

AFRICAN DEVELOPMENT FUND



SENEGAL

TRANSPORT SECTOR SUPPORT PROJECT REHABILITATION OF THE DINGUIRAYE - NIORO-KEUR AYIB ROAD

APPRAISAL REPORT

OITC DEPARTMENT

May 2014

Translated Document

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CURRENCY EQUIVALENTS

[February 2014]

UA 1	=	CFAF 744.557
UA 1	=	EUR 1.1351
UA 1	=	USD 1.5342

FISCAL YEAR

1 January - 31 December

WEIGHTS AND MEASURES

1 kilogramme (kg)	=	2.200 pounds
1 metre (m)	=	3.28 feet
1 kilometer (Km)	=	0.621 Mile
1 square kilometer (km ²)	=	0.3861 sq. mile
1 hectare (ha)	=	2.471 acres

ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
ADF	African Development Fund
AGEROUTE	Road Construction and Management Agency
CFAF	CFA Francs
CSP	Country Strategy Paper
ETCD	Exclusive of Taxes and Customs Duties
FD	Final Design
FERA	Autonomous Road Maintenance Fund
GPRSP	Growth and Poverty Reduction Strategy Paper
LTS	Bank's Long Term Strategy
MITTD	Ministry of Land Transport Infrastructure and <i>Road Access</i>
PA	Project Area
PD	Preliminary Design
PGES	Environmental and Social Management Plan
PSE	Senegal Economic Emergence Plan
SNFO	Senegal Country office
TFP	Technical and Financial Partner
UA	Unit of Account
WB	World Bank

1. Client Information

<u>COUNTRY</u>	:	Republic of Senegal
<u>PROJECT NAME</u>	:	Transport Sector Support Project: Rehabilitation of the Dinguiraye-Nioro-Keur Ayib Road
<u>LOCATION</u>	:	Kaolack Region
<u>BORROWER</u>	:	Republic of Senegal
<u>EXECUTING AGENCY</u>	:	Ministry of Land Transport Infrastructure and <i>Road Access</i> (MITTD) / Agence des Travaux et de Gestion des Routes (AGEROUTE); Rue David Diop X Rue F, Dakar, (Senegal), Telephone: (221) 33 869 07 5 / Fax: (221) 33 864 63 50

2. Financing Plan

Source	Amount exclusive of all taxes (UA Million)	Instrument
ADF Loan	23,77	Loan (project)
GOVERNMENT	6.43	Investment budget (national counterpart contribution)
TOTAL COST	30.2	

3. Key Financial Information on the AfDB Loan

Loan currency	Unit of Account (UA)
Interest type	N/A
Interest rate margin	N/A
Service fee	0.75% per annum on loan amount disbursed but not yet repaid
Commitment fee	0.5% on undisbursed loan amount 120 days following signature of the Loan Agreement
Tenure	40 years
Grace period	5 years
IERR (baseline scenario)	18.4% ;
FNPV	CFAF 10.147 billion
FIRR, (baseline scenario)	N/A
FNPV	N/A

4. Period – Milestones (Expected)

Activities	(month, year)
Concept Note Approval	January 2014
Project Approval	May 2014
Signature of Agreement (not later than)	August 2014
Project Completion	December 2017
Last disbursement of AfDB loan	June 2018

EXECUTIVE SUMMARY

Project Overview

1. The Dinguiraye-Nioro-Keur Ayib road, which is about 40 km long, is a section of National Highway No. 4 (NH4) on the “trans-Gambian” corridor and constitutes an economic and strategic link between the North and South of the Gambia and Senegal on the Dakar-Lagos Trans-African highway. Given its strategic location within the groundnut basin, the NH4 is vital for the collection and transportation of agricultural produce to major commercial centres. The project comprises: (A) the rehabilitation of the road from Dinguiraye to Keur-Ayib and 6 km of urban roads in Nioro, including environmental protection measures; (B) related works including the rehabilitation of 49 km of feeder roads and basic socioeconomic infrastructure; (C) final design for the rehabilitation of the Tambacounda-Navel section (247 km) of the NH7 and a study on an urban mobility strategy for Kaolack town; and (D) support for project management and monitoring. The project activities will be carried out from June 2014 to June 2018. The project’s total cost, exclusive of taxes and customs duties (ETCD), is estimated at UA 30.2 million.
2. The project area (PA) covers Kaolack Region, with an estimated population of 795,906 inhabitants or 6.2% of Senegal’s population. This project is expected to contribute towards boosting sub-regional trade and opening up rural areas in the country. Specifically, the objective of the project is to facilitate the movement of goods and people along the Dinguiraye-Nioro-KeurAyib road so as to increase trade with the rest of the country and/or sub-region and improve the population's access to basic services.

Needs Assessment

3. Transport infrastructure and services constitute one of the sub-sectors that help to create wealth so as to reduce poverty in Senegal. The sub-sector’s contribution to Gross Domestic Product formation was 4% on average over the 2000-2011 period. The investment of this project is due to the state of the road, which is currently the worst section of the trans-Gambian highway and is thus the corridor’s weakest link today. The project design is based on a detailed study updated in 2013. Besides its contribution to opening up the regions and to sub-regional trade, the project will significantly reduce the poverty incidence, which is extremely high in the PA (61.7 %). Indeed, it will improve the road’s service level while ensuring the population's access to basic services as well as to the agricultural production areas of the PA.

Added Value for the Bank

4. By financing the project, the Bank will be contributing towards the implementation of the priority actions programme of the Senegal Economic Emergence Plan (PSE). The Bank will also consolidate the outputs of previous similar national/multinational operations. The financing of this project is a continuation of the Bank's intervention on the trans-Gambian corridor and will help to consolidate and complete the project to construct the bridge over the River Gambia which is downstream this road and is being financed by the Bank.

Knowledge Management

5. The knowledge acquired from the implementation of similar road projects is reflected in the project design. The technical knowledge acquired by the Executing Agency (particularly as regards the procurement and financial management procedures) from previous and ongoing road projects financed by the Bank and other donors will be used in implementing this project. The project’s monitoring and evaluation mechanism will also enhance knowledge that will be used in the design of future projects. Such knowledge will be disseminated through the Bank’s website, meetings and other information sharing opportunities with the various sector stakeholders.

RESULTS-BASED LOGICAL FRAMEWORK

Country and Project Name – Senegal : Transport Sector Support Project: Rehabilitation of the Dinguiraye-Nioro-Keur Ayib Road
Project Goal: Facilitate the movement of people and goods on the trans-Gambian corridor and improve the living conditions of the population in the project area

RESULTS CHAIN		PERFORMANCE INDICATORS			MOV.	RISKS/MITIGATION MEASURES
		Indicator (including CSI)	Baseline	Target		
IMPACT	Sub-regional trade facilitated and increased, and rural areas opened up countrywide	1. Intra-regional trade / GDP ratio	1. 14.8 In 2011	1. The intra-regional trade / GDP ratio increases to 20 in 2020	<p><u>Source</u> : ECOWAS, UNCTAD, MITTD and Ministry in charge of Trade</p> <p><u>Methods</u> :National (economic and transport) statistics</p>	
		2. Volume of sub-regional trade by road	2. 5.2 million tonnes in 2013;	2. Increase in intra-regional trade by about 10% from 2016 ;		
EFFECTS	<p>1. Traffic conditions and fluidity of movement of people and goods on the Dinguiraye-Keur Ayib road improved.</p> <p>2. Living conditions in the PA improved</p>	1.1 Vehicle Operating Costs (VOC);	1.1 In 2013, VOC= CFAF 10 772 /km ;	1.1 In 2016, VOCs will reduce by 22%, or CFAF 8 387 /km;	<p><u>Source</u>: MITTD, AGEROUTE</p> <p><u>Methods</u>: National statistics, socio-economic surveys conducted</p>	<p><u>Risks</u></p> <p>(i) Early degradation due to non-compliance with axle load</p> <p>(ii) Absence of road maintenance due to lack of resources;</p> <p>(iii) Increase in road accidents ;</p> <p><u>Mitigation measures</u></p> <p>(i) 20-year concession recently signed with a private partner to control axle load on the Senegalese network;</p> <p>(ii) substantial improvement in Road Fund's revenue since its inception in 2009 and covering routine maintenance requirements;</p> <p>(iii) road safety audit, with mitigation measures to maximize road safety included in the final PD/ CBD</p>
		1.2 Average travel time between Dinguiraye and Keur Ayib	1.2 1h20min in 2013	1.2 In 2016, the average travel time will be 45 mn;		
OUTPUTS	<p>1. Sections of paved roads rehabilitated</p> <p>2. Related works undertaken</p> <p>3. Studies conducted</p> <p>4. Financial audits, monitoring and evaluation, and project management support provided</p>	2.1 Rural Access Index (RAI)	2.1 In 2013, the RAI = 29%	2.1. In 2016, the RAI increases to 35%	<p><u>Source</u>: MITTD Reports, AGEROUTE, control and supervision mission reports, PCR</p>	<p><u>Risks</u></p> <p>(i) Delays in project implementation</p> <p>(ii) Increase in cost of works</p> <p>(iii) Non-timely mobilization of counterpart funds</p> <p><u>Mitigation measures</u></p> <p>(i) Capacity building of PMT / close supervision by SNFO</p> <p>(ii) Shorter interval between study and works ; realistic assessment of costs on the basis of unit prices for ongoing contracts and provision for contingencies.</p> <p>(iv) Evidence of inclusion in the State budget of the annual amount earmarked as the national counterpart contribution as a loan condition</p>
		2.2 Mean access index (MAI5BS) to five main basic social services (roads, primary schools, water points, health posts and commercial centres) in Kaolack region	2.2 In 2009, MAI5BS = 400	2.2 In 2016, MAI5BS = 450		
KEY ACTIVITIES	COMPONENTS			RESOURCES		
	<p>A. Road works</p> <p>B. Related works</p> <p>C. Studies (PD, FD, BD, rehabilitation of Tambacounda – Navel section + Study on the urban mobility strategy in Kaolack)</p> <p>E. Project management and monitoring</p>			<p>Component 1 : UA 24.81 million</p> <p>Component 2 : UA 3.76 million</p> <p>Component 3 : UA 0.99 million</p> <p>Component 4 : UA 0.64 million</p>		

Project Implementation Schedule



REPORT AND RECOMMENDATION MANAGEMENT TO THE BOARD OF DIRECTORS ON A PROPOSED LOAN TO THE REPUBLIC OF SENEGAL FOR THE TRANSPORT SECTOR SUPPORT PROJECT: REHABILITATION OF THE DINGUIRAYE-NIORO-KEUR-AYIB ROAD

Management hereby submits the following report and recommendation concerning a proposal to grant a UA 23.77 million loan to the Republic of Senegal as contribution towards the financing of the Transport Sector Support Project: Rehabilitation of the Dinguiraye-Nioro-Keur-Ayib Road.

I. STRATEGIC THRUST AND RATIONALE

1.1 *Project Linkages with Country Strategy and Objectives:* Despite its various past development strategies, Senegal has not yet been able to embark on a sustainable growth process. This underscores the need to consolidate efforts towards achieving the goals of development and reduction of the poverty incidence. Accordingly, the authorities have decided to move from the National Economic and Social Development Strategy (SNDES) to the Senegal Economic Emergence Plan (PSE), which is the new reference framework for economic and social policy in the medium and long-term, and indeed the intervention framework for Senegal's Technical and Financial Partners. It has three major thrusts: (i) structural transformation of the economy and growth; (ii) human capital, social protection and sustainable development; and (iii) Governance, institutions, peace and security. This project is included in the PSE Priority Action Plan (PAP 2014-2018). Details of the country's economic situation are given in Annex A1.

1.2 Given the importance of transport in economic and social development in general, and in supporting productive activities in particular, Senegal places transport at the core of its development strategies, with the formulation of sector policies underpinned by substantial investments in infrastructure and services. Despite increased funding for physical infrastructure, the high cost and low quality of road and rail infrastructure continue to be major obstacles to improving the competitiveness of the economy. The sector still needs to deal with the limited and unevenly distributed national road network, the inadequate supply of urban public transport services, as well as an ageing vehicle fleet and rail and port infrastructure.

1.3 To meet these challenges, the State has developed several transport sector policies (PST1, PST2). Aware of the transport sector's challenges and importance, the Government of Senegal, in its New Transport Sector Policy Letter (LPST3 2010-2015) has adopted a programme consisting in carrying out major works and core projects that will help to develop and modernize the country's transport infrastructure. The LPST3 objectives have social and economic goals. At the economic level, wealth creation is sought through least cost access to national and international markets (improvement of existing corridors, opening of new corridors, and support for the other productive sectors). At the social level, the objective is to ensure better wealth distribution by developing domestic road networks to meet the demand of urban and rural populations in terms of accessibility and mobility and foster inclusive growth. The strategic thrusts of LPST3 are: (i) internal and external access facilities for the country; (ii) better performance of transport services; and (iii) sustainable mobility of goods and people. This project is based on Pillar 1 of the PSE, and is consistent with Thrust 1 of LPST3 which seeks to contribute to the development and modernization of transport infrastructure, given its importance in the economic and social development process in general, and in support for productive activities, in particular.

1.3.1 The pillars of the Bank's CSP (2010-2015) that have been tailored to the country's new priorities are as follows: (i) support for inclusive growth through economic diversification and integration; and (ii) sustainable management of natural resources (including water) and resilience. This project is based on Pillar 1 of the CSP and the first objective (inclusive growth) of the Bank's ten-year strategy (LTS), and seeks to contribute to the development and modernization of transport infrastructure, which is an essential element in Senegal's accelerated growth strategy.

1.3.2 Rationale for Bank Involvement

1.3.3 Transport infrastructure and services constitute one of the sub-sectors that help to create wealth so as to reduce poverty in Senegal. The sub-sector's contribution to Gross Domestic Product formation was 4% on average over the 2000-2011 period, while its contribution to the value added of the tertiary sector was 9% on average from 2000 to 2011. Capital expenditure in the transport sector was mostly in the road sub-sector (90% for 2005-2011), which plays a key role in the mobility of people and goods across the country and in the sub-region. Indeed, it meets over 90% of the travel needs of people and goods. In particular, it is essential for people's access to social services. Its direct contribution to economic and social performance, and its spillover effects on the rest of the national economy, place it at the core of sustainable development strategies in Senegal, such as the Millennium Development Goals (MDGs) and the Senegal Economic Emergence Plan (PSE).

1.3.4 The Dinguiraye-Nioro–Keur Ayib road, which is about 40 km long, is a section of National Highway No. 4 (NH4) on the “trans-Gambian” corridor and constitutes an economic and strategic link between the North and South of the Gambia and Senegal on the Dakar-Lagos Trans-African highway. Given its strategic location within the groundnut basin, the NH4 is vital for the collection and transportation of agricultural produce to major commercial centres. This section is currently the worst section of the trans-Gambian highway and is thus the corridor's weakest link today. Its development will ensure a satisfactory service level and foster trade with the natural region of Casamance and neighboring countries such as Guinea Conakry, Gambia and Guinea Bissau. The project is also part of the Casamance Development Pole Project (PPDC) launched on 17 March 2014, which aims to transform Casamance into a development pole and thus contribute to greater stability.

1.3.5 The Bank's interest in supporting such a project lies primarily in its alignment with the various existing policy frameworks (LTS, CSP, etc.). Its main rationale is that it will meet road transport demand by improving the service level of the road, while ensuring the population's access to agricultural production areas of the PA. The rehabilitation of the road is included in the PSE Priority Action Plan (PAP 2014-2018) of the country and is a continuation of the Bank's intervention on the trans-Gambian corridor. It will, in particular, help to consolidate and complete the project to construct the bridge over the River Gambia, which is downstream this road and is being financed by the Bank.

1.3.6 Donor Coordination

Table 1.1
Donor Coordination

Sector				Importance				
				<i>As % of GDP</i>		<i>As % of Exports</i>		<i>As % of Labour</i>
<i>Years</i>				2012	2012	2011		
<i>Transport & Communications Sector in Senegal</i>				10	11	3		
Stakeholders – Annual Public Expenditure on Senegal’s Transport Sector <i>(averages in CFAF million)</i>								
				<i>Donors</i>				
				<i>AfDB</i>	<i>WB</i>	<i>EU</i>	<i>BOAD</i>	<i>Others</i>
<i>Years</i>		<i>Total</i>	<i>Gov.</i>					
2009-2013	<i>in CFAF</i>	292 351	62 434	27 713	9 170	104 059	22 987	65 988
	<i>in%</i>	100%	21%	9%	3%	36%	8%	23%
Level of Aid Coordination in Senegal								
<i>Existence of thematic working groups</i>						<i>Yes</i>		
<i>Existence of an overall sector programme</i>						<i>No</i>		
<i>AfDB’s role in aid coordination</i>						<i>Member</i>		

1.3.7 Besides the Bank, the main active donors in Senegal’s transport sector are the World Bank, European Union, Millennium Challenge Account (MCA), French Development Agency (AFD), ABEDA, IsDB, BOAD and other bilateral donors. The Bank, through SNFO, is an active member of the Enlarged Group of Technical and Financial Partners (or Group 50) and several thematic groups. In particular, the Bank since 2011 has been Chair or Vice-Chair of four thematic groups. The Bank currently co-chairs the Group of 50 with Belgium. The various development partners maintain continuous dialogue with the Government, to which the Bank is party and where information is shared. As regards road projects, the dialogue has helped to synergize co-financing and complementarity. Within the specific context of this project, consultations have been held between the Bank and Senegal’s road sub-sector donors, who unanimously underscored the strong complementarity of actions proposed by the Bank and expressed their support for the project. There is ongoing reflection on setting up a transport sector thematic group for better coordination of development partner support in the sector.

II. PROJECT DESCRIPTION

2.1 Project Components

The project’s sector goal is to contribute towards boosting sub-regional trade and opening up rural areas. The project’s specific objective is to facilitate the movement of goods and people along the Dinguiraye-Nioro–Keur Ayib road so as to increase trade with the rest of the country and/or sub-region and improve the population’s accessibility to basic services. The project components are summarized in Table 2.1 below

Table 2.1
Summary of Project Components

Components	Cost (ETCD) Million	Estimates in UA	Description of Components
Road Works	24.81		A.1 - Rehabilitation of the main road, including environmental protection measures A.2 - Development / rehabilitation of roads in Nioro A.2 - Inspection and supervision of road works A.4 - Sensitization of PA population
Related Works	3.76		B.1 : (i) Feeder roads; (ii) Rehabilitation of schools; (iii) Construction of health facilities; (iv) Rehabilitation of commercial facilities and transport; (v) Support for women (training, income-generating activities) B.2 - Inspection and supervision of related works
Studies : (i) PD, FD, BD for NH7 (Tamba – Navel section) and (ii) Study on Kaolack’s urban mobility strategy	0.99		(i) The Tambacounda – Navel section on NH7 constitutes an interconnection between corridor Cu2a linking Dakar to Bamako through the north and the Eurafrikan highway (Dakar – Saint Louis – Rosso – Tanger – Madrid). (ii) The study on Kaolack’s urban mobility strategy will provide a diagnosis, identification of challenges and actions to be undertaken, as well as an urban travel plan (study on organization of movement for Kaolack town (about 200 000 inhabitants), which is the regional headquarters.
Project Management and Monitoring	0.64		D.1 – Support for the Project Management Unit D.2 – Project Audit D.3 - Project impacts monitoring and evaluation

2.2 Technical Solutions Adopted and Alternatives Explored

A final design study was conducted on the Dinguiraye-Nioro-Keur Ayib section in 2010, and updated in 2013. The roadway will consist of: (i) a sub-base of an average thickness of 20 cm obtained through *in situ* recycling of the existing pavement plus cement-treated fill material, (ii) a base course of laterite gravel 20 cm in thickness, cement-in situ treated, (iii) a binder course of bitumen gravel 8 cm thick; and (iv) an asphalt concrete surface course 5 cm thick. This solution offer better guarantee of road durability and protection of the pavement against infiltration through the bitumen gravel binder course in this high rainfall area. The technical alternatives explored and the reasons for their rejection are summarized in the table below.

Table 2.2
Alternatives explored and reasons for rejection

Alternative Solution	Brief Description	Reason for Rejection
Base course of pit run materials, without the bitumen gravel binder course	The base course will be composed of pit run materials (20 cm), the sub-base reconstituted by recycling the existing base course + laterite cement fill material (20 cm) and 5 cm concrete bitumen surfacing	(i) Pavement durability deemed insufficient compared to bitumen gravel, especially given the high volume of overloaded heavy vehicle traffic on this section; (ii) Higher works cost due to extremely long distances covered for transportation of pit run materials (Thiès-Nioro ~200 km)
Base course of cement-treated laterite gravel, without the bitumen gravel binder course	The base course will be composed of laterite gravel (20 cm) cement-treated by a mixing plant, the sub-base reconstituted by recycling the existing base course + laterite cement fill material (20 cm) and 5 cm concrete bitumen surfacing	(i) Less pavement durability compared to the bitumen gravel solution, given the high volume of overloaded heavy vehicle traffic on this section; (ii) The project region (Kaolack) does not have paving materials (laterite) with good mechanical characteristics capable of withstanding the heavy traffic on this corridor.

2.3 Project Type

2.3.1 The Dinguiraye-Nioro-Keur Ayib road project is an investment project concerning the rehabilitation of road infrastructure. The proposed financing instrument is a "project loan" from ADF resources, which will be provided to the Government, since Senegal does not yet have a sector budget support mechanism for transport infrastructure projects.

2.4 Project Cost and Financing Arrangements

Cost Estimate

2.4.1 The project cost, exclusive taxes and customs duties (ETCD), is estimated at UA 30.2 million, comprising UA 23.99 million in foreign exchange and UA 6.21 million in local currency. The unit costs of the works have been established taking into account: (i) the results of FD studies finalized in 2010 and updated in 2013; (ii) the unit costs in bids received in 2013 in connection with similar works carried out in the country; (iii) the programming of works procurement for 2014/2015; and (iv) the execution of works scheduled for the 2015-2017 period. The provision for physical contingencies is maintained at 10% of base costs. The provision for contingencies represents 3.5% of the base cost and physical contingencies. The detailed project cost estimate is presented in Annex (B2). These costs are summarized in Table (2.3) below.

Table 2.3
Summary cost estimate by project component

Components	CFAF million			CFAF million		
	FE	LC	Total	FE	LC	Total
A. Road works	12 978.26	3 244.56	16 222.82	17.43	4.36	21.79
B. Related works	1 968.74	492.18	2 460.92	2.64	0.66	3.30
C. Studies	519.13	129.78	648.92	0.70	0.17	0.87
4. Project management and monitoring	224.00	196.00	420.00	0.30	0.27	0.57
Base Cost	15 690.13	4 062.53	19 752.66	21.07	5.46	26.53
Physical contingencies	1 569.01	406.25	1 975.26	2.11	0.54	2.65
Financial contingencies	604.07	156.41	760.48	0.81	0.21	1.02
Total	17 863.21	4 625.19	22 488.40	23.99	6.21	30.20

2.4.2 The project cost by expenditure category is detailed in Annex (B1). It is summarized in Table 2.4 below.

Table 2.4
Summary project cost estimate by expenditure category

Categories	CFAF Million			CFAF Million		
	FE	LC	FE	LC	FE	LC
1. Works	14 006.55	3 501.64	17 508.19	18.81	4.70	23.51
2. Consultancy Services	1 683.58	420.89	2 104.47	2.26	0.57	2.83
3. Miscellaneous	0.00	140.00	140.00	0.00	0.19	0.19
Base Cost	15 690.13	4 062.53	19 752.66	21.07	5.46	26.53
Physical contingencies	1 569.01	406.25	1 975.26	2.11	0.54	2.65
Financial contingencies	604.07	156.41	760.48	0.81	0.21	1.02
Total	17 863.21	4 625.19	22 488.40	23.99	6.21	30.20

Financing Arrangements

2.4.3 The project is financed by the ADF and the Government. The ADF loan, amounting to UA 23.77 million, accounts for 78.7% of the project cost, exclusive of taxes and custom duties. This loan is intended for the partial financing of: (i) the cost of works; (ii) the cost of services relating to works inspection and supervision, sensitization of the population, studies, monitoring and evaluation of project impacts, and the full cost of the auditing of project accounts. The sources of financing by expenditure category and the expenditure schedule by component are detailed in Annex B2.

2.4.4 The Government's contribution, which is 21.3 % of the project cost ETCD, will finance the total operating costs of the Project Implementation Unit (PIU) and part of the cost of works and services, except for the audit of the project accounts which is fully funded by the Bank. *Evidence of inclusion of the annual amount in the State budget as national counterpart contribution is a loan condition (condition Ci).* The sources of financing of the project are presented in Table (2.5) below.

Table 2.5
Sources of Financing of Project Components (UA million)

Source of Financing	Amount	%
ADF	23.77	78.70%
Government	6.43	21.30%
Grand Total	30.2	100.00%

Expenditure Schedule

2.4.5 The expenditure schedule: (i) by source of financing is shown in Table 2.6 (below); and (ii) by project component is in Annex B2.

Table 2.6
Expenditure schedule by source of financing (EUR million)

Sources of financing	2015	2016	2017	TOTAL
ADF	10.70	10.70	2.38	23.77
Government	2.89	2.89	0.64	6.43
Total	13.59	13.59	3.02	30.2
%	45.00%	45.00%	10.00%	100.00%

2.5 Project Area and Beneficiaries

2.5.1 The project area (PA) covers Kaolack Region within which the Dinguiraye-Nioro-Keur Ayib road runs across Nioro du Rip Department from north to south. The population of Kaolack region, estimated in 2010 at 795,906 inhabitants, are the primary beneficiaries of the project. The PA population is unevenly distributed. Indeed, Kaolack Department, within which is located Kaolack the regional capital, is the most populous (50.3% of the population), followed by Nioro du Rip Department (36.6%) and Guinguinéo Department (13.1%). The PA population is predominantly rural, and up to 68.3% of them live in rural communities. Women represent 51.2% of the PA population, as against 48.8% for men. The age structure shows that the PA population is very young. Indeed, people aged below 21 represent 61.2% of the total population, while those aged 60 and above account for only 5.2% of the population.

2.5.2 Agricultural activities take up 75% of the population, who are mainly engaged not only in peanut cultivation, but also the growing of watermelon, cowpea, millet, sorghum, maize, sesame, rice, fonio and vegetable crops. In the second publication of the poverty survey in Senegal conducted in 2011 (ESPS II 2011), the proportion of people living below the poverty line is 61.7% in the PA as against 26.1% in Dakar. The incidence of poverty is generally higher in rural areas than in urban centres. Disparities between the regions are mainly due to limited access to basic infrastructure, particularly transport and health infrastructure.

2.5.3 The main project beneficiaries are agricultural workers who face difficulties obtaining inputs and marketing their products because of the state of the roads. The project will have a positive impact on women and youths by improving their access to socio-economic activities and creating new employment opportunities. The other beneficiaries are manufacturers, loggers, transporters and shippers whose operating and logistic costs will be significantly reduced with the rehabilitation of the road and development of feeder roads. These positive impacts will multiply further with the implementation of the Gambia-Senegal multinational project, which is ongoing and includes the construction of the bridge over the River Gambia and facilitation measures between the two countries, particularly the construction of a juxtaposed checkpoint at the border town of Keur Ayib.

2.6 Participatory Approach during Project Identification, Design and Implementation

2.6.1 The participatory approach was used at all stages of the project. Participatory meetings were held during all phases of project appraisal with the project area population. These plenary information and consultation sessions with the public during preparation and appraisal missions brought together administrative and political authorities, officials of decentralized services and provincial branches of international NGOs, traditional authorities, opinion leaders, traders and vulnerable population segments. Approximately 500 persons, including 30% women, took part in these consultations. During discussions people expressed great dissatisfaction with the poor state of the Dinguiraye–Keur Ayib road which, due to its very advanced state of degradation, is often the main cause of fatal accidents. The people also pointed out that the deplorable state of the road section covered by the project made movement, especially during the rainy season, extremely difficult, hampering economic activities and travel to Kaolack, Dakar, Casamance and the Gambia.

2.6.2 The meetings gave a clearer picture of the scale of poverty among the project beneficiaries and their expectations, as well as called for support measures and actions to resolve the most pressing social problems of the local population. These related works which are designed to enhance the inclusive aspect of the project include the construction of 49 km of rural roads, the construction/rehabilitation of school, health, market and transport infrastructures, as well as support for a vocational training centre for women and women's groups. The participatory process initiated from the studies phase will continue during project implementation.

2.7 Bank Experience and Lessons Reflected in Project Design

2.7.1 The Bank has played a key role in financing the construction and rehabilitation of major road corridors in the WAEMU/ECOWAS zone: Dakar-Bamako via the South (Road Development and Transport Facilitation Programme on the Bamako-Dakar corridor via the South, between Senegal and Mali), and Dakar-Conakry corridor (the Labe-Sériba-Medina Gounass-Tambacounda road development and transport facilitation Programme on the Conakry-Dakar corridor between Guinea and Senegal). From 2000 to 2004, the Bank also financed the rehabilitation of the Diamniadio (town on the outskirts of Dakar)-Mbour-Fatick-Kaolack section, co-financed with the European Union (EU), and under the Road Maintenance Programme (PER) the Kolda-Dabo and Kaolack- Ndoffane-Dinguiraye (part of the trans-Gambian corridor) sections. More recently, in December 2011, the Bank approved funding for Phase I of the Senegal/Gambia multinational project on the trans-Gambian corridor consisting in the construction of the bridge over the River Gambia and improvement of the border crossing by constructing two juxtaposed checkpoints (JCPs). This project is currently ongoing. It should also be noted that in 2009, the Bank financed the Dakar- Diamniadio toll-road project, which helped improve urban mobility and open up the

Dakar urban area. This project is one of the first PPP projects in the road transport sub-sector in the sub-region and is considered a success given its innovative approach and its speedy implementation.

2.7.2 The country's active projects portfolio at the end of February 2014 had 13 ongoing operations, comprising 12 projects and 1 budget support, for total net commitments of UA 227.7 million or CFAF 167.3 billion. The sector breakdown of national projects is as follows: rural sector 38.5%; infrastructure 24%; water and sanitation sector 13.7%; governance 13%; and social sector 10.8%. The public portfolio comprises six (6) multinational projects, amounting to UA 119.1 million. It consists mainly of infrastructure projects, particularly in the transport sub-sector with about 82%, the social sector 10% and the rural sector 8%. The 2013 portfolio review deemed the overall performance of the portfolio satisfactory, with an overall average of 2.6 out of 3. This reflects a slightly positive trend which started 2012, and confirms the rising trend since 2009 (rating 2.0). In general, the Bank-financed operations in the transport sector have been completed and have been relatively well implemented. The main lessons learned from the implementation of projects in the area and taken into account in the project design are: (i) ensure proper review and conduct of FD studies, as well as good quality at project entry; (ii) ensure timeliness in all phases of the project's procurement and implementation processes (Advance Procurement Action used in the project); (iii) conduct audits on schedule; (iv) assess the impact of the Bank's operations in the country's development by including the monitoring and assessment of project impacts.

2.8 Key Performance Indicators

2.8.1 The key indicators identified are those presented in the logical framework with deadlines; they include: (i) intra-regional trade/GDP ratio; (ii) volume of sub-regional trade by road; (iii) ratio of paved inter-State network in good state; (iv) Vehicle Operating Costs (VOC); (v) average travel time between Dinguiraye and Keur Ayib; (vi) Rural Access Index (RAI); and (v) Mean Access Index for five major basic social services (MIA5BS). Besides these indicators, implementation performance indicators will be defined and monitored, in particular: (i) the deadline for fulfillment of the conditions precedent to the first disbursement of the loan; (ii) procurement deadlines; (iii) project implementation deadlines; and (iv) trend of disbursement rate in line with the expenditure schedule.

2.8.2 The lack of an operational monitoring and evaluation system at project start-up often accounts for the difficulties experienced subsequently to assess the level of achievement of the development goals set in the results matrix. Therefore under this project, a monitoring and evaluation mechanism will be put in place to: (i) collect and manage information on the implementation status of the various project components; (ii) establish the baseline for project impact monitoring purposes; and (iii) conduct, at project completion, a project impact assessment following the same methodology as that used to establish the baseline.

III. PROJECT FEASIBILITY

3.1 Economic and Financial Performance

3.1.1 The economic analysis used an HDM 4 model based on the cost-benefit analysis between situations "without" and "with" project over a period of twenty years from the commissioning of the road. It uses a discount rate of 12% and a residual value of 30% based on the development option adopted. The data considered are: (i) the investment cost, exclusive of taxes, for works inspection and supervision, and physical contingencies; and (ii) road sections maintenance costs and vehicle operating costs (VOC), volume of traffic which in 2012 ranged from 668 to 771 vehicles per day depending on the road sections.

The quantifiable economic benefits concern the reduction of overall transport costs (VOC reduced by an average of 22% and travel time reduced by about 40%). Table (3.1) below provides a summary of the economic analysis which is presented in detail in Annex B7.

Table 3.1
Summary Economic Analysis

<i>Economic Rate of Return (ERR) of the project in %</i>	18.4%
<i>Net Present Value (NPV) in CFAF million</i>	10 147
<i>Sensitivity of ERR (Combination of 10% cost increase and 10% reduction in benefits)</i>	16.2%
<i>Discount Rate</i>	12%

3.2 Environmental and Social Impact

Environment

3.2.1 The project was classified in category 2 on 14 November 2013, based on the scope of works and the negative environmental and social impacts identified, which are generally of low to medium significance. The summary Environmental and Social Management Plan (ESMP), prepared on the basis of the ESIA conducted in November 2013 and has been posted on the website of the Bank April 1, 2014. The environmental assessment, which includes an analysis of the gender and social impact of the project, is presented in detail in Annex B8.

3.2.2 The main positive impacts expected are: (i) improved living conditions for the project area population; (ii) improved access to socio-economic infrastructure in the project area; and (iii) improved trade in Senegal and the countries of the sub-region and development of agricultural activities. The main environmental and social impacts of the project concern: (i) the felling of trees and shrubs along the road, deviations and borrow pits and quarry sites, (ii) atmospheric pollution due to dust emissions from heavy vehicles during works; (iii) difficulty of movement and access to certain commercial facilities along the road during construction; (iv) the risks of HIV/AIDS and increase in accidents during the works and operation. These negative impacts can be mitigated by implementing appropriate measures, in particular: (i) environmental best practices for site installation and preparatory works as defined in the environmental and social clauses for the contractor and its sub-contractors; (ii) borrow pits restoration in accordance with good practices and in consultation with the local population; (iii) planting of 2500 street trees involving the communities and landscaping in three built-up areas; (iv) regular information for the local population, road signs, and traffic continuity during the works; and (v) sensitization on HIV/AIDS, environmental protection and road safety. Related works and enhancement measures are also included in the project.

3.2.3 The cost of ESMP measures is estimated at CFAF 2.57 billion comprising: (i) CFAF 353 million for the cost of the measures included in the installation and construction works; (ii) CFAF 2.185 billion for enhancement and social acceptability measures (related works); (iii) CFAF 15 million for capacity building; and (iv) CFAF 9 million for monitoring the ESMP implementation.

3.2.4 AGEROUTE will recruit an Environmental Expert in the Executing Agency. This will help to: (i) improve the quality of ESIA reports for road projects; (ii) improve collaboration with the Ministry responsible for the Environment and ensure stricter compliance with deadlines for reviewing ESIA reports; and (iii) build on AGEROUTE experience in environmental and social management of road projects. The training of at least 30 officers from AGEROUTE and the Ministry in charge of the Environment in environmental protection and AfDB social policies will improve and enhance the mainstreaming of

environmental and social issues into the monitoring of road projects in general, and this road project, in particular.

Climate Change

3.2.5 Climate risks in the project area mainly concern: (i) flooding particularly in the Baobalong; (ii) significant changes in temperature between day and night that can cause cracks due to tension/compression in materials especially those treated with hydraulic binder. Concerning the former risk, there are plans to raise the roadway by at least 50 cm at Baobalong from the current level. Accordingly, the existing works at the Baobalong (culvert and box culverts) will be replaced by culverts with appropriate water sections. As for the latter risk, it will be part of the solution for the roadway structure, especially during implementation, taking into account the time required by the materials to develop resistance.

3.2.6 Regarding emissions of greenhouse gases, such as CO₂, an increase in emissions is expected, due mainly to the increased traffic. However, the net contribution of this road section will be negligible. Furthermore, the traffic fluidity in the current situation will reduce emissions by up to 15%, when the same traffic level between the situation with and without the project is considered. In addition, the planting of street trees and landscaping will contribute towards mitigating the emissions.

3.2.7 Within the PA, the predominance of women is relatively high in Kaolack and Nioro Departments (51.6 % and 51.1% respectively) and lower in Guinguinéo Department with 50.5%. More than 70% of PA women live in rural communities. They are generally young (75% of PA women are aged below 30 years). The illiteracy rate is higher among PA women, with 56.3% as against 36.3% for men. However, girls' education targets in the region are being achieved as their numbers are increasing in elementary education with a percentage of 52 % in 2011. The majority of women live below the poverty line especially in rural areas like the PA. Moreover, the incidence of monetary poverty is 34.7% among people living in households headed by men as against 50.6% among those living in households headed by women. The distribution of employment in the various sectors of economic activity shows that in rural areas, women are engaged mainly in agriculture and livestock as they account for nearly 82.6% of the work as against 79.4% for men.

3.2.8 The project will have a positive impact on the vulnerable PA population, particularly women through: (i) improved accessibility to socio-economic infrastructure, especially health centres. In fact, the health district (Nioro) located within the project area has only 25 health posts for 291,658 inhabitants, including 148,972 women. The road development will enable PA women to reach various PA health facilities, including the Kaolack referral hospital, much faster and under better conditions. Furthermore, the construction of three health posts will cover 25 villages with about 25,000 inhabitants; (ii) increased women's income during the project implementation, and especially during the operating phase, by facilitating the transportation of goods, the supply of inputs, as well as reduction of post-harvest losses. The construction of 49 km of feeder roads and 3 markets will bring producers and consumers closer together, and thereby increase the prices paid to producers, as well as reduce the selling prices to consumers and the number of intermediaries. In addition, the bridge on the River Gambia will facilitate the transportation of produce, increase the prices paid to producers in the PA and reduce the selling prices on the markets in the country; and (iii) further empowerment of women's groups by providing agricultural processing equipment (millet mills, groundnut shellers, etc.) to reduce their work time and drudgery. Such specific support for market gardening, processing and marketing of agricultural produce will enable women to better engage in income-generating activities.

3.2.9 The project will lay special emphasis on combatting gender-based violence in its sensitization modules. These modules will be based on the ongoing Information, Education, and Communication (IEC) activities in Kaolack region, initiated by the Ministry for Women's Advancement. Despite the lack of statistics on the extent of gender-based violence in the PA, the results of the Population and Health Survey show that the proportion of women and men that approve the use of domestic violence is 68% and 25% respectively.

Social and Youth Employment

3.2.10 The Dinguiraye-Nioro-KeurAyib road rehabilitation project will address the problems of accessibility and opening up of the PA in particular, by providing opportunities to make quick trips between Kaolack, the regional capital, and the rest of the country or sub-region, especially the Gambia. The project will create jobs for youths and women in rural and semi-urban areas (200 temporary jobs envisaged) and help curb rural exodus from the PA which has a very high net migration (90,037 for PA against 241,235 for Dakar). Indeed, direct and indirect jobs will be generated during the works and routine maintenance phases through: (i) inclusion of incentives for the use of local labour in the competitive bidding requirements for the works; (ii) taking into account in the procurement arrangements for related works for which the total amount allocated stands at UA 3.42 million, contracts of an amount that would allow national SMEs to participate in the competitive bidding. The project support for the women's technical education centre in Nioro will enable girls and boys not attending school to benefit from short skills training in growth-oriented sectors (agriculture, livestock, industry, building, etc.) so that they can be integrated into the economic fabric.

3.2.11 The education system in the PA is marked by a high proportion of illiterate people (54%) and daaras (Arab Islamic schools). The net enrollment rate for children between 6 and 16 years in the PA is 52.1% as against 54.1% for girls. The net enrollment rate in primary education seems to depend on the level of well-being of the household as it varies from 41% for children from the poorest households to 70% for the richest households. The daaras provide very significant education opportunities in Kaolack region, particularly in Nioro Department which is a highly religious area. In Nioro Department, there are about 695 daaras as against 248 conventional public schools. This Arab and Islamic education in daaras is chosen by a very significant segment of the population who prefer it to the Western style schools for ideological and economic reasons. The rehabilitation of 7 primary schools in the PA will therefore improve the quality of education provided to the pupils. In addition, a component on sensitization on the rights of minors, to eradicate the phenomenon of child beggars, will be included in the IEC activities of the project.

3.2.12 The project will have a positive impact on the health of the population at several levels: (i) the asphaltting of the road will facilitate faster and more comfortable evacuation to the referral health centres in nearby towns for the most serious cases. Pharmacies and other drug depots in the project area will more easily receive supplies; (ii) reduced risks of accidents as a result of the widening and reconstruction of the road. Currently, with the advanced degradation, motorists use only the old shoulders and deviations as roadways, overtaking dangerously and causing many accidents that are often fatal, especially in urban areas. To mitigate the impact that increased traffic on the corridor could have on the spread of HIV/AIDS and other STDs, as well as the increase in road accidents in the area, the project will organize sensitization campaigns on environmental protection, road safety, HIV/AIDS and STDs, and axle load compliance.

Resettlement of displaced people

3.2.13 The project does not provide for involuntary resettlement of people. No involuntary resettlement is expected. The road to be rehabilitated completely follows the alignment of the existing road. The same applies to the Niuro road works.

Road Safety

3.2.14 The cost of road accidents in Senegal is estimated at 1% to 1.5 % of GDP, and although official statistics underestimate the number of accidents and deaths, road safety remains a major challenge. Senegal is party to the World Decade of Action for Road Safety, and has adopted the goal of "*reducing the number of deaths and serious injuries in road accidents by 35% by 2020.*" To that end, a national road safety plan has been developed. It covers the following aspects: (i) management and financing of road safety; (ii) information on accidents/Injury Analysis Bulletin (BAAC); (iii) management of road safety with respect to infrastructure; (iv) information, education, communication and sensitization; (v) technical inspection of vehicles; and (vi) post-accident emergency services.

3.2.15 At the operational level, the Government has taken many measures to reduce the number of roads accidents, in particular: (i) stiffer penalties for violation of traffic regulations in the revised Highway Code; (ii) age limits on imported used vehicles; (iii) introduction of a road safety programme in primary schools; (iv) eligibility of road safety for the Autonomous Road Maintenance Fund (FERA) of Senegal; and (v) construction of a modern vehicle roadworthiness inspection centre. In this project, there is provision for a road safety audit with mitigation measures to maximize road safety in the final FD and final BD.

IV. PROJECT IMPLEMENTATION, MONITORING AND EVALUATION

4.1 Implementation Arrangements

Executing Agency

4.1.1 The technical management of the project is entrusted to the Road Works and Management Agency (AGEROUTE), an agency attached to the Ministry of Infrastructure, Land Transport and Access Improvement responsible for implementing national transport and infrastructure policy. To that end, a Project Management Team (PMT) will be set up within AGEROUTE to manage and control the overall project implementation. To perform its task, the team will comprise the following staff members whose curricula vitae must receive the Bank's prior approval: (i) a Senior Engineer, who will be project coordinator, (ii) a Junior Engineer, specialized in road construction; (iii) an Environmental Specialist; (iv) an Accountant of the Finance Department, and (v) a Procurement Officer of the AGEROUTE Procurement Unit. *Evidence of the appointment of the Project Management Team within the AGEROUTE, whose qualifications and experience have been deemed acceptable by the Bank is a loan condition (Condition Bi).* The specific provisions for implementing the project are presented in Annex B6.

4.1.2 AGEROUTE, through the PMT, will be responsible for the procurement of works and consultancy services. The resources, capacity, expertise and experience of AGEROUTE have been analyzed and found satisfactory to undertake procurement activities required under the project. AGEROUTE has the skilled human resources required for the technical monitoring of the project.

AGEROUTE has, since its inception, satisfactorily monitored and managed road projects in Senegal financed by the Bank, World Bank, EU, BOAD, ABEDA, IsDB, etc. To enhance the capacity of AGEROUTE, the project will train senior staff in various areas including road programming/planning, public-private partnership, and environmental protection procedures in road projects.

Institutional Arrangements

4.1.3 Consulting firms will be recruited to inspect and supervise the rehabilitation works on the main road and related works, sensitize the population of the PA on environmental protection and the fight against STIs, including HIV and AIDS, as well as monitor and evaluate the socio-economic impacts of the project. The consulting firms will prepare: (i) quarterly progress reports; and (ii) reports on sensitization campaigns and monitoring and evaluation reports on the socio-economic impacts of the project.

4.1.4 The Bank's Country Office in Senegal (SNFO) will participate in the project monitoring implementation. It will advise on technical aspects, the procurement procedure, and financial management. This support will be provided in consultation with the Bank services in Tunis.

Procurement

4.1.5 Bank-financed procurements will be made in accordance with the national procedures for national competitive bidding (goods and works) and Decree No. 2011-1048 of 27 July 2011 instituting the Public Procurement Code. This arrangement follows the conclusions of the Country Procurement Assessment Report (CPAR) of Senegal by the Bank in March 2010. The procurements will follow Bank rules and procedures (May 2008 edition, revised in July 2012) and use the standard documents of the Bank for international competitive bidding (goods and works) and competitive bidding on the basis of shortlists (services). The Bank has, by letter dated 18 February 2014, approved the Government's request to use the Advance Procurement Action procedure for: (i) the rehabilitation of the Dinguiraye-Nioro Rip-Keur Ayib road section, including the Nioro road network; (ii) the recruitment of consultants for works inspection and supervision, as well as sensitization of local communities on health issues (HIV/AIDS and Malaria), environmental protection and road safety in the project. AGEROUTE, which is sufficiently experienced in similar projects, has the skills required for implementing the APA. The procurement plan (PP) of the Project was developed for a period of 18 months, in line with the Bank's model. A summary of the procurement arrangements is presented in Annex V, while the details and PP are presented in Annex B5.

Summary Procurement Arrangements

Expenditure Categories under the Project	UA Million			
	Use of PNPM	Use of Bank Rules and Procedures	Contracts not financed by the Bank	Total
1. WORKS				
1.1. Rehabilitation of the Main Road + Niore roads network		23.35 (18.03)		23.35 (18.03)
1.2. Feeder Road Works	2.10 (1.64)			2.10 (1.64)
1.3. Socio-economic infrastructure and Support for Women	1.32 (1.03)			1.32 (1.03)
2. SERVICES				
2.1 Works Inspection and Supervision		1.57 (1.44)		1.57 (1.44)
2.2. Sensitization on the Environment and HIV/AIDS		0.23 (0.21)		0.23 (0.21)
2.3. Monitoring and Evaluation		0.34 (0.31)		0.34 (0.31)
2.4. Technical Studies on NH7		0.76 (0.70)		0.76 (0.70)
2.5. Study on urban mobility strategy in Kaolack		0.23 (0.21)		0.23 (0.21)
2.6. Audit		0.09 (0.09)		0.09 (0.09)
2.7. Training		0.13 (0.11)		0.13 (0.11)
TOTAL	3.42 (2.67)	26.7 (21.10)		30.12 (23.77)

NB: () The figures in brackets concern amounts financed by the ADF

Disbursement

4.1.6 For withdrawal of Bank funds, the direct payment and reimbursement methods will be used. The direct payment method will be given preference. The reimbursement method will be used following the Bank's prior approval for eligible expenditures under the loan. All expenditure support documents will be kept at AGEROUTE and must be easily accessible for inspection or auditing by the Bank's supervision missions, as well as internal and external auditors of the project. The Disbursement Letter will specify any additional instructions and detailed procedures for withdrawal of funds. The Bank reserves the right to take precautionary measures in accordance with the general conditions, to suspend the disbursement of funds if its fiduciary requirements are not met.

Financial Management

4.1.7 An accounting system will be put in place. It will include at least the following modules: budgetary accounting, general accounting and cost accounting. The PMT at AGEROUTE will keep the ledgers and accounts of the project in accordance with the principles of accrual accounting, taking into account development project specificities. For its bookkeeping, the PMT will use the multi-project accounting system put in place by AGEROUTE for Bank-financed road projects. The PMT will ensure that the configuration of the software complies with accounting principles and practices, as well as resource mobilization entry methods recommended by the Bank. It will also ensure that the user financial management staff are properly trained and have a good knowledge of the software.

4.1.8 The financial implementation of the project will be conducted in accordance with the procedures

in force at AGEROUTE. Without being exhaustive, these include budgeting procedures, expenditure execution procedures, and direct payment procedures. The budget implementation statements will be generated from the computerized accounting system of the project. AGEROUTE will be responsible for conducting the necessary checks to ensure: (i) the use of project funds solely for the intended purposes with due consideration for economy and efficiency; (ii) the preparation of accurate, reliable and timely periodic financial reports; and (iii) protection of the project assets. During project implementation, AGEROUTE will ensure inclusion of the project financial operations in its internal audit programme.

4.1.9 To facilitate the mobilization of counterpart funds, the Government has decided to ensure the budgeting of national counterpart resources. Evidence of inclusion of the annual national counterpart contribution in the State budget by the Borrower, in accordance with the annual expenditure schedule, is a loan condition (Condition C.1). The disbursement, financial management and auditing arrangements are specified in Annex B4.

External Audit

4.1.10 The annual financial statements prepared by the PMT, as well as the internal audit system, will be audited by an independent external audit firm on the basis of terms of reference approved by the Bank. The audit reports will be submitted by the PMT to the Bank within six months of the end of the year audited. The audits will be conducted in accordance with International Standards on Auditing (ISA). The audit for the first year will cover the first 18 months, if the first disbursement is made in the second half (after 30 June) of the year. The external audit will be tailored to the specific project risks. The contract of the auditor will be concluded for one year renewable, depending on the quality of services and for a period not exceeding three years.

Implementation and Supervision Schedule

4.1.11 The implementation schedule of the project components is summarized at the beginning of this report. It takes into account, in particular, the relevant experience of the Executing Agency in terms of management of implementation deadlines and that of the Bank in the processing of files for similar previous projects. In accordance with established forecasts, project activities will start upon the loan approval scheduled for the second quarter of 2014 and end in December 2017 for all the components. The closing date of the loan is 30 June 2018. As for the Bank, the activities to be carried out upon the loan approval will be closely monitored in accordance with the schedule in Table 4.1 below.

4.2 Monitoring and Evaluation

4.2.1 AGEROUTE will monitor the implementation of the various project components. As regards monitoring the ESMP implementation, AGEROUTE will be assisted by the Department of the Environment and Classified Establishments (DEEC) and its regional division. A consulting firm will be recruited to monitor and evaluate of the socio-economic impact of the project. This mechanism will help: (i) specify the project's indicators and define a baseline situation for monitoring the project's impact; (ii) conduct impact assessments at project completion. Furthermore, the Works Inspection Mission will produce a video report to document the project impacts on the beneficiaries and PA population.

Table 4.1
Monitoring and Evaluation Schedule

<u>Period</u>	<u>Milestones</u>	<u>Monitoring Activity / Feedback Loop</u>
Q2 to Q4 2014	Approval and effectiveness	Loan Approval General Information Note Signature of the loan agreement AfDB Launching Mission Loan Agreement Effectiveness Waiver of conditions precedent to first disbursement (Bank/GoS)
Q2 2014 to Q3 2015	Procurement procedures	Recruitment of Contractor(s) for works Recruitment for works inspection and supervision Recruitment of firm for accounts audit Recruitment of consultant for project monitoring and evaluation Recruitment of consultant for sensitization
Q1 2015 to Q4 2017	Physical and financial implementation of the project	Works monitoring/supervision (Bank/AGEROUTE)
Q1 2018 to Q2 2018	Project Completion	Joint preparation of the project completion report (Bank/DGI)

4.3 Governance

4.3.1 Senegal’s determination to prioritize good governance has led to the creation of a Ministry responsible for the promotion of good governance. This institutional innovation is primarily aimed at mainstreaming governance and sound economic and financial management issues in all spheres of government intervention in a more systematic and coherent manner. The country ranks 10th among African countries in the 2013 Mo Ibrahim Index of African Governance, improving its ranking by 6 points compared to 2012, and 77th out of 177 countries in the 2013 corruption perception index calculated by Transparency International. The results of the surveys conducted in 2013 by “Réseau Afro Baromètre” (an independent network) show that Senegal has made great strides in combating corruption. It portray a better citizen perception of government’s efforts to curb corruption. Indeed, 63% of respondents in Senegal are of the opinion that anti-corruption tools have become more effective, particularly the procedures for recovery of allegedly ill-gotten property.

4.3.2 As regards institutional reform of the road sub-sector, Senegal in 2007 established a second-generation road fund (FERA) and an autonomous road agency, AGEROUTE. The existence and proper functioning of these institutions helps to ensure good governance in the sector, and recent studies in Africa have shown that road networks in countries with both road funds and road agencies are in better condition than those of countries that do not have them, thanks to adequate and assured budgetary funding, and a competent implementing agency. A recent assessment by the Bank concluded that the procurement procedures in force in Senegal take into account the principles of economy, efficiency and transparency, and can be applied to national competitive bidding for Bank-financed projects in Senegal. In this regard, a letter of agreement was signed on 18 February 2014.

4.4 Sustainability

4.4.1 The project’s sustainability hinges on the quality of works, and appropriate operating and maintenance conditions of the facilities to be provided. Technical studies in the project area identified good quality materials to be used. The technical design solution chosen is appropriate to ensure a normal life, in

terms of the projected traffic, as well as the topographic and climatic conditions. The maintenance of the road (which forms part of the classified network) will be included in the annual maintenance programme of AGEROUTE, which has an operational traffic data base making it possible to: (i) monitor the network status; (ii) have an appropriate road maintenance and rehabilitation planning tool; and (iii) ensure better control of maintenance costs. In addition, the road works (main road and feeder roads) during project implementation will be inspected by a qualified consultant, who will ensure that the structures are of good quality. The inspection will be reinforced by regular monitoring of the works by AGEROUTE through the PMT and its Regional Directorate at Kaolack.

4.4.2 The recurrent costs will concern the road and related feeder roads. As regards the road and related feeder roads (PRC), the Autonomous Road Maintenance Fund (FERA), which has been operational since 2009, will cover their recurrent expenditures. FERA resources include: (i) a budget allocation; (ii) the special tax on petroleum products (TSPP); (iii) direct charges for the operation of the road network; and (iv) support funds, gifts, bequests, and other resources from financing agreements for the road network. FERA revenues have witnessed a substantial increase since 2009, from CFAF 35 billion to 52 billion in 2012. TSPP resources account for up to 50% of this amount. FERA is able to provide funding for all routine maintenance of the national road network estimated at CFAF 40 billion. Given the cumulative road maintenance deficit, the Government of Senegal still relies on financial support from development partners for the rehabilitation of roads. A study on the diversification and identification of new funding sources for FERA is underway to enable it to finance routine and periodic maintenance of the entire network.

4.4.3 One of the main causes of road degradation and high maintenance costs is the non-compliance with axle load, which puts enormous pressure on the roads. To resolve this problem, a 20-year concession was signed with a private partner (“Groupement Afrique Pesage SEIB”) in February 2012 for the financing, construction, equipment and management of fixed and mobile weighing stations for controlling load on the Senegalese network through a private investment of about CFAF 8 billion. Since the introduction of this mechanism, there has been a decrease in offences and overload averages, showing progress in this area, but requiring close monitoring to confirm this trend. In the case of this project and to ensure sustainability, the authorities have confirmed that after rehabilitation, the project road form part of the pilot priority roads to receive a standard Service Level Maintenance Management (GENiS) contract. As regards maintenance of the related feeder roads, the project will build on the arrangements put in place under the Community Roads Project (PPC/PNDL) financed by the Bank, which allows municipalities to finance the maintenance of feeder roads under their jurisdiction through a FERA mechanism for the financing component.

4.5 Risk Management

4.5.1 *The* main risks identified at this stage of project appraisal are: (a) As regards risk related to the achievement of project impacts: (i) early degradation due to non-compliance with axle load requirements; (ii) lack of road maintenance due to inadequate resources; and (iii) increase in the number of road accidents. These risks will be mitigated by: (i) the recently signed 20-year concession with a private partner for financing the construction, equipment and management of fixed and mobile weighing stations and for axle load control on the Senegalese network; (ii) substantial improvement in Road Fund revenues since its inception in 2009, covering routine maintenance needs; (iii) the conduct of a road safety audit with mitigation measures that will be taken into account in the FD and final BD to maximize the "road safety" dimension in the project. As regards the project-related risks: (i) delays in project implementation; (ii) increase in the cost of the works; and (iii) delays in the mobilization of counterpart funds. These risks will

be mitigated by: (i) strengthening the capacity of the PMT and ensuring close supervision by SNFO; and (ii) ensuring shorter intervals between studies and works; realistic assessment of costs on the basis of unit prices for ongoing contracts and provision for contingencies; and (iii) inclusion of the annual national counterpart contribution in the State budget as a loan condition, which will ensure availability of the funds.

4.6 Knowledge Building

4.6.1 Knowledge building falls within institutional strengthening for the department in charge of Infrastructure. Thanks to previous interventions, AGEROUTE has acquired much knowledge of the Bank's procedures for the procurement of works, goods and services. This knowledge will be reinforced during the project, with SNFO assistance, by specific training sessions organized for the Executing Agency. The project monitoring and evaluation will also help to consolidate the knowledge to be used in the design of future projects.

V. LEGAL FRAMEWORK

5.1 Financing Instrument

A loan agreement will be signed between the Republic of Senegal (the Borrower) on the one hand, and the African Development Fund ("ADF"), on the other.

5.2 Conditions for the Fund's Intervention

A. Conditions precedent to effectiveness

Effectiveness of the loan agreement shall be subject to fulfillment, by the Borrower, of the conditions specified in Section 12.01 of the General Conditions Applicable to Loan and Guarantee Agreements of the African Development Fund (Sovereign Entities).

B. Conditions precedent to First Disbursement of the Loan Resources

In addition to effectiveness of this Agreement, the first disbursement of the loan resources shall be subject to fulfillment, by the Borrower and to the satisfaction of the Bank, of the following condition:

- (i) *Provide evidence of the establishment of the Project Management Team in AGEROUTE, the qualifications and experience of whose members shall require prior approval by the Bank (paragraph 4.1.1);*

C. Other conditions

The Borrower shall, to the satisfaction of the Bank:

Provide, not later than 30 April each year, evidence of inclusion of the annual national counterpart contribution in the Finance Law for the relevant financial year; (paragraph 2.4.3).

Undertakings. The Borrower undertakes to:

- (i) *Implement the project and have it implemented by its contractors in accordance with: (a) the rules and procedures of the Fund; (b) the national laws; and (c) the recommendations, requirements and procedures contained in the Environmental and Social Management Plan (ESMP) of the Project; and*
- (ii) *Submit half-yearly reports on the ESMP implementation, including any flaws and corrective measures taken or to be taken.*

5.3 Compliance with Bank Policies

The project complies with the Bank's policy on expenditures eligible for Bank financing and with the Bank's Ten-year Strategy (2013-2022). The project is also consistent with Senegal's CSP.

VI. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

6.1.1 *The Transport Sector Support Project:* The Dinguiraye-Nioro–Keur Ayib road is a section of the Trans-Gambian corridor and as such forms part of Senegal's primary priority network. Its rehabilitation will contribute to boosting sub-regional trade and opening up rural areas. Specifically, the project will help: (i) reduce overall transport costs; (ii) boost trade with the rest of the country and/or the sub-region; (iii) improve access to basic social services, as well as to production and marketing centres; and (iv) increase opportunities for commercial activities. This project will consolidate the financing already provided by the Bank for the project to construct the Bridge on the River Gambia.

6.2 Recommendations

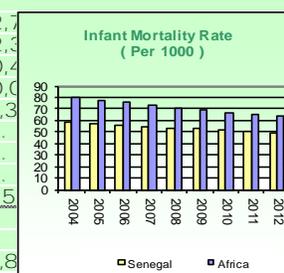
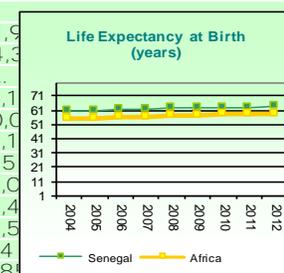
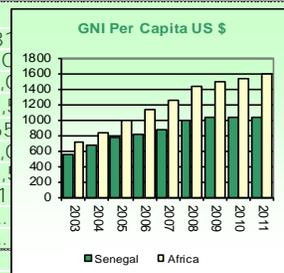
6.2.1 *In light of the foregoing,* it is recommended that an ADF loan not exceeding UA 23.77 million be granted to the Republic of Senegal to finance the project as described above and under the terms and conditions set forth in this report.

COMPARATIVE SOCIO-ECONOMIC INDICATORS OF SENEGAL

Senegal

COMPARATIVE SOCIO-ECONOMIC INDICATORS

	Year	Senegal	Africa	Developing Countries	Developed Countries
Basic Indicators					
Area ('000 Km ²)	2011	197	30 323	98 458	35 811
Total Population (millions)	2012	13,7	1 070,1	0,0	0,0
Urban Population (% of Total)	2012	42,8	40,8	47,1	78,0
Population Density (per Km ²)	2012	64,9	34,5	69,8	23,5
GNI per Capita (US \$)	2012	1 040	1 604	3 795	37 651
Labor Force Participation - Total (%)	2012	40,5	37,8	68,7	72,0
Labor Force Participation - Female (%)	2012	43,9	42,5	38,9	44,5
Gender -Related Development Index Value	2007-2011	0,457	0,525	0,694	0,911
Human Develop. Index (Rank among 187 countries)	2008-2012	154
Popul. Living Below \$ 1.25 a Day (%)	2009-2011	29,6	40,0	20,6	...
Demographic Indicators					
Population Growth Rate - Total (%)	2012	2,9	2,3	1,3	0,3
Population Growth Rate - Urban (%)	2012	3,6	3,4	2,6	0,7
Population < 15 years (%)	2012	43,5	40,0	28,5	16,4
Population >= 65 years (%)	2012	3,0	3,6	6,0	16,6
Dependency Ratio (%)	2012	84,3	77,3	52,6	49,1
Sex Ratio (per 100 female)	2012	96,1	100,0	103,3	94,5
Female Population 15-49 years (% of Total)	2012	24,4	49,8	53,3	45,6
Life Expectancy at Birth - Total (years)	2012	63,3	58,1	68,2	77,7
Life Expectancy at Birth - Female (years)	2012	64,7	59,1	70,1	81,1
Crude Birth Rate (per 1,000)	2012	38,1	33,3	21,4	11,3
Crude Death Rate (per 1,000)	2012	7,7	10,9	7,6	10,3
Infant Mortality Rate (per 1,000)	2012	49,6	71,4	40,9	5,6
Child Mortality Rate (per 1,000)	2012	74,3	111,3	57,7	6,7
Total Fertility Rate (per woman)	2012	5,0	4,2	2,6	1,7
Maternal Mortality Rate (per 100,000)	2006-2010	370,0	415,3	240,0	16,0
Women Using Contraception (%)	2012	13,9	34,5	62,4	71,4
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2004-2010	5,9	49,2	103,7	291,9
Nurses (per 100,000 people)*	2004-2009	42,0	133,0	168,7	734,3
Births attended by Trained Health Personnel (%)	2006-2010	65,1	53,7	64,3	...
Access to Safe Water (% of Population)	2011	73,4	67,8	86,5	99,1
Access to Health Services (% of Population)	2000	90,0	65,2	80,0	100,0
Access to Sanitation (% of Population)	2011	51,4	40,2	56,8	96,1
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2011	0,7	4,6	0,9	0,5
Incidence of Tuberculosis (per 100,000)	2011	136,0	234,6	146,0	23,0
Child Immunization Against Tuberculosis (%)	2011	95,0	81,6	83,9	95,4
Child Immunization Against Measles (%)	2011	82,0	76,5	83,7	93,5
Underweight Children (% of children under 5)	2006-2011	19,2	19,8	17,0	1,4
Daily Calorie Supply per Capita (kg of wheat equivalent)	2009	2 479	2 481	2 675	3 281
Public Expenditure on Health (as % of GDP)	2010-2011	3,5	5,9	2,9	7,4
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2009-2012	86,2	107,0	107,8	102,7
Primary School - Female	2009-2012	89,0	103,1	106,2	102,3
Secondary School - Total	2009-2012	42,1	46,3	66,4	100,4
Secondary School - Female	2009-2012	40,3	41,9	65,1	100,0
Primary School Female Teaching Staff	2009-2012	30,6	39,2	58,6	81,3
Adult literacy Rate - Total (%)	2009	49,7	71,5	80,2	...
Adult literacy Rate - Male (%)	2009	61,8	78,4	85,9	...
Adult literacy Rate - Female (%)	2009	38,7	64,9	74,8	...
Percentage of GDP Spent on Education	2008-2010	5,6	5,3	4,5	5,5
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2011	20,0	7,6	10,7	10,8
Annual Rate of Deforestation (%)	2000-2009	0,7	0,6	0,4	-0,2
Forest (As % of Land Area)	2011	43,8	23,0	28,7	40,4
Per Capita CO2 Emissions (metric tons)	2009	0,4	1,2	3,0	11,6



Sources : AfDB Statistics Department Databases; World Bank: World Development Indicators;

last update : october 2013

UNAIDS; UNSD; WHO, UNICEF, WRI, UNDP; Country Reports.

Note : n.a. : Not Applicable ; ... : Data Not Available.

Table of Bank Portfolio in Senegal

Sector / Operation		Approval Date	Amount Approved (UA m.)	Amount Disbursed (UA m.)	Disbursement Rate (%)	Closing Date
RURAL/AGRICULTURE						
1	• Support for small-scale irrigation (PAPIL II)	26-Jan.-11	8.40	6.03	71.81	31-Dec.-14
2	• Support for Casamance development (PADERCA)	19-Oct.-05	20.00	15.78	78.91	19-Dec.-14
3	• Community Roads Project to support the National Local Development Programme (PPC/PNDL)	17-Jul.-13	15.00	0.00	0.00	31-Dec.-18
4	• Guiers Lake Restoration Project (PREFELAC) - ADF - GEF	4-Sept.-13	15.00	0.00	0.00	31-Dec.-18
		4-Sept.-13	0.85	0.00	0.00	31-Dec.-18
5	• Food security Support for Louga Matam Kaffrine - ADF - GAFSP	26-Apr.-13	2.00	0.00	0.00	31-Dec.-18
		26-Apr.-13	26.06	0.00	0.00	31-Dec.-18
Sub-total / Average			87.85	21.81	24.82	
INFRASTRUCTURE						
6	• Rural Electrification	13-Oct.-04	9.58	3.68	38.42	31-oct.-15
7	• Dakar-Diamniadio Motorway	15-Jul.-09	45.00	43.59	96.86	31-Dec.-14
Sub-total / Average			54.58	47.27	86.60	
WATER AND SANITATION						
8	• Rural DWSS Programme (PEPAM II)	18-Feb.-09	30.00	21.81	72.70	31-Dec-14
9	• Collection, Management & Drainage of Sludge in Ziguinchor (AWF)	23-Apr.-13	1.11	0.00	0.00	31-Dec-15
Sub-total / Average			31.12	21.81	70.25	
SOCIAL						
10	• Youth and Women's Employment Promotion Support Project (PAPEJF)	23-Oct.-13	21.19	0.00	0.00	31-Dec-18
11	• Virtual University of Senegal Support Project (PAUVS)	19-Dec.-13	3.38	0.00	0.00	31-Dec-18
Sub-total / Average			24.57	-	0	
GOVERNANCE						
12	• Inclusive Growth and Economic Competitiveness Support Programme (PACICE)	19-Jun-13	25.54	25.54	100.00	31-Dec.-14
13	• Private Sector Promotion Support Project (PAPSP)	10-Sept.-12	4.04	0.61	15.11	30-Jun-16
Sub-total / Average			29.58	26.15	88.4	
TOTAL / AVERAGE			227.7	117.04	51.5	

Key Related Projects Financed by the Bank and Other Development Partners in Senegal

<i>DONORS</i>	<i>PROJECTS</i>	<i>INVESTMENT AMOUNT (CFAF Million)</i>
ABEDA	Development of the Blouf Loop Thionk Essyl - Balingor section	5 700
BOAD	Development and asphaltting of the Tivaouane - Touba Toul -Khombole road (about 37 km)	8 000
IsDB	Construction of the Linguère - Matam road, Bula - Ranérou - Patouki section (55km)	16 000
Kuwait Fund	Construction of the Linguère - Matam road, Patouki - Ourossogui section (46 km)	13 000
ABEDA	Construction of Fanaye and La Gêole bridges	8 170
BOAD	The Gambia Bridge construction project	45 000
IsDB	Construction of three (3) bridges at Matam	9 000
Kuwait Fund	Construction and development of the VDN section 3 Golf - Tivaoune Peulh section including access ramp at Tivaoune Peulh village.	32 000
World Bank	Rehabilitation of NH1 between Rufisque and Bargny 2X2 road	4 600
EDF	Development of Vélingara - Badiara road	6 847
AfDB	Emile Badiane bridge	7 837
MCA	Rehabilitation of Richard toll - Ndioum section (about 120 km) on the NH2 in Saint Louis Region	27 000
World Bank	Greater Niaye restoration works between Rufisque and Lompoul LOT1 , LOT2 and Lot3	14 700
World Bank	Greater Niaye restoration works between Rufisque and Lompoul LOT 2 + LOT 3	8 100
MCA	Rehabilitation of NH6: Kolda - Vélingara Section	30 000
MCA	Rehabilitation of the Kolda bridge	5 000
MCA	Rehabilitation of NH6 : Tanaff - Kolda section	24 000
MCA	Rehabilitation of NH6 : Ziguinchor - Tanaff section	45 000
BOAD	Development of heavy vehicles parking area at Tambacounda	500
AfDB/WAEMU	Construction of juxtaposed checkpoint at Boundou Fourdou	2 800
AfDB/WAEMU	Construction of juxtaposed checkpoint at Musala	5 600
Austria	Construction of the Kédougou bridge	3 000
AfDB	Development of the Medina - Gounass city bypass	2 400
BOAD	Rehabilitation of the Tambacounda -Dialacoto road	15 000

Site Plan of Project Road



