NGO for community training. Cost estimate: US\$100-200,000, unfinanced.
5. **Reduction of the full storage level** by additional excavations of the emergency spillway of the left bank. This has a cost in terms of reduced water storage. A pre-feasibility study of such intervention should result in a cost estimate and suggest an implementation plan. The cost of the study, excluding site investigations, should they be required, would be in the order US\$100-300,000, unfinanced.

Challawa Gorge, Nigeria: part of the Komadougou-Yobe pilot project (Component total \$475,000)

At Challawa the probability of failure is considered several orders of magnitude lower than Tiga; no specific dangers are identified. The dam is a new 6 km zoned earthfill embankment. An emergency preparedness plan should be put in place as soon as possible. The number of people at risk of dam failure is in the tens of thousands, however there is no sign of risk. There is a recommendation to put in non-structural measures as listed above in the case of Tiga Dam as a matter of public safety.

Overall Assessment, Lake Chad Basin Dam Safety Risk and Management Plan:

The reports concerning the three dams show that the danger of dam bursts is not immediate and that therefore it will not be necessary to prepare resettlement plans as a requirement for proceeding with project preparation. The report does however give recommendations that non-structural measures as well as management actions (e.g. lowering water level in the dam to reduce risk of overflow/failure) be carried out. Because these management actions are not yet financed, it is imperative that the management authorities for each dam, the relevant LCBC pilot project, the LCBC member state, and the LCBC Project Steering Committee work together to draw from these initial recommendations, as put forward in the dam safety report, and show progress in addressing the risks identified in the Maga and Tiga Dam sites. The project will expect twice yearly progress reports as part of the overall project review cycle.

