

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: AB7510

Project Name	Additional Financing to the First Part of the Second Phase (Phase 2A) of the Niger Basin Water Resources Development and Sustainable Ecosystems Management Program – Kandaji
Region	AFRICA
Country	Africa
Sector	Irrigation and drainage (25%); Sub-national government administration (25%); Hydropower (25%); Other social services (15%); Agricultural extension and research (10%)
Project ID	P148972
Parent Project ID	P130174
Borrower(s)	The Republic of Niger
Implementing Agency	The High Commission for the Development of the Niger Valley (HCDNV)
Environment Category	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
Date PID Prepared	March 11, 2014
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I. Country and Sector Background

Regional and country background

1. The Niger River is the economic mainstay for the nine riparian countries in the Basin – Benin, Burkina Faso, Cameroon, Chad, Ivory Coast, Guinea, Mali, Niger and Nigeria. Five of these countries are located on the main stem of the Niger river, while four are located on the outer tributaries¹. It is the continent’s third longest river, at 4,200 kilometers, and the Basin covers a surface area of nearly 1.5 million square kilometers, extending from the mountains of Guinea through arid and semi-arid lands of the Sahel. Even under conservative development scenarios, the Basin has tremendous potential for infrastructure development, including hydropower (760 GWh installed capacity), a four-fold expansion of irrigation (to 2 million ha) and the potential to create 1.7 million jobs. However, this potential remains significantly under-tapped, which limits economic growth and the improvement of livelihoods in the Basin. This has led to chronic poverty in the region, including food-insecurity, malnutrition, social and economic impacts of HIV/AIDS and women’s limited access to or control of productive resources despite gender equality legislation in many of the riparian countries.
2. The population in the basin is highly vulnerable. Seven of the nine Basin countries are among the 20 poorest countries in the world, with large income disparities in the richer

¹ 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.

basin countries. More than 50 percent of the population is under the age of 15. About 70 percent of the 100 million people in the Basin live in rural areas where food security and social well-being are largely dependent on unreliable rainfall and highly-variable river flow patterns. The Basin's population is highly impacted by extreme climate and rainfall variability, both of which are likely to be exacerbated by climate change. The vulnerability of people in the Basin is further exacerbated by political instability (including recent conflict in Mali), and sub-regional security threats remain. Economic growth, regional integration, reducing conflict over water resources and improving access to remote areas could help to stabilize the region.

3. Niger is a large, landlocked, mostly desert country, located in the middle part of the Niger Basin, in the challenging Sahel region. The country has an area of 1.267 million square kilometers and a population of about 16 million. It ranks 186 out of 187 countries on the UNDP's 2013 Human Development Index, with a low GDP per capita (in 2005 Purchasing Power Parity terms) of US\$ 642. Its economy is dominated by agriculture (the primary sector), contributing just over a third of GDP in 2012. Only 12 percent of its land is arable, with the Niger River being the country's only reliable source of water.
4. Niger's economy is under threat from extreme hydrological variability that has often led to food crises, and in recent years to severe flooding. Since the 1970s, Niger has experienced repeated and extensive droughts and extreme low flows in the Niger River that has severely constrained agriculture, worsened food security, and disrupted domestic and livestock water supply. In recent years exceptionally high flows in the Niger River have caused significant flood damage in Niamey and other towns.
5. The Kandadji project is of critical importance for Niger, as well as for the Niger River Basin, as a key element of a basin-wide response to extreme weather and hydrological variability, which threaten the agriculture-dominated economies of Niger and its neighbors. The project benefits from strong regional, national and local ownership. It will support poverty alleviation by better managing the flow of the Niger River, restoring degraded riverine ecosystems, sustaining a minimum dry season flow in the river for downstream riparians and ensuring reliable municipal water supply for the capital Niamey. It will enhance the development of agriculture for food security and improved rural incomes and improve and expand regional energy supply and security.
6. An important feature of the project is that it is optimized at the regional level, while still presenting significant benefits at national and local levels. As part of the West Africa Power Pool under the Economic Community of West African States' (ECOWAS) 2011 master plan for the generation and transmission of electricity, the project has strong regional ownership. The Kandadji hydropower plant will initially be able to sell power on a seasonal basis to the North-core Transmission Sub-program (Nigeria, Niger, Burkina Faso and Benin).
7. The project and the overall Niger Basin program are fully consistent with the Bank's Regional Integration Assistance Strategy for Sub-Saharan Africa (RIAS), the Africa Region strategy, and the Niger Country Partnership Strategy (CPS). The RIAS and the

Africa strategy 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. This high-risk, high-reward project continues to be aligned with the Bank's FY13-16 Niger CPS, approved in March 2013. The CPS notes the contribution of the project to improvements in economic infrastructure and opportunities, which is linked closely to the overarching strategic objective (pillar) of promoting resilient growth in the country. The project is also important as part of the World Bank's strategic engagement under the Sahel Initiative. In particular, up to 45,000 ha of new irrigated land may be developed in the medium term around the Kandadji reservoir, which will contribute towards the recent commitments made by the Bank at the Dakar Forum to support doubling the amount of irrigated land in the Sahel region over the next 5 years.

Sector background

8. Increased and more reliable access to water for agriculture, livelihoods, health and development in the Niger Basin is a key facet of the poverty reduction strategy in this extremely poor region. Development and management of the water resources and infrastructure on the Niger River is vital for the nine riparian countries of the Basin.
9. The Kandadji dam is one of the flagship projects under the Niger Basin Authority (NBA) investment program, which includes a broad based mix of large scale transboundary infrastructure investments (i.e. Fomi dam in Guinea, Kandadji dam in Niger and Taoussa dam in Mali), small-scale investments in all nine countries, ecosystem protection, and institutional capacity building.
10. The project provides an opportunity to develop renewable, clean energy infrastructure that is critical for the region. With the exception of current energy imports from Nigeria (considered unsustainable in the long term), energy production from the Kandadji Dam is the least cost energy option for Niger. The project will also permit better regulation of flows in the Niger River, creating the potential to bring up to 45,000 hectares under irrigation, and reducing downstream impacts of extreme low flows and floods.
11. The proposed Additional Financing will contribute to the Kandadji Project, which is at the core of the Government of Niger's infrastructure investment program, and supports the Bank's twin goals of reducing extreme poverty and boosting shared prosperity.

II. Objectives

12. The development objective is to increase access to water for agriculture development and capacity for energy generation in the Recipient's part of the Niger Basin.

III. Rationale for Bank Involvement

13. The World Bank currently supports the Niger Basin through a regional IDA-funded Series of Projects (SOP): the Water Resources Development and Sustainable Ecosystems Management Program (WRD-SEM). The program provides ‘horizontal’ support across the region to help the NBA consolidate its institutional and legal frameworks and ‘vertical’ support to countries to improve water resources development and management activities at local and national levels. It was designed as a two-phased, twelve year program, and approved by the Board in July 2007. The first phase of the Program (WRD-SEM Phase 1) is supporting, among other activities, complementary technical assistance studies for the Kandadji Project. The second phase of the program (WRD-SEM Phase 2) for which this additional financing is proposed, is financing the actual infrastructure investments of the Kandadji Project in parallel with other development partners.
14. The proposed additional credit would help replenish a US\$259.5 million financing gap for the overall Kandadji project, which is financed through a combination of co-financing and parallel financing with ten other development partners. There continues to be a strong rationale for public provision towards the project in the form of concessional financing. Niger remains one of the poorest countries in Africa, and the Government of Niger’s ability to raise additional financing is extremely limited given its agreed borrowing limit. Private investment was not a viable option given modest rates of return of project, absence of a proven track record in the Region and political and security risks of investing in Niger. In this context, Bank financing adds value in the following ways: significant volume of concessional financing; ability to leverage wide-ranging expert technical guidance; and robust fiduciary and safeguards oversight (including on dam safety and resettlement). Furthermore, as the project’s single largest financier, the provision of additional IDA financing at this key juncture in the project life-cycle offers a strong confidence boosting signal, enhancing the government’s ability to raise further financing. It also paves the way for enhanced leadership by the Bank around new partner coordination mechanisms, and provides an opportunity to strengthen project design and synchronize project components.

IV. Description

15. The First Part of the Second Phase of the Niger Basin Water Resources Development and Ecosystems Management Program (Phase 2A) was approved by the World Bank Board on October 2, 2012 and became effective on March 13, 2013. IDA financing consisted of a US\$ 200 million credit to the Republic of Niger and a US\$ 3 million grant to the Niger Basin Authority, contributing to a project of US\$ 785 million that included co-financing from several partners and the Government of Niger.
16. The project consists of three components:
 - (i) Component 1: Institutional Strengthening of the NBA (US\$ 3 million, fully IDA financed)
 - (ii) Component 2: Kandadji Project Energy Infrastructure (US\$ 498.1 million, of which US\$ 140 million is IDA financed)

- (iii) Component 3: Environmental and Social Safeguards Measures and Promotion of growth-pole through irrigation and local community development (US\$ 283.94 million, of which US\$ 60 million is IDA financed).
17. With the proposed additional financing, the scope and design of the project remains broadly unchanged. The additional financing of \$55 million will be exclusively focus on Component 2, the Kandadji Project Energy Infrastructure component, and will be used to provide additional funds to three existing activities to cover a financing gap in the overall Kandadji Project. This will increase the size of IDA's financing of the overall project from US\$ 203 million to US\$ 258 million. The proposed additional financing will be allocated to the following sub-components:
18. First, \$40 million will directly finance the power plant. The need for this financing arose from the cancellation of the Kandadji dam civil works contract. Following consultations with the Government of Niger and the development partners involved in the project, it is proposed that the World Bank uses IDA funds to cover most of AfDB's \$60 million portion of the power plant contract, allowing the AfDB to reallocate these resources to civil works (which the World Bank is not involved in).
19. Second, \$10 million will strengthen existing project implementation, coordination and oversight arrangements through two large international Technical Assistance packages, including comprehensive implementation support for HCAVN and third-party monitoring and evaluation. More resources for both Technical Assistance packages are required, since latest market testing revealed initial allocated funds were insufficient to attract international firms to Niger (particularly given that the implementation support team will be based at the dam site, with entails additional safety and logistical challenges).
20. Third, \$5 million will contribute to the expanded supervising engineer contract. This contract was originally limited to the supervision of the power plant, but has now been expanded in scope and mandate, as per the recommendations of a technical and financial audit. Firstly, the supervising engineer will be responsible for supervising all the civil and power plant construction works, to reduce interface risks (this had not been previously possible due to unsynchronized works schedules and lack of financing). Secondly, the engineer will have a better defined mandate, with fully delegated powers from HCAVN to oversee works on the ground (including signing off on execution plans and clearances of invoices).
21. The principal changes resulting from the additional credit are changes to component costs and disbursement estimates (resulting from the additional financing), a re-evaluation of the project's economic analysis and appraisal (owing to the higher cost for the civil works), and an updated technical appraisal, owing to revised contractual arrangements for the works contract and project oversight.

Financing

IDA allocations remain indicative. Exact financing amounts will

be confirmed during negotiations.

(\$m.)

Source:

BORROWER/RECIPIENT	0
International Development Association (IDA)	55
Total	55

Table 1: Original and Revised Financing for Kandadji Project

Components of the Kandadji Project	Original Project Cost	Additional Project Cost (1)	Revised Project Cost	Original IDA Financing	Additional IDA Financing	Revised IDA Financing
Component 1: Institutional Strengthening of the NBA	3	0	3	3	-	3
Component 2: Construction of the Kandadji Project Energy Infrastructure	498.1	209.5	707.6	140	55	195
Component 2.1: Dam construction	250	77.5	327.5	0	-	0
Component 2.2: Power plant equipment and installation	248.1	15	263.1	140	55	195
Component 3: Implementation of environmental and social safeguards and growth pole community development.	283.94	50	333.94	60	-	60
Component 3.1: Environmental and social measures	109.1	50	159.1	0	-	0
Component 3.2: Irrigation rehabilitation and development	74.84	-	74.84	30	-	30
Component 3.3 Local Development	100	-	100	30	-	30
Total project cost	785.04	259.5	1044.54	203	55	258

V. Implementation

22. Implementation arrangements for the Additional Financing, at the regional, national and project-level, remain the same as for the original project.
23. Implementation arrangements remain as follows. At the regional level, responsibility for project implementation will be shared between NBA and HCDNV. The Bank will enter into a grant agreement with the NBA for Component 1, and a credit agreement with the Republic of Niger for the implementation of Components 2 and 3.
24. At the national level, a Steering Committee (Comité de pilotage, CdP), established in 2002, monitors the progress of the Kandadji Project. Given the Project's importance, the CdP is chaired by the Prime Minister and the Minister of Planning, Territorial Management and Community Development is Vice Chair. The CdP includes representatives from: (i) all ministries involved in the Kandadji Project, (ii) development partners, (iii) the NBA, and (iv) the HCDNV, which serves as secretariat to the CdP. The

institutional assessment of the HCDNV conducted during WRD-SEM Phase 2A Project preparation recommends that the Steering Committee is maintained and regularly informed of Project progress. A Technical Committee for Coordination (Comité Technique de Coordination, CTC), established in 2002 to assist the HCDNV in fulfilling its mission, is chaired by the High Commissioner of the HCDNV. The CTC includes representatives from: (i) all ministries involved in the Kandadji Project, (ii) development partners, (iii) the NBA, (iv) civil society, and (v) the HCDNV.

25. Project activities for Components 2 and 3 will be implemented by the executing agency, which is the HCDNV. The project will be managed under the supervision of HCDNV's High Commissioner. Local municipalities within the Kandadji area will also have a critical role in implementation of the local development programs, which are key elements of the economic growth pole concept of the Kandadji Project.

VI. Sustainability

26. The institutional sustainability of the Kandadji Project mainly depends on the continued capacity of the existing institutions (HCDNV and NBA) to operate and manage the Kandadji project as part of the Niger Basin program of activities, with full coordination among key national and regional stakeholders. Technical, environmental, and social sustainability of the Kandadji Project depends on the GoN's capacity to manage and implement large-scale infrastructure projects, continued operations and maintenance of the infrastructure, and satisfactory implementation of environmental and social mitigation measures beyond the project's seven year duration. For this reason, US\$10 million of the IDA additional financing will support a Technical Assistance package for the HCAVN. More resources for Technical Assistance are required, as the latest market testing revealed that initial allocated funds were insufficient to attract international firms to Niger.

VII. Lessons Learned from Past Operations in the Country/Sector

27. Lessons learned during implementation of the original project have been considered and incorporated into the design for this Additional Financing project. Given the practical difficulties that often entail extensive development partner collaboration in large, complex, regional projects, the proposed additional financing activities have packaged activities to simplify partner involvement to the extent possible. Findings of the technical and financial audit conducted by the Government in late 2013 have been incorporated into the project design, including hiring a single supervising engineer to supervise all main infrastructure works (including civil works for the dam), which is expected to reduce interface risks and improve cost-effectiveness. The difficulties encountered during the earlier phase of the project have also evidenced the need for improving the performance of the HCAVN through a substantial Technical Assistance (TA). This applies to all components of the Kandadji project and all aspects of its implementation, particularly resettlement. Moreover, under the new project organization, the enhanced scope and responsibilities of the Supervising Engineer should greatly help ensuring a smooth implementation of the construction of the Kandadji dam civil works, gates and power plant.

VIII. Safeguard Policies (including public consultation)

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

IX. List of Factual Technical Documents

World Bank. 2012. *Niger - First Part of the Second Phase of the Niger Basin Water Resources Development Program Project*. Washington, DC: World Bank.

<http://documents.worldbank.org/curated/en/2012/08/16732231/niger-first-part-second-phase-niger-basin-water-resources-development-program-project>

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