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The World Bank

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Report No: PAD1161

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT FROM THE

MULTI-DONOR TRUST FUND

COOPERATION IN INTERNATIONAL WATERS IN AFRICA
(CIWA)

IN THE AMOUNT OF US$7.5 MILLION

TO THE

NIGER BASIN AUTHORITY

FOR THE

NIGER RIVER BASIN MANAGEMENT PROJECT

January 26, 2015

Global Water Practice (GWADR)
Africa Region

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AFD	Agence Française de Développement (French International Development Agency)
AfDB	African Development Bank
APL1	Adaptable Program Loan First Phase
APL2A	Adaptable Program Loan First Part of the Second Phase
BAC	Basin Advisory Committee
CFAF	Currency of the Communauté Financière Africaine Canadian International Canadian In-
CIDA	ternational Development Agency
CIWA	Cooperation in International Waters In Africa
CoM	Council of Ministers
CSP	CIWA Support Plan
EC	European Commission
ECOWAS	Economic Community of West African States
ESIA	Environmental and Social Impact Analysis
ESMF	Environmental and Social Management Framework
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German International Development Agency)
GWh	Gigawatt-hours
ha	Hectares
ICEA	Ingénierie et Conseil en Environnement et Aménagement (consultant)
IDA	International Development Agency
IWRM	Integrated Water Resources Management
LDP	Local Development Plan
M&E	Monitoring and Evaluation
MDTF	Multi-Donor Trust Fund
NBA	Niger Basin Authority
NFS	National Focal Structure
OMVS	Organisation pour la mise en valeur du fleuve Sénégal (Senegal River Basin Authority)
PDO	Project Development Objective
PMCU	Project Management and Coordination Unit
RAP	Resettlement Action Plan
RBO	River Basin Organization
RIAS	Regional Integration Assistance Strategy for Sub-Saharan Africa
RSC	Regional Steering Committee of Projects and Programs
SHSG	Summit of the Heads of States and Governments
SDAP	Sustainable Development Action Plan
WBG	World Bank Group
WRD-SEM APL	Water Resources Development and Sustainable Ecosystems Management Program Adaptable Program Loan

Regional Vice President:	Makhtar Diop
Country Director:	Colin Bruce
Senior Director:	Junaid Kamal Ahmad
Practice Manager:	Alexander E. Bakalian
Task Team Leader:	Catherine S. Tovey (Christina Leb, co-TTL)

AFRICA

Niger River Basin Management Project

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Niger River Basin Management Project (P149714)

PROJECT APPRAISAL DOCUMENT

AFRICA

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Report No.: PAD1161

Basic Information			
Project ID	EA Category		Team Leader
P149714	B - Partial Assessment		Catherine Signe Tovey
Lending Instrument	Fragile and/or Capacity Constraints [ ]		
Investment Project Financing	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date	Project Implementation End Date		
27-Jan-2015	31-Dec-2019		
Expected Effectiveness Date	Expected Closing Date		
31-Mar-2015	31-Dec-2019		
Joint IFC			
No			
Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Alexander E. Bakalian	Junaid Kamal Ahmad	Colin Bruce	Makhtar Diop

Approval Authority
Approval Authority
RVP Decision
This Recipient-Executed Trust Fund activity, with Category B safeguards rating, was deemed appropriate for RVP decision as there are no exceptional circumstances in this project that would require Board approval.

Borrower: Niger Basin Authority (NBA)			
Responsible Agency: Niger Basin Authority (NBA)			
Contact:	Collins R.U. Ihekire	Title:	Executive Secretary

Telephone No.: 27720723103	Email: secratiar.abn@gmail.com

Project Financing Data(in USD Million)					
[ ]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[ ]	Credit	[X]	Grant	[ ]	Other

Total Project Cost:	7.50	Total Bank Financing:	0.00
Financing Gap:	0.00		

Financing Source	Amount
Borrower	0.00
Cooperation in International Waters in Africa	7.50
Total	7.50

Expected Disbursements (in USD Million)

Fiscal Year	2015	2016	2017	2018	2019	2020
Annual	50000.00	300000.00	1150000.00	1850000.00	3000000.00	1150000.00
Cumulative	50000.00	350000.00	1500000.00	3350000.00	6350000.00	7500000.00

Institutional Data

Practice Area / Cross Cutting Solution Area

Water

Cross Cutting Areas

[X] Climate Change
[X] Fragile, Conflict & Violence
[X] Gender
[ ] Jobs
[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Energy and mining	Hydropower	30		
Water, sanitation and flood protection	General water, sanitation and flood protection sector	30	20	
Public Administration, Law, and Justice	Sub-national government administration	20		
Agriculture, fishing, and forestry	Agricultural extension and research	20	20	
Total		100		

☐ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Trade and integration	Regional integration	35
Social dev/gender/inclusion	Social Inclusion	15
Environment and natural resources management	Environmental policies and institutions	15
Environment and natural resources management	Water resource management	35
Total		100

Proposed Development Objective(s)

The objective of the project is to strengthen the institutional framework for regional cooperation in water resources in the Niger River Basin.

Components

Component Name	**Cost (USD Millions)**
Component 1: Strengthening the Niger Basin Authority for Sustainably Delivering its Mandate	3.75
Component 2: Facilitating Evidence Based-Decision Making in the Fomi Multipurpose Project	3.75

Compliance

Policy

Does the project depart from the CAS in content or in other significant re-spects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [ ]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04		**X**
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**

Physical Cultural Resources OP/BP 4.11		**X**
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12		**X**
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	Recurrent	Due Date	Frequency
Assistant Accountant		30-Jun-2015	

Description of Covenant

The Recipient shall, within three months after the Effective Date, recruit an assistant accountant for the Project with terms of reference acceptable to the World Bank.

Name	Recurrent	Due Date	Frequency
Computerized accounting system		30-Jun-2015	

Description of Covenant

The Recipient shall, not later than three months after the Effective Date, acquire, install, and thereafter maintain a computerized accounting system for the Project, acceptable to the World Bank.

Conditions

Source Of Fund	Name	Type
CIWA	Procurement Specialist	Effectiveness

Description of Condition

The Recipient has recruited, for the Project Management Unit, a procurement specialist on the basis of terms of reference, qualifications and experience satisfactory to the World Bank and in accordance with the Grant Agreement.

Source Of Fund	Name	Type
CIWA	Agreement Duly Authorized	Effectiveness

Description of Condition

The execution and delivery of this Agreement on behalf of the Recipient have been duly authorized by all necessary corporate action.

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Mari H. Clarke	Consultant	Gender	GSURR
Pierrick Fraval	Sr Water Resources Spec.	Sr Water Resources Spec.	GWADR
Paivi Koskinen-Lewis	Social Development	Social Development	GSURR

	Specialist	Specialist	
Christina Leb	Sr Water Resources Spec.	Sr Water Resources Spec.	GWADR
Medou Lo	Consultant	Environmental Safeguards	GENDR
Mohamed Nanzoul	Senior Infrastructure Specialist	Senior Infrastructure Specialist	GWADR
Celestin Adjalou Niamien	Sr Financial Management Specialist	Sr Financial Management Specialist	GGODR
Lucson Pierre-Charles	Program Assistant	Program Assistant	GWADR
Ibrah Rahamane Sanoussi	Senior Procurement Specialist	Senior Procurement Specialist	GGODR
Catherine Signe Tovey	Sr Water Resources Spec.	Sr Water Resources Spec.	GWADR
Jacqueline Marie Tront	E T Consultant	Sr Water Resources Spec/Environmental Spec.	GWADR

Non Bank Staff

Name	Title	City

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments

I. STRATEGIC CONTEXT

A. Regional Context

1. The Niger River Basin is shared by ten countries in West and Central Africa: Algeria[1], Benin, Burkina Faso, Cameroon, Chad, Ivory Coast, Guinea, Mali, Niger and Nigeria[2]. Four of these countries, Burkina Faso, Chad, Mali and Niger, are land-locked. The Basin's surface area spans nearly 1.5 million square kilometers and is marked by a mosaic of climates, ecosystems, human settlements, and agricultural production systems. The Basin has a rich and diversified fauna and flora and several major protected areas, notably the Niger Inner Delta wetland in Mali. However, these habitats are threatened by pollution, erosion in the Sahelian watersheds, and over-fishing.

2. The population in the Basin is highly vulnerable. With a population of over 110 million, and countries with annual growth rates of 2 – 4 percent[3], the Basin's population is young, rural and characterized by large disparities. Seven of the ten Basin countries are among the 20 poorest countries in the world, with widespread gender disparities as well as large income disparities in the richer Basin countries. More than half of the population is less than 15 years old. The majority of the countries in the Niger Basin continue to have a predominantly rural population who rely on rain-fed agriculture, pastoralism or other natural-resource based livelihoods. There, food security and social well-being depend mostly on unpredictable and extreme rainfall patterns, particularly in the Sahel part of the Basin. These challenges are further intensified by climate change. The vulnerability of people in the Basin is exacerbated by political instability, notably recent conflicts in Mali and other parts of the Sahel, and the resurgence of Boko Haram and the resulting violence and lack of security. Finally, the recent Ebola outbreak in the region continues to threaten the health and livelihoods of the people in the Basin. Projections show that the outbreak will have severe economic impacts in the region, expected to reduce the gross domestic product (GDP) of Guinea alone by 2.3 percent.

3. Many West African countries have enjoyed a long-standing tradition of regional cooperation, through membership in the Economic Community of West African States (ECOWAS) trading block since 1975 and common currencies[4]. Cooperation in the region is partially driven by the recognition that energy and food security, transportation, water storage, and flood and drought mitigation measures benefit from economies of scale brought about by regional integration. As a result, the planning and development of major infrastructure has already been viewed through a regional lens for several decades.

[1] Algeria is not a member country of the NBA.
[2] The five countries on the main stem of the Niger River include Benin, Guinea, Mali, Niger and Nigeria. The remaining four countries (Burkina Faso, Cameroon, Chad and Ivory Coast) are traversed by tributaries.
[3] 2014 World Development Indicators: Population Dynamics
[4] In the Niger Basin, 7 member states out of 9 are part of ECOWAS (the exception being Chad and Cameroun who belong to the Central African block), and 5 states are part of the West Africa Monetary Union, whose common currency is the FCFA (these states include Benin, Burkina Faso, Ivory Coast, Mali and Niger).

B. Sectoral and Institutional Context

4. Along the 4,200 km of its course, the Niger River and its tributaries are the economic mainstay for the ten riparian countries in its Basin. The Niger River is strategically important in particular for Mali, Niger and Nigeria, which account for 80 percent of the surface area of the Basin. For thousands of years, the river has supported the riparian population with diverse livelihoods such as farming, cattle grazing and fishing, and is an important lifeline in the arid and semi-arid lands of the Sahel. The challenges facing the Basin, including food insecurity, rural poverty and climate change, are acute. At the same time, the Basin's tremendous potential for infrastructure development is significantly under-tapped. Water infrastructure development, such as hydropower plants, irrigation schemes and navigation facilities can significantly contribute towards economic growth and improvement of livelihoods, especially if accompanied by sound integrated water resources management (IWRM).

5. Overall, the lack of flow regulation in the Upper and Middle Basin poses a threat to water security in large towns bordering the river, limits the scale and intensity of irrigation investments, and deprives countries of relatively clean, accessible and cheap sources of energy. Agriculture in the Basin is primarily rain-fed, and overall food productivity in the Basin is highly dependent on rainfall patterns. Lack of infrastructure to store and control river flows, exacerbated by low levels of productive water efficiency use, constrain both existing irrigation and its potential for scale-up. Although only 19 percent of potential irrigated land in the Sahel part of the Basin is currently irrigated, water availability during dry season low flows is already a constraint. Enhancing upstream water availability during the dry season in the Niger would allow significant expansion of the cultivated area in downstream Mali, and particularly the *Office du Niger* irrigation scheme, where the current 90,000 ha cultivated today could be brought to 160,000 ha (rice, sugar cane, and vegetables) in the short run using the existing infrastructure, and facilitate achievement of the long term objective of the *Office du Niger* of 400,000 ha in the next 20 years[5].

6. The demand for energy in the Basin is considerable, and is expected to increase significantly in the coming years (from 30,000 GWh in 2003 to 117,000 GWh by 2020). Access to power in the Basin remains among the lowest worldwide, in both absolute and relative terms (with access rates at only 23 percent and almost 90 million people without electricity). At present, fuel wood represents 90 percent of the energy consumed. Hydropower remains an attractive source of energy in the Basin, with an estimated 6,000MW hydropower potential, of which around one third is currently developed.

7. The 2007 Sustainable Development Action Plan (SDAP) for the Niger Basin is organized in three components: (1) protection of resources and ecosystems; (2) development of socio-economic infrastructure, including infrastructure of transboundary nature; and (3) capacity building for the NBA and other water actors. The Plan encompasses: (i) a broad based mix of large scale multipurpose transboundary infrastructure investments on the Niger River (anchored to Fomi dam in Guinea, Kandadji dam in Niger and Taoussa dam in Mali); (ii) small scale

[5] Due mostly to water restriction, the current area devoted to paddy cultivation during the dry season is less than 10% of cultivated area during the rainy season (NBA, 2013).

infrastructure investments in nine Basin countries (rehabilitation of small dams, development of lowlands, agroforestry); (iii) ecosystem protection (regulatory systems, information tools including modeling of low flows, and watershed management investments for erosion and siltation control); and (iv) institutional capacity building (legal systems and tools, strengthening the NBA hydrological observatory and sub-basin committees; and basin stakeholder mobilization). The proposed investment program is a key part of the Basin's climate change adaptation strategy. As demonstrated in the 2013 Climate Risk Assessment of the Niger Basin, large-scale storage infrastructure will significantly improve climate resilience in the Basin, with favorable rates of return that remain robust over a range of climate change scenarios.

8. The Fomi multipurpose project is a crucial part of the Basin's SDAP. The Fomi dam site is located in Guinea, near the border with Mali, in the upper part of the Basin. The project could provide a significant and diverse stream of transboundary benefits which have the potential to transform the upper catchment of the Niger Basin. In particular, Fomi presents tremendous potential for upstream storage (representing up to 20 percent of the river's total annual flow at Bamako and four times the volume at Kandadji in Niger); expansion of irrigated agriculture (over 210,000 ha in downstream dry-season irrigation, mostly in Mali's *Office du Niger* irrigation scheme) along with the ability to secure minimum environmental flows and guaranteed water supply in large towns downstream of the site, such as in Bamako. The Fomi multipurpose project will also generate associated hydropower benefits (90-100 MW), which will be connected to the West African Power Pool grid.

9. While the overall transformative potential of Fomi is tremendous, its social, economic and financial viability is inherently linked to its design as a multipurpose project. The significant benefits that accrue to different sectors, catering to multiple stakeholder interests (irrigation, urban water supplies, power generation) in both countries, need to be captured to be able to rationalize the project's complex environmental and social impacts: including the resettlement of up to 45,000 people (mostly in Guinea), environmental impacts in the perimeter of the reservoir in Guinea and changes to the flood regime in the ecologically rich and sensitive Niger Inner Delta in Mali. The dam design and operating rules will be key determinants of the magnitude and share of both potential benefits and impacts within Guinea and downstream Mali respectively. To realize the full potential of this project, it is necessary that these design related trade-offs be discussed with affected stakeholders and negotiated between the two countries with the best available knowledge to maximize benefits and minimize costs/impact for all. The project will need to be developed with adequate institutional mechanisms in place for decision making and benefit and cost sharing. As the "guardian" of the Basin, the NBA has an institutional role in facilitating this process and contributing Basin-relevant and neutral data and information on transboundary impact, including through its involvement in the Fomi Dam Inter-Ministerial Committee between Guinea and Mali.

10. Established in 1980 as successor to the Niger River Commission, the NBA is the regional river basin organization (RBO) mandated to promote cooperation among its nine member countries to develop and manage the Basin's resources. The mandate of the NBA is to "promote cooperation among the member countries and ensure an integrated development of the Niger Basin in all the fields of energy, water resources, agriculture, livestock, fishing and fish-fanning, forestry and forestry exploitation, transport and communications and industry." A "Shared

Vision Process", which led to the signing of the 2004 Paris Declaration, set the management and governance principles for the sustainable development of the Niger Basin and reaffirmed the central role of the NBA as a coordination, knowledge, and development organization. Based on the SDAP, an $8 billion 20-year Investment Program was approved in April 2008[6]. The Water Charter, approved in April 2008, gives legal status to the Paris Declaration and confirmed the mandates of the NBA. The NBA monitors the conditions of the Basin (done, in practice, through the NBA's Observatory of the Environment), provides services to key stakeholders (including flow forecasts) and a neutral analysis of planned water abstractions, and it mobilizes high-level expertise for relevant studies and analyses.

11. The NBA has so far focused on two types of activities: (1) administration and implementation of activities on the ground together with member countries, and (2) development of frameworks and tools to support sustainable development and IWRM in the Basin, including a repository of the Basin's hydrological historical database and central collection of new data, flow forecasts, and update and running of the basin model to simulate the impact of infrastructure planned by countries on the river.

12. With the coming online of major regulating infrastructure[7], the demands on the NBA and its role in promoting and participating in the design and exploitation of works and projects of common interest are growing. Operation of these new transboundary infrastructure works requires a carefully coordinated approach at the regional level, which the NBA is mandated to take on. The NBA has an increasingly central role in facilitating decisions and building consensus among member countries, water users, civil society, and other key partners and is increasingly called upon to link national-level investments to regional processes. With the assistance of several partners[8], the NBA has made significant progress towards operationalizing its mandate, however as the development in the Basin continues, and pressure on the water resources base increases, the NBA needs to become a more robust institution. This will require: (i) a more autonomous and sustainable financial resources base for the NBA; (ii) improvement of the Basin-wide legal framework for enhanced coordination in the exploitation of transboundary infrastructure; and (iii) information systems and tools to enable the NBA to effectively respond to the growing demands on its coordination function.

C. Higher Level Objectives to Which the Project Contributes

13. Activities under the proposed Project will contribute to the World Bank Group (WBG) twin objectives of reduced poverty and shared prosperity. Cooperative management and development of water resources infrastructure in the Basin can: (i) reduce poverty by transforming the livelihoods of its people, including vulnerable and poor communities in rural,

[6] Adopted during the 8th Summit of Head of States and Government in April 2008.

[7] Kandadji dam in Niger is scheduled for operation in 2019, construction on the Taoussa and Djenné dams in Mali has started, Fomi dam is under consideration. The other existing major dams, Kainji and Jebba, are located in the most downstream member state, Nigeria, and therefore did not require coordination of their operation schedules at the basin-level. This situation will change once upstream dams become operational.

[8] These partners include Agence Francaise de Developpement (AFD), African Development Bank (AfDB), Canadian International Development Agency (CIDA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the World Bank (WB).

remote parts of the Basin, and (ii) serve as a catalyst for boosting shared prosperity. In terms of transforming livelihoods, the proposed Project supports improved river basin management, resulting in improved flow forecast systems that mitigate loss of life and property of people vulnerable to floods and droughts – often the poorest. By strengthening the regional cooperation around Fomi multipurpose project, the proposed Project will lead to an improved understanding of environmental flows which are important for sustaining wetlands and fisheries, and providing watering holes for livestock, which support the poor, and facilitate new livelihood opportunities through irrigation (agriculture remains the dominant sector in most riparian countries). In terms of shared prosperity, the Project will contribute to informed decision making on and sustainable operation of infrastructure and strengthening of institutional mechanisms necessary for hydropower and increased electricity production. The broader benefits from enhanced cooperation in the Basin will help catalyze benefits beyond the river, including the development of agribusiness growth poles, enhancing regional trade (e.g. West Africa Power Pool), prosperity and security in the Basin.

14. The Project and the overall Niger Basin Program are fully consistent with the Bank's Regional Integration Assistance Strategy for Sub-Saharan Africa (RIAS) and the Africa Region strategy, which recognize regional approaches as a means for increasing opportunities and realizing economies of scale. In particular, the Project supports pillar one of the RIAS on regional infrastructure, pillar three on coordinated intervention to provide regional public goods, and the cross-cutting aspect on strengthening regional strategic planning and alignment with national development plans. The proposed Project can also be a vehicle for furthering transformative, strategic engagement in the Sahel region (which includes Burkina Faso, Chad, Mali, Niger and northern Nigeria), and forms an important part of the World Bank's strategic engagement under the Sahel Initiative[9].

15. The proposed project will be closely coordinated with the World Bank's wider engagement and projects in the Niger Basin, including the planned Niger River Economic and Environmental Rehabilitation Project (in pipeline for FY16) focusing on livelihoods along the Niger river in Mali and the Water Resources Development and Sustainable Ecosystems Management Program Adaptable Program Loan (WRD-SEM APL, a regional International Development Agency (IDA)-funded program), whose first phase (APL1[10], US$186 million) is financing small and large-scale infrastructure improvements in five Basin countries[11] on the river's main stem as well as the updating of the technical feasibility and ESIA for Fomi dam[12].

[9] The Sahel Initiative is a WBG regional approach for dealing with vulnerability and development in selected Sahel countries consisting of Burkina Faso, Mali, Mauritania, Niger and Chad. The strategy was endorsed by the Bank in August 2013, and emphasizes the need for strong linkages with neighboring countries for deeper economic and connective integration, as would be the case of key transboundary multi-sector projects.

[10] The APL1 has been extended until end of 2015 for the Niger portion, June 2016 for the Nigeria, Benin and Mali portions and December 2017 for the Guinea portion of the project.

[11] These improvements include reversing degraded ecosystems, rehabilitation of irrigation systems and small reservoir storage to rehabilitation of major hydropower plants. The five countries are Benin, Guinea, Mali, Niger and Nigeria.

[12] The Fomi dam feasibility study is due to be launched in 2015.

The first part of its second phase (APL2A, US$200 million[13]) is dedicated to the Kandadji program in Niger, including financing of the hydropower plant, irrigation and local development activities. The final tranche of the program is dependent, *inter alia*, upon the completion of the outstanding institutional trigger associated with the development and adoption of Annex 2 of the Water Charter[14].

16. This project also closely aligns with two other World Bank investments, including the on-going Fostering Agricultural Productivity Project in Mali[15] (which includes a study for the sustainable development and improved operation of the vast *Office du Niger* irrigation zone downstream of Fomi dam) and the pipeline Regional, Sahel Disaster Resilience Project (which will support enhanced hydrological information services in a large part of the Basin).

17. The Bank also engages with the NBA on a broader dialogue, alongside three other active partners, (AFD, CIDA and GIZ). Institutional capacity building activities under the Niger Basin IDA program have focused on strengthening national level coordinating structures, and at the regional level, re-enforcing the legal framework; support for the implementation of the Water Charter, the establishment of the Technical Permanent Committee, and enhancing NBA's Management Information Systems (particularly the Observatory of the Environment).

18. The proposed Niger River Basin Program is fully aligned with the objective of the Cooperation in International Waters in Africa (CIWA) multi-donor trust fund (MDTF): to strengthen cooperative management and development of international waters in Sub-Saharan Africa to facilitate sustainable climate resilient growth. CIWA is intended to provide a framework to integrate and leverage Bank supported programs across various sectors and concerned countries. It was designed in recognition of the fact that all of Africa's major water sources are shared by two or more countries and that their sound development and management is essential because the key sectors contributing to growth depend on the continent's water resources. The proposed Niger River Basin program will support the NBA in advancing on a number of critical fronts which cut across the CIWA Intermediate Results areas, as summarized in Annex 7.

II. PROJECT DEVELOPMENT OBJECTIVE (PDO)

A. PDO

19. The project development objective is to strengthen the institutional framework for regional cooperation in water resources in the Niger River Basin.

[13] Includes Additional Financing of approximately US$ 55 million approved by the World Bank Board in May 2014. A second part of the second phase, which would expand in-country investments to all ten riparian countries, is being planned.

[14] The exact institutional trigger is "Legal instruments for the coordinated management and optimization of large infrastructure, dispute resolution and arbitration enforcement have been developed and adopted by riparian countries"

[15] Approved June 2010, closing in September 2016.

20. This PDO is aligned with the Program Objective of CIWA: to strengthen cooperative management and development of international waters in Sub-Saharan Africa to assist in achieving sustainable climate-resilient growth. All CIWA financed projects in the Niger River Basin contribute to the program's development objective, as outlined in the CIWA Support Plan (CSP) for the Niger River Basin (see Annex 7).

B. Project Beneficiaries

21. The NBA will be the direct beneficiary of the project. While the upstream nature of the activities carried out under this technical assistance project are not anticipated to have a direct impact on the ground, ultimately, the people of the Niger Basin will benefit indirectly from improved regional coordination of water resources management and development, brought about by strengthening the NBA's ability to deliver on its mandate. As water resources are vital to the livelihoods of the people of the Basin, and as the NBA's mandate is to coordinate management and development of the River's resources, the people of the Basin as a whole may be considered to be indirect beneficiaries of this Project.

22. In addition, several activities will either contribute upstream of project preparation in order to improve the quality of potential investments (such as the Fomi multipurpose project) or will complement on-going investments through close coordination during investment implementation (establishment of hydrological systems and tools to support the operationalization of the Water Charter's Annex 2). This will benefit the countries engaged in and concerned with these investments, in particular Guinea and Mali. Consistent with CIWA's Results Framework, potential beneficiaries associated with potential and on-going investments influenced by this Project will also be monitored as part of CIWA's overarching Niger CSP (see Annex 7).

C. PDO Results Indicators

23. The PDO level results indicators will measure progress toward strengthening the institutional framework for regional cooperation in water resources in the Niger River Basin. The proposed PDO level results indicators are:

(i) Institutional enhancements for coordination of development and management of shared water resources endorsed by member states
(ii) A complementary financing mechanism endorsed by member states
(iii) Joint decision-making process for Fomi multipurpose project approved by Fomi Inter-Ministerial Committee and followed

24. Progress towards achieving the PDO targets will be achieved by strengthening the primary institution responsible for facilitating regional cooperation in water resources in the Niger River Basin, the NBA. Progress to this end will be measured through intermediate results targets and related indicators as per the Results Framework (Annex 1).

III. PROJECT DESCRIPTION

A. Project Components

25. The US$7.5 million technical assistance project will support the NBA through the following two components.

Component 1: Strengthening the NBA for sustainably delivering its mandate (US$ 3,750,000)

26. This component will support the institutional and financial strengthening of the NBA to enhance its capacity to implement its mandates. It will also support the implementation of the Water Charter, focusing on the process of adoption and operationalization of the Niger Basin Water Charter's Annex 2 on Water Management Regulation for the Large Regulating Dams. Specific activities under this component are as follows:

Sub-component 1.1: Further analysis and operationalization of selected financing mechanisms for the NBA (US$ 1,200,000)

27. This sub-component will further analyze and operationalize selected financing mechanisms that will help the NBA to develop a sustainable income stream. It will focus on those options that have been studied and identified in recent studies, most notably, the 2010 Strategic Study for the Autonomous and Sustainable Financing of the NBA Activities. Given its potential for implementation in the short-term, the sub-component will initially focus on the mechanism for the fee on hydroelectric generation and clarifying linkages between NBA services to the hydropower generation. Activities will include: (i) the development of a business case that articulates and quantifies relevant services provided by NBA and a cost-benefit analysis of coordinated management in the Basin; (ii) a feasibility study that outlines opportunity and constraints for fee implementation; (iii) a stakeholder communications strategy; (iv) the design of a strategy and action plan for implementation of the fee; and (v) implementation support for the roll-out of the levy. This will be supported through the provision of consulting services and technical assistance.

Sub-component 1.2: Implementation of the Water Charter (US$ 550,000)

28. This sub-component will support the process of finalization and adoption of the proposed Annex 2 of the Niger Basin Water Charter. This will include revisions to the draft Annex 2 based on stakeholder consultations at the national and regional levels, improvement and operationalization of the relevant hydrological information system tools for the implementation of Annex 2. This will be supported through the provision of consulting services, technical assistance and goods.

Sub-component 1.3: Strengthening the institutional and organizational systems of the NBA (US$ 2,000,000)

29. This activity will support the NBA's operating expenses associated with the implementation of this project and will contribute to implementation of selected priority recommendations from the ongoing institutional and organizational audit (currently underway with financing from WRD-SEM APL2A). Audit-related activities will be identified after

adoption of the audit. This sub-component will also cover operational expenses specifically associated with implementation of this project, including a portion of PCMU staffing, and related communication, travel expenses, and goods. In addition, financing will be provided to the Dam Safety and Safeguards Panels of Experts (Panel of Experts), as part of strengthening the NBA's oversight of the technical design and implementation of major transboundary infrastructure.[16] This will be supported through the provision of consulting services, technical assistance, general operating costs and goods.

Component 2: Facilitating evidence based-decision making in the Fomi multipurpose project (US$ 3,750,000)

30. The component will facilitate sound decision making, support an exemplary preparation process for the Fomi multipurpose development project, and, in parallel, build the capacity of the NBA through its hands-on involvement in this complex project. Through this component, the Project will support NBA as they link national level needs and plans with regional processes, dialogue, and supporting analytics. The specific activities to be supported under Component 2 are as follows:

Sub-component 2.1: Process of engagement and decision making around Fomi (US$ 1,650,000)

31. This sub-component will facilitate informed decision-making and planning on the Fomi multipurpose project. Informed decision-making for any infrastructure project ensures that stakeholders have full knowledge of the project's environmental and social impacts, operating rules, design of associated measures, institutional mechanism for preparation and project implementation, financing sources, and distribution of costs and benefits. Given the complexity and strategic nature of the Fomi project, its potential impact on and benefits for the Basin and based on the NBA's mandate to promote and participate in the design and operation of infrastructure and projects of common interest, the NBA has a key role in facilitating both bilateral and regional coordination around the Fomi project.

32. This sub-component will support the NBA as they work to facilitate a process with Guinea and Mali to design and implement a project preparation roadmap, with clear decision-points and strong stakeholder engagement, in order to support an inclusive evidence-based decision-making process for the Fomi multipurpose project. The roadmap will be a tool, rather than a blueprint, and will lay out the process the countries will work through with the NBA. Activities will begin with: (i) a summary of the state of knowledge on the Fomi multipurpose project as a communications tool to ensure that all stakeholders have a robust and accessible set of information and the same level of knowledge of the project; (ii) the development and adoption of a strategy and action plan for the decision-making process on Fomi in consultation with Guinea and Mali; (iii) implementation of a decision-making process to achieve early engagement

[16] It is anticipated that once major transboundary infrastructure projects move to the implementation stage, the costs of the NBA Panel of Expert service would be financed by the concerned riparian(s). For instance, the Government of Niger is currently financing the costs of the Panel of Experts associated with the provision of dedicated support to the Kandadji dam project.

and sensitization of decision makers and other key stakeholders in the process of preparation and development of the Fomi multipurpose project.

33. The roadmap will be established after the first year, but as with any project plan, it must be constructed flexibly to ensure that it can incorporate recommendations made in complementary analyses. The process, which will require the selection of a consultancy firm (or consortium) with the ability to carry out such facilitation and technical assistance roles, will strengthen the capacity of the NBA, as well as of the concerned agencies of Guinea and Mali, to facilitate and prepare a multipurpose investment.

Sub-component 2.2: Institutional frameworks for Fomi multipurpose project (US$ 650,000)

34. The establishment of new, sound and robust institutional arrangements will be an essential foundation for Fomi, given its inherent complexity. There are a number of potential features of Fomi (weak existing institutional set up, joint-financing options, possible private sector involvement for the hydropower complex, extensive transboundary benefit sharing) which will require early and informed decision making by stakeholders in order to design and operationalize the necessary institutional arrangements. Sub-component 2.2 will support a suite of studies and technical assistance necessary to explore institutional arrangements for the Fomi project including:

(i) The current institutional framework for the Fomi multipurpose project;
(ii) Proposal for an institutional framework for joint project preparation;
(iii) Review of options for the joint-financing and management of Fomi dam and hydropower station (including the potential for public private arrangements including a market survey and a careful analysis of the source and creditworthiness of potential revenue flows);
(iv) Proposed institutional framework for implementation and operation of the Fomi multipurpose project and design of corresponding legal and institutional frameworks; and
(v) Support for national institutional structures responsible for preparing the Fomi project.

35. This activity will clarify the nature of possible public-private partnerships relevant to the hydropower complex and will include an analysis of the potential for investments as well as operation and maintenance of the dam. This component will be supported through the provision of consulting services.

Sub-component 2.3: Complementary environmental and social assessments (US$ 1,100,000)

36. This sub-component will support complementary assessments of the environmental, social and cumulative impacts related to the Fomi multipurpose project, in particular with respect to the Niger Inner Delta, that complement the technical and ESIA studies carried out under the WRD-SEM APL program. Their exact scope will be defined by stakeholders as part of the roadmap exercise. Key studies will include an advanced modeling of ecosystem services in the Niger Inner Delta available under different flow regimes and operational conditions of the proposed Fomi dam. The model will consider numerous factors in the Basin and Delta including

sediment transport patterns, impacts on groundwater recharge and overall wetland hydrology. It will demonstrate resulting changes in geomorphological systems, ecosystem services and livelihood patterns in the Niger Inner Delta under different flow and climate regimes. This sub-component will also fund additional complementary studies which will be defined in response to needs identified in the decision-making process supported under sub-component 2.1, including, inter alia, those relating to the direct zone of impact of the dam in Guinea.

Sub-component 2.4: Donor and investor roundtables (US$ 350,000)

37. This sub-component will support engagement of potential financiers of the Fomi multipurpose project during early stages of decision making on the project and will strengthen the NBA's capacity to exercise its mandate to raise financial resources for the development of infrastructure of common interest in the Basin. Activities will include the development of documentation and communication material to present the Fomi project to investors and roundtables hosted at strategic points in the investment preparation process. This component will be supported through the provision of technical assistance and operating expenses associated with workshops.

B. Project Financing

38. **Lending Instrument.** The Project is an investment project financing operation financed by a grant through the CIWA MDTF in the amount of US$7.5 million to be implemented over five years. The CIWA MDTF is financed by contributing partners that include Denmark, the Netherlands, Norway, Sweden and the United Kingdom.

39. Under the grant funding arrangements, the Recipient may withdraw the proceeds of the Grant in accordance with standard conditions, procedures and guidelines as set out by the Bank. No withdrawal shall be made for payments made prior to the date of the Grant Agreement, to be signed between the Bank and the Recipient.

40. **Rationale for provision of public financing**. There is a strong rationale for use of public funds. The NBA is a regional public body with a strong mandate. The technical assistance financed under this project is designed to generate regional public goods by strengthening cooperative management and development of international waters, to maximize the benefits derived from the Niger River. As experience to date with Fomi has shown (3 feasibility studies, no financing), leveraging private funds at such an early stage of the preparation process is challenging because (i) this is a high risk investment due to regional, environmental and social externalities associated with such a project; and (ii) mitigating such impacts, while optimizing the social, environmental and long-term economic benefits, is not necessarily fully aligned with achieving high returns on capital investment (e.g. through a narrow focus on hydropower generation). As a result, complex, infrastructure projects involving international waters, frequently require intermediation, facilitation and financial support by neutral and trusted international finance institutions, particularly at the early stages – even if private financing options may be explored at a later stage of project development.

41. Nevertheless, where appropriate, opportunities for leveraging private funds in support of regional public goods are being actively considered under this Project (scoping out options for

hydropower levees and public-private partnerships for the construction and management of Fomi dam).

42. Finally, the World Bank offers some important comparative advantages in supporting such a Project (i) it is a trusted partner amongst stakeholders, benefiting from a long-term engagement with all Member States, technical and financial partners (donors) active in the Basin, as well as the NBA; (ii) strengthening cooperative management of transboundary infrastructure will directly benefit other major World Bank investments, including the construction of Kandadji dam and the rehabilitation of Kainji and Jebba dams; and (iii) few other institutions have the breadth of experience and knowledge, and convening power, to mobilize engagement around such a complex, high risk venture.

43. **Choice of lending instrument**. Additional financing through the existing regional IDA WRD-SEM Adaptable Program Lending instrument was considered, but rejected for the following reasons. The first phase APL1 project began in 2007, with most of the associated credits and grants scheduled to close by June 2016. Although a partial and exceptional extension to the Guinea grant portion until December 2017 was recently approved, this will still not provide sufficient time to complete all the activities envisaged here[17]. Moreover, a national grant from Guinea is not an appropriate vehicle to support inherently regional activities designed to be facilitated by the NBA. On the other hand, the scope of the first part of the second phase of the program (the on-going APL2A project) is much narrower, given its focus on the implementation and supervision of the Kandadji dam in Niger. While additional financing to the NBA portion of the APL2A project could have been conceived to carry out core institutional strengthening activities (as per component 1), the Fomi related activities (as per component 2) exceeded the existing scope of the APL2A project. Finally, although a second part of the second phase of the WRD-SEM program has been envisaged, one of its programmatic triggers[18] remains unmet, and its achievement is indeed one of the anticipated outcomes of this Project.

C. Program Objective and Phases

44. The Project is part of a broader engagement in the Niger River Basin supported through the CIWA MDTF. This program of support is envisioned as one part of the Bank's broader engagement in the basing which will support the NBA and its member states to facilitate investments and institutional strengthening for coordinated and cooperative management and development of the Niger River Basin resources (see Annex 7). It will also strengthen the Member States' and the NBA's capacity to raise the financial resources needed for investments and the process of Basin cooperation.

45. The CSP, which builds upon past support in the Basin from the World Bank and development partners of the NBA and its member countries, will be implemented in two phases: Phase 1 (2015-2019) and Phase 2 (2017-2020). Phase 1 will focus on strengthening the NBA's

[17] It would be extremely difficult to justify the extension of an $186 million investment project such as the WRD-SEM APL1 project beyond 10 years on account of a technical assistance project, regardless of how strategic it is.

[18] The final outstanding WRD-SEM APL trigger relates to the development and adoption by riparian countries of legal instruments for the ***coordinated*** management and optimization of large infrastructure, dispute resolution and ***arbitration*** enforcement.

institutional framework for regional cooperation as well as enforcement of key principles contained in the Water Charter. Phase 2 will focus on the optimization of the operation of the Basin's new and planned major transboundary infrastructure, and supporting strategic thinking on post-2025 vision and investments for the Niger River Basin.

D. Lessons Learned and Reflected in the Project Design.

46. The project preparation process is informed by over a decade of engagements by the World Bank and other donors, in the Niger Basin to strengthen the NBA, promote enhanced cooperation, and plan major new transboundary infrastructure development, notably through the on-going WRD-SEM APL1 (approved in 2007) and the WRD-SEM APL APL2A (approved in 2012) which include activities to institutionally strengthen the NBA, and design and support multi-sector transformational high risk transboundary infrastructure. The design of the program has further been informed by lessons from World Bank involvement in transboundary water issues in other major African basins, including the Nile, the Zambezi and the Senegal River Basins, along with various other programs and initiatives in international waters across other regions. Some of the key lessons that have been incorporated are outlined below.

47. The traditional system of RBO financing based solely on contributions from riparian countries is not fully reliable. As is the case with other RBOs, the NBA has at times experienced delays in or only partial payment of country contributions. Analyses on this topic recommend diversification of RBO funding sources. The concept of autonomous funding sources has for instance been adopted for regional integration organizations in West Africa (e.g. ECOWAS) through community levy or other sources. With an increase in the scope of its activities, the NBA will have additional funding needs. Given the recurring problem of contribution arrears, the organization's funding needs to become more independent of national budgets. The *2010 Strategic Study for the Autonomous and Sustainable Financing of the NBA Activities* identifies mechanisms applying a "user pays principle", such as a hydroelectricity levy, as a complementary funding source with good potential and developable in the short-term. Hydropower charges have been successfully applied in the case of the Zambezi River Authority and the *Organisation pour la Mise en Valeur du Fleuve Sénégal* (OMVS). Similar efforts to impose a hydroelectricity levy have faced opposition from operators in the Mekong Basin. Drawing on this experience, the Project will assist the NBA to articulate the direct benefits of its services for coordinated management of regulating infrastructure (including based on Water Charter Annex 2) for improved hydroelectricity production to legitimize the adoption of this autonomous funding source.

48. The assistance for developing and implementing a road-map for decision making on Fomi draws on the Bank's recent experience from engagement on the Kandadji dam under WRD-SEM APL 2 as well as its involvement in similar projects in other basins. The ability of financiers to participate meaningfully, and influence, the crucial initial stages of project design and implementation is greatly enhanced by gaining an early seat at the table. This is particularly important for the development of large regulatory infrastructure which requires that appropriate institutional arrangements for donor coordination, joint-financing project construction, reservoir filling and operation and maintenance phases be in place early on, notably in countries with weak implementing agencies and difficulties in attracting non-concessionary financing (which leads to extremely large number of financiers – 11 in case of Kandadji). It is crucial in the early stage of

the project development to guarantee long term technical sustainability of the project by clearly identifying the Party that will be responsible for operating and maintaining the project, as well as the mode of remuneration and funds required by these activities. This could result in early breakdown of equipment or mis-operation as experienced in recent projects developed in Africa (Ruzizi 2, Bumbuna) that can lead to serious dam safety issues. Short and long-term benefit sharing across national boundaries also presents its own unique set of institutional challenges. The 2011 study on *Partager l'eau et ses bénéfices: les lecons de six grand barrages en Afrique de l'Ouest* highlights that while the overall benefits of hydropower infrastructure are usually positive at the national scale in terms of electricity supply and macroeconomic impact, local communities and ecosystems are transformed. Careful design of short and long-term benefit sharing arrangements, advance preparation of affected communities on required future adaptation and the participation of key stakeholders in the decision making process are important. This is even more so the case where planned infrastructure works will have significant transboundary impacts. The benefit sharing and decision-making arrangements need to be designed to satisfy the cross-border context.

49. The common approach to increase productive uses of water is to increase the supply. However, international experience shows that significant economic gains can be obtained through proper demand management. This is particularly needed in the case of the Upper Basin, where Fomi's main role would be to allow for more irrigation during the dry season. Technical assistance provided by the project will help ensure that the water demand pattern for downstream irrigation that will be computed as part of the feasibility study, will adequately account for the efforts in water efficiency improvements already started in main irrigation schemes such as the *Office du Niger*.[19]

50. The unique challenges of constructing regulatory infrastructure on rivers, and particularly delta areas, with complex hydrological and geomorphologic characteristics can often not be adequately addressed by traditional strategic environmental assessment and ESIA instruments. Experience from the Ganges-Brahmaputra-Meghan Delta in Bangladesh points to the importance of supplementing these traditional instruments with additional studies on the complex and iterative relationship between hydrology, sediment, ecosystems and livelihoods.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

51. The grant recipient is the NBA, established based on the Convention creating the NBA (signed in 1980, revised in 1987). The NBA Executive Secretariat is the executive organ of the Authority. It is mandated with the administration of the Authority and implementation of decisions taken by the higher entities (Summit of Heads of State and Governments (SHSG) and Council of Ministers (CoM).

[19] The current efficiency at *Office du Niger* is 33% during the rainy season and 13% during the dry season. The updated database of water withdrawals in the Basin (NBA, 2013) indicates that a 5% increase would overall save 20% water.

52. Project-level implementation arrangements will utilize the existing project management structure that is in place for implementation of the Niger Basin WRD-SEM Program. The existing Project Management and Coordination Unit (PMCU) has in place the core positions (Project Coordinator, Procurement Specialist, Environmental and Social Specialist, Dam Specialist, Regional Accountant and Project Assistant) that are needed to implement the proposed activities. This existing structure will be utilized for implementation of this Project, and the NBA Secretariat will continue to play an important support role in the implementation of key activities. Utilizing the PMCU builds on the capacity and expertise of the existing implementation structures, allows for synergies with the World Bank's wider WRD-SEM program, and allows for implementation to commence in a timely and efficient manner. This project will finance three core positions (Project Coordinator, Procurement Specialist and Project Assistant) that are not budgeted for under the WRD-SEM program after end-June 2016.

53. The Regional Steering Committee of Project and Programs (RSC) established by the NBA based on Council of Ministers Decision 000005/PCM taken on February 14, 2013 in Niamey, Niger will approve the annual budgets and work plans submitted by the PMCU.

B. Results Monitoring and Evaluation

54. The Results Framework attached in Annex 1 has been designed to meet the requirements of the CIWA MDTF and provides the basis for monitoring progress of the Project. At the project-level, the Monitoring and Evaluation (M&E) Framework will track progress in implementation, measuring intermediate outcomes and final outcomes to assess the achievement of the PDO. The Results Framework will be used to monitor Project implementation. The NBA will be responsible for results monitoring and evaluation, in line with the M&E Framework and as part of its regular project reporting.

55. The Project level results frameworks will be aggregated to report on progress toward the overall basin level goals and those of CIWA.

C. Sustainability

56. **Institutional and Financial Sustainability.** The NBA is the long-standing basin authority, established in 1980 by all 9 riparian countries (from the earlier 1964 Niger River Commission), with around 150 staff. Its mandate has recently been strengthened through the enactment of the Water Charter. The project is assisting the NBA to step up to its new, enlarged mandate, by helping operationalize certain aspects of the Water Charter and supporting necessary internal organizational and systems changes in NBA to better supports its mission. Financial sustainability is a particularly important aspect of long term sustainability. Although the NBA's core operational budget benefits from around $2.3 million in country contributions, such contributions are often delayed and increasingly insufficient to support the NBA's new core responsibilities. Exploring options for operationalizing complementary autonomous revenue streams as part of this project is therefore an important step in helping the NBA consolidate its long-term, financial and institutional future.

57. **Technical, environmental and social sustainability.** Ensuring the sustainability of complex projects such as Fomi starts with a high quality technical design of all aspects of the project. As such, one of the core tasks of this technical assistance is to ensure that all critical

foundations are given due consideration within the project design framework (whether these are financed by the project or not). Key aspects include selection of appropriate technical designs (including through robust due diligence processes), provisions for long-term operations and maintenance of the infrastructure, the design of dynamic monitoring and evaluation platforms to track long-term (often hard to predict) social and environmental changes, and the design of long-term benefit sharing arrangements to support such emerging social and environmental needs, even after the project construction phase has been completed. In a similar vein, the review and design of appropriate institutional and financial arrangements (including possible joint financing) will also go a long way in determining the financial viability and long-term sustainability of the Fomi project.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Risk	**Rating**
Project Stakeholder Risks	
- Stakeholder Risk	High
Implementing Agency Risks (including Fiduciary Risks)	
- Capacity	Moderate
- Governance	Moderate
Project Risks	
- Design	Moderate
- Social and Environmental	Low
- Program and Donor	Moderate
- Delivery Monitoring and Sustainability	Substantial
Overall Implementation Risk	Substantial

B. Overall Risk Rating Explanation

58. Although the Project enjoys strong support from the NBA, and the two key stakeholder countries for the Fomi multipurpose project (Guinea and Mali), the overall implementation risk is rated substantial, due to the high risk ratings associated with the stakeholder risks, the operating environment, and the linkage between key activities under this Project to the broader preparation process of the Fomi multipurpose project.

59. Commitment of the NBA and national governments for the proposed activities is strong, particularly as member countries seek more information on the shared benefits from regional cooperation. There is also broad political support for the mandate and activities of the NBA amongst its member countries, including continued (albeit delayed) financing by all riparian states. All areas of proposed engagement have specifically been endorsed by all nine member countries through various NBA Heads of State and CoM meetings including an endorsement (in

principle) for autonomous financing of the NBA, the Water Charter, and the Fomi multipurpose project. Nevertheless the operationalization of each of these activities will require further stakeholder endorsement on specifics. While the project can help the NBA develop and articulate sound proposals that seek to incorporate a wide range of stakeholder interests, the legitimacy for the final decision-making rests squarely with the Member States, and is beyond the control of this Project.

60. The Fomi multipurpose project presents its own set of risks. There is a risk that by raising the profile of Fomi, and raising questions around technical, social and environmental issues, this Project will play a role in raising opposition to regional infrastructure, and particularly dams, by international and local non-governmental organizations and could negatively impact the Fomi Project's reputation and the ability of Guinea and Mali to attract financing. This risk will be mitigated by maintaining strong alliances and partnerships with international and local NGOs, clear due diligence, including third party assessments through the independent Panel of Experts, and by developing a comprehensive communications strategy to disseminate key findings in a transparent and accessible way.

61. The "substantial" country risk recognizes the complex security environment and political instability in some member countries. Implementation risks are considered to be limited, as engagement with the NBA will utilize existing regional and national arrangements already in place for the WRD-SEM program. More details are provided in the Operational Risk Assessment Framework (Annex 4).

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

62. The project has multi-faceted knowledge, institutional, and process related benefits that are difficult to quantify through an economic and financial analysis. The ultimate achievement of the benefits of the processes informed through this project depend on decision-making beyond the project's sphere of influence, such as the establishment of a sustainable income stream for the NBA independent from country membership contributions, which will enhance the NBA's ability to implement its mandate; and the coordinated management of regulating infrastructure in the Basin for transboundary benefits. The remainder of the economic analysis provided for this project focuses on evaluating the opportunity cost of the delays in advancement of the Fomi multipurpose project, which is recognized to be only a sub-set of the benefits provided through this project.

63. The Fomi project was conceived over 60 years ago, before Guinea obtained its independence from France. At that time the objective was to regulate the flow of the Niger River for the benefit of the irrigation scheme in the *Office du Niger*. Since the 1950s, the Fomi dam has been the subject of several studies and analyses which intended to advance the project including:

- Early 1950s reconnaissance studies by the French
- 1983 Prefeasibility study
- 1986 Guinea's National Hydropower Master Plan
- 1988 Feasibility study by Guinean Government with support from Canada

- 1999 Feasibility study by Guinean Government with support from Canada
- 2010 Environmental and Social Impact Assessment

64. Despite these efforts, the Fomi dam project did not take-off due to several reasons including: (i) the pre 2010 socio-political unrest in Guinea; (ii) lack of proper understanding of the full costs and benefits of the dam; (iii) lack of participation of all stakeholders in the conceptualization and preparation of the project; (iv) hesitation of donors to engage due to lack of clarity regarding the scope, design, ownership, and overall impacts of the dam; and (v) lack of consideration of social, environmental and transboundary impacts of the dam. The project beneficiaries and affected people were not fully identified and consulted. Consequently, there were no benefit sharing and compensation arrangements in place.

65. This technical assistance project will help the countries to address some of the past gaps in upstream analytics and help put the Fomi dam project back on track and enhance its bankability. It will provide the platform for developing a technically feasible, economically viable, and financially sustainable project within a reasonable time frame.

66. Measuring the overall economic impact of this project is difficult, if not impossible, as the benefits are systemic and process oriented posing quantification problems. However, the economic impact of the project is approximated by focusing on the interventions around the Fomi multipurpose project. The analysis begins with the question, what would have happened to the Fomi multipurpose project if this technical assistance project were not implemented? Given past experience, with all probability the implementation of the Fomi project would be significantly delayed. Alternatively, it may be implemented without full regard for social and environmental due diligence – which may result in costly externalities.

67. The major economic contribution of this project is expediting the planning (and eventual implementation) of Fomi as compared to a business as usual scenario. The cost benefit analysis conducted for this project (details in Annex 8) begins with the fact that development of the Fomi dam has been significantly delayed (around 50 years) and then considers possibilities for advancing the project with and without the technical assistance project. A delay in the implementation of the Fomi Dam entails significant opportunity cost in terms of lost hydropower and irrigation benefits.

68. The economic analysis conducted herein used the latest feasibility study report as its basis and the major adjustments were inclusion of irrigation development costs and benefits and accounting for those social and environmental costs of the project that were not included in the previous analysis[20]. The results of the economic analysis show that the project has significant economic returns. The absolute magnitude of the returns depends on the assumed number of years of delays in the implementation of the Fomi project without technical assistance. For example, a two-year delay in the implementation of Fomi multipurpose project reduces the net present value by US$77.3 million from US$472.3 million (the optimal scenario) to US$395 million. Alternatively, the technical assistance project saves US$77.3 million by reducing loss of

[20] The aim of the analysis is not to re-do the cost benefit analysis of the Fomi dam, but to assess the benefits of the technical assistance project and confirm the justification for its public financing.

energy, irrigation, and other benefits by facilitating the expeditious planning and implementation of the Fomi dam. In another example, a 15-year delay in the implementation of Fomi dam diminishes its economic returns to US$114.4 million. Given the history of the Fomi multipurpose project, a 15-year delay is highly likely if there is no intervention or assistance.

69. The magnitude of the cost of deferred or delayed development opportunities in Mali, Guinea, and the Niger Basin overall is presented in Annex 8. Such delays in implementation are frequently observed for complex infrastructure projects involving international waters, which require intermediation, facilitation and financial support by neutral and trusted development partners.

B. Technical

70. Global experience recommends diversification of RBO funding sources to achieve greater financial security and sustainable financing streams for the delivery of core mandates. An assessment of strategic financing for NBA activities was carried out in 2010. This project will further develop recommended financing mechanisms that have proven successful in other basins (Zambezi and Senegal). As countries in the Niger Basin enter into a new era of determined pursuit of development of large-scale infrastructure[21], cooperation among riparians, and a functional organization equipped to facilitate that cooperation, are much in need. Meeting the cooperation facilitation of the Basin's riparians will require several important changes in the way the NBA operates, among which is its need to have a legal mandate. It must have the appropriate technical tools in place and the capacity to use them; it must have the correct institutional set-up to ensure that it is efficient and effective; and it must have the financial resources to reliably carry out its mandate. With respect to the NBA's legal mandate, this project will support consultation on and finalization of the Water Charter Annex 2 and benefit sharing principles, and will support design and operation of associated tools. With regards to organizational structure, WRD-SEM APL 2A is financing an in-depth institutional and organizational audit that is expected to provide concrete recommendations on institutional and organizational strengthening for the NBA to implement its changing mandate. This project will finance recommendations identified in the institutional audit that complement other Project components such as improving communication on cascade and reservoir management services provided by the NBA to benefit its member states to both justify the proposed financing stream through a hydropower levy on utilities, and to confirm the NBA's role as intermediary and facilitator of Basin-wide water management for large regulating dams. Finally, with respect to financing, the NBA requires sufficient, predictable financial flows to maintain performance and delivery of mandated services. Global experience shows that financial sustainability for regional organizations is achieved through diversification of funding streams including riparian contributions, fees for service, taxes and levies and other mechanisms specific to the organization's mandate. This project will support the NBA in implementation of strategic actions identified in a recent financial sustainability assessment, namely, a hydropower levy on utilities.

[21] Grey and Sadoff, "Sink or Swim? Water security for growth and development", *Water Policy*, 9:6, 2007, 545-571.

71. The conceptualization of the Fomi multi-purpose project remains at an early stage. The support provided by this project seeks to help stakeholders in making informed decisions about its viability and optimal design.

72. The proposed Fomi multipurpose project will be located in Guinea, near the border with Mali, in the upper part of the Basin. Original site selection was based on conclusions from several studies carried out at the regional and national level (by Guinea).

73. This multipurpose project was endorsed as part of the SDAP's optimal water resources development scenario (based on hydro-economic modeling) whose backbone is the development and coordinated management of a cascade of dams within the Basin (including Kandadji, Taoussa, Kainji and Jebba). As the most upstream of these dams, multipurpose benefits include the regulation of dry season low flows through high water storage potential (up to 20 percent of the river's total annual flow at Bamako in Mali and four times the volume at Kandadji in Niger), and up to 210,000 ha of downstream irrigation, mostly in Mali. It will also provide hydropower generation (around 90-100 MW installed capacity) as an associated (rather than primary) benefit. Potential impacts include the resettlement of up to 45,000 people, including 56 villages and hamlets in Guinea, and altered sediment and flood regimes in the biodiversity rich and vulnerable downstream Niger Inner Delta.

74. As noted in the upstream 2010 ESIA, the design and management options related to this infrastructure involve a number of trade-offs which require further consideration. The ESIA carried out a preliminary scenario analysis based on the NBA's hydraulic model with 22 years of historical data in order to highlight the main trade-offs under a range of seven initial different design and management scenarios which affect dry season low-flows, potential irrigated surface area, electricity generation, percentage of reduced flooding in the Niger Inner Delta, reservoir size (and size of resettled population), and overall scheme costs. Preliminary results suggested that the 388 m elevation, which offers a satisfactory filling regularity, may be considered as an alternative target elevation[22]. Nevertheless, while this model was useful in highlighting the magnitude of potential trade-offs, further refinements will be required. For instance, the effects of an artificial flood have yet to be incorporated. Moreover, demand side aspects (including the potential for increasing water use efficiency, notably in the *Office du Niger*) need to be carefully considered when determining the final infrastructure design sizing, as well as in the design of accompanying measures.

75. This Project will facilitate a rigorous analysis of alternatives, including through a better understanding of alternative flood scenarios on the Niger Inner Delta, and will seek to facilitate evidence-based decision making around these. Where the model faces limitations (which is a frequent issue in such complex deltaic environments), it will also seek to explicitly capture such uncertainties. Finally, the Panel of Experts will peer review all key studies and provide its own recommendations regarding the technical viability of the project (and the balance of risks, in the face of uncertainties).

[22] Key features of the original Fomi dam 1999 design for an earthen type dam included a 6.16 billion m^3 reservoir over a 507m^2 surface area, with a maximum crest level of 390m above mean sea level, dam height of 42m, dam length of 1450m with an installed power capacity of 100 MW.

C. Financial Management

76. A Financial Management Assessment of the NBA was carried out by the Bank's financial management team in September 2014 based on the findings of the supervision mission conducted in May 2014 for the regional WRD-SEM APL1 and APL2A projects. The objective of the assessment was to determine whether: (a) the NBA still has adequate FM arrangements in place to ensure that the funds will be used for the purposes intended in an efficient and economical manner and whether the entity is capable of correctly and completely recording all transactions and balances related to the Project; (b) the Project's financial reports are likely to be prepared in an accurate, reliable and timely manner; (c) the Project assets can be kept secure; and (d) the Project will be subject to auditing arrangements acceptable to the Bank.

77. The FM assessment concluded that the current FM arrangements at the NBA used for ongoing IDA financed projects are acceptable and the NBA implementation manual and the FM procedures were updated to take into account the new Project activities. However, the internal control environment will need to be strengthened. In fact, the last FM supervision at the NBA highlighted internal control issues such as insufficiency in the budget monitoring process and improper follow up of Project assets and lack of an internal audit function. In addition, (i) the accounting software in use at the NBA is installed under a monoproject version and can therefore not be relied on to handle more than one project; and (ii) although the accounting team is well staffed, the accountant who is currently handling more than one project could be overwhelmed with the additional workload.

78. As a result of the above-mentioned constraints, and taking into account that (i) the 2013 Audit report related to the WRD-SEM APL2A project implemented at national level was issued an unqualified opinion and that internal control recommendations are being taken care of; and that (ii) the Project will be fully implemented by the NBA coordination unit, the following measures were agreed upon to reinforce the internal control environment at NBA:

(i) The accounting team shall be complemented with a qualified accountant to be recruited based on terms of reference acceptable to the Bank;
(ii) An appropriate accounting software (under a multi-projects version) shall be set up to ensure timely recording of financial information as well as timely production of quarterly and annual financial statements; and
(iii) An external auditor will be recruited (or the current external auditor mission scope may be expanded to cover the Project activities).

79. The conclusion of the assessment is that FM arrangements in place at the NBA meet minimum FM requirements under OP/ BP 10.00. However, with regards to the above mentioned constraints, the FM residual risk is deemed **Substantial** and should be revisited after satisfactory implementation of the proposed mitigation measures.

D. Procurement

80. Procurement activities for this Project will be carried out by the NBA, which will have overall responsibilities in monitoring the implementation of procurement activities; development of procurement reports; preparation and updating of the procurement plan; preparation of the bidding documents, draft requests for proposals (RFP), evaluation reports, contracts in

compliance with World Bank procedures; and seeking and obtaining approval of IDA on procurement documents as required.

81. Several of the consulting services packages, particularly the facilitation support around Fomi, involve atypical and highly specialized types of services. Expert, just-in-time support will be provided early on through the CIWA Basin Support Project to advise the NBA team on overall scope.

82. A Procurement Capacity Assessment of the NBA was carried out in September 2014 and was updated and finalized during the appraisal mission. The assessment reviewed the organizational structure for implementing the Project, the procurement capacities of the agency (past procurement experience, staff in charge of procurement, tools including manuals, procurement reporting, filing, use of software, etc.).

83. The assessment found that, through the existing project staff, the NBA possessed acceptable knowledge, technical expertise and experience in Bank procurement procedures. The procurement specialist has resigned and is expected to be replaced before the project is effective. The tools used (manual, software) are still relevant although adjustments are needed to take into account updates in WB procurement procedures and policies, and the recent technological development in software.

84. The overall risk for procurement was rated **Substantial.** The residual project risk for procurement is **Moderate** after adoption of mitigation measures. These include the recruitment of a qualified and experience procurement specialist, updating existing manuals for the previous IDA Project to clarify roles of team members, and developing a procurement plan for the first 18 months. Refer to Annex 4 for further details.

E. Social (including Safeguards)

85. This Project consists of capacity building and technical assistance to the NBA in the form of analytical work to inform the design and facilitation of a decision making process around a complex infrastructure project among the NBA member states and mobilization of funding. No physical works are financed under the technical assistance grant; therefore, no social safeguards policies are triggered.

86. This technical assistance project aims to complement the principal preparatory studies related to the high profile transboundary Fomi multipurpose project, which are being financed under the on-going World Bank Niger Basin WRD-SEM APL1 Project (P093806) which is also implemented under the NBA. The Niger Basin WRD-SEM's Environmental and Social Management Framework (ESMF), which covers these Fomi related studies, was disclosed in 2007. The Strategic ESIA that was prepared in 2010, funded by the EU, included an Involuntary Resettlement Plan Report and a Local Development Plan Report. The Involuntary Resettlement Plan Report estimated the number of people to be resettled as 40,000 individuals (3,900 households)[23]. However, given the delays in conceptualizing the Project in general, these studies are by now outdated and will need to be revised and updated, including census and socio-

[23] It is anticipated that up to 45,000 people may ultimately be resettled, given population growth rates and possible in-migration to project sites close to cut-off period.

economic study of the affected population. A RAP for the project will need to be prepared once the physical design is in place subsequent to technical feasibility studies under the APL 1; however, this will not be financed under this technical assistance project.

87. An important dimension of the Fomi multipurpose project process concerns the mechanisms for transferring benefits at local, national and sub-basin level, and trade-offs in this regard. This dimension is particularly acute for three groups of stakeholders: (i) the 45,000 affected people in the Fomi multipurpose project area in Guinea, (ii) farmers and other stakeholders in the *Office du Niger* Zone (as main beneficiaries of the regulation allowed by Fomi), and (iii) the people living in the Niger Inner Delta and other smaller wetlands downstream Fomi. Gender aspects will be featured strongly, in terms of ensuring women and vulnerable groups are not marginalized (e.g. from receiving in-kind benefits, improved livelihood options, and compensation). It is expected that this Project will help to analyze in-depth the different potential scenarios for livelihoods impacts as well as outline appropriate mitigation measures. This analytical work will enable the counterpart to make an informed decision regarding the technical design with adequate knowledge on the environmental and social risks and opportunities. It will also identify measures needed to ensure equitable access to the benefits by all beneficiaries including women and other groups that could otherwise be excluded.

88. The Project recognizes the importance of a clear communications strategy to ensure stakeholders at all levels are aware of the purpose and scope of the technical assistance project and how it links to the eventual Fomi multipurpose project planning process as well as to better understand their various priorities and concerns. This is essential to properly manage expectations at various levels.

F. Environment (including Safeguards)

89. The Project is rated Category B. There are no planned works or physical footprints associated with the activities under this technical assistance project. The Project is not planning to finance any of the core preparatory studies relating to Fomi multipurpose project (including feasibility, detailed design, ESIA, and RAP). A Niger Basin ESMF was disclosed in 2007 as part of the preparation of the on-going World Bank Niger Basin WRD-SEM Project, which includes the update of Fomi multipurpose project ESIA and feasibility study. The ESMF was updated and re-disclosed in 2012 during the restructuring of that Project.

90. The current design of the Fomi multipurpose project intends to maintain a minimum environmental flow, and guarantee water supply in large towns downstream of the site. Changes to the hydrological regime will impact the protected Niger Inner Delta in Mali, where the livelihoods of 1 million people are intimately linked to the ecosystems services provided by the wetlands. The studies associated with the Fomi multipurpose project under Component 2 of the proposed technical assistance project may include complementary assessments of environmental, social and cumulative impacts further downstream of the dam (building on the 2010 Cumulative Environmental and Social Impact Assessment for Fomi) to gain a better understanding of the complex interactions between changing flow patterns, ecosystems and ecosystem services, and traditional livelihoods of both women and men, in particular in the Niger Inner Delta area. For

this reason, as well as potential reputational issues in the long-term, the Project triggers OP 4.01 (Environmental Assessment).

91. The *Environmental Assessment* (OP 4.01) policy is triggered to cover the upstream analytical work that will enable the counterpart to make an informed decision regarding the technical design with adequate knowledge on the environmental and social risks and opportunities. Since the complementary assessments of environmental, social and cumulative impacts will be identified during the update of the ESIA for the Fomi multipurpose project, it is not possible to prepare terms of reference for the studies at this point. Accordingly, the ESMF of the on-going World Bank Niger Basin WRD-SEM APL1 Project, which includes the update of Fomi multipurpose project feasibility study and ESIA, has been updated. The updated ESMF, which reflects the proposed technical assistance project content, was re-disclosed in Guinea on October 28, 2014, in Mali on October 27, 2014, on the NBA website on October 17, 2014 and at the World Bank InfoShop on October 30, 2014.

G. Other Safeguards Policies Triggered

92. Due to the "soft" (non-physical) nature of the activities under this technical assistance project, no other safeguards policies besides OP 4.01 on Environmental Assessment are triggered by this Project.

93. Given the Fomi multipurpose project's transboundary nature and significant on-site and downstream impacts, the institutional and technical studies and technical assistance activities financed under the Project will require close scrutiny to mitigate any reputational risk.

Annex 1: Results Framework and Monitoring

Country: Africa

Project Name: Niger River Basin Management Project (P149714)

Results Framework

Project Development Objectives

PDO Statement

The objective of the project is to strengthen the institutional framework for regional cooperation in water resources in the Niger River Basin.

These results are at | **Project Level**

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values					
		YR1	YR2	YR3	YR4	YR5	End Target
Institutional enhancements for coordination of development and management of shared water resources endorsed by member states (Yes/No)	No	No	No	No	No	Yes	Yes
A complementary financing mechanism	No	No	No	No	No	Yes	Yes

endorsed by member states (Yes/No)							
Joint decision-making process for Fomi multipurpose project approved by Fomi Interministerial Committee and followed (Yes/No)	No	No	No	No	No	Yes	Yes

Intermediate Results Indicators

		Cumulative Target Values					
Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
New mechanism for financial sustainability developed and discussed (Yes/No)	No	No	No	Yes			Yes
Coordination mandates for regulating infrastructure clarified (Yes/No)	No	No	No	No	No	Yes	Yes
Roadmap for decision making around Fomi designed and	No	No	Yes				Yes

discussed among relevant member states (Yes/No)							
Complementary assessments of environmental and social impacts completed and discussed by relevant member states (Yes/No)	No	No	No	Yes			Yes
Investment forum for Fomi project held (Yes/No)	No	No	No	No	Yes		Yes

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Institutional enhancements for coordination of development and management of shared water resources endorsed by member states	No description provided.	semi-annual	Minutes or other records of relevant discussions or decisions	NBA will provide copies of relevant documentation to Bank
A complementary financing mechanism endorsed by member states	No description provided.	semi-annual	Minutes or other records of relevant discussions or decisions	NBA will provide copies of relevant documentation to Bank
Joint decision-making process for Fomi multipurpose project approved by Fomi Interministerial Committee and followed	No description provided.	semi-annual	Minutes or other records of relevant discussions or decisions	NBA will provide copies of relevant documentation to Bank

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
New mechanism for financial sustainability developed and discussed	This indicator primarily captures results related to sub-component 1.1	semi-annual	Report, Implementation Plan, minutes or other records of relevant discussions or decisions	NBA will provide copies of relevant documentation to Bank
Coordination mandates for regulating infrastructure clarified	This indicator captures results from activities under Sub-Component 1.2 and 2.2. Specifically, coordination mandates includes responsibilities related to Annex	semi-annual	Reports, minutes or other records of relevant discussions or decisions	NBA will provide copies of relevant documentation to Bank

	2 of the Niger Basin Water Charter and institutional frameworks for Fomi multi-purpose project.			
Roadmap for decision making around Fomi designed and discussed among relevant member states	This indicator primarily captures results related to sub-component 2.1.	semi-annual	Action Plan/Roadmap, Minutes or other records of relevant discussions or decisions	NBA will provide copies of relevant documentation to Bank
Complementary assessments of environmental and social impacts completed and discussed by relevant member states	This indicator primarily captures results related to sub-component 2.3.	semi-annual	Reports, Minutes or other records of relevant discussions or decisions	NBA will provide copies of relevant documentation to Bank
Investment forum for Fomi project held	This indicator primarily captures results related to sub-component 2.4. The investment forum referenced in this indicator is subject to endorsement by NBA Panel of Experts, including technical design and adequacy of impact analyses; if NBA Panel of Experts does not endorse the project for consideration by investors, this project will not target an Investment Forum.	semi-annual	Minutes or other records of relevant discussions or decisions	NBA will provide copies of relevant documentation to Bank

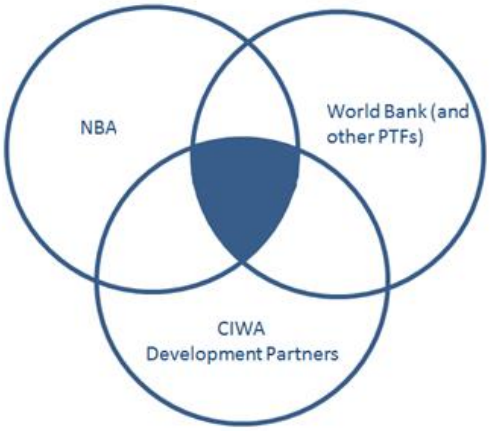
Annex 2: Detailed Project Description

Niger River Basin Management Project

Introduction

1. The activities proposed under this technical assistance project reflect the portions of NBA activities which are of high interest to (i) the NBA, (ii) the World Bank (and other partners[24] engaged in the WRD-SEM and wider Niger Basin program), and (iii) the CIWA development partners. The grant will cover activities that sit at the intersection of these three "circles of interest" as shown in Figure 2.1. This intersection represents a targeted sub-set of the NBA's overall activities and programs.

Figure 2.1: Circles of interest and focus of this grant (shaded)



CIWA Niger River Basin Program

2. This Project is part of a broader CIWA supported program in the Niger River Basin. The objectives of this long-term program are laid out in the CIWA Support Plan (CSP), which brings together and integrates the different CIWA-supported projects in the Basin. The Niger River Basin Management Project is the first project under the wider Niger River Basin Program. (see Annex 7 for more details)

3. In alignment with the objectives of the 2008 Water Charter, the long-term objective of CIWA support is to strengthen cooperative and sustainable management and development of the Niger River Basin. The Niger CSP will support the NBA and its member states to facilitate investments and institutional strengthening for coordinated and cooperative management and development of the Niger River Basin resources. It will also strengthen the riparian countries and NBA capacity to raise the financial resources needed for investments and the process of basin cooperation.

4. The Niger CSP is currently envisaged as a 6 year engagement implemented in two overlapping phases: Phase 1 (2015-2019) and Phase 2 (2017-2020).

[24] The NBA's wider group of partners includes AfDB, GIZ, FDA, WAEMU, UNDP, BGR and others.

5. Phase 1 of the CSP will be implemented through a recipient executed grant (i.e. this Project) to the NBA for institutional strengthening and decision making around the Fomi multipurpose project. Phase 1 will also include parallel Bank-executed activities that will complement and enhance the effectiveness of activities carried out under this Project (and associated IDA financed Basin interventions). The Bank-executed activities will focus on evidence based analysis and lessons from regional investment projects in the Basin, technical due diligence around the Fomi multipurpose project, review of best practice and alternatives for delivering services in the context of large-scale resettlement in fragile environments, piloting new GIS-based monitoring tools, and catalyzing expert knowledge.

6. Phase 2 of the CSP will focus on the optimization of the operation of the Basin's new and planned major transboundary infrastructure, and support strategic thinking on the post-2025 Basin development vision and investments for the Niger River Basin. Phase 2, which is subject to the availability of continued financing under the CIWA program, would build and expand on activities under Phase 1, and will be further defined during the first years of implementation of the Phase 1 activities.

Project Description

7. The Niger River Basin Management Project is financed as part of the CIWA support plan for the Niger River Basin. The implementation of this US$ 7.5 million technical assistance grant will take place over a 5-year period from January 2015 to December 2019.

8. A summary of the Project components, followed by a detailed description of the Project activities, is presented below.

Table 2.1: Component Budget Overview

Components and Sub-Components	**Financing (US$)**
Component 1: Strengthening the NBA for Sustainably Delivering its Mandate	**3,750,000**
Sub-component 1.1: Further analysis and operationalization of selected financing mechanisms for the NBA	1,200,000
Sub-component 1.2: Implementation of the Water Charter	550,000
Sub-component 1.3: Strengthening the institutional and organizational systems of the NBA	2,000,000
Component 2: Facilitating evidence based-decision making in Fomi multipurpose project	**3,750,000**
Sub-component 2.1: Process of engagement and decision making around Fomi	1,650,000
Sub-component 2.2: Institutional frameworks for Fomi multipurpose project	650,000
Sub-component 2.3: Complementary environmental and social assessments	1,100,000
Sub-component 2.4: Donor and investment roundtables	350,000
Total	**7,500,000**

Component 1: Strengthening the NBA for Sustainably Delivering its Mandate (US$ 3,750,000)

Sub-component 1.1: Further analysis and operationalization of selected financing mechanisms for the NBA (US$ 1,200,000)

9. The main objective of sub-component 1.1 is to further analyze and operationalize selected financing mechanisms to develop a sustainable income stream for the NBA. These mechanisms were identified in previous studies, most notably, the 2010 Strategic Study for the Autonomous and Sustainable Financing of the NBA Activities. This study considered several types of financing mechanisms, distinguishing between options that had potential in the short-term and in the long-term based on the consideration of the order of magnitude of potential annual revenues, the level of implementation difficulty, main pre-requisites, implementation costs, risks, and whether or not the proposed mechanism would allow for direct recovery by the NBA. Introducing a fee on hydroelectric generation, based on the "user pays" principle, was identified as a viable option with good implementation potential in the short-term.[25]

10. This sub-component builds on the findings and recommendations of this study and will support the operationalization of a hydroelectricity levy. The analysis carried out under Sub-component 1.1 will bring out the NBA's value proposition to operators in relation to the NBA's mandate under the proposed Annex 2 of the Water Charter (coordinated management of regulating infrastructure) and will draw on global and regional experiences with hydropower levees, (such as the Zambezi River Authority, the OMVS and the Mekong River Commission). It will assess legal issues around what types of contributions the NBA can and cannot collect as an international organization, the practicality of how contributions would be collected, and what agreements and instruments would be needed to operationalize these mechanisms.

11. Technical assistance and consultancy services will be provided for the following:

(i) Development of a business case including the institutional/legal and technical justification for a hydroelectricity levy through the articulation and quantification (in economic terms) of existing and upcoming responsibilities of the NBA, and services provided vis-à-vis coordinated management of regulating infrastructure and associated IWRM and hydrologic monitoring services, including an analysis of benefits and costs of coordinated management;
(ii) Feasibility study including an update of the differential of costs of the 2010 study and an analysis of technical, legal, economic, financial, administrative and political constraints and the national and regional level;
(iii) Development and implementation of a stakeholder communication strategy, including stakeholder consultations at the national and regional level;

[25] Other mechanisms with potential in the long-term such as fees on navigation (based on "user pays" principle) and fees associated with pollution (particularly from gold mines and large industries, based on the "polluter pays" principle) may be developed under Phase 2 of the CIWA program (pending confirmation of availability of funding) based on the lessons learned from this project.

(iv) Design of a strategy and action plan for the implementation of the hydroelectricity levy and recovery of fees (including administrative, legal and technical aspects); and
(v) Implementation support to the NBA to roll out the hydroelectricity levy.

12. The outputs of this component will be a business case for the hydroelectricity levy, including its institutional and technical justification and a feasibility analysis; and an action plan for implementation. The report will be prepared in consultation with the member countries of the NBA, in particular with the hydroelectricity producing countries. This sub-component will furthermore provide technical assistance for implementation of the action plan.

Sub-component 1.2: Implementation of the Water Charter (US$ 550,000)

13. The Water Charter provides for the elaboration of annexes dealing with technical, financial or administrative matters.[26] Annex 1 concerning environmental protection has been approved, while several other annexes are being developed and/or still require approval by the Council of Ministers. This sub-component will support the finalization and adoption of Annex 2 concerning general rules for the coordinated management of regulating infrastructure in the Basin.

14. In 2010, the 9th SHSG entrusted the NBA[27] with new functions related to Integrated and Coordinated Water Resources and Water Works Management, including the development and monitoring of the respect of general rules of the strategic management of the hydraulic works with transboundary impact. These rules will provide for coordinated water use allocation based on IWRM principles and respect of minimum flow requirements as defined in the SDAP with the objective to anticipate and resolve possible conflicts between different water use sectors (socio-economic activities and environmental uses) at the Basin scale. According to its mandate, the NBA has drafted general rules for the coordinated management of hydraulic works (draft Annex 2 to the Water Charter) and developed an information system tool to aid consultation and communication with regards to the operation of regulating dams[28]. The draft Annex 2, whose endorsement is a trigger for any further financing under the WRD-SEM APL, has not yet been discussed with the countries and adopted by the Council of Ministers. For the information system tool, improvements for simplification of the tool and staff training are still required.

15. Sub-component 1.2 will finance technical assistance and operational costs for:

(i) Revisions to the draft Annex 2 based on stakeholder consultations at the national and regional level, with the objective to achieve early approval of the Annex 2 to the Charter by the Council of Ministers;
(ii) Improvement and operationalization of the hydrological information system tool required for the implementation of Annex 2, including training of key staff from the NBA and dam operators.

[26] Annexes to the Water Charter enter into force after approval by the Council of Ministers.
[27] Decision No. 1: Relating to the transfer of some functions of the Contracting Authority to the NBA
[28] Study of the Coordinated Management of Large Regulating Dams – Definitive Final Report – R5, 2013

16. Outputs: Revised and finalized text of Annex 2 to the Charter, based on national and regional consultations; operational hydrological information tool.

Sub-component 1.3: Strengthening the institutional and organizational systems of the NBA (US$ 2,000,000)

17. Sub-component 1.3 will support:

(i) Financing to the NBA's twelve-member Dam Safety and Safeguards Panel of Experts, as part of strengthening the NBA's oversight of the technical design and implementation of major transboundary infrastructure to ensure technical due diligence is provided at the early design stages, such as in the case of Fomi;[29]
(ii) The NBA's operational expenses associated with the implementation of this Project, including contributions to the organization of the meetings of the Regional Steering Committee, and will contribute to the implementation of priority recommendations from the institutional and organizational audit, which is underway with financing under WRD-SEM APL2A (audit-related activities will be identified after the adoption of the audit report); and
(iii) Operational expenses associated with overall project implementation, including PMCU staffing (coordinator, procurement specialist, and team assistant after close of WRD-SEM APL1 and from July 2016 onwards, and a financial management assistant for the duration of this project), communication and travel expenses, and goods.

18. The primary objective of the institutional audit is to develop an organizational and institutional structure in line with the NBA's Strategic Plan. The completion of the audit is expected in March 2015; with the plan for adoption at the next ordinary SHSG (planned May 2015). Selected priority recommendations financed under this sub-component will be identified after the adoption of the audit report.

19. Outputs: NBA institutional and organizational systems strengthened (specific interventions to be identified), technical advice provided to the NBA by the Panel of Experts, effective project implementation.

Component 2: Facilitating evidence based-decision making in Fomi multipurpose project (US$ 3,750,000)

20. This component will provide process support to the design and implementation of a clear roadmap for project development, decision making points and engagement and sensitization of concerned stakeholders, as well as complementary studies concerning environmental and social impacts related to the Fomi multipurpose project, in particular with respect to the Niger Inner Delta. The driving principle of this component is to promote early involvement of affected stakeholders in an inclusive, step-by-step decision making process that ensures that the project is

[29] It is anticipated, that once projects move to the implementation stage, the costs of the NBA panel of expert services would be financed by the relevant riparian(s). For instance, the Government of Niger is currently financing the costs of NBA Panel of Experts associated with the provision of dedicated support to the Kandadji dam project.

approached through close coordination of concerned countries and informed decision making based on careful analysis of project impacts and opportunities. Activities will be closely coordinated with studies and activities financed under WRD-SEM APL Program, including the forthcoming update of the 1999 feasibility study and ESIA, as well as the RAP and LDP as these provide key inputs to decision points along the roadmap. For this purpose the grant is implemented by the WRD-SEM PMCU housed by the NBA.

Sub-component 2.1: Process of engagement and decision making around Fomi (US$ 1,650,000)

21. This sub-component will facilitate informed decision-making and planning on the Fomi multipurpose project. Given the complexity and strategic nature of the project, its potential impact on and benefits for the Basin and based on the NBA's mandate to promote and participate in the design and operation of infrastructure and projects of common interest, the NBA has a key role in facilitating both bilateral and regional coordination around the project. The preparation and eventual implementation of the Fomi project will take several years and be funded through multiple national, bilateral and multilateral vehicles (see Figure 2.2 for projected timeline). This sub-component aims to ensure that all parties have a clear understanding of the status of existing and planned studies, and the steps necessary to implement a project of this scale and complexity, with the objective to keep parties on the critical path for and improve the quality of preparation of this highly complex project.

22. This sub-component will support the following:

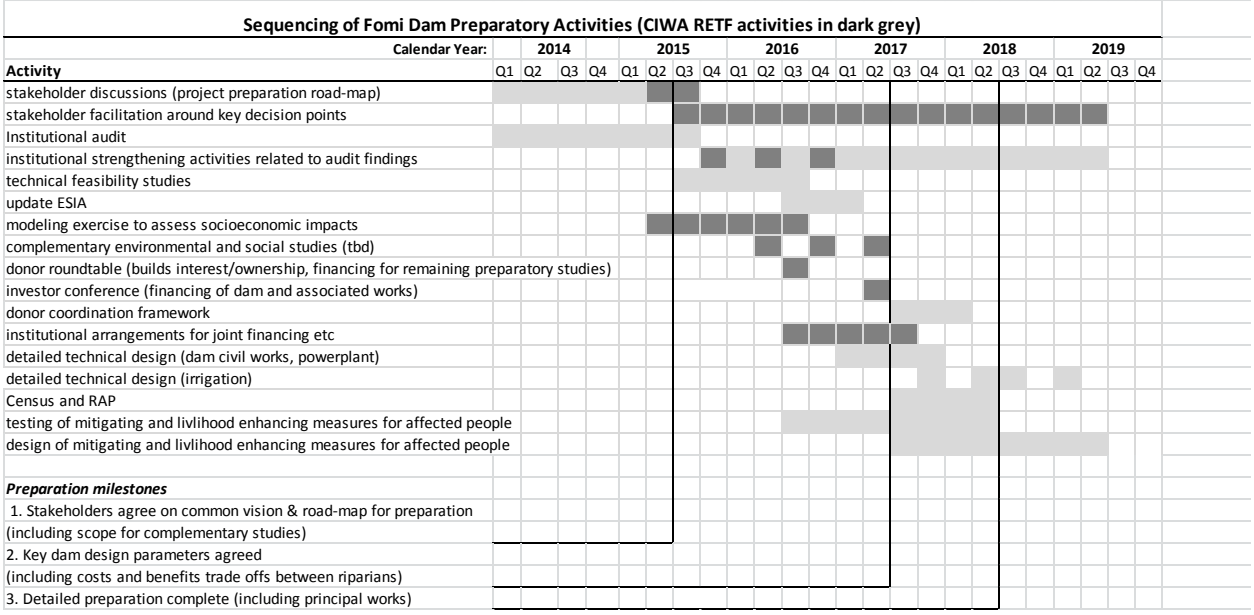
(i) Summary of the state of knowledge on the Fomi multipurpose project as a communications tool to ensure that all stakeholders have a robust and accessible set of information and the same level of knowledge of the project.
(ii) Development and adoption of a strategy and action plan for the decision-making process on the Fomi multipurpose project in consultation with the directly concerned countries, Guinea and Mali. The action plan will be based on an analysis of the existing decision making mechanism, suggest any improvements needed and include clear milestones.
(iii) Implementation of the decision-making process to achieve early engagement and sensitization of key stakeholders (government officials from different line ministries and agencies, water users, technical and financial partners, experts). This will include technical assistance to the NBA, Guinea and Mali as needed for the procurement process, review and supervision of technical studies and workshops to discuss and familiarize decision-makers and key stakeholders with the details of the technical studies and the Fomi multipurpose project. A key feature will involve external communication on the project and coordination process and the communication of the key findings of the studies financed under other projects (including technical feasibility studies, Environmental and Social Impact Analysis (ESIA), etc.). In particular, the visualization of key trade-offs will be important to highlight the distributional and transboundary nature of different cost and benefits. Such tools will be used to facilitate stakeholder understanding and consensus building at key decision points along the roadmap, along with the identification and scoping of any additional analysis needs. It is expected that the concerned countries will identify any complementary analyses (institutional, technical, environmental, social and other) that address topics essential to

comprehend the "multidimensional" feasibility of the Fomi multipurpose project during this decision making process. (Financing for such complementary studies is provided for in sub-component 2.3).

23. Outputs: Summary of existing studies and state of knowledge; Strategy and action plan for the decision-making process; implementation of an informed decision-making process, including through joint workshops and identification of complementary analyses required to prepare a bankable Fomi multipurpose project.

24. This sub-component will be implemented through an embedded technical assistance by a specialized firm with strong technical and communication skills, and the ability to translate complex information into readily understandable formats, including the use of GIS platforms for the geographical visualization of trade-offs to enhance the understanding of their distributional and transboundary nature. The consultant firm will help facilitate frequent visits to riparian countries, to maximize engagement from a broad range of decision-makers and other concerned stakeholders in order to build capacity also at national level in the support of an informed decision-making process.

Figure 2.2: Preliminary sequencing of Fomi multipurpose project preparatory activities (these project activities are indicated in dark grey).



Sub-component 2.2: Institutional frameworks for Fomi multipurpose project (US$ 650,000)

25. The establishment of robust institutional arrangements for coordination between countries, operators, the NBA and other stakeholders (technical and financial partners, investors) will be an essential requirement for implementation of the Fomi multipurpose project. The potential features of Fomi (joint-financing, private sector involvement, extensive transboundary benefit sharing) require early and informed decision making by stakeholders. This sub-component will provide input to the decision-making process implemented through sub-component 2.1.

26. Sub-component 2.2 will finance consulting services and technical assistance for the following:

(i) Analysis of the current institutional framework for the Fomi multipurpose project;
(ii) Proposal for an institutional framework for joint project preparation;
(iii) Review of options for joint-financing and management of the Fomi dam and hydropower station. The scope for public private arrangements should be explored, drawing on the (mixed) experience from the sub-region, including through an initial market survey to better understand the interest of the private sector and commercial banks for this type of project, a careful analysis of the source and creditworthiness of the potential flows of revenues (most notably from the hydropower);
(iv) Proposed institutional framework for the implementation and operation of the Fomi multipurpose project (including any potential private sector involvement if applicable); considering the potential dam management arrangements, including operations and maintenance procedures, identification of the operating entity and corresponding remuneration mechanism to ensure technical sustainability of the operation, reservoir management and sedimentation mitigation measures (drawing from experience of other dams in the basin/region);
(v) Design of institutional arrangements for short- and long-term cost and benefit sharing; and
(vi) Support for national institutional structures responsible for preparing the Fomi project.

27. Outputs: Report analyzing potential financing options, proposing institutional arrangements for project preparation, construction and operation and cost and benefit sharing.

Sub-component 2.3: Complementary environmental and social assessments (US$ 1,100,000)

28. This sub-component will support complementary studies concerning environmental and social impacts related to the Fomi multipurpose project, in particular with respect to the Niger Inner Delta in Mali as well as the direct zone of impact of the dam in Guinea. These studies will supplement the technical and ESIA studies for the Fomi multipurpose project, which are financed through WRD-SEM APL1 (and other resources).

29. The sub-component will finance consulting services and operational expenses for:

(i) Advanced modeling of ecosystem services in the Niger Inner Delta available under different flow regimes and operational conditions of the proposed Fomi dam. The model will consider different dam release scenarios coupled with various climate scenarios and will show the impacts on basic flood patterns in the Niger Inner Delta to assess socioeconomic impact. This modeling exercise will include hydro-geomorphology of the Delta, such as sediment transport patterns, impacts on groundwater recharge and the overall wetland hydrology and will demonstrate resulting ecological changes on fisheries, vegetation, flood recession agriculture to determine how ecosystem services may be impacted, both positively and negatively. Although there are likely to be limitations, this modeling effort will seek to estimate changes in socioeconomic impacts such as livelihoods and seasonal migration in order to allow

stakeholders to devise a range of possible mitigation measures. Funding will cover the costs of consultancy services, required software and staff training on the use of the model.

(ii) Complementary studies identified in the decision-making process supported under sub-component 1.1 based on the results and emerging issues stemming from the forthcoming updates of the technical feasibility study of Fomi and the ESIA (financed under the WRD-SEM APL1). This may include inter alia: cumulative impact studies, wildlife habitat management, and livelihood issues, including around the direct zone of impact of the dam reservoir in Guinea.

30. Outputs: Report detailing results of the modeling study; validation workshop of modeling results and staff training; reports detailing outcomes of additional environmental and social studies identified.

Sub-component 2.4: Donor and investment roundtables (US$350,000)

31. This sub-component will support engagement of potential financiers of the Fomi multipurpose project during early stages of decision making on the project. This relates to strengthening the NBA's capacity to exercise its mandate to raise financial resources for the development of infrastructure of common interest in the Basin.

32. The sub-component will finance the following:

(i) The development of documentation and communication material to present the Fomi multipurpose project to investors;

(ii) Roundtable bringing together the Member States and potential investors to take place after the design and adoption of the strategy and action plan for an informed decision-making process financed under sub-component 2.1 and after the market survey carried out under sub-component 2.1. The first roundtable aims at creating interest and ownership from a range of donors, including securing financing for the detailed technical design and other studies;

(iii) Investor conference to take place after the feasibility stage is complete, and the project concept as a whole is endorsed by stakeholders and the Panel of Experts.

33. Outputs: Communication documentation (brochures, etc.); Donor roundtable; Investor conference.

Annex 3: Implementation Arrangements

Niger River Basin Management Project

Project Level Implementation Arrangements

1. This Project will be implemented by the NBA, making use of existing institutional arrangements to ensure national government endorsement and involvement, engagement with relevant line ministries, and appropriate technical oversight.

2. The institutional arrangements of the NBA include the Summit of Heads of State and Government (SHSG), the Council of Ministers (CoM), the Technical Committee of Experts, the Executive Secretariat, and the National Focal Structures (NFS). The SHSG is the supreme body of the NBA. It defines the general orientation of the development policy of the Authority and controls its executive functions to assure the realization of the objectives of the Authority. It meets every two years in an ordinary session hosted by the member state which assumes chairmanship. The mandate of the chairman is two years. The CoM is responsible for monitoring of the activities of the Executive Secretariat and reports to the Summit. The CoM meets once a year in an ordinary session. The term of the chairman of the CoM is two years.

3. The Executive Secretariat is administrated by an Executive Secretary appointed upon the recommendations of the CoM to the SHSG for a period of four years and renewable once. Each member state can nominate a candidate for the position of Executive Secretary. The NBA's institutional reform in 2005 introduced a new change by providing the terms of reference and profile of the Executive Secretariat to guide the CoM's recommendations.

4. The Dam Safety and Safeguards Panels of Experts (Panel of Experts) is an independent consultative structure of the NBA comprised by 12 independent expert consultants that the NBA and its member states call on to review and endorse technical documentation and plans, and from whom it may also solicit technical assistance. This Panel provides technical due diligence regarding consistency of various dam safety and safeguard policies of NBA, Member States and financial partners.

5. The operational budget of the NBA's Executive Secretariat was estimated to be US$2.8 million in 2013[30]. This budget comes largely from countries' contributions. The total personnel comprise around 50 staff, exclusively recruited through a competitive process from within the member countries, as a result of the institutional reform.

6. The NBA has extensive experience with Bank-financed activities. It has successfully implemented a GEF-funded project (P070256) and is currently implementing two IDA grants (P093806 and P130174) under the WRD-SEM Program. Recent procurement and financial management capacity assessments have concluded that the NBA's existing Project Management and Coordination Unit, under the guidance of the Executive Secretariat, has the necessary capacity for managing IDA financing. The existing PMCU has in place the core functions

[30] 2014 GIZ study: Financial Sustainability of International River Basin Organizations; not yet validated by NBA.

(Project Coordinator, Procurement Specialist, Environmental and Social Specialist, Dam Specialist, Regional Accountant and Project Assistant) that are needed to implement the proposed activities. This existing structure will be utilized for the implementation of this Project, and the NBA Secretariat will continue to play an important support role in the implementation of key activities. Utilizing the PMCU builds on the capacity and expertise of the existing implementation structures, allows for synergies with the World Bank's wider WRD-SEM program, and allows for implementation to commence in a timely and efficient manner.

7. This core team is currently budgeted under WRD-SEM APL1 until end-June 2016. Three core team positions (Environmental Specialist, Dam Specialist and Regional Accountant) are budgeted for under the WRD-SEM APL2A, until end-2019, and are thus expected to remain in place until the end of the proposed CIWA Project. The three remaining core positions (Project Coordinator, Procurement Specialist and Project Assistant) that are not budgeted for beyond the end of APL1 are budgeted for under this Project. This arrangement is summarized in Figure 3.2 below.

Project Steering Committee

8. The NBA's orientation, supervision and control organ for project implementation is the Regional Steering Committee of Projects and Programs of the Niger Basin Authority (RSC). The RSC supervises and provides advice to the PMCU; approves the PMCU work plan and draft budget; monitors the implementation of the recommendations of audit reports; assesses implementation progress and proposed measures to address implementation challenges; and ensures synergy with other programs and projects implemented by the NBA.

9. The RSC meets at least once a year. The membership of the RSC comprises: the Executive Secretary of the NBA, the coordinators from each NFS; a representative of the Ministry supervising the NBA from the country hosting the RSC meeting; a representative of the technical supervising Ministry of Projects and Programs of the member countries concerned when they are implemented in a ministerial department other than the supervising ministry of NBA; a representative of the Ministry of Finance from each member country; a representative from the existing or planned major facilities in the Basin; and President of the Regional Coordination of Users of natural resources of the Niger Basin. Any development partner can appoint a representative as observer.

Figure 3.1: Organizational chart showing responsibilities within NBA for execution of this Project

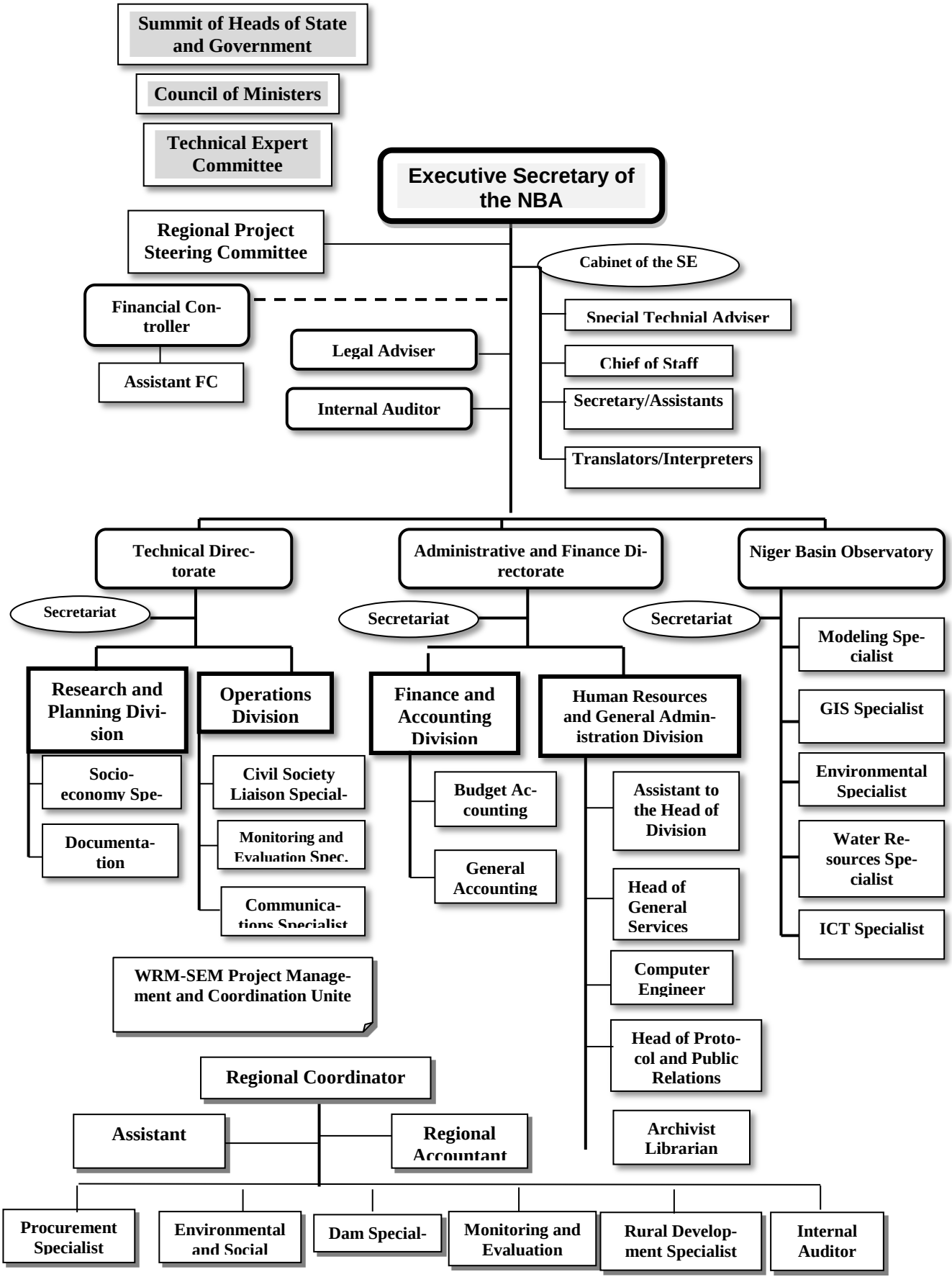
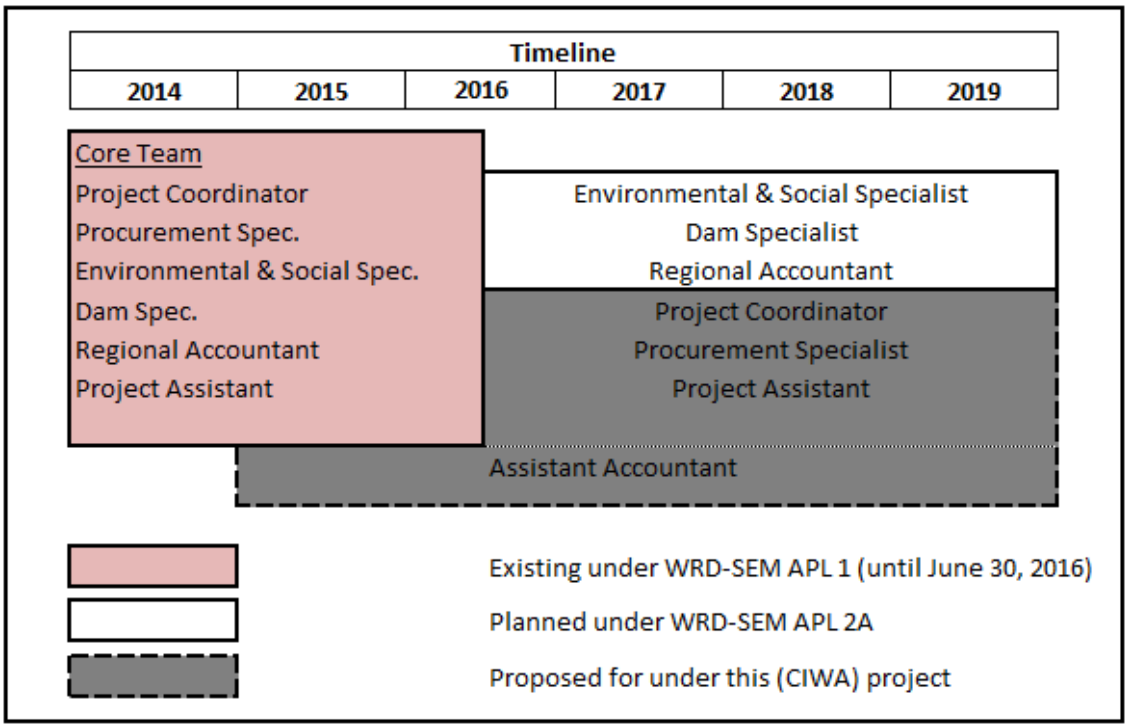


Figure 3.2: Proposed sources of financing for the project implementation team



Financial Management, Disbursements and Procurement

Financial Management

10. A Financial Management Assessment of the NBA was carried out by the Bank's financial management team in September 2014 based on the findings of the supervision mission conducted in May 2014 for the regional Project that the NBA is coordinating the implementation process. The objective of the assessment was thus to determine: (a) whether the NBA still has adequate FM arrangements in place to ensure that the funds will be used for the purposes intended in an efficient and economical manner and whether the entity is capable of correctly and completely recording all transactions and balances related to the Project; (b) whether the Project's financial reports are likely to be prepared in an accurate, reliable and timely manner; (c) whether Project assets can be kept secure; and (d) whether the Project will be subject to auditing arrangements acceptable to the Bank.

Strengths and Weaknesses of the Financial Management System

11. The FM assessment concluded that the current FM arrangements at NBA used for ongoing IDA financed projects are acceptable and the NBA implementation manual and the FM procedures were updated to take into account the new Project activities. However the internal control environment will need to be strengthened. In fact, the last FM supervision at NBA highlighted internal control issues such as insufficiency in the budget monitoring process and non-proper follow up of the Project assets and lack of an internal audit function. In addition, (i) the accounting software in use at the NBA is installed under a monoproject version and can

therefore not be relied on to handle more than one project; and (ii) while the accounting team is well staffed, the accountant who is currently handling more than one project could be overwhelmed with the additional workload.

12. As a result of the above mentioned constraints, and taking into account that (i) the 2013 Audit report related to the WRD-SEM APL2A project implemented at national level was issued an unqualified opinion and that the internal control recommendations are being taken care of, and that (ii) the Project under preparation will be fully implemented by the NBA coordination unit, the following measures were agreed to reinforce the internal control environment at NBA:

(i) The accounting team shall be complemented with a qualified accountant to be recruited based on terms of reference acceptable to the Bank;
(ii) An appropriate accounting software (under a multi-projects version) shall be set up to ensure timely recording of financial information as well as timely production of quarterly and annual financial statements;
(iii) An external auditor will be recruited (or the current external auditor mission scope may be expanded to cover the Project activities).

Conclusion of the FM Assessment

13. The conclusion of the assessment is that FM arrangements in place at the NBA meet minimum FM requirements under OP/ BP 10.00. However, with regards to the above mentioned constraints, the FM residual risk is deemed **Substantial** and should be revisited after satisfactory implementation of proposed mitigation measures.

Disbursement arrangements

14. Designated Account. The project will use a Designated Account (DA) opened in a commercial bank acceptable to the World Bank. The Ceiling of the DA will be set to CFA Francs 300 million, estimated to cover four (4) months of project expenditures.

15. Disbursements from the Project Grant will follow the transaction-based procedures - i.e., use of statements of expenditure (SOEs) to document disbursements – and will be consistent with the *Disbursement Guidelines for World Bank Projects* (May 2006). Disbursement methods will include Advances, Direct Payments, Reimbursement, and Special Commitments. The initial advance to the Designated Account will be disbursed upon submission of a Withdrawal Application requesting an advance up to the ceiling amount. Subsequent disbursements into the DA will be made upon receiving a Withdrawal Application (WA) accompanied by a SOE reporting on the use of the previous advance for eligible project expenditures. The supporting documentation for requests for direct payment should include records which provide evidence of eligible expenditures (copies of receipt, supplier's invoices). The Recipient may also pre-finance expenditures and seek reimbursement from the World Bank. The World Bank may, upon the Recipient's request, make payments to third parties on account of special commitments entered into between the World Bank and the Recipient. See Table 3.1 for the eligible expenditures to be financed by the Grant.

Figure 3.3: Grant Funds Flow

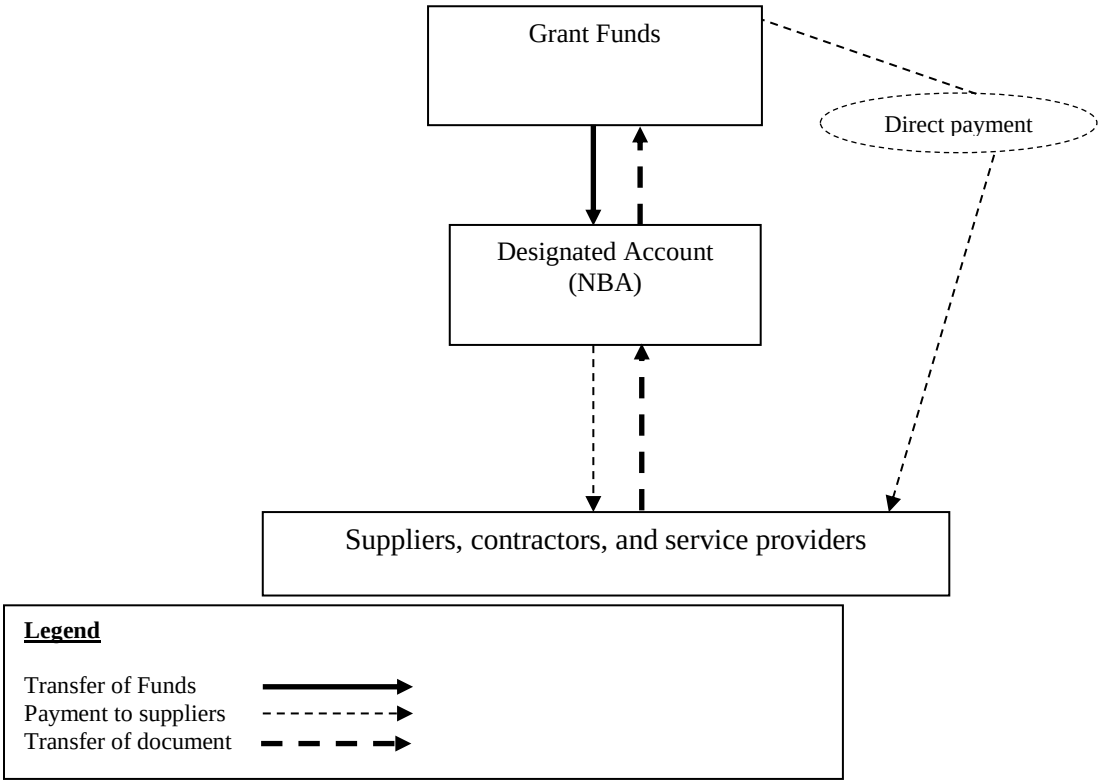


Table 3.1: Eligible Expenditures

Category	Amount of the Grant Allocated (expressed in USD)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Goods, consultants' services , Operating costs[31] and Training under the Project	7,500,000	100%
TOTAL AMOUNT	7,500,000	-

[31] As defined in the grant agreement.

Procurement

General

16. Procurement activities for this Project will be carried out by the NBA which will have overall responsibilities in carrying out the following activities: (i) monitoring the implementation of procurement activities; (ii) development of procurement reports; (iii) preparation and updating of the procurement plan; (iv) preparation of the bidding documents, draft requests for proposals (RFP), evaluation reports, contracts in compliance with World Bank procedures; and (v) seeking and obtaining approval of IDA on procurement documents as required.

17. Procurement will be carried out in accordance with the World Bank "Guidelines: Guidelines On Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants" known as the "2011 Anti-Corruption Guidelines" and "Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011; and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credit & Grants by World Bank Borrowers", dated January 2011, and the provisions stipulated in the Legal Agreement and the Procurement Plan approved by the Bank. Operating costs include, inter alia, non-civil servant support staff salaries, office space, utilities and office supplies, bank charges, communications, vehicle operation, maintenance and insurance, building and equipment maintenance costs, and travel costs. These will be procured in accordance with administrative procedures, acceptable to the Bank and detailed in the relevant manual. The procurement (of goods, and non-consulting services) and the consultant selection methods, prequalification, estimated costs, prior review requirements, and time-frame will be agreed in the Procurement Plan. Activities where there is no contribution from the Bank in their funding will follow the procurement procedures of their financers. The Procurement Plan will be updated at least annually or as required to reflect actual Project implementation. The Bank's Standard Bidding Documents (SBD) or documents satisfactory to the Association will be used. To the extent practicable, the Bank's Standard Bidding Documents for goods and Standard Requests for Proposals for proposals, as well as all standard evaluation forms, will be used throughout Project implementation.

Assessment of Procurement Capacity

18. An assessment of the NBA to implement procurement was carried out by the Bank's procurement specialist during September 2014. The assessment reviewed the organizational structure for implementing the Project, the procurement capacities of the agency (past procurement experience, staff in charge of procurement, tools including manuals, procurement reporting, filing, use of software, etc.).

19. The assessment found that, through the existing project staff, the NBA possessed acceptable knowledge, technical expertise and experience in Bank procurement procedures. The procurement specialist has resigned and is expected to be replaced before the project is effective. The tools used (manual, software) are still relevant although adjustments are needed to take into account updates in WB procurement procedures and policies, and the recent technological development in software.

20. The overall project risk for procurement was rated substantial, the residual project risk for procurement is moderate after adoption of the following mitigation measures:

(i) Recruiting a qualified and experienced procurement specialist to endure quality control of all procurement documents and compliance with world bank procedures ;
(ii) The manual of administrative, financial and accounting procedures for the former WBG financed project will be updated to clarify the role of each team member involved in the procurement process, the maximum delay for each procurement stage, specifically with regard to the review, an approval system and signature of contracts;
(iii) A procurement plan (PP) for the first 18 months of program implementation was prepared and reviewed during appraisal. The final version of this PP was discussed and approved during negotiations. During implementation the PP will be updated in agreement with all the pooled fund donors as required - at least annually - to reflect actual program implementation needs and improvements in institutional capacity.

The Procurement Plan

21. Contracts will be limited to consulting services, goods and operating costs only. A list of the key consulting assignments is presented below.

Table 3.2: List of consulting assignments with selection methods and time schedule

Description of Assignment	Estimated Cost (US$)	Selection Method	Review by IDA (Prior/Post)
1. NBA technical assistance package including technical reports, management, assistance on multi-party and multi-issue decision making and financing mechanisms, communication for Investors Conference; support to national institutional structure (covering aspects of: sub-components 1.1, 1.2, 2.1, and 2.4)	2,481,000	QCBS	Prior
2. Finalization of information tools, regional and national training and technical assistance (covering aspects of sub-component 1.2)	88,400	QCBS	Prior
3. Institutional arrangements for Fomi project (covering sub-component 2.2, part 1)	395,200	QCBS	Prior
4. Modelling of the hydrological, geomorphological , ecological and livelihoods impact of artificial flood release on Niger Inner Delta under different flood and climate scenarios (covering aspects of sub-component 2.3)	683,000	QCBS	Prior
5. Complimentary environmental and social assessments	300,000	QCBS	Prior

Procurement Prior Review Thresholds

22. International Competitive Bidding (ICB) thresholds have been set at US$500,000 for goods. Contracts estimated to cost above these ICB thresholds for works and goods will be subject to prior review by IDA.
23. Consultancy services for firms estimated at the equivalent value of US$200,000 and above per contract, consultant services for individual consultants at the equivalent of US$100,000 and above, all single-source selection of consultants with firms and individuals, and selected contracts in the procurement plan will be subject to prior review by IDA.

24. In addition, the following additional measures were agreed:

(i) At least once a year, the Bank and the NBA will agree on a procurement plan which will detail the procurement methods to be used and specific contracts to be reviewed by the Bank;
(ii) The Bank will perform prior review of selected NCB contracts which will be identified and mentioned in the procurement plan; and;
(iii) All amendments of contracts raising the initial contract value by more than 15 percent of original amount or above the prior review thresholds will be subject to prior review by the Bank as determined mandatory in Paragraphs 2 and 3 of Annex 1 of the Bank's Procurement Guidelines.
(iv) Post Review: For each contract for goods and public works not submitted to prior review, the procurement documents will be submitted to IDA post review in accordance with the provisions of Paragraph 4 of Annex 1 of the Bank's procurement Guidelines. The post review will be based on a ratio of at least 1 to 5 contracts.

Table 3.3: Prior Review Thresholds

Expenditure category	Contract Value Threshold (US$)	Procurement Method	Contracts Subject to Prior Review
1. Goods	≥ 500,000	ICB	All
		NCB	As in procurement plan
	50,000 <NCB<500,000-	Shopping	None
	<50,000	Direct Contracting	All
	All values		All
2. Consulting Firms	≥ 200,000	QCBS, LCS, QBS,FBS	All
			As in procurement plan
	<200,000	QCBS, CQS, LCS, QBS, FBS	All
		Single Source	
3. Individual Consultants	≥ 100,000	IC	All
	<100,000	IC	None
		Single Source	All

Revision

25. The prior review thresholds and other measures to be taken to mitigate the procurement risk should be re-evaluated once a year with a view of adjusting them to reflect changes in the procurement risk that may have taken place in the meantime and to adapt them to specific situations. In case of failure to comply with the agreed mitigation measures or Bank guidelines, a re-evaluation measure of both types of thresholds, ICB and prior review, may be required by IDA.

Environmental and Social

Social impacts

26. No irreversible negative social impacts are foreseen for this Project, which will exclusively finance "soft" (non-physical) activities. Firstly, the technical assistance will consist of facilitating a dialogue among the stakeholders (Guinea, Mali and the NBA) to agree on a roadmap for the future activities for joint preparation of the Fomi multipurpose project. Secondly, once the roadmap is in place, the technical assistance will facilitate the commissioning of key complementary environmental and social studies, which will enable the stakeholders to have a better understanding of various potential impacts and risks involved regarding environmental and social aspects; such as livelihoods questions in the direct impact zone of the dam reservoir as well as in the Niger Inner Delta, which is home to two million people and complex ecosystems. This upstream analysis complements the Strategic Environmental and Social Impact Assessment that was done in 2010. However, the full ESIA and eventual RAP for Fomi multipurpose project will not be funded by this technical assistance project.

27. In general, multipurpose projects with strong hydropower components can generate substantial positive benefits, including electricity generation, flood control, irrigation, and fisheries development. However, equal distribution of these benefits needs to be carefully planned together with local communities in the design phase. To this end, understanding the impacts at local level is essential; both in the reservoir area and downstream where potential impacts are quite different. In addition to anticipated large-scale resettlement in Guinea, the questions of impact on livelihoods and how to mitigate them is essential for understanding the overall implications and whether impacts can in fact be managed to an acceptable level. Livelihood analysis is particular important in a context where primary source of income derives from agricultural activities and access to land is crucial.

28. The analysis of livelihoods will need to take into account gender differences in vulnerability to impacts; given that men and women pursue different activities, women have less access and control of resources, and fewer economic opportunities, they are likely to need different mitigation mechanisms to restore or improve their livelihoods. Inclusion of vulnerable groups as well as making sure women can participate on an equal footing in meetings and consultations is important to ensure their full understanding of potential risks and opportunities. It is also important to understand the priorities and concerns of women and vulnerable groups regarding the project in order to identify measures to ensure that they actually benefit from the

project activities. Design of monitoring of projects benefits will need to disaggregate beneficiaries by gender and other relevant social groupings to ensure an equitable distribution of benefits.

Environment impacts

29. While there are no planned works or physical footprints, the studies associated with Fomi multipurpose project (Component 2) may include complementary environmental assessments of impacts further downstream of the dam (building on the 2010 Cumulative Environmental and Social Impact Assessment for Fomi) to gain a better understanding of the complex interactions between changing flow patterns, ecosystems and ecosystem services, and traditional livelihoods, in particular in the Niger Inner Delta area and in the direct impact zone of the dam reservoir.

30. Current plans for the Fomi multipurpose project include physical design and operating rules which dictate parameters such as reservoir size and flow rates under various seasonal conditions. The 2010 ESIA described three major negative environmental impacts of the dam design: 1) the reservoir will submerge a portion of a protected area in Guinea with impacts on a catalogued forest reserve and wildlife living in the preserve that may find transmigration challenging; 2) a reduction in downstream land submerged during seasonal flooding will be a detriment to the Niger Inner Delta and could have lasting effects on dependent ecosystem services such as fish, rice farming and stock raising; and 3) risk of increased erosion in upstream channels and related impacts on water quality and increasing downstream siltation. Positive environmental impacts noted include reduction in fossil-fuel derived energy sources in the region (replacement with hydropower) and extension of the aquatic habitat in the reservoir and Upper Basin during drought conditions which could aid conservation efforts in the Upper Basin.

31. The 2010 ESIA concluded by highlighting the potential need to modify the dam design to reduce the negative environmental impacts. The study called for a modest reduction in dam height and coordinated management of the dam and irrigation schemes during fill and operation. While it did not investigate impacts on the Niger Inner Delta in depth, the study raised important questions for stakeholders regarding how plans for reservoir size, dam fill patterns and operation may affect their various interests including production of ecosystem services, irrigation schemes including flood-irrigation and electricity production and conservation of wetland systems designated as internationally important by the Convention on Wetlands of International Importance (Ramsar Convention).

32. This Project will provide process support to the design and implementation of a clear roadmap for project development, decision making points, engagement and sensitization of concerned stakeholders, but will not support any construction and will not leave physical footprints. However, potential environmental impacts of the dam and considerations of trade-offs in terms of environmental, social and economic costs and benefits, both at a national and international level, will be among the key topics featured in delineation of the roadmap. During development of the roadmap, this Project will support complementary assessments of environmental social and cumulative impacts that complement the technical studies, which will be carried out using other sources of funding (i.e., APL1). This component may also finance studies to meet additional analytical needs identified during the update of the ESIA for the Fomi

multipurpose project which may include, *inter alia*, additional assessments of impact on the Niger Inner Delta in Mali, impact within the direct impact zone of the dam reservoir in Guinea, and studies on wildlife habitat management and pest management issues. These studies will also include advanced modelling of ecosystem services in the Niger Inner Delta available under different flow regimes as well as more detailed assessments of minimum environmental flows.

33. No civil works are financed under the technical assistance grant and because there is thus no physical footprint, only OP 4.01 on Environmental Assessment has been triggered to cover the upstream analytical work that will be financed under the grant. Since the complementary assessments of environmental, social and cumulative impacts will be identified during the update of the ESIA for the Fomi multipurpose project, it is not possible to prepare terms of reference for the studies at this point. Accordingly, the ESMF of the on-going World Bank Niger Basin WRD-SEM Project, which includes the update of Fomi multipurpose project feasibility study and ESIA, has been updated. The updated ESMF, which reflects the proposed technical assistance project content, was re-disclosed in Guinea on October 28, 2014, in Mali on October 27, 2014, on the NBA website on October 17, 2014 and at the World Bank InfoShop on October 30, 2014.

Other Safeguards Policies Triggered

34. Due to the "soft" (non-physical) nature of the activities under this technical assistance project, no other safeguards policies besides OP 4.01 on Environmental Assessment are triggered by this Project.

35. Given the Fomi multipurpose project's transboundary nature and significant on-site and downstream impacts, the institutional and technical studies and technical assistance activities financed under the Project will require close scrutiny to mitigate any reputational risk.

Monitoring & Evaluation

36. M&E will be undertaken through the normal operations of World Bank project supervision and evaluation processes. At the project-level, the M&E Framework will track progress in implementation, measuring intermediate outcomes, and final outcomes to assess the achievement of the PDO. The Results Framework (see Annex 1) will be used to supervise and monitor the implementation of the Project. The NBA will be responsible for regular reporting on the Project, in line with established M&E procedures and as part of the Project's annual reports.

37. At the project level, the existing M&E Specialist at the NBA will provide support for the M&E aspects of this Project.

Role of Partners

38. The NBA's RSC, which meets bi-annually ahead of the NBA's CoM meetings, provides the principal formal mechanism for reviewing and coordinating planned and on-going engagements by different development partners engaged in the Niger Basin through the NBA, including the AFD, the AfDB, the European Commission (EC) and GIZ.

39. More specifically, this Project also benefits from coordination and oversight from the donors financing the CIWA program through the CIWA Advisory Committee, including the Netherlands, Norway, Sweden and the UK Department for International Development. Coordination of this Project with other donors at the basin level is facilitated through several mechanisms including the CIWA Basin Advisory Committee (BAC) with the long-term vision for CIWA support in the Basin provided in the CSP; and the CIWA Consultative Group (CG) which provides CIWA-program wide guidance. CIWA modalities are described in Annex 7.

40. In addition to this formal engagement with partners, the Project will also link closely with a number of partners involved with the investments that this Project aims to influence (Annex 7). This engagement is expected to utilize existing partner coordination mechanisms in the Basin, through the aforementioned RSC, and will also include activity-specific coordination.

41. Partner engagement is particularly important on two levels. First, in the World Bank's role as lead donor, in terms of continuing to ensure that donor engagement in the Basin remains aligned with the NBA and Member States' strategic objectives, is well coordinated, complementary and maximizes synergies. Second, a new set of interested potential financiers will need to be identified, and engaged at an early stage of the inclusive Fomi process, as well as through the investor conferences that this Project will support.

Annex 4: Operational Risk Assessment Framework (ORAF)

Africa: Niger River Basin Management Project (P149714)

Risks

Project Stakeholder Risks		
Stakeholder Risk	Rating	High
Risk Description: There is a risk that NBA member countries' political support for the proposed cooperative activities erodes over the time-frame of the project. Opposition to regional infrastructure, and particularly dams, by international and local NGOs could negatively impact the Fomi project's reputation and the ability to attract potential financiers. The dialogue and process around Fomi multipurpose project and the adequacy of expected decisions could be unduly affected or delayed by NBA member countries that have a less tangible stake in the Fomi multipurpose project. The modeling of certain impacts, particularly in the complex deltaic environment of the Niger Inner Delta, may prove inconclusive. This may lead to	**Risk Management:** All areas of proposed engagement (autonomous NBA financing, Annex 2 of the Water Charter and preparation of the Fomi multipurpose project) have been specifically endorsed by all nine Member States through various NBA SHG and CoM meetings. While there is broad based legitimacy and support in principal, this by no means guarantees endorsements by riparian countries on specific operational plans. Delays in operationalizing NBA autonomous financing and Annex 2 of the Water Charter so far are cases in point. In order to address such difficulties, one of the objectives of the project is precisely to provide stakeholders with effective tools to build consensus, by focusing the NBA's efforts on gaining better understanding of the needs and concerns of the different riparians and stakeholders, and supporting the NBA in better meeting these needs. An additional incentive for riparians to endorse the operationalization of Annex 2 is the fact that it is a trigger for the final tranche of the Niger Basin APL Program (tentatively scheduled for 2016) which would support activities in all nine member countries. Similarly, the Fomi multipurpose project was conceived under a cooperative process and has since been earmarked as one of three high-priority regional infrastructures in the Basin (endorsed in SDAP in 2007, with Heads of States reaffirming their support for Fomi multipurpose project in 2013 N'Djamena meetings). Further momentum has been gained in recent months with the establishment of a joint inter-ministerial committee for Fomi between Mali and Guinea, with NBA as an observer/facilitator (demonstrating Fomi is just as strategic for Mali as for Guinea). However, it is important to note that the objective of the project is to provide all stakeholders with the evidence based tools to ensure informed decision making around Fomi. In this context, it is possible that, through the dialogue, due diligence and complementary studies supported by the project, there is a shift in the perceptions of the different stakeholders of the merits of certain activities/investments. As long as decisions are based on sound evidence, this would remain in line with the project objectives.	

delays, and cause stakeholder conflict.	Resp: Both	Status: Not Yet Due	Stage: Both	Recurrent:	Due Date:	Frequen-cy:
	Risk Management: Opposition to the dam is likely, given the need to resettle up to 45,000 people mostly in the direct impact zone of the reservoir in Guinea and the environmental and social impacts on the Niger Inner Delta in Mali. Indeed, it is for this reason that the proposed project will support a structured, coordinated and inclusive decision-making process around the dam, which includes a focus on communications at all levels, including around risks and proposed benefit sharing. When suitable, consultations and cooperation with NGOs around Fomi would also be explored in the context of existing mechanisms in place for the Kandadji project (e.g. the Kandadji Project NGO Committee or Committee Kandadji). In terms of potential financiers, they would be engaged as part of the inclusive Fomi process as well as through the investor conferences that this project would support. Several well respected international NGOs and research institutes are in fact working very closely with the NBA and riparian countries regarding issues such as long-term benefit sharing and innovative land tenure agreements for resettled communities. Successful lessons from other projects in the region (e.g. grievance mechanisms developed under Kandadji project) would also be considered.					
	Resp: Both	Status: Not Yet Due	Stage: Imple-men-tation	Recurrent:	Due Date:	Frequen-cy:
	Risk Management: Based on the subsidiarity principle, the Water Charter includes provisions for a transboundary hydraulic infrastructure to be owned and jointly operated by two countries only. This is confirmed in the provisions of the recent protocol establishing the Mali Guinea Inter-Ministerial Committee, to which the NBA is an observer. Last, ensuring a quality dialogue is a strong activity of Component 2. Therefore the dialogue around the Fomi multipurpose project will be inclusive, yet adequately ring-fenced to keep that risk low.					
	Resp: Both	Status: Not Yet Due	Stage: Both	Recurrent:	Due Date:	Frequen-cy:
	Risk Management: Drawing from experience under Kandadji, the NBA Panel of Expert now has a comprehensive dispute-resolution mechanism built in, in the case the Panel cannot reach consensus of the balance of risks,					

	particularly in the context of inadequate and incomplete information.					
	Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Implementing Agency (IA) Risks (including Fiduciary Risks)						
Capacity	Rating	Moderate				
Risk Description: Implementation of the project may be delayed and/or compromised due to constraints in the technical and operational capacity of the NBA, particularly with respect to the preparation of a complex transboundary dam.	**Risk Management:** The technical capacity of the NBA is expected to continue to improve. There has been a high retention (low turnover) of staff in recent years, including due to the NBA's internal policies and incentives. The current staff has extensive experience with the topics this project focuses on i.e. the NBA's core functions and facilitation of high quality, transparent negotiations process around water infrastructure (including the experience for Kandadji). This project will also support the implementation of recommendations from the ongoing NBA operational audit, which will include recommendations focusing on building technical capacity.					
	Resp: Both	Status: In Progress	Stage: Implementation	Recurrent:	Due Date:	Frequency:
Governance	Rating	Moderate				
Risk Description: The NBA's operational capacity must continue to be strengthened to effectively implement planned activities, particularly in areas such as contract management, monitoring and reporting.	**Risk Management:** The Bank has the benefit of a long-term engagement with NBA, having supported institutional capacity strengthening since 2002 through both the WRD-SEM APL 1 and the on-going APL 2A. This project will support specific areas of focus for capacity building, including through the implementation of recommendations from the forthcoming NBA operational audit (currently underway).					
	Resp: Bank	Status: In Progress	Stage: Both	Recurrent:	Due Date:	Frequency:
Project Risks						
Design	Rating	Moderate				
Risk Description: As a significant portion of these activities are anchored to and intended to	**Risk Management:** The team is and will continue to coordinate closely with the Bank's wider program in the Niger River Basin, including the WRD-SEM APL 1 and APL2A. As part of the restructuring of APL 1, the Project closing date would be extended to allow enough time for completion of the revised feasibility study (by					

<table>
<tr><td rowspan="3">compliment the preparation process for Fomi, including the ongoing revised Feasibility Study, there is a risk that delays in the wider preparation process for Fomi would delay project implementation.</td><td colspan="6">mid-2016). In addition, the team will continue to liaise with the broader program to ensure that activities under the Project are closely coordinated with future pipeline studies (including detailed design).</td></tr>
<tr><td>Resp: Bank</td><td>Status: In Progress</td><td>Stage: Both</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td colspan="6">Risk Management:
In order to ensure that the NBA, at the end of this Project, will be vested with adequate capacity to deal with such complex water resources development projects it is important to build the capacity enhancement process around a very complex project. The NBA is already engaged in activities to implement a similarly complex infrastructure project, the Kandadji dam. This Project has been designed to provide sufficient resources to address current capacity gaps with targeted technical assistance.</td></tr>
<tr><td></td><td>Resp: Both</td><td>Status: In Progress</td><td>Stage: Both</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Social and Environmental</td><td>Rating</td><td colspan="5">Low</td></tr>
<tr><td rowspan="2">Risk Description:
The activities under this Project do not in themselves have direct social and environmental impacts. However, there is a risk that project or cumulative impacts are not comprehensively considered in the preparation of Fomi, a process that is supported under this Project.</td><td colspan="6">Risk Management:
The proposed decision-making process supported by the Project will help to ensure that potential environmental and social impacts are first well identified and then comprehensively studied, including supporting additional, targeted studies as and when needs emerge. In recognition of the potentially large and complex environmental and social impacts and associated reputational risks, this Project has been rated an environmental safeguards category B even though this Project itself is only supporting upstream studies and will have no direct footprint itself.</td></tr>
<tr><td>Resp: Both</td><td>Status: Not Yet Due</td><td>Stage: Implementation</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Program and Donor</td><td>Rating</td><td colspan="5">Moderate</td></tr>
<tr><td>Risk Description:
There is a risk that the NBA’s key donors / partners do not agree on the NBA’s goals for long-term financial sustainability, undermining the Project’s work on sustainable financing mechanisms.</td><td colspan="6">Risk Management:
The broad principles of autonomous NBA financing have been endorsed by NBA donors. The Project has selected one of the most promising sustainable financing mechanisms for further study and operationalization. The results of the studies and plans will be regularly communicated to the NBA’s key donors (including at the NBA Regional Steering Committee for donor projects). Moreover, the proposal of ring-fencing certain core functions and activities through any separate, autonomous financing stream would be gradual, allowing the space for donors to adopt different approaches, within</td></tr>
</table>

	the scope of a mutually agreed framework with NBA and stakeholders (in line with the recommendations to emerge from the on-going NBA institutional and operational audit).					
	Resp: Bank	Status: Not Yet Due	Stage: Imple ple-men-tation	Recurrent:	Due Date:	Frequen-cy:
Delivery Monitoring and Sustainability	Rating	Substantial				
Risk Description: If the Niger Basin countries do not implement the Water Charter, which has been effective since July 2010, there is a risk to the sustainability of investments in the Niger Basin, and activities under this Project.	**Risk Management:** The operationalization of the Water Charter Annex 2, including the adoption of legal instruments for the coordinated management and optimization of large infrastructure, dispute resolution and arbitration enforcement, is a trigger for the approval of the final phase of the Niger Basin APL Program (tentatively due in 2016) – which stands to support activities in the nine member countries. As per the Water Charter, this will enshrine the NBA's role in the coordination of the SDAP and the investment program. Operationalizing the Water Charter (including its Annexes) will thus go a long way towards ensuring long-term sustainability of the NBA's activities.					
	Resp: Bank	Status: Not Yet Due	Stage: Imple ple-men-tation	Recurrent:	Due Date:	Frequen-cy:

Overall Risk	
Overall Implementation Risk:	**Substantial**
Risk Description: Overall implementation risk is rated "Substantial", due to the high risk ratings associated with the stakeholder and the operating environment, and the linkage between key activities under this Project to the broader preparation process for Fomi multipurpose project. Political developments in the region, and particularly Guinea or Mali, over the five year implementation period of the Project could adversely influence support for the Fomi multipurpose project by key stakeholders.	

Annex 5: Implementation Support Plan

Niger River Basin Management Project

1. *Implementation Support Strategy*. The project implementation support strategy is intended to be light touch and highly complementary with on-going supervision for other investment projects, particularly the WRD-SEM APL1 and APL2A, and the CIWA Bank Executed Niger Basin Support TF. This will be done in two ways. First in determining team composition, endeavors will be made to draw on members of existing Niger Basin team, to ensure knowledge is deeply embedded and ensure cross-fertilization. Moreover, efforts will continue to be made to coordinate the above supervision missions, thus encouraging a coherent, joint up approach to the Bank's engagement in the Basin, and prompting value for money, since several team members overlap.

2. *Team Composition*. The core implementation support team will consist of a Task Team Leader (TTL) and a co-Task Team Leader (co-TTL); technical specialists for identified sub-component activities; an environmental safeguard specialist; social safeguards specialist; a gender specialist; institutional specialists; an operations specialist; an M&E specialist; a procurement specialist; and a financial management specialist. The team will be complemented by headquarters, country office, and consultant support on specific issues. The senior infrastructure specialist based in Niamey will continue to play a major role as the dedicated Niger Basin focal point, as team member on all World Bank Niger Basin water resources management engagements.

3. *Frequency of Implementation Support*. There will be at least two full joint supervision missions each year. Country-based staff will monitor implementation progress on a continuous basis, and the Bank team will conduct monthly meetings/video conferences with the PCMU to review annual work program progress and address emerging issues. The performance of the PCMU, its contractors, as well as cooperating agencies in the implementation of these activities, will be a standard element of IDA project supervision reports.

Table 5.1: Implementation Support Plan

Skills Needed	*Staff Weeks (#)*	*Trips (#)*	*Comments*
Co-Task Team Leader (focus on institutions, water charter)	10	2	Based in Washington DC
Co-Task Team Leader (overall coordination and guidance)	3	2	Based in Region
Sr. Infrastructure Specialist (day to day dialogue with client and coordination)	10	2	Based in Region
Sr. Water Resources Specialist (focus on investment preparation)	8	2	Based in Washington DC
Sr. Water Resources Specialist (focus on environmental aspects of WRM and operations)	8	2	Based in Washington DC
Sr. Hydropower Specialist	3	-	Still to be confirmed
Environmental Specialist	4	1	Based in Washington DC

Social Development Specialist	4	1	Based in Washington DC
Gender Specialist	4	1	Based in Washington DC
Procurement Specialist	2	N/A	Based in Region
Financial Management Specialist	3	N/A	Based in Region
Senior Operations Officer	2	-	Based in Washington DC
Program Assistant	4	N/A	Based in Region
Program Assistant	4	-	Based in Washington DC

4. Participation in Advisory-Level meetings. It is envisaged that the core Bank team will continue to participate in the Basin level governance arrangements, and select members of the team would be represented at the programmatic CIWA MDTF level governance arrangements. This will ensure alignment with various partners and the overall objectives of the CIWA program.

Annex 6: Strategic Basin Context

Niger River Basin Management Project

Legal and Institutional Framework

1. There is a long history of riparian cooperation in the Niger River Basin. In the early 1960s the countries agreed to cooperation on economic development and navigation (1963 Act) and established the Niger River Commission (1964 Agreement Concerning the Niger River Commission and the Navigation and Transport on the River Niger). In 1980, the Niger River Commission became the NBA with a broadened mandate covering the development of water resources particularly in the fields of energy, agriculture, animal husbandry, fisheries, forestry exploitation, transport, communications and industry. The Convention establishing the NBA was revised in 1987 confirming the Authorities mandate to promote cooperation and assure integrated basin management. The NBA consists of the SHSG as the supreme decision making organ, the CoM, the Technical Committee and the Executive Secretariat, which is the NBA's implementation entity.

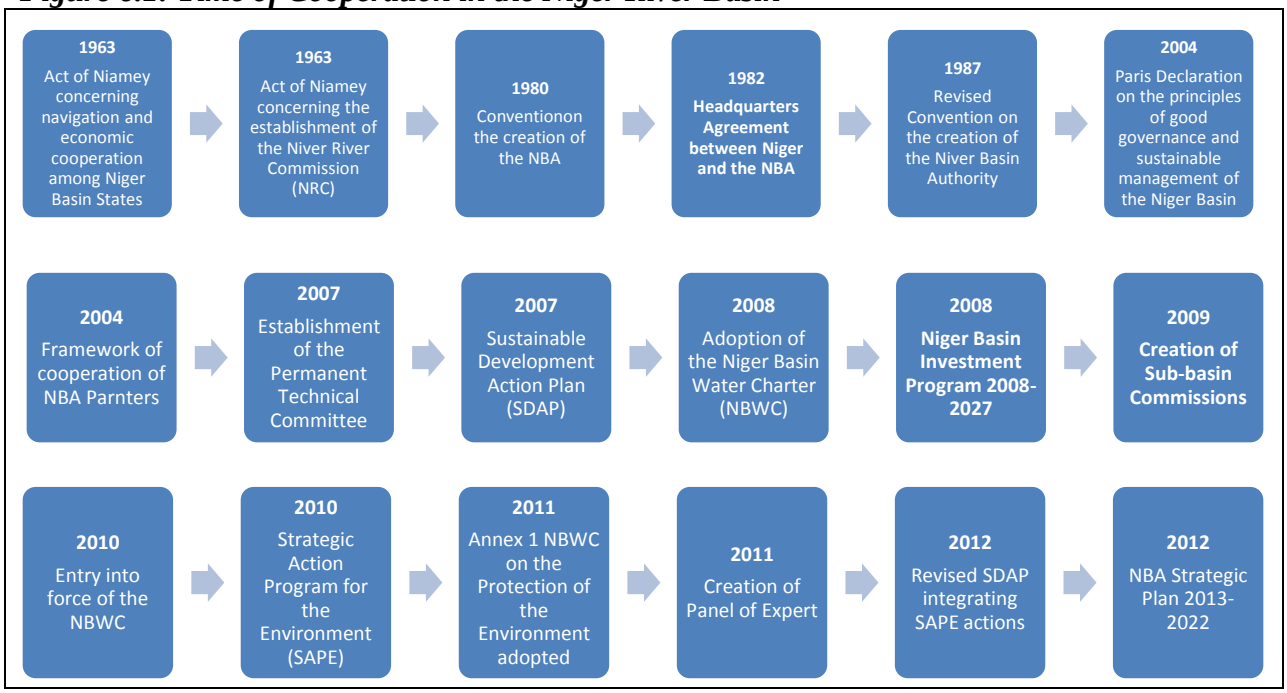
2. In 2003, the Niger Basin countries embarked on a "Shared Vision" process, which resulted in the adoption of the Paris Declaration in 2004. The Declaration outlines agreed principles of water resources management in the Basin, including the objective of sustainable development, reasonable and equitable utilization, the principle of subsidiarity, and prior consultation of projects and programs. This declaration was given legal status through the adoption of the Niger Basin Water Charter in 2008 (entry into force, July 2010).

3. The Niger Basin Water Charter aims at encouraging cooperation based on solidarity and reciprocity. It includes obligations and principles on the prevention of harm to other states, taking precautionary, preventive and corrective measures, the polluter-pays principle, such that costs of pollution are borne by the polluters, and with respect to the off-taker-pays principle to include the setting of water tariffs depending on use. The Water Charter also contains several general obligations, including for parties to manage the Niger Basin water to preserve the quality of water resources, to preserve and protect the environment, and to institute policing measures. Member States must exchange information and consult each other on planned measures, and notify other states in the event measures may have significant adverse effects on other Basin States.

4. The Water Charter envisages the adoption of annexes that outline some of its principles and obligations in more detail. Consequently, the NBA member countries have identified certain issue areas for which specific annexes will be developed: Annex 1 (adopted) on the Protection of the Environment; Annex 2 on Water Management Regulation for Large Regulating Dams (supported through this Project); Annex 3 on Notification Procedures (development supported by GIZ); and Annex 4 on the legal statute and benefit sharing around infrastructure of common interest (development supported by GIZ).

5. A timeline of cooperation in the Niger River Basin, highlighting key legal and institutional developments and adoption of development plans, is shown in Figure 6.1 below.

Figure 6.1: Time of Cooperation in the Niger River Basin



Basin Development Objectives and Strategy

6. The Niger Basin Development Objectives, underpinned by the 2004 Paris Declaration and subsequent Niger Basin Water Charter, are to promote cooperation based on solidarity and reciprocity for a sustainable, equitable and coordinated use of the Niger Basin hydrographic catchment area.

7. The overall strategic engagement in the Basin, in support of these objectives, is clearly articulated around the Sustainable Development Action Plan (SDAP) and follow-on Basin Investment Program until 2025, which were endorsed respectively by the Basin Heads of States in 2007 and 2008. Using an elaborate hydro-economic model, the SDAP justified a water resources development scenario whose backbone is the development and coordinated management of a cascade of dams across the River Niger. The Investment Program outlines where and how to invest to implement the SDAP. The latter encompasses a broad based mix of large scale transboundary infrastructure investments on the River Niger (namely Fomi dam in Guinea, Kandadji dam in Niger and Taoussa dam in Mali); small scale infrastructure investments in all nine member countries (rehabilitation of small dams, development of lowlands, agroforestry); ecosystem protection (watershed management investments for erosion and siltation control). The SDAP also has established the need for NBA to be a strong regulatory and applied knowledge institution, and therefore provided for the development of legal systems and tools; technical tools such as the hydrological and environmental observatory, flow forecast; and the establishment of an adapted governance architecture in which Basin stakeholders have a say.

8. The backbone of the Niger Basin's Investment Program to mitigate climate change impact and hydrological variability is the coordinated regulation of the River Niger through the

development of Fomi, Kandadji and Taoussa dams. Dry season flows are essential for protection of the ecosystem and provision of ecosystem services, and for ensuring water security in large towns such as Bamako and Niamey. Moreover, expanding irrigation potential, and providing households with an opportunity to move away from rain-fed irrigation only, is key to achieving long-term food security in the region, where the huge hydrological variability is further exacerbated by the impacts of climate change. The aforementioned dams are all large dams that will drastically modify the current hydrology. Their operational rules are key in achieving sustainable development, each taken individually and all in a combined manner, since they form a cascade. This involves trade-offs between uses and users, between immediate monetary returns and long term socio-environmental benefits. This all requires high profile technical tools and approaches, trust among the countries, and coordinated sector planning to avoid delayed benefits and negative impacts on the women and men who currently depend on the river and the Delta for their livelihoods.

9. The NBA's efforts over the last decade have focused on two types of activities. First, it administered and implemented, together with member countries, project-based activities on the ground (including on erosion control, irrigation, fisheries, embankment protection, agroforestry, etc.) Second, it carried out its core technical, legal and institutional functions by developing frameworks and tools to support sustainable development in the Basin, and ensuring that IWRM provisions contained in the 2008 Water Charter are indeed enforced. This includes: repository of the Basin's hydrological historical database and central collection of new data, flow forecast, update and running of the Basin model to simulate infrastructure planned by countries and objectively evaluate their impact in order to go beyond the formal information sharing processes described in the Water Charter and to ensure that investments are in line with IWRM and sustainable development principles.

10. With the coming online of major regulating infrastructure, the demands on the NBA and its role in promoting and participating in the design and exploitation of works and projects of common interest are growing. The planned Fomi multipurpose project (studied at feasibility level under WRD-SEM APL 1), for instance, is the most upstream and the largest of the cascade dams on the River Niger. If constructed it can unlock significant benefits relating to climate change resilience, irrigation, hydropower, fishing and other uses; however it will also inherently and substantially change the biophysical and human environment in Guinea and Mali. Operation of new transboundary infrastructure of such large scale requires a carefully coordinated approach at the regional level, which the NBA is mandated to take on. This project and the broader CIWA funded Niger Basin support program aim at strengthening the NBA's capacity to fulfill this mandate.

NBA Financial Sustainability

11. The NBA's annual budget[32] was reported to be US$2.8 million in 2013 (2014 GIZ study, not validated by NBA), which is largely financed through member state contributions. It is worth noting that 2013 donor contributions were estimated to be US$52.8 million. However these funds tend to be mostly ring-fenced on a project by project basis, through discrete project

[32] These figures do not include project-based financing, which is variable and tied to specific project activities.

management units. The NBA's core budget therefore plays a very important function, supporting the NBA's permanent staff (around 155), including the Secretariat, the Observatory and National Focal Structures in each of the nine riparian countries.

12. By 2020, the NBA's core budget, in line with its proposed scope and activities moving forward, could increase to as much as 2,500 million CFAF (US$5.6 million). This increase will be required to support the NBA's growing mandate, and associated core services (including the monitoring and coordination of large infrastructure). Assuming that member state contributions remain more or less the same as they are now, as it is currently intended, this means that about 1750 million CFAF (US$3.2 million) are needed from other sources to support the NBA's ambitious plans moving forward.

13. The 2010 study *Strategic Study for the Autonomous and Sustainable Financing of the NBA activities* (commissioned by the NBA and conducted by BRL Ingénierie and ICEA) considered several financing mechanisms for the NBA. The mechanism that will be advanced under this Project is the application of a hydropower fee varying between 0.1 to 0.3 million CFAF per GWh produced (i.e. between 0.15% to 0.4% of value added generated per GWh produced, assuming 70 million CFAF of value added per GWh as per the SDAP), assuming an estimated rate of recovery of 80%. The fee was considered for all existing hydroelectric dams (six in total[33]) as well as planned hydroelectric dams whose power production had been studied and estimated (six in total[34]). The study concluded that, if operationalized, the NBA could generate in the order of US$ 875,000 and US$ 2,500,000 per year, about three-fourths of which would be from existing hydroelectric dams. (For example, a 0.15% fee on the Kandadji dam, once complete, could yield about US$ 75,000 per year). The results are summarized in Table 6.1 below.

Table 6.1: Estimate of annual "user pays" fees for the hydroelectric sector (US dollars)

Fee Applied to:	**Proposed Fees as Percentage of Value Added by GWh**	
	0.15%	**0.40%**
Existing hydroelectric dams (6)	675,889	2,030,747
Planned hydroelectric dams (6)	201,889	606,587
Grand Total	**877,778**	**2,637,333**

14. As such, the hydropower fee, if operationalized, would represent a significant portion (between 20 and 65%) of the NBA's additional financing needs of US$ 3.9 million/year by 2020.

Fomi Multipurpose Project and Dam

15. The proposed Fomi dam will be located in Guinea, near the border with Mali, in the upper part of the Basin. Although originally designed as a national hydropower project for Guinea, this

[33] Existing dams: Lagdo in Cameroon; Dabola in Guinea; Sotuba 1 and Selingque in Mali; Jebba and Kainji in Nigeria.

[34] Planned dams: Kandadji in Niger; Fomi in Guinea; Sotuba 2, Markala, Kenie and Toussa in Mali. It is important to note that Kandadji is expected to come on line in 2019/2020 and is the first dam in this pipeline.

multipurpose project is now viewed as one of the most strategic components of the SDAP's optimal water resources development scenario (based on hydro-economic modeling) whose backbone is the development and coordinated management of a cascade of dams within the Basin (including Kandadji, Taoussa, Kainji and Jebba).

16. As the most upstream of these dams, Fomi has a unique potential to both regulate a major reach of the Niger Basin and is expected to bring a wide range of economic benefits for both Guinea and Mali in particular, in terms of irrigated agriculture, hydropower, and environmental protection. When completed, the Fomi multipurpose project could provide 6.1 billion m^3 storage (20% of total Niger river flow at Bamako, thereby a significant regulating capacity); support a 210,000 ha increase in downstream dry-season irrigation (98% in Mali, mostly *Office du Niger*); and maintain dry season environmental flows (40 m^3/s to be maintained downstream of the *Office du Niger*). It will also generate some 300 GWh (from a 90-100 MW hydropower plant) to be delivered to the West African Power Pool and used mostly by Guinea as an associated (rather than primary) benefit.

17. The Fomi multipurpose project will also have significant impacts on the upper and middle Niger River Basin. Up to 45,000 people may need to be resettled in Guinea around the reservoir site. Resettlement will involve the construction of close to 60 settlements and the identification of new agricultural land in Guinea for project affected people. The dam will have environmental impacts in the perimeter of the reservoir and is also expected to reduce the downstream land area submerged as a result of river floods. There will also be significant impacts on the environment, notably on the Niger Inner Delta in Mali. The biodiversity rich Niger Inner Delta is a major Ramsar wetland site, which is already under stress, due to high levels of annual flood variation (associated with climatic hydrological variability) and increasing population pressures (exacerbated by the situation in Mali). The combination of the Fomi dam and increased irrigation withdrawals upstream of the Delta may further reduce the flooded area by up to 11 percent for an average hydrological year. Moreover, around one million people live in and around these wetlands, and many of their livelihoods are intimately tied with the seasonal floods (including fish harvests, flood recession agriculture, particularly rice farming, and cattle grazing).

18. A strategic Environmental and Social Impact Assessment of Fomi dam financed by the EU in 2010 raised some important questions regarding the appropriate design and management options for Fomi dam, in order to minimize impacts while maximizing benefits, within a regional framework approach. In particular, the analysis highlighted a number of trade-offs which require further consideration. In particular, it recommended the lowering of the dam height, which would reduce the size of the reservoir and thus the number of people to be resettled. Further analysis will be required, including the modelling of the artificial flood, to better assess the downstream impact and fine tune both the technical design, and the operating rules.

19. The institutional framework within which Fomi is conceived has also shifted. On 12 March 2014, the Guinean and Malian Governments signed the Agreement concerning the Establishment of an Inter-Ministerial Committee for the Implementation of the multi-purpose Fomi dam. This reflects the fact that Fomi is no longer viewed as a national venture, but as a joint-infrastructure between Guinea and Mali, where the costs and benefits of both are inextricably linked. The NBA is associated to this process as an observer to the Inter-Ministerial Committee. It facilitates the

process of viewing the financing, construction, operation and benefit sharing associated with this infrastructure, and the attending institutional, legal and financing arrangements, both through a bilateral and transboundary prism.

20. Fomi multipurpose project remains an ambitious and challenging project with the potential to transform one of the poorest sub-regions of the world[35]. Impacts are complex and uncertain. Although significant efforts have been made by Guinea to promote the Fomi project before the agreement to include funding for the update of feasibility and ESIA studies under WRD-SEM APL1 - a series of feasibility studies have previously been conducted (the first dating back from the early 1950s, and the most recent one completed in 1999) - these did not lead to the mobilization of sufficient funds for the realization of the project.

Donor Engagement

21. Over the last decade, there has been continued donor engagement in the Niger Basin, to support the NBA in delivering on its broad mandate of integrated natural resources development through basin-wide cooperation. Programs have focused on institutional support and capacity building to the NBA Executive Secretariat, member states and basin users (in support of NBA's technical, legal and institutional functions); hydrological monitoring (including data collection and storage, flow forecasting, and modelling); small-scale investment activities (including on erosion control, irrigation, fisheries, embankment protection, agroforestry, etc.); and the rehabilitation and construction of water infrastructure (including hydropower and irrigation perimeters). Table 6.2 provides a summary of the key projects which are on-going and under preparation. Key aspects of on-going programs which are highly complementary to the Project are described in more detail below.

Table 6.2: On-going projects implemented and overseen by the NBA

Project	**Agency**	**Activities**
Project to support the NBA in the development and implementation of the Annexes to the Water Charter (GIZ °12.2514.3)	GIZ	Institutional strengthening of NBA Secretariat and basin stakeholders; support to the Water Charter, including stakeholder sensitization regarding cost and benefit sharing (Annex 4); review of autonomous financing mechanisms; integration of flow management systems.
Silting Control Program (SCP)	ADB, NBA, Beneficiaries, West African Economic and Monetary Union	Control of erosion and silting through watershed restoration and embankment rehabilitation
Support for Management of Groundwater (AGES)	Federal Institute for Geosciences and Natural Resources of Germany (BGR)	Groundwater management, including hydrogeological mapping and capacity building and involvement of IWRM stakeholders;
Program of Rehabilitation	KFW	Rehabilitation of public irrigated perimeters in

[35] The most recent studies available projected that dam civil works, hydropower plant and transmission lines would cost US$271 million (in 1999) and that implementation of current environmental and social management plans are estimated to cost US$562 million (in 2010).

of Public Irrigated Perimeters		Niger; increase income of small farms to improve food security; increase sustainability of small farms in public irrigated schemes
Hydrological cycle observation system (HYCOS)	French Development Agency (FDA)	Data collection, storage, flow forecasting
Water Resources Development and Sustainable Ecosystems Management (WRD-SEM APL1)	World Bank	NBA institutional strengthening, ecosystem management and infrastructure rehabilitation (hydropower, irrigation)
Water Resources Development and Sustainable Ecosystems Management (WRD-SEM APL2A)	World Bank	NBA institutional strengthening including implementation of water charter
Satellite Based Water Monitoring and Flow Forecasting system for the Niger River Basin (SATH Project)	ORIO (Netherlands), AfDB/CDSF	Supporting water monitoring and flow forecasting systems using satellite imagery
Programme for integrated development and adaptation to climate change in the Niger Basin	AfDB, beneficiary countries, West African Monetary Union, LDCF/SCCF, West African Development Bank, KFW	Improve the resilience of the population through sustainable management of natural resources through: agro-pastoral production through better water uses, reducing silting of the Niger River, enhancing the resilience of production systems and vulnerable groups,
IWRM Project	AFD	Monitoring of water resources

GIZ: institutional support program

22. The GIZ has been involved since 2007 through a 10 year program to support IWRM in the Niger Basin. The program is financed by the German Federal Ministry for Economic Cooperation and Development and is being carried out in cooperation with the Federal Institute for Geosciences and Natural Resources (BGR) and the German KfW Entwicklungsbank. It targets capacity development on the Executive Secretariat level as well as within local national structures and civil society organizations in the respective states. Program activities focus on strategic planning, PR work, internal communication, and organizational development. The program further promotes the NBA's 'Shared Vision' – adopted in 2002 – which seeks to enhance sustainable development through integrated management of water resources and related ecosystems through support for the translation of regional water policies into the national policies of the member states, taking transboundary realities into consideration. The current program phase (2013-2016 USD 3 Million) supports the development and implementation of the Annexes to the Niger Water Charter. The World Bank and GIZ coordinate closely to ensure complementarity of their respective support for this undertaking.

World Bank: the Niger Basin WRD-SEM Program

23. The Project has been explicitly designed to complement earlier achievements and on-going activities of the broader regional IDA WRD-SEM program.

NBA institutional strengthening

24. At the policy level, one of the main thrusts of the WRD-SEM program is to help the NBA consolidate its legal and institutional reforms. Substantial progress was achieved through support from the APL1's US$2.8m NBA institutional strengthening of regional water resources management and planning, including the endorsement of a Niger Basin regional environmental code, the endorsement and implementation of the Water Charter, the establishment of a Permanent Technical Committee, and the Panel of Experts to oversee dam safety and safeguards of large transboundary infrastructure. Nevertheless, some areas of policy change proved more delicate and complex than initially envisaged, and will not be completed within the APL1 project budget and timeframe. Moreover, the provisions for further institutional strengthening under APL2A remain limited, due to the following reasons:

(i) The APL2A was designed as a stand-alone project to support the specific and urgent needs of the Kandadji program.
(ii) It was anticipated, as per the original WRD-SEM program framework, that a broader based, follow-on APL2B project would subsequently be extended to the NBA and all 9 riparian countries, following completion of the outstanding APL triggers.
(iii) The difficulties in meeting the final institutional trigger for the WRD-SEM APL were still not fully apparent at the time of the preparation of the APL2A[36].

25. As a result, the US$3.3 million institutional strengthening activities of the NBA under the APL2A project remained limited to the NBA's key oversight role in the implementation of the (existing) Water Charter, including (i) as supervisor of the Panel of Experts (notably in relation to Kandadji until 2021) and (ii) by undertaking an institutional audit of the NBA, to assess how completely the NBA's mandate matches its role in practice in supervising safeguards aspects of large infrastructure, in the light of the Water Charter. No specific provisions were therefore made for strengthening the design, approval and operationalization of the Water Charter Annex 2, or for financing the implementation of the NBA institutional audit recommendations.

26. These emerging institutional gaps have several implications. The NBA's ability to take on its new mandate regarding the monitoring of large transboundary water infrastructure remains curtailed in the absence of the legal, institutional, and operational support necessary for the endorsement and operationalization of Annex 2. Moreover, any progress towards the preparation of a final WRD-SEM project under the program is constrained by the fact that one of the major institutional triggers remains unmet.[37]

[36] The WRD-SEM APL2A Project Appraisal Document notes para 49 that "the second Annex, on coordinated management of infrastructure, is currently being drafted, to be approved by end of the calendar year 2012)".
[37] A technical trigger that remains unmet is that the Power Holding Company of Nigeria has met the expected output in terms of availability of the rehabilitated units 5, 6 and 12 of the Kainji power plant.

Table 6.3: Status of WRD-SEM Phase 2 Institutional Triggers

Trigger	Status
Niger Basin regional environmental code has been adopted by the council of ministers	Achieved
Legal instruments for the coordinated management and optimization of large infrastructure, dispute resolution and arbitration enforcement have been developed and adopted by riparian countries	Stalled Although a draft document was finalized and shared for consultations in April 2013 (as "Annex 2 of the Water Charter"), it has to date not been endorsed. Further work is required to ensure adequate consultations are conducted with riparian countries and operators and any revisions required for agreement countries are carried out. No specific provisions have been made for its operationalization, including that NBA has sufficient monitoring and information systems to oversee this coordinated management.
Finalization of the Niger Basin Water Charter	Achieved (main text and Annex 1) The Water Charter (main text and Annex 1 on environmental codes) was endorsed in 2008 and became operational in 2010. However, key Annexes, including Annex 2 on coordinated management of large infrastructure (see above), Annex 3 on notification of planned measures and Annex 4 on benefit sharing are outstanding.
Creation of a Permanent Technical Committee	Achieved

Fomi dam preparation

27. The WRD-SEM APL1 project also includes provisions for the financing of around $3 million towards the preparation of the multi-purpose Fomi dam under the Guinea grant. This includes provisions for the feasibility studies, detailed design and Environmental and Social Impact Assessment (ESIA). These feasibility[38] and ESIA activities are currently being procured, with completion planned end 2017.

28. The overall enabling environment has changed considerably since the initial design of these activities in 2007. In 2010, a strategic ESIA funded by the EU highlighted a number of important design implications associated with the transboundary nature of the proposed Fomi project,

[38] It is unlikely that a fully-fledged detailed design can be financed within the existing available budget and timeline.

which are being incorporated into the terms of reference for the update of the feasibility studies. In 2011-12, Guinea was exploring the potential of financing Fomi as part of a private mining concession during which procurement of the studies under APL1 was put on hold. In 2013, the Government of Guinea re-engaged and requested to reactivate the procurement process of the Fomi dam preparatory studies. In early 2014, the Government of Guinea and the Government of Mali jointly established an Inter-Ministerial Committee for Fomi. The NBA participates as an observer.

29. In the current context, the traditional approach of preparing Fomi as a national investment of Guinea is no longer adequate. The stronger bilateral and regional lens, through which this potentially transformational infrastructure can now be viewed, provides a unique opportunity for adjusting the existing framework for analysis and decision-making around the Fomi with a more nuanced understanding of the trade-offs and opportunities associated with this project. Mobilizing all stakeholders around a clear and comprehensive roadmap will be critical in bringing such a project to fruition – and ensuring the dam's technical design, operating rules, and institutional arrangements balance, and optimize, the long-term economic, financial, social, environmental, regional development and security objectives of the Basin.

Annex 7: Alignment with the CIWA Program

Niger River Basin Management Project

Advisory Bodies

1. This Project benefits from coordination and oversight from several CIWA-related advisory bodies. First, the donors financing the CIWA program provide project guidance and oversight through the CIWA Advisory Committee, which includes Denmark, the Netherlands, Norway, Sweden and the United Kingdom. Coordination of this Project with other donors at the basin level is facilitated through several mechanisms including the CIWA Basin Advisory Committee (BAC) which is tasked with providing overarching guidance and advice on basin-wide activities and the long-term vision for CIWA support in the Basin. Finally, the CIWA Consultative Group (CG) draws on the broader international and African water resources community to provide guidance at to the CIWA program.

2. The support provided by CIWA for this Project is guided by the CIWA BAC within the wider context of development partners, national governments, international agencies, and regional bodies, many of which will not be contributors to the CIWA MDTF. The Committee will coordinate the engagement strategy, projects and activities under the wider CIWA program for the Niger River Basin. The BAC will operate consistently with other existing basin coordination bodies, such as the Regional Steering Committee (RSC) to ensure coherence and harmonization of support, as well as to maximize the value of financial resources. The RSC meets at least once a year to give overall guidance to the NBA and its National Focal Structure (NFS), formally reviews progress, and approves annual work plans.

3. The function of the CIWA Consultative Group (CG) is to bring broad expertise and knowledge to CIWA and provide strategic guidance in achieving its objective of strengthening cooperative management and development of international waters in Africa. In this way, CIWA benefits from the insights and experiences of key African water sector professionals. A CG meeting held in May 2014 focused on the CIWA program's interventions in West Africa and featured discussion among key leaders in the region including the NBA.

Monitoring and Reporting

4. The Result Framework for this Project (Annex 1) aligns closely with the overall CIWA program Results Framework. This Annex is intended so as to facilitate the aggregation of results from different projects in different basins from all of the CIWA supported programs across Sub-Saharan Africa.

5. The two CIWA Program Development Objectives indicators are:

PDO Indicator 1: US$ financing mobilized for cooperative management and development of international waters projects supported by CIWA
PDO Indicator 2: Number of people directly benefiting from improved water resources management and development in target basins through projects supported by CIWA

6. The four CIWA program Intermediate Result (IR) areas are:

(i) IR1: Regional cooperation and integration strengthened: This result aims to foster cooperative transboundary institutions for greater regional stability and creation of an enabling environment for shared sustainable growth.
(ii) IR2: Water resources management strengthened: This result aims to underpin the evidence-based knowledge for planning and decision-making to maximize development opportunities and minimize climate risks.
(iii) IR3: Water resources development strengthened: This result aims to support investments that improve resilience to climate related shocks, enhance food security, and enable countries to follow a lower carbon growth path.
(iv) IR4: Stakeholder engagement and coordination strengthened: This result aims to enable greater voice of civil society, private sector and academia in the decision making processes related to cooperative management and development of shared basin resources.

Table 7.1: Alignment of this Project's Indicators with the CIWA Program PDO and IR Areas

Project Indicators	**Alignment with CIWA Program PDO and IR Areas**
Project PDO-Level Indicators	
PDO 1. Institutional enhancements for coordination of development and management of shared water resources endorsed by member states.	CIWA IR 1: Regional cooperation and integration strengthened CIWA IR 2: Water Resources Management strengthened CIWA IR 3:Water Resources Development strengthened
PDO2. A complementary financing mechanism endorsed by member states	CIWA IR 1: Regional cooperation and integration strengthened
PDO 3. Joint decision-making process for Fomi multipurpose project approved by Fomi Inter-Ministerial Committee and followed.	CIWA IR 1: Regional cooperation and integration strengthened CIWA IR 2: Water Resources Management strengthened CIWA IR 3:Water Resources Development strengthened
Project Intermediate Results Indicators	
Component 1: Strengthening the NBA for Sustainably Delivering its Mandate	
1a New mechanism for financial sustainability developed and discussed	CIWA IR 1: Regional cooperation and integration strengthened
1b Coordination mandates for regulating infrastructure clarified	CIWA IR 2: Water resources management strengthened
Component 2: Facilitating evidence based-decision making in Fomi multipurpose project preparation process	

2a Road map for decision making around Fomi designed and discussed among relevant member states	CIWA IR 1: Regional cooperation and integration strengthened CIWA IR 3:Water resources development strengthened
2b Complementary assessments of environmental and social impacts completed and discussed by relevant member states	CIWA IR 3:Water resources development strengthened
2c Investment forum for Fomi multipurpose project held	CIWA IR 3: Water resources development strengthened

7. As part of the CSP under the Niger River Basin, the CIWA's PDO indicators will be tracked at the basin level.

Potential and Mobilized Investments

8. In the CIWA CSP PDO indicators, a distinction is made between investments that are under preparation (i.e. a *potential investment*), and direct beneficiaries for relevant activities linked to investments that are ongoing (i.e. a *mobilized investment*). *Potential investments*, currently under preparation, include the Fomi multipurpose project, Sahel Disaster Resilience Project, the Second Part of Phase 2 of the WRD-SEM program (APL 2B) and the Economic and Environmental Rehabilitation of the Niger River Project. The Integrated Water Resources Management Project Phase 2 (HYCOS), currently under implementation, is considered a *mobilized investment*. For the purposes of this Project and consistent with CIWA's M&E system, potential beneficiaries of investments will be assessed using the best available information, typically from recent technical studies (feasibility or design studies, ESIA and so forth). Table 7.2 details potential and mobilized investments influenced by this project.

9. Due to the upstream nature of this technical assistance, it is possible that not all of the *potential investments* identified above would be pursued in the same way that they are currently envisioned, or indeed not pursued at all. The activities undertaken as part of this Project, which focus on the Fomi multipurpose project for example, will contribute to reaching a decision on whether or not this complex project is viable, and, if it is viable, support due diligence and preparation to ensure that it is prepared and designed in a thorough and comprehensive manner. As such, if activities under this Project were to influence a decision to pursue a potential investment in a different way, or not to pursue the investment at all, this would also be considered as a successful outcome of this Project.

Table 7.2: List of Potential Investments Influenced under the Project

Investment Name	How Investment will be influenced by activities under the Project	Potential Investment Financing	Potential beneficiaries	Notes
Fomi Multipurpose Project *TBC*	Component 2 (*Facilitating evidence based-decision making in Fomi Multipurpose Project preparation process) will* support the process of engagement and decision making around Fomi multipurpose project.	US$ 1 billion	31.35 million	The 31.25m figure captures the beneficiaries from electricity generation (~4.6m people, based on expected energy generation and per capita consumption in Mali and Guinea), water users provided with new/improved irrigation and drainage services (~0.4m people, based on additional irrigation area and water users hectare) increased food production from irrigated agriculture (~25m people, based on additional irrigated area, crops grown, and per capita consumption of those crops), enhanced fisheries (~0.8m people, based on additional fish production and per capita consumption of fish) and job creation (~0.5m people, ESIA estimate). It is anticipated that future studies would refine these estimates and also estimate beneficiaries from (i) improved transportation due to improved navigability, (ii) reduced impacts of climate variability change due to regulation, and (ii) increased local development in areas influenced by Fomi. *Note: Development partners' engagement for this investment is subject to positive results of technical and economic feasibility study and to the existence of workable institutional arrangements (to be studied through CIWA) for shared cost and benefits and implementation of dam related functions.*
Sahel Disaster Resilience Project *IDA pipeline*	Activities under Component 1 (*Strengthening the NBA for Sustainably Delivering its Mandate*) will analyze and highlight the NBA's role and value addition to up-to-date, reliable and easily accessed hydrological information for and flood warning systems, the focus of the SRDP Project.	US$ 200 million	0.25 million	The current number of potential direct beneficiaries is an estimate at this stage, as the proposed investment project is still being defined.
Second Part of Phase 2 of the WRD-SEM program (APL 2B) *IDA pipeline*	Activities under Component 1 will help to strengthen the institutional and technical foundations for the APL 2B investment. The endorsement of Annex 2 of the Water Charter is a trigger for any further financing under the WRD-SEM APL (Phase 2B)	US$ 100 million	0.5 million	0.5 million figure captures the beneficiaries from electricity users provided with new/improved electricity production (~0.3m people) increased food production from irrigated agriculture (~0.1m people), enhanced fisheries and cattle farming (~0.07m people) and job creation (~0.03m people). These figures will be improved and finalized as part of future feasibility studies.
Integrated Water Resources Management Project Phase 2 (HYCOS) *AFD - Under implementation until 2015*	Activities under Component 1 will ensure the enhanced hydrological information supported under HYCOS (i) delivers a high end product and service focused on client needs and (ii) explore mechanisms to enhance long-term financial viability of these services. There are also strong synergies and complementarities between activities to strengthen the legal aspects of Annex 2 of Water Charter and HYCOS, which will deliver the hydrological tools needed to operationalize Annex 2.	US$ 6.5 million	45 million	Niger-HYCOS project size is 5m EUR, of which 4m EUR are financed by AFD and 1m EUR are financed by the AfDB. The beneficiary estimates are those of AFD, as per their project evaluation. These were estimated as 25-30% of the whole population of the Niger River Basin. The beneficiaries are the populations in cities located along the mainstream and tributaries of River Niger.
Economic and Environmental Rehabilitation of the River Niger *Expected board approval by IDA: 2016*	Activities under Component 2 will provide advanced modeling of ecosystem services in the Niger Inner Delta available under different flow and climate regimes, and assess ecological changes on local livelihoods (fisheries, vegetation, and flood recession agriculture). The information generated will help inform the design of the EERRN project, including livelihood enhancing activities.	tbd	0.08 million	The objective of the Economic and Environmental Rehabilitation of the River Niger Project is to contribute to the integrated economic and environmental management of the Niger Inner Delta in Mali. It aims at enhancing the mobility and reliability of river transport in the Niger Inner Delta and the restoration of the biophysical environment. Expected beneficiaries are the members of 12,000 households (84,000 people) agro-pastoralists and nomadic fishermen in the Niger Inner Delta.
Total for All Projects:		**US$ 1.31 billion+tbd**	**77.2 million**	It is possible that some project beneficiaries from the different interventions will overlap.

Annex 8: Financial and Economic Analysis

Background

1. The intention to develop Fomi dam had been conceived over 50 years ago before Guinea obtained its independence from France. At that time the objective was to regulate the flow of the Niger River for the benefit of irrigation scheme in the *Office du Niger*. Since the 1950s, the Fomi dam has been the subject of several studies and analyses, which include:

- The early 1950s reconnaissance studies by French EDF
- The 1983 prefeasibility study
- The 1986 Guinea National Hydropower Master Plan
- The 1988 feasibility study by Guinean Government with support from Canada
- The 1999 feasibility study by Guinean Government with support from Canada
- The 2010 Environmental and Social Impact Assessment

2. The documents resulting from these studies were incomplete mainly because the studies did not consider the environmental and social impacts and the transboundary implications of the dam. Initially, the dam development objective was narrowly defined with particular emphasis on energy generation and several stakeholders claimed that the proposed Fomi dam would cause net welfare losses, if the project was implemented without further consideration of environmental and social impacts in Guinea and Mali.

3. The government of Guinea attempted to develop the dam for hydropower generation but could not raise the necessary finances. Other complicating factors which delayed the project's progress include: (i) the pre-2010 socio-political unrest in Guinea, (ii) insufficient stakeholder understanding of the full scope of costs and benefits of the project, and (iii) hesitation of donors and financiers to engage due to their lack of clarity regarding the scope, design, ownership, and overall impacts of the dam.

4. Hence, this technical assistance project will support the NBA as they facilitate a process with Guinea and Mali and other stakeholders in order to increase the general understanding of costs and benefits associated with this project and by doing so, to help to strengthen the project preparation process.

Expected benefits

5. The technical assistance project has multi-faceted knowledge, institutional, and process related benefits. At a broader level, the project enhances cooperation in the Niger Basin by strengthening the NBA. At a more specific level, it improves the quality and pace of planning, preparation, and implementation of the Fomi multipurpose project, which is achieved by:

- Providing the knowledge and platform for designing a technically feasible, economically viable, and financially sustainable project;
- Ensuring the social and environmental due diligence in the design and implementation process;

- Creating a shared understanding of the overall costs and benefits of Fomi among the diverse stakeholders thereby reducing conflicts and resistance both during the planning and implementation phases; and
- Enhancing the bankability of the dam.

Methodology

6. Measuring the overall economic impact of this technical assistance project is difficult, if not impossible, as the benefits are systemic and process oriented posing quantification problems. However, the economic impact of the project is approximated by focusing on the interventions around Fomi dam. The analysis begins with the question, what would happen to the Fomi dam if this technical assistance project is not implemented? Probably the implementation of Fomi dam would be significantly delayed. Or it may be implemented with no due diligence to social and environmental issues which is costly as has been demonstrated by previous studies. Lack of consideration to the social and environmental issues distorts the true costs and benefits emanating from the project related externalities. For instance, a study estimates an annual economic loss of 35 million Euro in the Niger Inner Delta due to Fomi dam[39]. A delay in the implementation of Fomi dam entails significant opportunity cost in terms of lost hydropower and irrigation benefits. The major contributions of the current project are enhancing the quality of project design, expediting the planning and implementation of Fomi dam as compared to the business-as-usual scenario, and enhancing the financial sustainability of the dam during operation. It has to be underlined that the idea of developing Fomi dam has been around during the last 50 years but no concrete action has been taken so far. Thus, the cost benefit analysis is done considering with and without the technical assistance project scenarios. We use the economic analysis done in the latest feasibility study report as a basis and make the necessary adjustments[40]. The major adjustments made are inclusion of irrigation development costs and benefits and accounting for social and environmental costs of the project that were overlooked in the previous analysis. It was estimated that Fomi dam enables an increase in irrigation area of about 210,000 ha downstream in dry season. The aim of the current analysis is not to re-do the cost benefit analysis of the Fomi dam per se. The objective here is to gauge or isolate the benefits of the technical assistance project and confirm the justification for its public financing.

Key assumptions

7. Key assumptions in this analysis are:

- The number of years by which the technical assistance project activities expedite the implementation of Fomi dam as compared to the business as usual scenarios are 2, 5, 10, and 15 years.
- Unit development cost of irrigation is assumed to be US$5726 per ha[41].
- Average cultivated area of rice per household is ranges from 1ha to 2.8ha[42]

[39] The Niger, a lifeline: Economic and Ecological Outcomes of Effective Water Management in the Upper Niger River Basin
[40] Fomi dam feasibility study report (1999)
[41] Inocencio et al. (2007) Costs and performance of irrigation projects: a comparison of SSA and other developing regions.

- Irrigated rice gross margin per ha ranges from US$282.2 to US$1488.7 with average of US$1051.3
- The value of hydropower was assumed to be about 7.35 US cents per kWh
- The annual operational and maintenance cost of the irrigation is estimated at 1% of the total investment cost of irrigation.
- The discount rate was assumed to be 10%

Results

8. The result of the economic analysis of the technical assistance project is summarized in Table 8.1. The results show that the project has significant economic returns. The absolute magnitudes of the returns depend on the assumed number of years of delays in the implementation of the Fomi dam.

Table 8.1: Summary results of the economic analysis of the Technical Assistance project

Scenarios	Description	Net Present Values (Million US$)	Pay-off to the Technical Assistance project (Million US$)
1	No delay due to Technical Assistance	472.3	NA
2	Two year delay in project planning and implementation	395.0	77.3[43]
3	Five year delay in project planning and implementation	296.8	175.5
4	Ten year delay in project planning and implementation	184.3	288.0
5	Fifteen year delay in project planning and implementation	114.4	357.9

9. In conclusion, the figures depicted in Table 8.1 indicate the magnitude of the cost of deferred or delayed development opportunities in Mali, Guinea, and Niger Basin in general. This is particularly true for projects involving international water, which require intermediation, facilitation and financial support by neutral and trusted development partners such as the World Bank.

[42] Doumbiaa et al. (2012) Livestock in the rice-based economy of *Office du Niger*: The development potential for increased crop–livestock integration through multi-actor processes. *Wageningen Journal of Life Sciences*

[43] This figure is the difference between the Net Present Values of Fomi dam with technical support (Scenario 1) and the Net Present Value for Scenario 2 or two year delay in implementation. For instance, a two-year delay in the implementation of Fomi dam reduces the NPV by US$77.3 million from US$472.3 million (the optimal scenario) to US$395 million. Alternatively, the technical assistance project saves US$77.3 million by reducing loss of energy, irrigation, and other benefits through facilitating the expeditious planning and implementation of the Fomi dam. Furthermore, a 15-year delay in the implementation of Fomi dam diminishes its economic returns to US$114.4 million. Given the history of Fomi dam, a 15-year delay is highly likely if there is no intervention or assistance.

Annex 9: Map of the Niger River Basin