

Project Name	Africa Region - Reversing Land and Water Degradation Trends in the Niger River Basin
Region	Africa
Sector	Natural Resources Management
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Co-ordinating Agency	Niger Basin Authority B.P. 729 Niamey, Niger Email: abnsec@intnet.ne
GEF Implementing Agencies	UNDP, The World Bank
Executing Agency	FAO
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1. Country and Sector Background.

The Niger is the third longest river in Africa, and has the ninth largest river basin in the world. It rises in Guinea, in the Fouta Djallon hills ("the water tower of West Africa"), and flows first to the northeast, almost to the edge of the Sahara in Mali. There, the extensive floodplains of the Inner Niger Delta support traditional cattle raising, fisheries, and flood recession agriculture. Then it turns south east through Niger, Benin and Nigeria, where it finally reaches the Gulf of Guinea via the swamp forests and mangroves of the Niger Delta. During this journey of over 4,000 kilometres, it passes areas of gold production and the seats of ancient empires, fabled cultural monuments like Timbuctou and Djenne, and receives water from major tributaries like the Benue. The Niger Basin has been paramount for shaping the history and the long-term cultural and economic development of the whole of West Africa. In recent years, it has attracted world attention through the Sahel droughts of the 1970s and 1980s, and through the most recent economic phenomenon, the discovery of oil in the Niger Delta.

Over the years, a combination of human population growth, unsustainable development, and desertification has threatened the river's ability to maintain the supply of natural resources for human beings and of habitats for biological diversity. Conflicts between farmers and herders in the Niger Basin about scarce water and food resources have become usual. Most of the riverine species - including crocodiles, hippopotami and manatees, African Crowned Cranes, together with vast numbers of waterbirds - are threatened. Deforestation and farming on fragile soils is causing erosion and further-on sedimentation of river channels. Eight major dams built in the Niger Basin for energy production and irrigation have altered river dynamics. Pollution threatens both fish and drinking water. A number of international, bilateral,

national and local organizations are working with governments on food security and public health, while conservation bodies are carrying out field projects in a variety of sites.

The nine countries that share the basin (Benin, Burkina-Faso, Cameroon, Cote d'Ivoire, Guinea, Mali, Niger, Nigeria, and Chad) are all signatories to the Convention that led to the creation of the Niger Basin Authority (NBA), who will be the primary representative of the stakeholders of the basin in context of this project.

The Basin can be separated into four major, distinct geographic sub-systems.

The Upstream Area of the Basin effectively serves as the water tower of the Niger, and is seen to have to offer the possibility for bringing about partial regulation of discharges throughout the reach of the river. The upstream areas of the Massif are currently experiencing an increase in mining activity, which creates economic opportunity as well as the potential for upstream pollution that could affect downstream areas. The upstream reaches in the Massif are also subject to frequent bush fires, anthropogenic in nature, and increasing amounts of deforestation. At present the only significant control structure affecting the upper reaches of the Niger River is the Selingue Dam on the Sankarani River, a tributary of the Niger. This dam, a single purpose, hydro generating structure, seasonally regulates the equivalent of approximately five percent of average upstream volumes.

The Inner Delta of the Niger River is a vast zone in Mali and has experienced significant development. This area provides most of Mali's rice supply, a major crop the production of which is enhanced in part by the Markala diversion dam, which is used to irrigate approximately 70,000 hectares. The Inner Delta area contains over 20% of Mali's population, and is the source of, on average, 90,000 metric tons of fish per year. During the dry season the Inner Delta provides grazing and water supply for up to one million head of cattle and two million sheep and goats. The three million animals that use the Delta for grazing, water-supply and forage move between and among Mali, Burkina-Faso and Mauritania, thus giving the rich, dry-season Delta plain international significance and importance.

In Niger there is a series of Irrigated Terraces extending from Kandadji, just North and West of Niamey, to Gaya, located at the boundary between Niger and Nigeria. These irrigated terraces cover approximately 15,000 hectares of which approximately 10,000 are committed to rice production. The remaining area of the valley is used in large measure to provide grazing and water for approximately 830,000 head of cattle. Limited areas of the valley are protected and there is little information concerning environmental values.

The Niger River Basin Area of Nigeria is characterised by large hydro-power producing dams and growing industrial production. Energy production primarily derives from two dams, the Kainji and Jebba, which together provide 68% of Nigeria's hydroelectric supply and 22% of the total national power supply. At present, Nigeria's power demand is outstripping its supply, a condition that is likely to worsen in the future. It is thus clear that increased, upstream uses of water for any purpose will be of interest to Nigeria as the downstream riparian with a stake in maximising downstream flows for hydroelectric power production, particularly during periods of dry season flows. Nigeria has formally expressed concern regarding these issues

to the NBA, and is one example of the growing need for the NBA to assume a stronger regional presence.

Threats to the Niger River Basin Ecosystem

The natural resources and environment of the Niger River Basin have become dangerously fragile due to the joint, and reinforcing effects of a diminished rainfall pattern since the early 1970s and human pressures exerted on natural resources and environment by growing and impoverished populations that have few alternatives to current patterns of use.

For almost 25 years, the Sahel has been experiencing persistent drought which has led to :

a reduction of approximately 37% of average supplies (1974-1994) to the Niger River as compared to the period of record from 1907 to 1973;
a reduction in the alluvial aquifer recharge which contributes to the drop in supplies to the river; and
a reduction in sand transportation capacity due to reduced water levels, while eolian, mechanical and hydraulic erosion is stronger because of the desertification of slopes and the degradation of banks, which result from human and animal pressure. This process results in the increased siltation of tributaries and the main river-bed.

As drought conditions persist, human pressure on natural resources and conflicts over use increase. In the inner delta, the concentration of human activities (animal husbandry, fishing, agriculture) on low land during low flow periods or drought conditions have been generating conflict that comes of an increase in the number of users and a decrease in the amount of available productive land. The humid zone, the maritime delta and the coastal zone are also being degraded. Sources and causes of degradation include, among other things, local pollution, overexploitation of groundwater resources, and morphologic changes due largely to land subsidence and decreased river sediment carrying capacity, which leads to increased flooding, siltation and habitat destruction. As the drought continues and land productivity declines, high population growth places additional stress on available resources.

The rule curves of the Selingue and Markala dams give priority to hydro generation and irrigation, in that order. Fortunately, peak demand comes during the dry season and discharged water yields a significant dry-season benefit to downstream aquatic resources up to Niamey. This support was especially critical during the extreme dry years of 1984, 1985 and 1990 when flows decreased dangerously in relation to Niamey's municipal water supply. Regulatory capability of these dams is limited. For example, during the dry season the Selingue Dam, notwithstanding that it has reservoir capacity of 2 Billion m³, seasonally retains less than 5% of water volumes entering the inner delta. Thus the extent of regulation is not sufficient to give substantial downstream protection of ecosystem values and certain human uses. It should be noted that while the Selingue Dam is controlled to assist the dry-season need to protect aquatic habitat, dams in the region generally have been constructed without prior coordination and consultation among the various countries or even among stakeholders within the same country.

In summary, conditions in the Niger River Delta make it imperative that the nine Basin riparian states work collaboratively to create an anticipatory

capacity to minimize disruption to peoples and environments in the face of continuing drought and human pressure. The escalating and negative consequences of drought and human pressure on the resources and people of the region cannot be as effectively addressed at the national level. The GEF is designed to ensure a regional, multi-country collaborative process needed to create future and enhance current levels of cooperation between and among participating countries as they strive to create a sustainable future for the Basin.

2. Project Objectives:

The objective of the project is to support the nine riparian countries of the Niger River Basin in their efforts to work together to assure the sustainable development and management of the basin's land and water resources, including protection of its unique drylands environment and associated biodiversity.

3. Rationale for World Bank Group Involvement:

The World Bank is currently supporting national water resource management institution-building in the Niger Basin countries of Mali, Niger, and Nigeria, and has previously supported similar efforts in Cote d'Ivoire. Accordingly, a water resource management component is included in the IDA-financed Mali's National Rural Infrastructure Project (PNIR), and a Water Resource Strategy is being developed by Mali's Ministry of Mines, Energy and Hydraulics. Similarly, a water resource management component is included in the IDA-financed Water Sector Project in Niger, recently effective as of July 12, 2001. In Nigeria, the World Bank is working with the Federal level on their Water Resource Management Strategy.

The World Bank is also actively involved in rural and/or urban water supply in most, if not all, of the Niger River Basin countries, with lending projects or project under preparation in the portfolio. A 'quick' accounting of finds urban water supply projects under preparation or supervision in Burkina Faso, Guinea, Niger, and Nigeria and, likewise, rural/small towns water supply projects in Mali, Niger and Nigeria.

As mentioned elsewhere, there are also several other co-implemented Bank/UNDP International Water interventions in the regions: a Lake Chad Basin GEF project to the east, as well as a Senegal River Basin GEF project to the west.

4. Project Description:

The proposed project would be implemented in three phases. Phase 1, the subject of this PDF-B assistance request, will include, among other things, development of a framework transboundary diagnostic analysis (TDA) for the five riparian countries that share the main stem of the Niger River. Phase 1 will also include, as part of the framework TDA, identification of initial transboundary priority issues that will be the subject of pilot demonstration projects in Phase 2 of the Project. In addition to the implementation of the pilot demonstration projects, Phase 2 will include the formal integration of the remaining four riparian countries into project work, development of a full TDA for the entire Basin, and development of a Strategic Action Program (SAP) for the entire basin. Phase 3 of the project will be the SAP implementation phase. The NBA will serve as the Regional Coordinating Agency

for, and at the request of, the participating countries.

This preparatory support (Phase 1) will have seven principal outputs:

Strengthening of the existing consultative process among the five initial participating countries;
within the participating countries, involvement of a broad array of stakeholders including local communities, local and sub-national governments and institutions, the private sector and the NGO community;
through the NBA, establishment of a project informational and consultative process for all NBA members;
preparation of an initial, five country TDA summarising key issues, and priorities;
an initial evaluation of the current, combined national water resources development scenarios and their individual and, to the extent possible, their combined impact on the natural and human environment;
identification of 2 demonstration projects, in line with the findings of the framework TDA, in each of the five initial participating countries; and
preparation of a full GEF proposal for Phase 2 of the Project.

Development of the TDA and SAP, and SAP implementation, provide the focus of GEF support to the countries and to the NBA. GEF support will provide overall project structure and act as a management tool against which progress toward sustainability can be measured. The project is designed to address GEF priorities in the Integrated Land and Water Operational Program (OP #9) of the International Waters Focal Area, with special emphasis being given to the Land Degradation Component of OP #9.

This Project will complement, benefit from, and work directly with other GEF IW Projects in the Senegal River Basin, Lake Chad, a UNDP/UNEP Niger-Nigeria Shared Watersheds project in parallel phase of the development cycle, and a planned UNEP project in the Volta River basin. Each of these projects are concerned with desertification issues and are part of the overall GEF effort to emphasize land degradation activities in Africa. Explicit levels of collaboration will be developed between and among these projects and the Implementing Agencies responsible for them.

Last, the projects mentioned above will both form and be informed by the Africa Land and Water Degradation initiative of the Implementing Agencies. The increasing, explicit level of cooperation between and among Implementing Agencies, the initial example being described in Annex 1, will help ensure that these projects offer benefits to and will derive benefits from the Africa Land and Water Initiative once it is developed and implementation begins.

It is expected that development and full implementation of the SAP will occur under future GEF proposals. The global environmental benefits that would accrue as a result of the three project phases include:

Effective collaboration between and among the nine countries of the Basin (all members of the NBA) in addressing transboundary environmental issues of regional/global concern;
Avoidance of conflict in competing for limited water resources in a regional and globally important arid region;
Prevention of land degradation in the Basin;

Conservation of an important inland biome, and its associated biodiversity, in an arid setting;
Preservation of critical habitat for 350 bird species, of which 108 are palearctic migratory species;
Effective integration of the results of this project, to the extent possible, with those of associated GEF International Waters projects such as the Gulf of Guinea Large Marine Ecosystem (LME) project, the Lake Chad Project, and the Senegal River Project; and
Demonstration of an open and transparent consultative process based on the exchange and sharing of information as a mechanism for international river basin management.

The scope of this proposal will cut across several GEF focal areas. In addition to its focus on International Waters, the project will in general address important biodiversity issues of regional and global importance that are the subject of the Biodiversity Focal Area. Specifically, the proposal will address land degradation issues relevant to Operational Program # 1, Arid and Semi-Arid Zone Ecosystems, and Operational Program # 2, Coastal, Marine and Freshwater Ecosystems.

5. Financing Plan:

Financing arrangements are yet to be determined, as the project is still in the identification and preparation phase. The project will be GEF financed as GEF grant, with donor bilateral grants sought and encouraged. The project will also seek to 'add-on' IDA credits to Niger River Basin single countries as appropriate, either at the time of GEF Board to subsequently.

6. Implementation Arrangements:

Direct and ongoing oversight of project activities will be the responsibility of the executing agencies through the Project Coordination Unit (PCU). The PCU will comprise a Chief Technical Officer (CTO), Public Participation and Communications Expertise, and requisite administrative and secretarial support. Consultants will be retained as necessary and priority will be given to the recruitment of national consultants as available. The NBA will play a key and ongoing co-ordination role with and on behalf of the participating countries. The NBA will also be undertaking the implementation of specific project activities. A co-implementation Project Task Force (PTF) will be created. The PTF will generally oversee project implementation activities. Its membership will include representatives from the participating countries, the NBA, participating GEF implementing agencies, the executing agency. The CTA will also be a member of the Project Task Force, which will meet at the call of the Chair, who will be selected by the PTF membership. comprises both national and regional initiatives. Thematic and geographic Committees will be created as necessary to continue and finalise development of the TDA and the SAP.

The project will be implemented according to a provisional workplan. FAO will serve as the Executing Agency for UNDP and as such be responsible for the PCU and its activities. World Bank executing arrangements will be applied in the context of national activities through its existing national projects and offices. The Executing Agency role for FAO, working in close collaboration with UNDP country offices, will assure that the technical assistance to the participating countries that has been provided since 1990 will continue and

guarantee that the national and regional priorities agreed by the riparian States are substantively and coherently accommodated within the GEF SAP. Consistent with the comparative advantage of FAO, the project will have direct links to the inter-governmental debate in the Commission on Sustainable Development, the international convention mechanisms of the UN Secretariat and important links to other UN agencies implicated in land and water management.

The World Bank will collaborate in the important area of policy reform in the participating countries, and bringing to bear its strong technical presence at the national levels, and assist in the identification of and actions leading to project related investment follow-up.

The UNDP role will be to contribute its on-the-ground strength and resulting trust it builds with national governments, directly facilitate workshops and the convening of key stakeholders consistent with its comparative advantage in capacity building, work to secure national country-based financial resources to complement project activities, and provide important links to other UN Agencies.

The respective UNDP and WB Task Managers will be in direct and ongoing contact to facilitate the work of the projects and to ensure maximum levels of co-operation to bring about project success. As an immediate step the IA's will compile its respective water activities within the project area and suggest how these activities can contribute to the basin wide program. Specific additional joint activities will be sought and acted upon by the respective Task managers as the project is developed and implemented. As the pilot demonstration projects constitute the country-identified most urgent priority actions, and since successful country and NBA 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.

The direct beneficiaries of the GEF support will be the five participating governments and a full range of stakeholders in the five countries. Protection will have been secured for a range of biological resources vulnerable to desertification, potable water supplies for growing urban populations, fishing, animal husbandry, and small and medium scale irrigation. Such protection will accrue to the benefit of the participating countries, the region, and to the global community through conservation of biological resources in an important dryland environment. GEF support will also result in strengthening of individual country and NBA capacity to provide the regional leadership necessary to long term sustainability for the region.

7. Sustainability:

The long term success of regional scale management programs, such as the one proposed here depend, inter alia, on the political willingness of the participating countries to co-operate, their willingness 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. 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 Three-Year Action 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 Three-Year Action Plan and PDF-B developed 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.

The financial commitment of Governments is at this time largely in-kind. Countries continue their financial commitment to the NBA and contribute 10% 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 Manager 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 IA role in the organisation of the donor conferences.

8. Lessons Learned from Past Operations in the Country/Sector:

The NBA, UNDP, UN-DESA, WMO, FAO, UNESCO, the European Union, France, the Netherlands, Japan, Germany, the USA, the OPEC, British Council, other agencies and several NGO's have sponsored projects related to the development of the Niger River Basin and its environment and natural resources. Following is a sample of projects previously funded:

A 1964 USAID project to establish a library and information unit at the NBA;

A 1969 UNDP-FAO project to assist the NBA in the formulation of policies and strategies for participation in the development of the Basin;

A 1977-86 USAID sponsored project to develop an integrated development plan for the Basin whose central element was the preparation of a model on the simulation of river sedimentation;

A 1978-82 NBA/FAC (France) project, ("Modele Mathematique du Fleuve Niger", to develop a hydraulic model of river flows and flood zones to simulate levels for existing and future medium irrigation projects and to gather detailed information on low flows between Selingue and Niamey;

A US\$ 5,000,000 project called HYDRONIGER. The HYDRONIGER system became operational in 1990. It is and provides a means to forecast flow patterns and thus assist countries in drought and flood control activities. It is the

largest forecasting system in West Africa and utilizes satellite data collection capability and 65 data collection platforms in eight of the nine NBA member countries. HYDRONIGER was funded by the EEC, UNDP, and OPEC with member countries also providing resources for its development;

A 1995 ECA funded initiative to develop a proposal for a legal framework for the management of the Basin's international waters; and

A 1995 ECA sponsored study to develop a comprehensive inventory of Basin water projects, analyze major basic investments, recurrent costs, a cost sharing formula, and a cost recovery plan; and

A 1993 grant from the International Bank for Information on Francophone States for the computerization of the NBA's documentation center composed of 7000 documents;

In addition to the above, the UN-DESA, at the request of the UNDP, undertook in 1995 a pre-performance/diagnosis of the adequacy and effectiveness of national and regional institutions, national legislation pertinent to the region, Niger River development stakeholders, water resources, evolution of water requirements, dams, environmental concerns, and ongoing actions. High level meetings with the relevant Ministers in Niger and Bamako indicated growing political will to effectively address river protection issues and thus give renewed impetus to international cooperation and support.

Further, the Japanese Government through JALDA has and continues to sponsor an analysis of desertification. The major objective of the program is to develop strategies to enhance living conditions of people living in desertified areas of the Basin. Currently, three pilot projects have been established, one each Niger, Burkina Faso, and Mali. The project seeks to develop manuals and fund on-the-ground, community based initiatives in three phases. Phase 1, undertaken from 1985-1990, resulted in a study for agricultural development in the Basin. Phase 2 included an assessment and test applications of desertification control techniques. And Phase 3, recently initiated, is intended to consolidate major accomplishments from the first two phases. This phase will continue to the year 2002. It is expected that the proposed GEF Project, with its strong focus on desertification, will complement and build upon the successful experiences of this JALDA funded effort.

Lastly, the UNDP-GEF initiated, with the support of UN-DESA a PDF-A grant to begin the process of country collaboration under the auspices and to foster constructive engagement with understanding that information concerning developments in individual countries is rarely made available to the other riparian states, thus increasing the likelihood that misunderstanding and mistrust could easily increase, particularly in the context of continued drought and increasing human pressure on the natural resource base and the environment. The arrival of a new Executive Director of the NBA in 1998 reinvigorated that organization and has resulted in, among other positive initiatives, the organization of the Abuja (Nigeria) Ministerial Conference and the Bamako Colloquium in April of 1999.

PDF-A consultations, undertaken by UN-DESA, took place in four countries, involved more than 200 resource persons (government officials, professional organizations, scientists, foreign assistance personnel, locally elected leaders, manufacturers, water technicians, fishermen, herders, irrigation laborers, final users, and NGOs). Individuals and groups consulted were asked to comment on their perceptions of a range of issues pertinent to the basin and identified, among other things:

Perceptions of the adequacy of existing Basin institutions, existing, relevant national policies, existing management regimes and regulations, and current levels of stakeholder participation;
Views of how to assure integrated and equitable management of international waters, including groundwater resources, consistent with the conservation of the basin's unique drylands array of flora and fauna;
Assessment of the rehabilitation needs for damaged aquatic habitat and the protection of biodiversity linked to international waters;
Recommendations on systems required to reduce or prevent hazards linked to pollution, flooding, low water conditions, and desertification;
The need for pre-investment studies to ultimately secure funding for identified priority actions and the impacts of possible future structures;
Measures that might be employed to curb siltation;
Measures that might be taken to control the growing problem of water hyacinth;
Cartographic and surveying needs, particularly in irrigated areas; and
The adequacy of existing public information practices and procedures.

Results of PDF-B work include:

establishment of a Project consultative process among the five initial participating countries, and led by the NBA;
within the participating countries, involvement of a broad array of stakeholders including local communities, local and sub-national governments and institutions, and the NGO community;
through the NBA, establishment of an informational and consultative process for all NBA members;
preparation of an initial, five country framework TDA summarising key issues, priorities, and future options in each of the participating countries;
an initial evaluation of water resources development scenarios, and their individual and, to the extent possible, their combined impact on the natural and human environment;
after country, NBA, and PCU review of the framework TDA, identification of 2 demonstration projects in each of the five initial participating countries;
preparation of a full GEF proposal for Phase 2 of the Project; and
establishment of a collaborative relationship between the UNDP and the WB as co-implementing agencies and the integration of the project with other ongoing basin efforts such as the World Bank sponsored project on the inner delta of the Niger River.

Development of the TDA and SAP, and SAP implementation will, during full project implementation, provide the focus of GEF support to the countries and to the NBA by providing overall project structure and acting as a management tool against which progress can be measured. The full project will be designed to address GEF priorities in the Integrated Land and Water Operational Program (OP #9) of the International Waters Focal Area, with special emphasis being given to the Land Degradation Component of OP #9. An anticipated result of SAP preparation will be a country-by-country summary of priority issues identified during the SAP exercise and a summary of country actions intended to address these issues.

Notwithstanding this history of support, coordination within each country for Basin projects remains inadequate. The role of the NBA was to have been assurance of an effective coordination function for regional level activity. The effectiveness of the NBA in relation to this coordination function has been inadequate. This inadequacy has resulted in a steady decrease in donor interest and member state support. The result has been an NBA with limited

personnel and program capability. In mid-1998 there was a re-mobilization of the member countries to support the NBA. The continuation of the JALDA Project for a second phase of five (5) years, and, as previously mentioned, the appointment of a new Executive Secretary for the NBA has begun to reinvigorate the role of the NBA as convenor, facilitator and coordinator of a regional approach to the Basin. There continues to be an urgent need, however, for the NBA, through its member states, to re-define and give added support to its intervention strategy, regain its credibility, and become a more transparent, participatory regional entity which does not overlook the environmental needs of the basin.

The Niger River Basin GEF project is the second 'International Waters' focal area project in West and Central Africa. More specifically, it is registered under Operational Program number 9, for Integrated Land and Water. Most of its learning is coming in 'real-time' as cross-learning from the two like GEF projects under preparation - the Lake Chad Basin and Senegal River Basin GEF projects. The Niger Basin Authority staff members and NBA focal points also have been given the opportunity to learn from consultants who have been preparing pilot project components alongside the NBA.

The current GEF project under preparation is learning considerably from the incubation period that the UNDP has provided it. There are several seminal studies on the institutional and hydrogeological history of the NBA; the NBA has a well-organized library and its staff is well-versed in this literature.

General lessons to acknowledge are: the need to build upon national-level water resource and environmental management institutional capacities first and foremost; set the full project up so that there is some opportunity for 'results on the ground' early on in order to stimulate interest; provide sufficient opportunities for national interaction on technical and political working committees in order to build communication channels; blend hydrological /technical goals for success with institutional goals for success; etc.

9. Program of Targeted Intervention:

The Niger River Basin GEF project is not a program of targeted intervention. Its aim is to decrease environmental degradation in the Niger River basin, and thus indirectly foster positive global and local externalities. As most, if not all, of the residents of the Niger River basin are poor, then any benefits of the project will accrue to the poor. However, these benefits will not be targeted to poorer segments of the total beneficiary population.

10. Environmental Aspects (including any public consultation):

The sustainable development of the Niger River Basin and the protection of its dryland and aquatic resources and associated biodiversity will require harmonization of the basin's riparian development objectives, the assessment of the environmental impact of development options, and the formulation and implementation of an integrated management plan that includes specific, identified action elements. These requirements will clearly transcend national capacities and priorities and will require financial and technical resources significantly beyond those that can be mobilised by each riparian state singly or in combination.

Historically, the most pronounced feature of the Niger River Basin has been its wetlands. Niger River 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.

At present there are several major barriers that need to be removed if the participating countries and the NBA are to make progress in their attempts to secure a sustainable future for the Niger River Basin ecosystem. Work undertaken to date, and other consultations indicate that:

Mechanisms are inadequate to achieve integrated development at the national and sub-national levels. At the local, departmental, and national levels, policy development and institutional, legal, and scientific frameworks have been generally insufficient to assure the coherent, inter-sectoral coordination of the water and associated resources of the Basin.

There is an inadequate level of cooperation and coordination at the regional level. At the regional level, coordination of planning and implementation efforts between and among countries has been deficient. NBA member states and basin stakeholders acknowledge that, at present, the NBA has little authority and minimal impact. Further, effective donor coordination has recently been largely absent due in part to the lack of any framework to assure greater levels of information exchange, coordination, and implications of action at the regional level.

Despite the efforts that have taken place within the Basin, there continues to be inadequate understanding of, and thus formulation of an effective action plan to protect and enhance the physical, socio-economic and environmental sub-systems of the basin. Despite the significant technical and scientific studies that have been undertaken, important gaps remain:

in systemic and integrated analysis of both national and transboundary water resources and water resource utilization (surface water and ground water)

questions throughout the basin, and among sectors;

in hydraulic functioning of run-off in flood zones, infiltration routes, and evaporation in the inner delta;

in terms of the feasibility, appropriateness, potential transboundary effects and environmental implications of structural solutions (control structures) intended to bring greater predictability of flows throughout the basin;

in terms of the relationship among natural resources, socio-economic questions, the environment, and the need to jointly define and prioritize issues of a transboundary nature; and

in relation to the development of an integrative mechanism for joint actions, ensuring effective communications between and among nations and sectors, monitoring, regulation, and the joint creation of approaches and measures to sustain the availability of high quality freshwater resources.

More specifically, while work undertaken during the PDF-A resulted in the development of an initial information base that will be useful to development of a TDA. Work undertaken during the PDF-A was restricted to four of the five countries that, with the addition of Benin, were the subject of the PDF-B grant work. Work under the PDF-A was not intended to secure the necessary level of interministerial activity and in-depth analyses needed to satisfy GEF project requirements. That level of activity took place beginning with the PDF-B and will continue through the full project phase. It is expected that the successful engagement of the five riparian states that share the main stem of the Niger will set the stage for the expanded, successful inclusion of the

remaining four countries of the NBA during Phase 2 and Phase 3.

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Note: This is information on an evolving project. Certain components may not be necessarily included in the final project.

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