

PROJECT INFORMATION DOCUMENT (PID) CONCEPT STAGE

Report No.: PIDC16653

Project Name	Mali - Economic & Environmental Rehabilitation of the Niger River (P151909)
Region	AFRICA
Country	Mali
Sector(s)	Ports, waterways and shipping (45%), Flood protection (30%), General agriculture, fishing and forestry sector (25%)
Theme(s)	Natural disaster management (20%), Trade facilitation and market access (35%), Other environment and natural resources management (25%), Environmental policies and institutions (20%)
Lending Instrument	Investment Project Financing
Project ID	P151909
Borrower(s)	Government of Mali
Implementing Agency	Agence de Bassin du Fleuve Niger
Environmental Category	A-Full Assessment
Date PID Prepared/ Updated	06-Nov-2014
Date PID Approved/ Disclosed	18-Mar-2015
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Concept Review Decision	Track II - The review did authorize the preparation to continue

I. Introduction and Context

Country Context

1. Mali is a west African landlocked country situated in the Sahel and that shares borders with seven countries; Senegal, Mauritania, Algeria, Niger, Burkina Faso, Ivory Coast and Guinea. Mali gained independence from France in 1960 and became a presidential republic in 1991 whereby the President is elected by popular vote with a unicameral National Assembly of 160 members. It is a multi-party system. Mali has been unstable since 2012 due essentially to the rebellion of groups from the northern part of country. Thanks to the intervention of the international community and the results of on-going peace talks, the rebellion has subsided in parts of the North. This has allowed Mali to return to a more stable situation and better GDP growth.

2. The population of Mali is multi-ethnic and roughly 16 million strong with an annual growth rate of about 3 percent. About eighty percent of the population is engaged in agricultural activities, including raising cattle and fishing. As a result of the civil strife experienced since 2012, a large percentage of the population has been affected either through internal displacement and/or overall economic hardship. This situation has created a challenging context in terms of governance. In 1992, the government initiated a decentralization process which has since stalled because of the lack of resources and poor governance particularly in the rural areas. Poverty levels vary according to regions but are in general quite high with about thirty-six percent of the population living below the poverty line.

3. Mali's economic potential is significant, however it is heavily dependent upon the performance of the agriculture sector which itself is very dependent on rainfall. There is a rather strong historical correlation between precipitation and annual GDP which creates a difficult context for the Government of Mali (GoM) to manage its fiscal policy. Another reason for the weakness of the fiscal position of the country is its dependence on commodity prices, particularly gold and cotton, which make up around eighty percent of export earnings.

4. The Niger River economic and environmental revitalization (see map in annex 3). The Niger River (4,200 km long) is the third longest river in Africa and the largest in West Africa. It crosses four countries (Guinea, Mali, Niger and Nigeria). The total river basin spans an area of 2.27 million km² and is shared by ten countries. The Niger River flows through areas with different climatic characteristics. A large portion of the river is located in the Sahel (250 to 750mm annual precipitation with a rainy season of 3 to 4 months), a semi-arid area between the Sahara desert and the Sudanese savannas (750 to 1,500 mm annual precipitation with a rainy season of 5 to 7 months). The headwaters of the Niger are located in the Fouta Djallon mountain range in Guinea (2,000 mm annual precipitation). Flowing northeast, the river flow is reinforced by several tributaries until it reaches the Inner Delta in Mali. The natural flow of the Niger River has been increasingly regulated by the construction of dams primarily for power generation and irrigation purposes. The power production capacity of the Niger River and its tributaries has been estimated at 30,000 GWh but only 6,000 GWh have been developed so far, mostly in Nigeria. Several studies have shown, however, that construction of upstream dams might also have negative consequences, particularly threatening livelihoods in the Inner Delta which depend on floods from the Upper Niger. There are currently five existing dams upstream of the Inner Delta: (1) the Selingue dam on the Sankarani tributary; (2) the Soluba dam (a relatively small hydropower dam); (3) the Markala dam which provides essential irrigation water for the Office du Niger; and (4) the Talo dam and (5) the Djenne dam on the Bani river, a large tributary of the Niger River (about forty percent of the total discharge). These dams have already generated a significant impact on the peak flow reaching the Inner Delta particularly during dry years. Several other large dams are planned. Specifically, the Fomi dam in the headwater area in Guinea may have significant impacts on the Inner Delta depending on the design options that will be adopted. The World Bank is financing an on-going study to assess the various options and the corresponding impacts.

5. The Inner Delta, located roughly between the Markala dam (near Segou) and Timbuktu, provides numerous ecological and economic benefits. It forms a 20,000 to 30,000 km² flood plain where many agricultural practices depend heavily upon the amount of water that reaches the area, namely rice, cattle herding and fishing. A significant amount (depending on the author this amount can be as high as two-thirds or as low as one-third) of the water is lost by evaporation and infiltration when passing through the Inner Delta. The Inner Delta is an intricate web of channels that

provide as many ways to transport people as well as access to markets for the goods produced locally, thus contributing to the economic well-being of a local population of about 1.5 million (according to the 2009 census and compared to 1 million in 1976). The tourism potential of this area is very important but it has been stunted by the civil strife of the past few years.

6. In terms of its ecological value, the Inner Delta is a unique ecosystem. It has been a RAMSAR site since 2004 hosting a large population of one hundred and twelve species of migratory and non-migratory birds as well as endangered mammals such as hippopotamus and manatee. The great variability in rainfall and runoff creates an extensive range of water flow. In the 1970s and 19780s, the region suffered from an extremely severe dry period but a significant rebound in the rainfall patterns happened by the mid-1990s, although without reverting fully to the earlier levels. The models used by the Intergovernmental Panel on Climate Change (IPCC) provide inconsistent insight and do not yield a clear view of future trends although only the most optimistic models predict increased rainfall. Among the various threats the most severe and immediate, however, might be those posed by the anthropic ones, mainly due to pressures from demography and infrastructures (dams and irrigation). The importance of the Inner Delta cannot be overstated considering for example its importance as a grazing area for forty percent of the livestock from the northern parts of the country as well as from neighboring countries during the dry season, according to Wetlands International.

7. The development of the road network has severely affected the competitiveness of Inland Water Transport (IWT) on the River Niger as traffic has gradually shifted from river to road. During the colonial era, the Dakar-Bamako-Koulikoro railway (1,286 km) and Koulikoro-Ségou-Mopti-Timbuktu-Gao waterway on the River Niger (about 1,300km), were the key intermodal transport corridors traversing the whole of Mali. With the construction of the main intra/inter state roads in Mali and Senegal, such as Dakar-Bamako and Bamako-Ségou-Mopti-Gao road corridors, traffic has shifted from IWT to road transport. In addition, the navigability period of the Niger River, which is limited to about 4-6 months per year on average, has further weakened the IWT mode on the river in an era of just-in-time logistics. At present most of the river traffic plies along a section of about 450 km between Mopti and Timbuktu which includes transverses and crisscrosses the Inner Delta. With the construction of a new paved road between Ségou and Timbuktu, which is planned to be completed by 2017, road transport should capture part of the long-haul current river traffic between the two localities. However, one of the key advantages of IWT transport for Mali is that one ton of goods transported by boat consumes five times less energy than by road, thus creating competition and reducing transport costs. Fluvial transport pollutes less. In addition, the road networks will have a longer life span because fluvial transport is sharing some of the volume of the heavy loads that destroy road pavement.

8. With carefully targeted investments in dredging and river ports, and an improved institutional framework, IWT could become the dominant transport mode for the Inner Delta. That is because it provides cost-effective mobility to people and goods during the high water season when road transportation is virtually impossible. More specifically, for up to six months out of the year, IWT is the only transport mode to access most villages in the Inner Delta.

9. For the other navigable sections of the River Niger (Koulikoro-Ségou-Mopti and Timbuktu-Gao), without major recurrent investments, especially in dredging, it would be challenging to restore IWT to its former modal share. This is because the navigation period for the River Niger varies from 4 to 6 months per year depending on the rain, the area, and the type of boat and even

with major investments can only be extended by another couple of months. However, with a well-targeted program of investments in dredging on the 15 major navigation choke points between Koulikoro and Ke Macina, to improve some critical river ports combined with an improved institutional framework to ensure the O&M of the navigation channels, IWT could still play an important role in the long-haul movement of bulk commodities.

Sectoral and Institutional Context

10. The Malian government system is composed of an executive branch, a legislative branch and a judicial branch. The current Constitution dates back from 1992 and guarantees the independence of the judicial branch. Mali is divided into eight regions (Gao, Kayes, Kidal, Koulikoro, Mopti, Ségou, Sikasso and Timbuktu). The capital of the country is Bamako. Each region is divided into five to nine districts (cercles). Cercles are divided in turn into communes which are further divided into villages and quarters.

11. A decentralization process was initiated in the 1990s with the establishment of elected municipal councils. The elected bodies have, in theory, greater control over finances and more control over administrative decisions. However Mali is facing a constant tension between customary law and constitutional law, especially in the rural areas. The population of the Inner Delta is composed of several ethnic groups who are living in peace based on ancient rules and practices dating from the Dina period (1818-1862) established by Cheikh Sekou Amadou. These rules and practices often collide with modern land management and tenure systems introduced by the French and still in effect (Land tenure law of 2000 amended in 2002). The traditional structure still determines how the access to resources is organized, e.g. access to fishing is authorized by the Master of Water (Maitre des Eaux) and access to farming and grazing land would be under the authority of the Master of Lands (Maitre des Terres). Also according to customary practices women can have access to resources through husbands and/or families but cannot inherit land which implies that divorced or abandoned women can lose their lands.

12. The main actors involved in the different aspects of the management of the Niger River are:

- Irrigation aspects: Office du Niger
- Transportation Aspects: National Directorate for Terrestrial, Maritime and Fluvial Transportation under the Ministry of Equipment, Transportation and Regional Integration.
- Provision of transport services in the formal sector: State owned company COMANAV
- Management and maintenance of river ports infrastructure: Local municipalities
- Overall functional and environmental aspects: National Hydraulic Directorate (DNH) and Niger River Basin Agency (NRBA) both under the Ministry of Environment, Water and Sanitation
- Meteorological aspects: National Meteorological Agency
- Law enforcement and Security: Fluvial Brigade of the Gendarmerie and Civil Protection
- Local actors: Local administrative and elected bodies and NGOs
- Supra national actors: The Niger Basin Authority which represents the common interests of the riparian countries.

13. Provision of IWT services is carried out by both informal and formal sector actors. The formal sector is essentially represented by COMANAV, which is state owned and has an increasingly obsolete barge and ferry fleet, and the informal sector represented by owners and operators of motorized pinasses (traditional wooden boats) and smaller canoes. Generally, COMANAV and the pinasses do the long-distance transport between major river ports along the Niger River.

14. The informal sector uses small, medium to large wooden boats (motorized pinasses and canoes). The number of pinasses is estimated to be more than 1,000 and some of the larger ones have a carrying capacity of up to 100 tons. The canoes primarily do short-haul transportation and ply along smaller river branches to connect isolated rural communities to bigger river ports. Because of their shallower draft, canoes and pinasses have a longer navigation season compared to COMANAV. Recent estimates indicate that the informal sector transports about 100,000 tons of merchandise and 100,000 passengers per year. This means that they carry about ten times more freight and passengers than COMANAV, and are essential to providing regular transport services to the Inner Delta. Based on information gathered from a large pinasse in the River Port of Mopti, their ton/km (tkm) cost on the Mopti to Timbuktu route (450 km) is about 7 US cents per tkm, which is quite competitive against road transport.

15. IWT Regulatory framework. Although a draft code has been prepared to regulate navigation on all rivers in Mali, it has still not been adopted by GoM. Its adoption is critical to ensure safe, effective and efficient navigation on the Niger River.

16. O&M of existing waterways and river port infrastructure on the Niger River. On some sections of the river, the navigable channel remains obstructed during the navigable period, even after limited amounts of dredging using labor intensive works are implemented during the dry season. This is because the sedimentation process of the river is not well known, which makes some of the maintenance interventions ineffective. In addition, there is no planning mechanism or dedicated source of funding in place to ensure the regular maintenance/dredging of the navigable channel. At present all regular maintenance/dredging of the river navigation channels are done by DNH in a non-systematic manner. The local municipalities and collectivities are supposed to fund the O&M for the river ports and jetties. In reality this does not occur since the local municipalities/collectivities do not have the financial resources or equipment available.

17. The GoM is starting to take cognizance of the fact that without a proper institutional framework, it will be difficult to revitalize IWT on the Niger River. A Policy letter for the transport sector, which includes IWT, is being adopted by the GoM. For the IWT sub-sector, the policy letter focuses on: (i) adoption of a river navigation code; (ii) definition and adoption of a master plan; (iii) improving the safety of river transport by formalizing the informal sector; (iv) restructuring COMANAV; (v) removing bottlenecks to navigation by dredging and signaling the navigable channel; (vi) investing in port infrastructure when justified; and (vii) financing of the existing program to improve navigation on the Niger and Senegal rivers.

Relationship to CAS

18. The current assistance framework is defined in the Interim Strategy Note (ISN) recently approved and covering the fiscal years 2014 and 2015. This ISN followed the previous Country Assistance Strategy that covered the years 2008 to 2011 which focused on the two following strategic pillars; promote rapid and broad-based growth, and strengthen public sector performance for service delivery. The ISN was developed in the context of the political and security crisis that has affected Mali since 2011. The ISN program aims to both rapidly provide support to meet the needs of populations across the country and initiate new activities to better address long-term governance challenges and focusses on strengthening capacities and delivering basic services. The program is articulated around three priority areas: (i) laying the foundations for long-term accountability and stability; (ii) protecting human capital and building resilience; and (iii) preparing

the conditions for economic recovery.

19. The new Country Partnership Framework (CPF) will be prepared during FY16 but consistent with the new World Bank guidelines it is preceded by a Strategic Country Diagnostic (SCD) which has already started and should be finalized by mid FY15. The SCD will be articulated around the challenges of achieving the corporate goals of decreasing poverty and sharing prosperity in a sustainable manner.

20. Some of the portfolio and pipeline projects that will have a linkage with this project and with which close coordination will have to be ensured are the following

- Pipeline:
 - o Sahel Disaster Resilience project (P148659) (regional project)
 - o Niger River Basin Management Project (P149714) (regional project)
- Portfolio:
 - o Mainstreaming Disaster Reduction in Mali (P124481)
 - o Natural Resources Management In A Changing Climate in Mali (P129516/P145799)
 - o Niger Basin Water Resources Development and Sustainable Ecosystems Management Project (P093806) Regional - closing December 31st, 2014)
 - o Sahel Irrigation Initiative (P149507) – TA
 - o Niger Basin Support Program (P148889) Bank executed TA

II. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)

21. The main objective of this operation is to improve economic and environmental services of the Niger River in Mali to the benefit of the population and ecosystems in the Inland River Delta. This objective will be achieved through reducing key constraints to Inland Water Transportation (IWT), implementing measures aimed at decreasing sedimentation and bank erosion in critical spots and creating opportunities for improved livelihood of the local population.

Key Results (From PCN)

22. The key results expected are :

- Barriers to navigability removed through dredging of channels in critical areas
- Reliability of IWT improved through investments in appropriate port infrastructures
- Safety of IWT improved through enhanced regulations and procedures
- Sustainability of IWT improved through definition and implementation of recurrent maintenance program
- Sediment deposition in Delta decreased through implementation of efficient sediment trapping systems
- Impacts of works and infrastructures limited through measures to protect critical flora and fauna in the Delta area
- Efficient fishing and agricultural practices implemented in the Delta area.

III. Preliminary Description

Concept Description

23. Description: The project activities will contribute to establishing a holistic and long-term vision for the socio-economic development of the Niger Inner Delta and establishing the parameters

and conditions that will ensure sustainability and resilience for its population. More specifically, the project will aim at i) improving mobility and reliability of IWT particularly in the Niger Inner Delta; and (ii) will contribute to the restoration of biophysical environment in the Niger Inner Delta. To that effect the project will be articulated around two main components:

- Transport component :
 - o Enactment and implementation of the new Niger river navigation code as well as other institutional and regulatory measures;
 - o Dredging and cleaning at critical points of navigation channels;
 - o Demarcation of the navigable channels;
 - o Rehabilitation/reconstruction of river ports infrastructures.

- Ecosystem preservation and livelihood improvement component :
 - o Institutional and regulatory measures;
 - o Protection and stabilization of river banks in sensitive areas;
 - o Promotion of livelihood improvement approaches;
 - o Restoration of gullies in immediate watersheds; and
 - o Treatment of invasive species.

24. A third component will relate essentially to project management, capacity building and monitoring and evaluation.

IV. Safeguard Policies that might apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
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	

V. Financing (in USD Million)

Total Project Cost:	55.00	Total Bank Financing:	50.00
Financing Gap:	0.00		
Financing Source			Amount
BORROWER/RECIPIENT			5.00
International Development Association (IDA)			50.00
Total			55.00

VI. Contact point

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