

**AFRICAN DEVELOPMENT FUND**

**ZZZ/PTTR/2000/01**

**Language: English**

**Original: French**



**APPRAISAL REPORT**

**KANKAN-KOUREMALE-BAMAKO ROAD**

**MULTINATIONAL GUINEA-MALI**

**COUNTRY DEPARTMENT  
WEST REGION**

**OCDW  
JANUARY 1999**

## TABLE OF CONTENTS

	<u>Page</u>
<u>PROJECT INFORMATION BRIEF, EQUIVALENTS, ACRONYMS AND ABBREVIATIONS,</u>	
<u>LIST OF ANNEXES AND TABLES, BASIC DATA, PROJECT LOGICAL FRAMEWORK,</u>	
<u>ANALYTICAL SUMMARY</u>	i-ix
1 INTRODUCTION .....	1
1.1 Project Genesis and Background.....	1
1.2 Performance of Similar Projects.....	2
2 THE TRANSPORT SECTOR .....	3
2.1 The Transport Sector in the Two Countries .....	3
2.2 Transport Policy, Planning and Coordination .....	4
2.3 Transport Sector Constraints .....	4
3 THE ROAD SUB-SECTOR .....	5
3.1 The Road Network .....	5
3.2 The Automobile Fleet and Traffic.....	5
3.3 The Road Transport Industry.....	6
3.4 Road Network Administration and Staff Training.....	6
3.5 Road Maintenance .....	7
3.6 Road Investment and Maintenance Financing .....	8
3.7 The Road Construction Industry .....	8
3.8 Road Sub-Sector Constraints .....	8
4 THE PROJECT .....	9
4.1 Design and Formulation .....	9
4.2 Project Impact Area and Beneficiaries .....	10
4.3 Strategic Context .....	12
4.4 Project Objectives .....	12
4.5 Project Description.....	13
4.6 Environmental Impacts.....	14
4.7 Social Impact.....	16
4.8 Project Cost Estimates.....	17
4.9 Sources of Finance and Expenditure Schedule .....	19
5 PROJECT IMPLEMENTATION .....	23
5.1 Executing Agencies .....	23
5.2 Institutional Provisions.....	23
5.3 Implementation and Supervision Schedules.....	23
5.4 Procurement of Goods, Works and Services.....	25
5.5 Disbursement Provisions.....	26
5.6 Monitoring and Evaluation.....	27
5.7 Audit Reports .....	27
5.8 Coordination with Other Donors.....	27

## TABLE OF CONTENTS (cont'd)

6	PROJECT SUSTAINABILITY AND RISKS.....	28
6.1	Recurrent Costs .....	28
6.2	Project Sustainability.....	28
6.3	Major Risks and Mitigating Measures .....	28
7	PROJECT BENEFITS .....	29
7.1	Generalities.....	29
7.2	Economic Analysis.....	30
7.3	Economic Rate of Return and Sensitivity Test .....	31
8	CONCLUSIONS AND RECOMMENDATIONS.....	31
8.1	Conclusions .....	31
8.2	Recommendations .....	31
	NAME OF THE ROAD: KANKAN-KOURÉMALÉ SECTION .....	1
	NAME OF THE ROAD: ENTIRE KANKAN-BAMAKO ROAD .....	3

---

This report was prepared by Messrs. B. ASKOFARE (Civil Engineer), M. LEKE (Transport Economist) and M. MBODJ (Transport Economist) following their appraisal mission in May 1997 and various Bank missions to the two countries in 1998 and in March and November 1999, of which an environmental update mission conducted by Mr. M. TRAORE (Environmentalist). Messrs. G.E. GNIKPINGO (Economist), T. GUEZODJE (Economist) also contributed to the report. Mr. H. KAMOUN (Ext. 4115) is the Division Manager in charge.

**AFRICAN DEVELOPMENT FUND**

01 B.P. 1387 ABIDJAN 01

Tel.: 20-20-44-44

FAX: (225) 20 32 77 53

TELEX: 23717

**PROJECT INFORMATION BRIEF**

Date:

The information given hereunder is intended to provide some guidance to prospective suppliers, contractors and consultants and other persons interested in the procurement of goods and services for projects approved by the Boards of Directors of the Bank Group. More detailed information may be obtained from the executing agency of the borrower.

1. **COUNTRY AND PROJECT NAME** : Multinational Guinea/Mali -  
Kankan-Kouremale-Bamako Road Project
2. **LOCATION** : Guinea : Haute Guinée Region  
Mali : Koulikoro Region
3. **BORROWERS** : Republic of Guinea  
Republic of Mali
4. **EXECUTING AGENCIES** : Ministry of Public Works and Transport,  
National Directorate of Public Works  
Infrastructure,  
BP 581 Conakry/Guinea  
Fax (224) 41-40-74  
  
Ministry of Land Use Planning,  
Environment and Urbanization, National  
Directorate of Road Investments, B.P.1758,  
Bamako/Mali  
Fax (223) 22-40-96
5. **PROJECT DESCRIPTION**

The project comprises the following components:

- A **Kankan-Kouremale Section**
  - A.1 Construction of a 217 km tarred road;
  - A.2 Construction of two bridges across the Tinkisso and the Niger;
  - A.3 Environmental measures;
  - A.4 Works monitoring and supervision;
  - A.5 Project audit;
  - A.6 DNIR capacity building.

- B     Kouremale-Bamako Section
- B.1   Construction of a 127 km tarred road;
- B.2   Environmental measures;
- B.3   Works monitoring and supervision;
- B.4   Project audit;
- B.5   DNTP capacity building.
6.     TOTAL COST                             :     UA 101.57 million
- i)   Foreign exchange cost                 :     UA 84.75 million
- ii)  Local currency cost                  :     UA 16.82 million
7.     ADF LOAN
- To Guinea                                 :     UA 10.36 million
- To Mali                                    :     UA 13.64 million
8.     OTHER SOURCES OF FINANCE
- BOAD                                     :     UA 5.60 million
- EDF                                       :     UA 42.28 million
- IDB, ABEDA, KFW                         :     UA 24.19 million
- Government of Guinea                   :     UA 3.25 million
- Government of Mali                     :     UA 2.26 million
9.     LOAN APPROVAL DATE                 :     April 2000
10.    PROBABLE DATE OF PROJECT
- START-UP/DURATION                     :     April 2001/38 months
11.    WORKS PROCUREMENT                :     International competitive bidding for ADF-funded works. Bidding dossiers will be prepared using standard Bank format or another acceptable to the Institution.
12.    CONSULTANCY SERVICES             :     Consultancy services are required for works monitoring/supervision and project audit. Consultants to provide these services will be selected following competitive bidding on the basis of a short list.
- 
- UA 1        =     SDR 1
- UA 1        =     FG 1649.89
- UA 1        =     FCFA 889.786
- UA 1        =     US \$ 1.36963

**EQUIVALENTS, ACRONYMS AND ABBREVIATIONS****Currency Equivalents**  
(December 1999)

UA 1	=	FG 1 649.89
UA 1	=	FCFA 889.786
UA 1	=	US \$ 1.36963

**Budget Year in Guinea****Budget Year in Mali**

1 January – 31 December

**Weights and Measures**

1 kilogramme (kg)	=	2.205 lbs
1 metre (m)	=	3.29 feet (ft)
1 kilometre (km)	=	0.621 mile
1 square kilometre (km <sup>2</sup> )	=	0.3861 sq. mile
1 hectare (ha)	=	2.471 acres

**Acronyms and Abbreviations**

ABEDA	=	Arab Bank for Economic Development in Africa
ADB	=	African Development Bank
ADF	=	African Development Fund
BSD	=	Strategy and Development Agency (Bureau de Stratégie et de Développement)
CBG	=	Guinea Bauxite Corporation (Compagnie des Bauxites de Guinée)
DAF	=	Directorate of Administration and Finance
DEP	=	Directorate of Studies and Planning
DETT	=	Division of Engineering Studies and Works
DNIR	=	National Directorate of Road Investments
DNTP	=	National Directorate of Public Works
DRTP	=	Regional Directorate of Public Works
ECOWAS	=	Economic Community of West African States
EDF	=	European Development Fund
EIA	=	Environmental Impact Assessment
ESAF	=	Enhanced Structural Adjustment Facility
FCFA	=	Franc de la Communauté Financière d'Afrique
GDP	=	Gross Domestic Product
IDA	=	International Development Association
IDB	=	Islamic Development Bank
IERR	=	Internal Economic Rate of Return
IMF	=	International Monetary Fund

**Acronyms and Abbreviations (cont'd)**

KDF	=	Kuwait Development Fund
KfW	=	Kreditanstalt für Wiederaufbau
LNBTP	=	National Building and Public Works Laboratory (Laboratoire national du bâtiment et des travaux publics)
MEATEU	=	Ministry of Infrastructure, Land Use, Environment and Urbanization
MTPT	=	Ministry of Public Works and Transport
ONCFG	=	Guinea Railway Authority (Office National des Chemins de Fer de Guinée)
PAC	=	Conakry Port Authority (Port Autonome de Conakry)
PIA	=	Project Impact Area
PIP	=	Public Investment Programme
SDR	=	Special Drawing Rights
SME	=	Small and Medium-scale Enterprises
TAF	=	Technical Assistance Fund
TSP	=	Transport Sector Project
VPD	=	Vehicles Per Day
WADB	=	West African Development Bank

**LIST OF ANNEXES**

<u>Heading</u>	<u>Number of Pages</u>
1. Map of the Project Area	1
2. Organization Chart of the Project Executing Agencies	1
3. Project Expenditure Categories, Estimated List of Goods and Services and Detailed Cost of the Capacity Building Component	3
4. Project Implementation Schedule	1
5. Average Normal Traffic by Vehicle Category	1
6. Summary of Project Economic Analysis	4
7. List of Documents Used	1

**List of Tables**

<u>HEADING</u>	<u>Page</u>
4.1 Summary Project Cost Estimates by Component	17
4.2 Summary ADF Project Cost Estimate by Component	18
4.3 Summary of Project Cost by Expenditure Category	19
4.4 Cost Summary ADF Project by Expenditure Category	19
4.5 Project Sources of Finance	19
4.6 ADF Project Sources of Finance	20
4.7 Project Expenditure Schedule by Component	21
4.8 ADF Project Expenditure Schedule by Component	22
4.9 Project Expenditure Schedule by Source of Finance	22
4.10 ADF Project Expenditure Schedule by Source of Finance	22
5.1 Estimated Supervision Schedule	25
5.2 Provisions relating to the Procurement of Works and Services	25

**MULTINATIONAL: GUINEA/MALI**  
**Kankan-Kouremale-Bamako Road Project**  
**Project Logical Framework**

Start-up Date                      April 2000  
 Completion Date                April 2004  
 Design Team                       Messrs. M.L.B. ASKOFARE, OCDW.6, M. LEKE, OCDW.6, M. MBODJ, OCDW.6

DESCRIPTIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS/RISKS																																																																				
<b>1. <u>SECTORAL OBJECTIVE</u></b> 1.1. Opening up of Guinea's North-East and Mali's South-West regions with a view to greater sub-regional integration and diversification of Mali's external links	1.1. Increase of trade in local products within the PIA 1.2. At least 20% of Mali's overseas trade transits through the Conakry port	1.1. Economic and agricultural statistics 1.2. Import/export and transport statistics																																																																					
<b>2. <u>PROJECT OBJECTIVES</u></b> 2.1. Create a permanent road link between Kankan and Bamako in order to reduce transport cost and promote economic activity in the PIA	2.1. Elimination of layover time for crossing the Tinkisso and Niger rivers from 2005 2.2. More than 15% increase in traffic from 2005 2.3. 25% reduction in the vehicle operation cost on the Bamako-Kankan section from 2005 2.4. Increase in trade in the PIA	2.1. Economic statistics 2.2. Traffic count and surveys 2.3. Agricultural statistics	2.1. Pursuit of regional integration action 2.2. Implementation of correct transport policies 2.3. Performance and security at the Conakry Port																																																																				
<b>3. <u>RESULTS</u></b> <b>A) Kankan – Kouremale Section</b> 3.1. Bridge in pre-stressed concrete across the Tinkisso and Niger rivers; 3.2. 7 m wide tarred road 3.3. Strengthen DNIR capacity; 3.4. Environment improved through reforestation  <b>B) Kouremale-Bamako Section</b> 3.5. 7 m wide tarred road over 127 km 3.6. Strengthen DNTP capacity 3.7. Environment improved through reforestation	3.1. 245 m and 490 m of bridge built across the Tinkisso and Niger, respectively, by July 2004 3.2. 217 km of road meeting ICTNAR and ECOWAS standards built by July 2004 3.3. DNIR provided with computer equipment and logistics 3.4. Trees replanted at least every ten metres along the road by December 2004.  3.5. 127 km of road meeting ECOWAS and ICTNAR standards, of which 87 km under the ADF component, built by July 2004 3.6. DNTP computerized and at least 15 staff trained in general and road computing by July 2003 3.7. Trees replanted every ten metres along the road by December 2004	3.1. Project progress, supervision, audit and completion reports 3.2. Same as 3.1 3.3. Same as 3.1 3.4. Consultant contract and records of equipment delivery 3.5. Same as 3.1	3.1. Implementation of the development projects planned for in the PIA 3.2. Set up an autonomous and functional road fund in Mali and Guinea 3.3. Regulation of road barriers																																																																				
<b>4. <u>ACTIVITIES/COMPONENTS</u></b> <b><u>ADF Component</u></b> 4.1. Recruitment of consultants for the supervision of bridge and road works on the Narena-Bamako section, and audit 4.2. Implementation and follow-up of environmental measures 4.3. Works implementation 4.4. Works monitoring and supervision 4.5. Project audit 4.6. Procurement of equipment for the DNTP and staff training <b><u>Other Donors' Components</u></b> 4.7. Selection of firms and consultants according to donors' procedures 4.8. Works implementation and monitoring 4.9. Implementation of environmental measures 4.10. Recruitment of consultants and procurement of vehicles and support equipment for the DNIR	<b>4. <u>INFLOW/RESOURCES</u></b> <b><u>Expenditure Category (in UA million)</u></b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>F.E.</u></th> <th style="text-align: center;"><u>L.C.</u></th> <th style="text-align: center;"><u>Total</u></th> </tr> </thead> <tbody> <tr> <td>A. Bridges</td> <td style="text-align: right;">8.07</td> <td style="text-align: right;">1.42</td> <td style="text-align: right;">9.49</td> </tr> <tr> <td>B. Road works</td> <td style="text-align: right;">62.31</td> <td style="text-align: right;">11.00</td> <td style="text-align: right;">73.31</td> </tr> <tr> <td>C. Env. measures</td> <td></td> <td style="text-align: right;">1.36</td> <td style="text-align: right;">1.36</td> </tr> <tr> <td>D Fol.-up and super.</td> <td style="text-align: right;">4.47</td> <td style="text-align: right;">0.50</td> <td style="text-align: right;">4.97</td> </tr> <tr> <td>E Audit</td> <td style="text-align: right;">0.13</td> <td style="text-align: right;">0.02</td> <td style="text-align: right;">0.15</td> </tr> <tr> <td>F. Capacity build.</td> <td style="text-align: right;">0.31</td> <td style="text-align: right;">0.03</td> <td style="text-align: right;">0.34</td> </tr> <tr> <td>G Unallocated</td> <td style="text-align: right;"><u>9.45</u></td> <td style="text-align: right;"><u>2.51</u></td> <td style="text-align: right;"><u>11.96</u></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">84.75</td> <td style="text-align: right;">16.82</td> <td style="text-align: right;">101.57</td> </tr> </tbody> </table> <b><u>Sources of Finance (in UA million)</u></b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>F.E.</u></th> <th style="text-align: center;"><u>L.C.</u></th> <th style="text-align: center;"><u>Total</u></th> </tr> </thead> <tbody> <tr> <td>ADF</td> <td style="text-align: right;">23.16</td> <td style="text-align: right;">0.84</td> <td style="text-align: right;">24.00</td> </tr> <tr> <td>BOAD</td> <td style="text-align: right;">4.27</td> <td style="text-align: right;">1.33</td> <td style="text-align: right;">5.60</td> </tr> <tr> <td>EDF</td> <td style="text-align: right;">35.77</td> <td style="text-align: right;">6.50</td> <td style="text-align: right;">42.28</td> </tr> <tr> <td>ABEDA</td> <td style="text-align: right;">21.54</td> <td style="text-align: right;">2.65</td> <td style="text-align: right;">24.19</td> </tr> <tr> <td>Gov. of Guin.</td> <td></td> <td style="text-align: right;">3.25</td> <td style="text-align: right;">3.25</td> </tr> <tr> <td>Gov. of Mali</td> <td></td> <td style="text-align: right;"><u>2.26</u></td> <td style="text-align: right;"><u>2.26</u></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">84.75</td> <td style="text-align: right;">16.82</td> <td style="text-align: right;">101.57</td> </tr> </tbody> </table> <b><u>Human Resources</u></b> Joint Technical Committee, DNIR and DNTP staff, environmental departments, consultants for supervision, audit and technical assistance for the DNIR, ADF and other donors' supervision mission		<u>F.E.</u>	<u>L.C.</u>	<u>Total</u>	A. Bridges	8.07	1.42	9.49	B. Road works	62.31	11.00	73.31	C. Env. measures		1.36	1.36	D Fol.-up and super.	4.47	0.50	4.97	E Audit	0.13	0.02	0.15	F. Capacity build.	0.31	0.03	0.34	G Unallocated	<u>9.45</u>	<u>2.51</u>	<u>11.96</u>	Total	84.75	16.82	101.57		<u>F.E.</u>	<u>L.C.</u>	<u>Total</u>	ADF	23.16	0.84	24.00	BOAD	4.27	1.33	5.60	EDF	35.77	6.50	42.28	ABEDA	21.54	2.65	24.19	Gov. of Guin.		3.25	3.25	Gov. of Mali		<u>2.26</u>	<u>2.26</u>	Total	84.75	16.82	101.57	4.1. Contracts signed 4.2. Estimates at appraisal 4.3. Project accounting 4.4. Disbursement records 4.5. Loan and grant agreements  4.6. Meeting records	4.1. Coordination of implementation of project components 4.2. Coordination of project donors 4.3. Respect of plans 4.4. Effective follow-up by the ADF of services of consultants and executing agencies 4.5. Availability of all required financing 4.6. Mobilization and availability of counterpart contribution of both Governments according to the disbursement profile 4.7. Effectiveness of the DNIR, the DNTP and the Joint Committee
	<u>F.E.</u>	<u>L.C.</u>	<u>Total</u>																																																																				
A. Bridges	8.07	1.42	9.49																																																																				
B. Road works	62.31	11.00	73.31																																																																				
C. Env. measures		1.36	1.36																																																																				
D Fol.-up and super.	4.47	0.50	4.97																																																																				
E Audit	0.13	0.02	0.15																																																																				
F. Capacity build.	0.31	0.03	0.34																																																																				
G Unallocated	<u>9.45</u>	<u>2.51</u>	<u>11.96</u>																																																																				
Total	84.75	16.82	101.57																																																																				
	<u>F.E.</u>	<u>L.C.</u>	<u>Total</u>																																																																				
ADF	23.16	0.84	24.00																																																																				
BOAD	4.27	1.33	5.60																																																																				
EDF	35.77	6.50	42.28																																																																				
ABEDA	21.54	2.65	24.19																																																																				
Gov. of Guin.		3.25	3.25																																																																				
Gov. of Mali		<u>2.26</u>	<u>2.26</u>																																																																				
Total	84.75	16.82	101.57																																																																				



## **PROJECT SUMMARY**

### **1. Project Genesis and Background**

1.1 Since independence, Guinea and Mali have demonstrated a common desire to establish a permanent link between both countries with a view to developing and enhancing their economic integration. In that regard, comparative studies were carried out on the two possible links via Bougouni or Kouremale. Contacted to finance the feasibility and detailed studies thereof, the ADF in December 1992 extended to both Governments a grant of UA 2.20 million. The studies were completed, the final reports prepared in 1997 and updated end 1998.

1.2 Following a request from both Governments for assistance in mobilizing the financial resources necessary for implementing the road project, the Bank in April 1997 organized a donors' conference at its Headquarters in Abidjan. The meeting revealed donors' interest in the project, subsequently confirmed by a second donors' round table on the project in February 1998 at Conakry and meetings alongside the Annual Meetings of the Bank in 1998 and those of the IDB in 1999.

1.3 In the wake of the first donors' round table, the Bank in May 1997 sent a project appraisal mission to the two countries. The ensuing results were subsequently negotiated and translated in November 1997. However, due to non-availability of ADF-VII resources, the project could not be presented to the ADF Board. The project was updated in December 1999 following several Bank missions to both countries, of which an environmental impact assessment in March 1999 to assist the two executing agencies to finalize detailed compensation plans.

1.4 Classified under Category I, the project was subjected to an environmental impact assessment (EIA), a summary of which was forwarded to the Board of Directors in July 1997. Written questions raised by Executive Directors were answered in May 1999 following an environmental appraisal mission to the two countries in March 1999. The said mission noted that the results of the EIA were still valid since, from the bio-physical, socio-economic and institutional perspectives, the project area had witnessed no significant environmental changes. In contrast, the cost of mitigating measures had increased due to the inflation-related indexing of the compensation amount to be paid to people dislodged by the project.

1.5 The appraisal project was prepared on the basis of: (i) socio-economic, engineering and environmental studies; (ii) various project preparatory reports and documents; (iii) information gathered during discussions conducted by the appraisal mission with the relevant authorities and departments; (iv) recent information on the transport sector in both countries; and (v) aide-memoires and preparatory documents on project appraisal by other donors and co-financiers.

1.6 Regarding project co-financiers, the financing agreements with the EDF (national and regional programme) were signed in 1999. The WADB, in joint financing with the Bank, approved its loan in 1998. Arab donors (ABEDA, IDB and Kuwait Fund) endorsed their contribution to project financing in June-July 1999.

1.7 Against the background of Bank Group strategy in the two countries, the Kankan-Kouremale-Bamako multinational road project fits in with the strategy that promotes rural development and access, human resource development and strengthening of economic integration among member countries. Details on Bank Group strategy in Guinea and Mali are given in the country strategy papers.

## **2. Loan Proposal**

The UA 24 million ADF loan to Guinea and Mali, accounting for 23.63% of the total project cost, will finance 23.33% of the foreign exchange (UA 84.75 million) and 4.99% of the local currency cost (UA 16.82 million), respectively.

## **3. Project Sectoral and Specific Objectives**

The sectoral objective of the project is to open up Guinea's North-East and Mali's South-West regions to improve sub-regional integration and diversify Mali's interchange with the outside world. Specifically, the project aims at guaranteeing the sustainability of road links between Guinea's and Mali's economic and administrative centres, thus reducing transport cost and promoting economic activities in the project impact area.

## **4. Project Implementation**

To attain the above objectives, the project will permit the following:

- (i) 317 km of tarred road of which 2/3 on Guinean soil, according to ECOWAS standard (10 m platform, 7 m wide pavement, 2 shoulders each 1.5 m wide). Special facilities will be built at intersections and entrance to population centres;
- (ii) 2 bridges in pre-stressed concrete over the Niger (490 m long) and Tinkisso (245 m) in Guinea;
- (iii) Measures to mitigate harmful environmental impact;
- (iv) Strengthen the capacity of the executing agencies (DNIR and DNTP).

## **5. Project Cost**

5.1 The estimated total project cost, excluding taxes and customs duties, amounts to UA 101.57 million, of which UA 84.75 million in foreign exchange and UA 16.82 million in local currency. The estimated cost of ADF-proposed components stands at UA 33.05 million, including UA 27.51 million and UA 5.54 million in foreign exchange and local currency, respectively. Physical contingencies are estimated at 6% of the base cost. Provision for inflation applied to the "works" and "works supervision" components amounts to 8.17%, corresponding to an annual inflation of 2.5% for foreign exchange costs and 5% for local currency costs.

5.2 The project base costs were arrived at following a detailed study conducted by experienced consultants. The base cost of road works, including the construction of 80 hydraulic structures and monitoring of same, stands at UA 77.63 million or FCFA 69 billion, corresponding to a unit cost of FCFA 200 million per km – very much acceptable compared with similar works in the sub-region (dense-graded bituminous mix structure with a number of hydraulic structures far higher than the average, and the need in Guinean territory to use earth-fill to raise the pavement above water).

## 6. Sources of Finance

6.1 The project comprising the following six (6) batches will be financed by the ADF, the WADB, the EDF, the Arab Funds (IDB, ABEDA and Kuwait Fund), and the Governments of Guinea and Mali.

### Kankan-Kouremale Section

- (i) Batch 1 : Kankan-Niger Section (EDF and Guinea);
- (ii) Batch 2: Bridges across the Niger and the Tinkisso (ADF and Guinea) ;
- (iii) Batch 3 : Niger- Sigui-Doko Section (Arab Funds and Guinea) ;
- (iv) Batch 4 : Doko - Kouremale Section (EDF and Guinea).

### Kouremale-Bamako Section

- (v) Batch 1 : Bamako - Point Y- Narena (EDF and Mali) ;
- (vi) Batch 2 : Narena – Kouremale (ADF, WADB and Mali).

6.2 ADF participation will finance the following expenditure categories: (i) bridges in Guinea, (ii) road works in Mali, (iii) works monitoring and supervision in Mali and Guinea; (iv) project audit and; (v) DNTP capacity building in Mali. ADF contribution to the project represents 23.60% of the total project cost and will cover 27.33% and 4.99% of the foreign exchange and local currency costs, respectively. Its participation in financing the local currency cost (UA 0.84 million) amounts to 0.28% of the contribution of the Fund and the two Governments to total project financing.

6.3 The WADB/ADF joint financing will fund the Mali road works component. The EDF will finance the road works, works monitoring and supervision components in Mali and Guinea. The three Arab donors will jointly contribute UA 24.19 million to works in Guinean territory. Hence, ABEDA (UA 6.16 million) will finance the “road works” and “DNIR capacity building” components, while the IDB (UA 7.04 million) and the Kuwait Fund (UA 10.99 million) will finance the “road works” and “works monitoring” components.

6.4 The contribution of the Government of Guinea (UA 32.5 million) represents 3.20% of the total project cost, and will go into financing the “environmental measures” component on Guinean territory, part of the cost of road works and the “DNIR capacity building” component. Concerning components financed by the ADF in Guinea, that country’s contribution (UA 1.28 million) accounts for 11% of ADF and Guinean Government contribution, and will finance the environmental measures and part of the cost of the “bridge works” component.

6.5 The contribution of the Government of Mali (UA 2.26 million) represents 2.20% of the total project cost, and will go into financing the “environmental measures” component on Malian territory, part of the cost of road works and the “DNTP capacity building” component. Concerning components financed by the ADF in Mali, that country’s contribution (UA 2.18 million) accounts for 13.78% of ADF and Malian Government contribution, and will fund the environmental measures and part of the cost of the “road works” and “DNTP capacity building” components.

## **7. Project Implementation**

7.1 The implementation phase will run from May 2001 to July 2004, that is to say nearly 38 months from the works start-up notification date. Each country will be directly responsible for implementing works in the project section on its territory. Hence, the DNIR will monitoring the project on Guinean territory, and the DNTP on Malian territory.

7.2 However, to oversee general project coordination, a Joint Technical Committee set up during project studies and comprising the DNIR and DNTP Directors, a representative of the Ministry of Planning (Guinea) and the Ministry of Public Works and Transport (Mali) will be reactivated and extended to incorporate Directors in charge of the environment in both countries. Furthermore, a team comprising at least two DNIR engineers, two DNTP engineers and a staff from the Directorate of Environment of each country will be permanently assigned to monitor all project batches. The team will work in close collaboration with the consultants responsible for works monitoring and supervision.

## **8. Conclusions and Recommendations**

### **8.1 Conclusions**

8.1.1 The Kankan-Kouremale-Bamako road is very important to the economic and social development of Guinea's North-West and Mali's South-East regions, and in that capacity is a tool for sub-regional integration. Moreover, the road will provide Mali with an alternative link with the outside world at more economical conditions than existing ones, as well as strengthen economic relations between the two countries.

8.1.2 The project was subject to all necessary engineering and economic studies, resulting in a technically feasible design. The studies undertaken also highlighted the environmental impacts and set out the adequate accommodating measures.

8.1.3 In view of the economic rate of return ranging from 13.30 and 19.70% (depending on the sections considered), unquantified but significant economic benefits of which the increase and revaluation of agricultural products that should lead to poverty reduction in the impact area and the favourable impact on regional integration, the project is economically viable. Given all the measures taken to protect the environment, the project will have no telling negative impact. Indeed, positive impacts will be recorded at the social level, e.g. traffic improvement in the project area, facilitating the people's access to administrative and health centres.

### **8.2 Recommendations**

In the light of the foregoing, it is recommended that the Governments of Guinea and Mali be granted an ADF loan not exceeding UA 10.36 million and UA 13.64 million, respectively, to implement the project as designed and described in this appraisal report. The ADF loans to the two countries shall be subject to the conditions set forth in the loan agreements.

## **1. INTRODUCTION**

### **1.1 Project Genesis and Background**

1.1.1 Guinea and Mali, both West African countries, share a common border. The first a coastal nation and the second a land-locked Sahelian country, both have historical, social and commercial ties that go far back in time. Besides, their membership in sub-regional economic organizations (e.g. ECOWAS) reflects their political willingness to attain common economic integration.

1.1.2 The two contiguous regions (Guinea's North-East and Mali's South-East) that the road services and that constitute the project's impact area cover 25 000 km<sup>2</sup>, with a population of nearly 1 130 000. Although the area has a high agricultural, pastoral and mining potential, it is landlocked owing to the inadequate facilities on the only existing road section. The said road axis is also of primordial importance to Mali since it offers alternatives links with the outside world through the Conakry Port 980 km away – the closest port to Bamako compared with those of Dakar and Abidjan (nearly 1 200 km).

1.1.3 Right from independence, Guinea and Mali showed a common desire to establish a permanent road link between the two countries in order to develop and strengthen their mutual economic integration. In that connection, comparative studies were carried out on two possibilities (via Bougouni or Kouremale). In 1991, the sixth meeting of the Joint Technical Committee on public works and transport held in Bamako opted for the Kouremale link. Contacted to finance the related studies, the ADF in December 1992 granted the two Governments a UA 2.20 million grant. The studies were completed and the final reports prepared in 1997 and updated end 1998.

1.1.4 Following a request from the two Governments to assist them in mobilizing the financial resources to implement the road project, the Bank in April 1997 organized a donors' conference at its headquarters in Abidjan during which donors reiterated their interest in the project. That interest was confirmed during the second donors' round table on the project in February 1998 in Conakry and meetings alongside the Bank's and IDB's annual meetings in 1998 and 1999, respectively.

1.1.5 After the first donors' round table, the Bank in May 1997 sent an appraisal mission to the two countries. The ensuing reports were subsequently negotiated and translated in November 1997. However, due to the non-availability of ADF-VII resources for multinational projects, the project could not be presented to the ADF Board. The report was updated in the wake of several Bank missions (1998, May and November 1999) to both countries, of which an environmental appraisal mission to enable the two executing agencies to finalize detailed compensation packages.

1.1.6 Classified under Category I, the project was subjected to an environmental impact assessment (EIA), a summary of which was forwarded to the Board of Directors in July 1997. Written questions from Executive Directors concerning the compensation and resettlement plans, the capacity of the executing agencies to provide environmental monitoring and measures taken to prevent the deterioration of the Mandingo Mountains in the wake of the projected increase in tourism were answered in May 1999 following an environmental appraisal mission to the two countries in March 1999. The said mission noted that the results of the EIA were still valid since, from the bio-physical, socio-economic and institutional perspectives, the project area had witnessed no significant environmental changes. In contrast, the cost of mitigating measures had increased due to the inflation-related indexing of the compensation amount to be paid to people dislodged by the project.

1.1.7 The project appraisal was based on: (i) socio-economic, engineering and environmental studies; (ii) various project preparatory reports and documents; (iii) information gathered during discussions between the appraisal mission and the relevant authorities and departments; (iv) recent information on the transport sector in both countries; and (v) aide-memoires and preparatory documents for project appraisal by other donors and co-financiers.

1.1.8 The status of fund mobilization for project financing is as follows: financing agreements with the EDF (national and regional programme) were signed in 1999; the loan for the WADB/ADF joint financing was approved in 1998; the Arab Funds (ABEDA, IDB and Kuwait Fund) endorsed their contributions in June/July 1999.

1.1.9 Against the background of Bank Group strategy in the two countries, the Kankan-Kouremale-Bamako multinational road project fits in with the strategy that promotes rural development and access, human resource development and strengthening of economic integration among member countries. Details on Bank Group strategy in Guinea and Mali are given in the country strategy papers.

## **1.2 Performance of Similar Projects**

1.2.1 So far, Bank Group operations in the transport sector in Guinea permitted the financing of five (5) operations, all completed. In Mali, seven (7) operations have been funded, of which four (4) completed and three (3) underway. Completion reports were prepared on three (3) of the operations completed in both countries.

1.2.2 Generally, implementation of transport sector projects in the two countries is smooth. All completed projects attained their objectives and were executed within the estimated budgets. These projects have had a considerable impact on the national economies, among which the Conakry Port Project which provides Guinea and Mali with modern and specialized port facilities (an oil terminal, a container terminal); the international road project linking Bamako and Abidjan via Bougouni and the Conakry-Mamou-Khouroussa-Kankan road project (which will serve as the initial section of the project under discussion) have already opened up Guinea's Central and Eastern regions. Excluding the two ongoing or nearly completed projects in Mali, cross-cutting issues, especially environment-related, were not specifically discussed. For the express road, the project had a drainage and tree-planting component.

1.2.3 However, some of the projects encountered difficulties due to delays in procurement procedures, entry into force of loans and availability of the counterpart contribution. The experience that the executing agencies accumulated as well as seminars that the Bank organized on the rules of procedure on procurement and disbursement have, in recent years, brought about significant improvements in project management and administration. However, the two countries' authorities remain conscious of the need to strengthen the training of project officers and managers. Management activities often form an integral part of investment programmes. Furthermore, for most projects funded by donors in the particularly undulating and rainy Northern Guinea, experience has led to the adoption of a coating material structure instead of surface dressing, with a view to reducing surface disintegration during vehicle starting or braking under the effect of runoff water.

## **2. THE TRANSPORT SECTOR**

### **2.1 The Transport Sector in the Two Countries**

#### Background

2.1.1 With an area of 246 000 km<sup>2</sup> and a 350 km seaboard, Guinea has a diversified transport system comprising road, rail, maritime, river and air. While playing its supporting role to various economic sectors, the system also contributes significantly to the country's gross domestic product (GDP), accounting for an annual average of nearly 6%. Opening to neighbouring countries, especially for a landlocked country like Mali, constitutes one of Government's priority policies, requiring the strengthening of the performance of the Conakry Port and development of access corridors to the port to attract a significant portion of Mali's trade with the outside world.

2.1.2 Mali, country without a seaboard, has a transport system comprising land (road and rail), river and air, all of which contribute an average of more than 5% of the gross domestic product. The country's major socio-economic centres are spread over a vast territory of 1 250 000 km<sup>2</sup>, more than 1 000 km from ports in neighbouring countries. Hence, one of the Government's priorities is the diversification of access to the sea for the country's external trade.

#### Road Transport

2.1.3 In Guinea, road transport carries most of the country's internal movements (95% of the traffic). The sector has a 13 620 km network, of which nearly 12% is paved. The vehicle fleet is estimated at 108 000 and an average age of ten years.

2.1.4 In Mali, road transport also dominates since on average it handles 64% and more than 80% of the goods and passenger traffic, respectively. The network covers 14 776 km, of which 18% paved. The vehicle fleet is estimated at more than 76 000, most of them very old.

#### Rail Transport

2.1.5 Guinea's current operating rail network comprises three lines totalling 386 km directly managed by the country's bauxite mining companies. On average, the private lines carry 10 million tonnes of bauxite and 500 000 tonnes of alumina.

2.1.6 In Mali, the 643 km railway generally transports the country's imports and exports from the Dakar Port, in addition to opening up the Kayes, Mahina, Kita, Kasoro and Koulikoro regions. Traffic handled by the Mali Railway Authority (Régie du Chemin de Fer du Mali, RCFM) in the past five years ranges from 242 million to 275 million tonne kilometres for goods and between 180 millions and 254 million passenger kilometres for passengers. Imports and exports contribute 90% of the goods traffic volume, while local traffic represents nearly 85% of total passenger traffic. Managed by the RCFM, the lines are not run satisfactorily. The privatization of operations (lease) of the Dakar-Bamako corridor is underway, and related bids were invited in 1999. Lessor selection should be made in the course of this year.

## Maritime and River Transport

2.1.7 With a 350 km seaboard in deep waters, the Conakry Port (the main commercial port) and the Kamsar Port (the largest mineral port), maritime transport is a major link in the Guinean transport system. The Conakry Port which is the country's interface with the outside world, handles 95% of Guinea's imports and exports, excluding ore. The Kamsar Port, specially built to transport bauxite from Boke, handles more than 9 million tonnes of that mineral on yearly average. In the medium term, Guinea plans to make the Conakry Port a fulcrum of cooperation with Mali. Several initiatives have been taken in that connection, especially the putting at Mali's disposal of a section of the port for foreign trade, the coordinated financing of the Kankan-Kouremale-Bamako road which is a major section of the external access corridor for Mali, and the ongoing third Conakry Port expansion studies funded by German cooperation.

2.1.8 Guinea's river transport (between Kansar and Conakry) is still in its infancy. In Mali, river transport has lost some of its importance to road transport, and traffic has fallen sharply by almost half.

## Air Transport

2.1.9 Guinea has an international airport (Conakry-G'Bessia) in good condition, 11 certified aerodromes and three air strips serving mining companies. Mali has several aerodromes of which two ranked international (Bamako and Gao), accessible to aircraft of various categories. Several foreign airlines service the Conakry and Bamako international airports. General traffic amounts to 220 000 passengers and 110 000 tonnes of freight yearly in Guinea, and about 323 990 passengers and 118 000 tonnes of freight in Mali. Most of the traffic (88%) is international.

## **2.2 Transport Policy, Planning and Coordination**

2.2.1 The transport sector policy in force in both countries falls within the general liberal economic framework, open to the rest of the world. Hence, since the end of the eighties, the authorities have been hard at work to restructure the sector and gradually liberalize transport activities, with a view to increasing and consolidating performance of the major sub-sectors of the transport system. In that connection, the two Governments set forth a strategy to rehabilitate infrastructure, modernize the networks, open up regions, reform institutions, restructure parastatals, promote the private sector, improve infrastructure cost recovery, strengthen administrative efficiency, maintain transport infrastructure and strengthen economic relations with countries of the sub-region in general and between the two countries in particular.

2.2.2 The ministries in charge of public works and transport in both countries are responsible for the planning, coordination and implementation of transport policies, with the assistance of national directorates set up to administer various sub-sectors. The ministries responsible for rural development and urbanization handle all matters related to part of the rural and the urban road network.

## **2.3 Transport Sector Constraints**

2.3.1 Apart from constraints specific to the road sub-sector in the two countries which will be discussed in Chapter Three, the transport system suffers from: (i) inadequate modal integration; (ii) inefficient operation of international transport corridors (inadequate inter-state links, complicated customs procedures, frequent road blocks); (iii) non-restructuring of air transport through a reform of the system in the sub-region and of the airport management system, especially Bamako's; and (iv) dysfunction of the Conakry Port due to congestion, the proliferation of maritime auxiliaries, the debt burden and high fees.

2.3.2 The Government of Guinea recently adopted a sectoral policy paper that sets out the appropriate strategies to overcome these constraints. Mali has already surmounted such constraints



(doing so was among the conditionalities to fulfill in connection with the TSP). Thus, concerning the free movement of persons and goods, the two countries abolished visas and entry permits for ECOWAS citizens, instituted the ECOWAS travel certificate, introduced the brown card for vehicle insurance, set up a committee to monitor the free movement of persons and goods and designed the national transit operations guarantee. In addition, Mali has put in place such harmonized customs documents as certificates of origin, customs nomenclature, customs declaration and the Inter-State Road Transit (ISRT) procedures booklet. Regarding the reduction of congestion at the Conakry Port, a study covering both technical and institutional issues and funded by German Cooperation is underway. In addition, the Conakry Port will put an area at Mali's disposal to facilitate its external trade.

### **3. THE ROAD SUB-SECTOR**

#### **3.1 The Road Network**

3.1.1 In 1998, Guinea had a classified road network of 13 595 km, comprising 1 959 km of national paved roads, 4 866 km of national earth roads and 6 770 km of regional roads. There are also 5 620 km of unclassified tracks. In view of the country's dense hydrography, the road network is dotted with works: 1 946 concrete bridges, 39 metallic bridges and 29 ferries. The state of the network improved gradually over the 1989-1999 period thanks to several donor-funded operations, including the ADF that participated in financing three projects. As at end 1998, the network status ranged from "good" (32%) to "satisfactory" (13%) to "bad" (55%), the latter due to inadequate maintenance.

3.1.2 In Mali, the linear road network amounts to 14 776 km (1998), comprising 2 569 km of tarred roads, 1 597 km of earth roads and 10 610 km of tracks. As at end 1998, the network status ranged from "good" (5%) to "bad" (57%). The generally poor state of the network is due to inadequate maintenance. Rapid intervention (ongoing within the framework of the transport sector programme, with the ADF participating) is necessary to avoid its collapse in the short-term. A road data bank was set up to improve knowledge of the network.

#### **3.2 The Automobile Fleet and Traffic**

##### The Automobile Fleet

3.2.1 According to 1998 data available at both countries' Ministries of Transport, Guinea's automobile fleet is estimated at 108 000 and Mali's at 76 000, excluding motorcycles. The fleet has grown rapidly (more than 13% yearly), thanks to the trade liberalization policy implemented in both countries from the mid-eighties and importation of several used cars. Under such conditions, the average age of the fleet is high (more than 10 years).

##### Road Traffic

3.2.2 In recent years, the national road networks of both countries carried an estimated annual average of 3.52 billion passenger kilometres, of which 1.27 billion passenger kilometres in Guinea and 2.25 billion passenger-kilometres in Mali. In terms of freight, nearly two billion tonne-kilometres are recorded yearly, evenly split per country. The traffic volume in the countries varies depending on the area and the road service level. Hence, the paved inter-urban networks carry nearly 80% of the traffic. The proportion of heavy vehicles using the tarred network ranges from 18 to 25% of the inter-urban traffic. The road monitoring system put in place somewhat permits the reduction of overload and, by extension, the risk of early deterioration of the wearing course.

3.2.3 Regarding the general status of the network (rated fair) and the relative obsolescence of the fleet, it seems that the conditions for transporting persons and goods in both countries are far from optimum. However, a net improvement is expected on completion of various rehabilitation programmes and scheduled maintenance of the priority networks initiated in recent years or under preparation.

### **3.3 The Road Transport Industry**

3.3.1 Since the eighties, the organization of road transport in both countries has changed significantly, leading to the end of inter-urban goods transport monopolies and the full liberalization of urban transport, among other things. The sector's open and competitive markets are therefore run by atomized and artisanal private transporters.

3.3.2 There is free access to the profession and fares are deregulated. In order to defend their interest and protect their profession, professional transporters have formed national trade unions or regional transporter cooperatives. However, a degree of anarchy reigns, stoked by informal transporters.

### **3.4 Road Network Administration and Staff Training**

#### **Road Network Administration**

3.4.1 The primary road network is administered by the Ministry of Public Works and Transport (Ministère des travaux publics et des transports, MTPT) and the Ministry of Infrastructure, Land Use, Environment and Urbanization (Ministère de l'Équipement, de l'Aménagement du Territoire, de l'Environnement et de l'Urbanisme, MEATEU) in Guinea and Mali, respectively. These Ministries are assisted by the national and regional technical directorates, namely the National Directorate of Road Investment (Direction nationale des Investissements routiers, DNIR) and the National Directorate of Road Maintenance (Direction nationale de l'entretien routier, DNER) in Guinea, and the National Directorate of Public Works (Direction nationale des travaux publics, DNTP) in Mali.

3.4.2 The DNIR is responsible for road works standardization, programming, study and implementation. It comprises three technical divisions, of which the Road Projects Technical Monitoring Division (Division de contrôle technique des projets routiers, DCTPR). The DNER is in charge of all operations in connection with the programming and implementation of road maintenance works, within the framework of gradual privatization of such works. It comprises two central technical divisions and two regional road maintenance offices.

3.4.3 The DNTP is in charge of designing, planning and monitoring construction and infrastructure maintenance programmes. Reorganized in 1990, it comprises: (i) the General Studies and Programming Division (Division des Etudes Générales et de la Programmation, DEGP), responsible for preparing annual programmes; (ii) the Technical Studies and Works Division (Division des Etudes Techniques et des Travaux, DETT), responsible for monitoring projects (studies and works); (iii) the Road Strengthening Department (Service de Renforcement des Routes, SRR), responsible for scheduled maintenance; and (iv) the regional directorates, in charge of road maintenance in the regions.

#### **Staff Training and Skills Improvement**

3.4.4 One of the set objectives of various sectoral programmes in recent years in both countries (4<sup>th</sup> Road Project in Guinea and the TSP in Mali) is to strengthen capacity in the planning, programming, administration and management of road sub-sector directorates. Such capacity building falls within

the framework of the two Governments to assign the implementation and supervision of road maintenance works to private operators. In that regard, the mission of road directorates in Guinea and Mali has been refocused, making it necessary to strengthen the capacity of these directorates in terms of sub-sector planning, programming and administration.

3.4.5 Guinea has no training centre for public works staff. The National Institute of Arts and Crafts (Ecole nationale des arts et métiers) in Conakry mostly provides theoretical training to staff. Within the framework of various projects, the EDF and the World Bank funded appropriate training modules in management and road maintenance with the support of specialized trainers. However, owing to constant changes in the field, skills improvement needs remain and should be addressed to enable road departments to effectively play their new role.

3.4.6 For Mali, the MEATEU Public Works Development Centre (Centre de Perfectionnement des Travaux Publics, CFTP) is in charge of providing refresher and skills improvement training to public works staff. With road maintenance now redirected to private operators, the centre will also provide training for private sector workers. It received financing within the TSP framework in connection with technical assistance, scholarships abroad, local and foreign teaching staff. Activities related to the component aim at improving the supervision and motivation of road network staff, as well as training workers in firms and SMEs involved in construction and infrastructure maintenance. However, all needs were not covered, particularly those connected with computerization and road data management.

### **3.5 Road Maintenance**

3.5.1 Within the framework of implementing their road maintenance sustainability policy, the Governments of Guinea and Mali adopted or undertook a series of measures regarding: (i) the reorganization and restructuring of road departments and their corollaries, namely strengthening and redeployment of national capacities and privatization of road maintenance; and (ii) sustaining and securing road maintenance financing.

3.5.2 Concerning issue (i) above, except in specific cases (remoteness and emergency operations), private operators currently handle road maintenance. The reorganization of administrative structures in charge of the sub-sector led to the establishment in Guinea of a Road Maintenance Directorate; in Mali there are moves towards the establishment of an Agetip-type road agency (AGEROUTE) which should be effective by the end of 2000. The DNER is charged with preparing and implementing road maintenance programmes, monitoring road maintenance works and supervising works monitoring. In contrast, AGEROUTE will, apart from responsibilities similar to those of the DNER, oversee contract award and disbursements. To face up to its new mission and in view of staff renewal constraints, the two Governments plan to give priority to strengthening the capacity of road departments and accelerating the ongoing devolution and decentralization process.

3.5.3 Resources for road maintenance financing in both countries currently come from budgetary allocations. However, despite improvements noted since the early nineties, the resources actually allocated yearly for road maintenance in the two countries (about US \$ 6.64 million in Guinea and US \$ 3.60 million in Mali) is below the theoretical allocations indicated in the national budgets and far below the real needs estimated at US \$ 12 million for Guinea and US \$ 7 to 8 million for Mali. Hence, the road maintenance programme is unpredictable.

3.5.4 In the light of this situation, it has become even more imperative to introduce reforms on the provision and management of special road maintenance resources. The two Governments, in conjunction with the World Bank and the IMF, have been hard at work in that regard since 1996. Thus, all studies, consultancy and draft legislative and regulatory texts on the establishment of road

funds have been finalized (in 1998 in Mali and 1999 in Guinea).

3.5.5 These so-called second generation road funds are based on the principle of commercializing road maintenance as a market service financed by fees paid directly by road users and appropriately administered and supervised. To start with, the funds will be financed with road usage fees (mostly petroleum products and, to a lesser extent, toll), road network access (licensing, road-worthiness tests, driving licence, permits, etc.) and axle-load charges. In view of the existing road tax in the two countries (FCFA 149 billion in Mali and FG 126 billion in Guinea), studies on the road fund showed that to cover at least 60% of the maintenance needs between now and 2002, the proposed fuel charges are acceptable, representing nearly 15% and 12% of the fuel tax product in Mali and Guinea, respectively. Therefore, the introduction in both countries of effective and sustainable second generation road funds not later than 31/12/2000 shall be a loan condition.

### **3.6 Road Investment and Maintenance Financing**

3.6.1 The road investment programming in the two countries is based on a systematic 3 to 5 year rolling programme, set against the background of such specific criteria as the economic rate of return and budgetary constraints, but with priority given to road maintenance. Future operations will fall within the framework of these programmes.

3.6.2 In both countries, most road investment and maintenance programmes are funded with external resources from multilateral and bilateral donors, of which the Bank Group. Such resources accounted for nearly 80 and 85% of investments made, compared with Government contribution of 15 to 20%. Although Guinea and Mali will continue to depend on external financing for future funding, Government contribution should increase with the establishment of the second generation road funds, especially since foreign aid will no longer be used to fund routine maintenance as is now the case.

### **3.7 The Road Construction Industry**

3.7.1 Generally, the road construction industry is in the process of rapid transformation in the two countries. Building and public works SMEs have been set up. However, there are as yet no national firms capable of undertaking major works, as a result of which foreign firms are usually invited to participate in international and local competitive bidding.

3.7.2 Road studies, works monitoring and supervision are usually the preserve of foreign consulting firms. However, over the past few years, several small consulting firms capable of undertaking and monitoring works of average importance alone or as a group have been set up in Mali.

### **3.8 Road Sub-Sector Constraints**

3.8.1 The major physical, institutional and organizational constraints facing the road sector in the two countries are due to: (i) the weak nominal capacity of the road network in general that hampers intra- and inter-state economic integration; (ii) inadequate human resources to fulfill the refocused missions of the road directorates; and (iii) inefficient operation of the road transport industry and difficulty of promoting the local road construction industry.

3.8.2 At the physical level, the two nations are among the countries with the least dense road network in the sub-region (2.78 km per 100 km<sup>2</sup> for Guinea and 0.45 km per 100 km<sup>2</sup> for Mali, compared with a sub-regional average of 3 km per 100 km<sup>2</sup>). Hence, the road networks are far below their optimal level vis-à-vis the territory and population density. Several areas of both countries are hardly accessible, especially Guinea's North-East and Mali's South-West. The growth of the automobile fleet in recent years and inadequate road maintenance have further hastened road deterioration. Furthermore, the lack of a permanent and quality link between the two countries has

generally hampered trade between them, especially so with Mali that is unable to make the best of the proximity and upgraded facilities of the Conakry Port.

3.8.3 At the institutional level, staff are no longer recruited due to budgetary constraints. However, the inadequate staffing has been compensated by refocusing the mission of road directorates. The capacity of the said directorates should be strengthened to enable them to effectively play their sub-sector planning, programming and administration role.

3.8.4 The organization of the transport industry in the two countries suffers from over-supply of freight transport vis-à-vis the general demand, particularly in Mali. Regarding the road construction industry in both countries, local SMEs have constraints, of which their weak financial capacity and long delays in settling their contract bills. Attempts to transform public equipment departments into private public works equipment lease companies (e.g. SLMTP in Mali) has proven unsatisfactory. Therefore, current reflection now focuses on the organization of the works market in a way that would enable SMEs to procure minimum equipment themselves. That would require the simplification of contract award procedures and the reduction of the period of payment (autonomous road fund).

## **4. THE PROJECT**

### **4.1 Design and Formulation**

4.1.1 Within the framework of their respective development policies and in accordance with their economic integration efforts, the Governments of Guinea and Mali carried out studies on the development of the Kankan-Kouremale-Bamako road. The road runs through regions with a high economic potential and 1.13 million inhabitants who share close social affinities. It also links the Port of Conakry (Guinea's capital) to Bamako (Mali's capital) via Kankan; the Kankan-Conakry road was recently rehabilitated with financing from several donors, of which the Bank Group.

4.1.2 As designed, the project aims at reducing constraints in the sub-sector in order to: (i) improve trade-enhancing conditions between the two countries; (ii) strengthen the capacity of road directorates; and (iii) improve conditions to promote SMEs through the road fund. Hence, it falls within the framework of both countries' sectoral policies aimed at improving the competitiveness of their transport systems through infrastructure modernization, trade and private sector promotion. The set objective is to make the Conakry-Bamako axis (980 km): (i) a core instrument for sub-regional integration and trade development between the two countries; (ii) a prime factor in the development of North-East Guinea and South-West Mali; and (iii) an alternative access to the sea for Mali. The project's technical design was based on the recommended ECOWAS standard profiles and France's ICTARN road norms, taking into consideration the heavy traffic and inter-state road transport security parameters.

4.1.3 The project was subject to a socio-economic survey, and comprised family survey, village survey, collection and analysis of administrative and socio-demographic data and a census of production activities in the project impact area (PIA). The area's inhabitants were contacted and largely informed about the project, its objectives and the road alignment. According to the socio-economic surveys, practically all are in favour of the road construction and are ready to cooperate in implementing the environmental measure. Moreover, the project provides for a compensation package. The population expects that the project will help to reduce poverty by increasing income (giving added value to agricultural, mineral and artisanal production), and regularly supplying the area with finished goods at competitive prices.

4.1.4 To guarantee the project's economic viability, provision has been made to implement it using Guinea's and Mali's Ministry of Public Works and Transport as the contracting authorities,

represented by a Technical Committee whose membership will be drawn from both countries. The Committee set up while conducting the road's economic, technical and environmental studies will be revitalized and strengthened with representatives from the Guinea/Mali Directorates of Environment.

4.1.5 The project is the outcome of several ADF actions in the transport sector in Guinea and Mali. Indeed, the ADF financed the Conakry-Mamou-Kankan road project and the recently completed Conakry Port project. It also funded studies that led to the packaging of the project under discussion. As designed, the project falls within the framework of both Governments' strategy to combine their efforts and various potentials in order to consolidate sustainable growth indispensable for reducing poverty. Within that purview, the project is in harmony with the Bank's new vision and its operating strategy as contained in the two countries' CSP.

## **4.2 Project Impact Area and Beneficiaries**

### Delineation and Characteristics

4.2.1 On the Guinean side, the Kankan-Kouremale-Bamako road runs through the Kankan and Siguiiri Prefectures in Haute-Guinée and on the Malian side, the Kati "Cercle" situated in the Koulikoro region of the Haut-Niger basin. Within these large regional entities, 26 sub-prefectures in Guinea, 1 district (Bamako) and 2 arrondissements in Mali are directly concerned by the road under consideration. The project impact area (PIA) covers the 29 administrative units identified.

4.2.2 The PIA covers an area of 25 000 km<sup>2</sup> or 1.7% of both countries. To the North, the relief is somewhat uneven with sandy cliffs; the Southern relief is practically flat. The tree-filled Guinean savannah is the dominant physical characteristic, trimmed off with forest galleries along watercourses. Since rainfall level is higher in the South, the northern plateaux (Mali) is the least fertile section, and the Niger and Milo river valleys (Guinea) the most fertile.

4.2.3 The PIA falls under two climatic regions: the south Sudanese climate to the North and the Guinean climate to the south of Siguiiri. Average rainfall ranges from 990 mm/annum in the North to 1520 mm/annum in the South. The rainy season runs from April to October and the dry season from November to March. The wind direction during the dry season is mostly North-East (harmattan). Although these favourable climatic conditions are conducive to population growth and other activities, the absence of a good transport network hampers development.

### Population and Poverty Profile in the Area

4.2.4 The population of the PIA is estimated at 1.3 million, that is to say 7% of the population of both countries, and is broken down as follows: Kankan Prefecture – 20.2%; Siguiiri Prefecture – 18.5 %; Bamako District - 55.2%; Siby Arrondissement - 2.9% and Narena Arrondissement – 3.1%. The population grows yearly by 2.8%. More than 40% of those dwelling within the PIA are under fifteen. In recent years, emigration especially to Cote d'Ivoire and Senegal has slowed down, to the benefit of mining activities (gold mining) in the area.

4.2.5 With regard to public utilities, there are 2 hospitals in the PIA, about thirty health centres, dispensaries and district medical centres, two high schools, six secondary schools and at least one primary school. Drug supply is irregular and prices are high due to transport cost, reduced mobility and accessibility. Porterage (more than 23% of women's activity time) affects the enrollment rate (less than 15% on the Guinean portion of the PIA).

4.2.6 The key poverty characteristics in the PIA are as follows:

- 30 to 35% of the population live under absolute poverty, i.e. with annual income below the minimum subsistence level;
- the low service rate of the project road contributes to the high cost of certain essential goods and services, which, for that reason, become inaccessible to low and intermediate income groups (e.g. medical evacuation costs between FCFA 10 000 to 15 000 for an average distance of 50 km);
- women's situation is even more worrying since, in addition to the usual difficulties, they are exposed to specific poverty parameters such as the nearly impossible access to health centres particularly during pregnancy, the high number of dependent children, the low girls' enrollment, etc.;
- youths aged above 18 affected by the shortage of gainful activities remain for a long time dependent on their parents.

4.2.7 Apart from permitting the injection of funds into the PIA, the project will render production in the area more competitive, facilitate the mobility of factors of production and allow for improved access of the population to health-care, while promoting small-scale investment in grain mills and agricultural implements. The combination of these efforts should significantly contribute to reducing poverty in the area.

### Production

4.2.8 The PIA economy depends largely on agriculture, stock breeding and, to a lesser extent, gold mining. A few processing industries are located in the area, especially in Bamako and Kankan.

4.2.9 The zone's arable area is estimated at more than 950 000 ha, but hardly 4% (38 000 ha) is actually developed in the form of small-scale family farms or within the framework of rural development programmes. That is the case, for instance, of the Upper Niger Valley Development Operation (Opération du développement de la Haute Vallée du Niger, OHVN) and the Forestry Production Development Operation (opération d'aménagement de la production forestière, OAPF) in Mali, the Siguiri Rice Operation (opération riz-Siguiri, ORS) and the Upper Guinea Development Project (projet de Développement de la Haute Guinée, PDHG) in Guinea.

4.2.10 Food (rice, maize, sorghum, millet, fonio, tubers, etc.) and cash crops (cotton, groundnut, etc.) are sometimes cultivated in the area. Since it is not easy to transport crops to the major marketing centres owing to the poor state of the road network in the area, farmers lack the incentive to increase the cultivated area or enhance output. The following quantities were produced in 1998: 2 382 tonnes of cotton, 3 200 tonnes of groundnut, 28 000 tonnes of cereals and 26 400 tonnes of tubers.

4.2.11 Livestock activity flourishes in the area; the herd contains 162 632 animals, of which cattle (75%), sheep (7%), goats (16%) and others (2%). The zone also provides a non-negligible portion of animals for export and local consumption.

4.1.12 Gold mining is the commonest activity after agriculture and livestock both in terms of the labour it mobilizes and the income it generates. The gold rush has increased dramatically since 1987 following the legalization of artisanal exploitation by the Guinean authorities. Artisanal production ranges from 6 to 100 grammes per person per season (average of 12 grammes). Gold mining (average three months yearly) accounts for seasonal migration of youth labour from the less gainful agricultural sector (compounded by the difficult access to the PIA). The project will contribute to a large extent to reversing that unfavourable trend by opening up the area to the major agricultural produce marketing and processing centres, namely Conakry, Bamako, Kankan and Siguiri.

### Current Situation

4.2.13 The existing earth road was built in the forties; it has an irregular wearing course ranging from 6 to 7 metres. The horizontal alignment is winding, while the vertical alignment closely follows the natural terrain. There is alignment loss on several sections.

4.2.14 In more specific terms, the inadequacies of the current road on the Guinean side include: (i) the narrow drainage works; (ii) long flooded and washed out areas during the rainy and dry season, respectively; (iii) difficulties of fording bodies of water with unstable beds. On the Malian side, the road is mostly characterized by: (i) lack or poor state of the water crossing works; and (ii) the washboard corrugation problem during the dry season.

4.2.15 For these reasons, the Kankan-Kouremale-Bamako road is hardly usable during the rainy season; the vehicle operating costs on it are very high. This situation discourages transporters. Hence, vehicular traffic is reduced during the dry season and practically non-existent during the rainy season.

## **4.3 Strategic Context**

4.3.1 The Governments of Guinea and Mali plan to promote the development of their economies and tackle poverty reduction. That is contingent on the increase, judicious and transparent redistribution of national income. One of the strategies of the two Governments is to develop the capacity of each of the two countries on the basis of comparative costs and economic integration. Attaining these objectives is hampered, among other things, by the difficulty of mobility of factors and products, as well as incentives for increasing the as yet inadequate production.

4.3.2 The project as designed should facilitate the mobility of factors of production in the project's limited and extended area. Hence, the project will contribute to opening up regions of high agricultural potential in both countries by building an all-season passable road and improving the living conditions of the population, especially those in the rural area. The project will also safeguard one of the important links of the national economy by enhancing the zone's contribution to national production. The project is expected to produce several direct, indirect, quantifiable and non-quantifiable benefits, especially contribute to regional economic integration which is the ultimate ECOWAS objective, and all-season access to the PIA (greater mobility of factors of production and consumer goods).

## **4.4 Project Objectives**

4.4.1 The sectoral objective of the project is to open up Guinea's North-East and Mali's South-West regions, diversify Mali's links with the outside world and promote sub-regional integration.

4.4.2 The aim of the project is to establish a permanent road link between Kankan and Bamako, with a view to reducing transport cost and promoting economic activities in the project area.



## 4.5 Project Description

4.5.1 The project is expected to achieve the construction of a 344 km new road, of which 217 km on the Guinean section and 127 km on the Malian side. The road will comprise a 7-metre pavement with two shoulders each measuring 1.50 metres. In addition, all necessary hydraulic works will also be built, including two bridges across the rivers Tinkisso and Niger, as well as parking bays at population centres through which the road passes.

4.5.2 The project components include:

A) Kankan-Kouremale Sector

- A.1 Construction of a 217 km tarred road;
- A.2 Construction of two bridges across the Tinkiso and Niger rivers;
- A.3 Environmental measures;
- A.4 Works monitoring and supervision;
- A.5 Project audit;
- A.6 DNIR capacity building

B) Kouremale-Bamako Section

- B.1 Construction of a 127 km tarred road;
- B.2 Environmental measures;
- B.3 Works monitoring and supervision;
- B.4 Project audit;
- B.5 DNTP capacity building.

4.5.3 The ADF components comprise:

- i) Construction of bridges over the Tinkisso and Niger, on the Guinean section;
- ii) Road works on the Bamako - Point Y- Narena section on the Malian section;
- iii) Environmental measures;
- iv) Works monitoring and supervision;
- v) Project audit
- vi) DNTP capacity building.

### Road and Bridge Works

4.5.4 The 344 km road was designed for a base speed of 80 km/h, according to the ECOWAS standard profiles and France's ICTARN road norms. The standard horizontal profiles in the open country are as follows: (i) 7 m for the pavement width; and (ii) two shoulders of 1.50 m each. At population centres, adaptations will be made to reduce the pavement radius, in addition to spot widening to allow for secure parking.

4.5.5 The pavement structure was defined on the basis of the projected traffic, soil characteristics and available construction materials. The pavement will comprise: (i) a 20 to 25 cm foundation base in natural lateritic gravelly; (ii) an 18 to 20 cm base layer in cement-stabilized lateritic gravelly; and (iii) a 4, 5 or 6 cm thick coating in bituminous concrete, as the case may be.

4.5.6 The following crossing and drainage works are planned:

- i) Two large bridges of identical design will be built across the rivers Niger (490 m) and Tinkisso (245 m); each bridge comprises a series of independent beams on prestressed concrete creating a 7 m wide pavement. However, variants could be proposed during bidding;
- ii) 80 major works of which 50 in Guinean territory, comprising 3 bridges, 44 culverts and 3 duct banks; 30 works on the Malian section, of which 7 bridges and 23 culverts.

4.5.7 The road will also have horizontal and vertical signs, including security railings and speed breakers at village crossings.

#### Environmental Measures

4.5.8 Apart from the contractual clauses incorporated into the works book of specifications on the rehabilitation or development of material borrow sites, as well as coordination of construction of irrigation works with the rural population and departments, provision has been made to compensate those adversely affected by the road construction, replant trees, conduct environmental follow-up and training (see paragraph 4.6.6 for the cost of attenuating the negative impact).

#### Works Monitoring and Supervision

4.5.9 The works monitoring and supervision services comprise: (i) ad hoc support for works bid analysis; (ii) technical and administrative monitoring of road and bridge works; (iii) training and environmental follow-up of mitigating measures. The component will be carried out by independent consultants who will prepare quarterly project status reports for both governments and the donors concerned.

#### Project Audit

4.5.10 The accounts of the ADF project will be audited yearly by an independent auditor who will verify the use of the loan resources. The auditor will prepare the relevant audit reports.

#### Capacity Building

4.5.11 The capacity of the executing agencies will be strengthened. Hence, the DNIR in Guinea will, under ABEDA financing, receive computer hardware, vehicles and technical assistance, while the ADF will fund computer hardware and training for Mali's DNTP.

### **4.6 Environmental Impacts**

4.6.1 An Environmental Impact Assessment (EIA) has been conducted for this project, which is classified in Category I; a summary of the assessment was forwarded to the Board of Directors in July 1997. The written questions asked by Executive Directors on the compensation and resettlement plan, the capacity of the executing agencies to undertake environmental monitoring, and the measures taken to avoid degradation of the Mandingo Mountains as a result of the foreseeable increase in tourism, were answered in May 1999 following an environmental assessment mission to the two countries in March 1999. The mission noted that the results of the EIA were still valid since, from the biophysical, socio-economic and institutional points of view, the project area has not witnessed any significant environmental changes during the past two years. On the other hand, the cost of the mitigating measures was updated to take into account inflation, especially as regards compensation to be paid to the population concerned.

4.6.2 The road runs across different Sudano-Guinean savannah zones which have already been

degraded to a certain extent as a result of the increasing population and inappropriate land use. On the whole, the alignment of the new road follows that of the existing feeder road part of which runs through the forest reserve of the Mandingo Mountains in Mali which contains old vegetation and a variety of wildlife. The EIA reviewed all the potential positive and negative environmental impacts, and made recommendations as to the mitigating measures to be taken; these measures are included in the Appraisal Report.

4.6.3 Implementation of the project produces three **positive impacts**, namely: (i) opening up of the regions through which the road passes; the socio-economic development of these regions will result in the improvement of the human environment, higher incomes and widespread poverty reduction; (ii) improved public health and safety; and (iii) improved drainage, mainly in the areas liable to flooding, as a result of better construction and design of water management structures.

4.6.4 The main **negative impacts** identified by the EIA may be summarized as follows: (i) pre-works impacts which result in the displacement of the population, demolition of houses and loss of farmlands; (ii) impacts during the works, such as the opening of borrow sites, noise, risks of water and air pollution by exhaust oils and fumes from heavy-construction machines; and (iii) impacts during operation of the road caused by either lack of maintenance or increase in accidents, air pollution by vehicle exhaust fumes, pressure on the land (land speculation, disputes due to uncontrolled immigration, deforestation, overgrazing, soil erosion, risk of spread of diseases, and risk of disturbance of the Kurukorokale archaeological site).

4.6.5 In order to remedy the potential negative impacts of the project, the EIA recommended complete **mitigating measures**, which were all proposed as project activities and arrangements to be made before, during and after the works. Some potential post-works impacts related to the maintenance of the road and structures will be tackled using the budget of the Ministry responsible for the environment in the two countries.

4.6.6 The population will be resettled and individual compensation granted for the demolition of houses and destruction of plantations or farmlands before works start-up. The related compensation and resettlement plans have been prepared by the Governments after consultation with the said population. The alignment of the existing road was deviated at the Kurukokorale archaeological site (Mandingo mountains) and specific protective measures taken in collaboration with the Ministry of Culture to protect and ensure future tourist activities on the site (increasing the shoulder and parking space during the works for the parking of vehicles).

4.6.7 The works specifications included arrangements to locate materials borrow pits to be rehabilitated on completion of the works, and to reduce erosion of the slopes, the flow of mud to outlets, water and soil pollution, toxic liquid infiltrations (fuel and oil mainly from storage and distribution installations) and dust emanations (watering of non-cohesive materials).

4.6.8 The installation of appropriate road signs and speedbreakers as proposed in the project will reduce road accidents and protect fauna and flora. The establishment of Autonomous Road Funds in the two countries will guarantee routine road maintenance and therefore curb soil erosion and loss of project achievements. Moreover, the two countries have appropriate and decentralized laws which govern and control land use. Furthermore, the construction of hydraulic structures, the replanting of trees and the sinking of wells or drilling of bore-holes to be undertaken in collaboration with local irrigation services, Directorates responsible for forests and the environment, and the population will limit these risks. Lastly, the sensitization sub-components of the various health or poverty reduction programmes in the two countries, including those financed by the Bank, should curb the development of transmissible diseases.

4.6.9 An environmental training and sensitization sub-component for both DNTP and DNIR staff and the population of the project area is included in the contract of the consulting engineer, who will develop the themes of these seminars and workshops. This work will be done in collaboration with the environmental services in the two countries; the services will be responsible, in particular, for coordination with the projects in the two countries. The seminars and workshops will focus on themes intended to reduce deforestation, improve soil management and ensure compliance with health and welfare standards.

4.6.10 The cost of the mitigating measures, excluding those included directly in the works and works control contracts, is estimated at UA 1.36 million. This amount will cover: (i) the resettlement and compensation of the population; (ii) environmental monitoring, training and sensitization, as well as reforestation, rehabilitation and protection of fauna and flora, etc. Compensation of the population concerned by the Governments and transmission to ADF of reports on the monitoring of implementation of measures to mitigate the negative impacts of the project on the environment are conditions for the loans under consideration.

4.6.11 The two countries have adopted an environmental plan of action. Environmental activities will be planned, scheduled and monitored in Guinea by the National Directorate of the Environment attached to the Ministry of Mines and Geology, and in Mali by a Directorate which has just been attached to the Ministry responsible for Transport. The environmental aspects of the project will be monitored by each executing agency (DNTP and DNIR), assisted by an employee from the Directorate responsible for the environment in the corresponding country. They will be assisted by the consulting engineer to be recruited, and periodic reports on the monitoring of measures to mitigate the negative impacts on the environment will be prepared and forwarded to the Bank.

## **4.7 Social Impact**

### Impact on Women

4.7.1 The project area is located in the heart of the Malinke region. It is a stratified social group in which work is organized on the basis of task distribution between the sexes. Consequently, in addition to housework, women play an important role in the cultivation of rice and ground nuts, as well as in the transportation and sale of local products. They also participate in gold washing, which is a widespread activity in the project area.

4.7.2 Accessibility to the area through a paved road that is motorable all year round will have a significant positive impact on women's activities. The most expected impacts are: (i) reduced evacuation costs, particularly in cases of childbirth and serious illness; (ii) an increase in vital equipment such as cereal mills and shea butter presses, as a result of new small and medium-scale private investment opportunities from the project, (iii) direct and quick access to trading and health centres; and (iv) increased income as a result of the marketing of local products at competitive prices.

### Impact on Poverty

4.7.3 Even though the proposed road works are capital-intensive, they will require unskilled labor for some tasks. The jobs offered to the population in the project area, which provide more competitive labour for the enterprises responsible for the works, will distribute income and supplement earnings from the sale of agricultural products. Furthermore, by reducing the transportation cost of agricultural products in the project area, the commissioning of the road will give fresh impetus to agriculture, which is today facing keen competition from traditional gold washing, especially in the Siguiri Prefecture. The rapidly growing informal trade sector, especially in Guinea following the liberalization of the economy, will grow further with the increase in the purchasing power of the local population.

4.7.4 The increase in income will have a positive impact on the living conditions of families, especially on the children and women who are often most affected by poverty. In fact, it will encourage the adoption of more intensive cropping systems (agricultural machinery and tools) which, by relieving children from farmwork, will raise the low enrolment rates (11% in the Siguiri Prefecture, for example) and promote the development and diversification of human resources in the area.

#### 4.8 Project Cost Estimates

4.8.1 The cost estimates, exclusive of tax and custom duty, for the entire project stand at UA 101.57 million (US\$ 139.11 million), comprising UA 84.75 million (US\$ 116.08 million) in foreign exchange, and UA 16.82 million (US\$ 23.03 million) in local currency. The cost estimates for the components proposed for ADF financing stand at UA 33.05 million (US\$ 45.26 million), comprising UA 27.43 million (US\$ 37.57 million) in foreign exchange, and UA 5.62 million (US\$ 7.70 million) in local currency.

4.8.2 The base for calculating the updated project cost is December 1999. The cost was estimated and updated taking into account the most recent prices for similar works or services provided recently in Guinea and Mali. The provision for physical contingencies is 6% of the base cost. The provision for inflation applied to the “works and works supervision” components is 8.17% and corresponds to an annual inflation rate of 2.5% for foreign exchange costs and 5% for local currency costs. The summary cost estimates by component for the entire project and the ADF project are shown in Tables 4.1 and 4.2 below, respectively:

**Table 4.1**  
**Summary Project Cost Estimates by Component**

COMPONENTS	FCFA M			US\$ M			UA M		
	F.E.	L.C.	Total	F.E.	L.C.	Total	F.E.	L.C.	Total
<b>A) KANKAN-KOUREMALE SECTION</b>									
A.1 Bridges	7 178.68	1 266.83	8 445.51	11.05	1.95	13.00	8.07	1.42	9.49
A.2 Road works	37 193.84	6 563.62	43 757.46	57.25	10.10	67.36	41.80	7.38	49.18
A.3 Environmental measures		762.04	762.04		1.17	1.17		0.86	0.86
A.4 Supervision and monitoring	2 818.96	313.22	3 132.18	4.34	0.48	4.82	3.17	0.35	3.52
A.5 Audit	59.23	6.58	65.81	0.09	0.01	0.10	0.07	0.01	0.07
A.6 DNIR Capacity building	230.64	7.13	237.77	0.36	0.01	0.37	0.26	0.01	0.27
BASE COST	47 481.35	8 919.42	56 400.77	73.09	13.73	86.82	53.36	10.02	63.39
Physical contingencies	2 831.49	488.62	3 320.11	4.36	0.75	5.11	3.18	0.55	3.73
Inflation	3 127.39	1 090.84	4 218.22	4.81	1.68	6.49	3.51	1.23	4.74
<b>TOTAL A</b>	<b>53 440.23</b>	<b>10 498.88</b>	<b>63 939.11</b>	<b>82.26</b>	<b>16.16</b>	<b>98.42</b>	<b>60.06</b>	<b>11.80</b>	<b>71.86</b>
<b>B) KOUREMALE-BAMAKO SECTION</b>									
B.1 Road works	18 246.91	3 222.68	21 469.59	28.09	4.96	33.05	20.51	3.62	24.13
B.2 Environmental measures		444.89	444.89		0.68	0.68		0.50	0.50
B.3 Supervision and monitoring	1 159.36	128.82	1 288.18	1.78	0.20	1.98	1.30	0.14	1.45
B.4 Audit	59.23	6.58	65.81	0.09	0.01	0.10	0.07	0.01	0.07
B.5 DNTP Capacity building	61.20	6.80	68.00	0.09	0.01	0.10	0.07	0.01	0.08
BASE COST	19 526.69	3 809.77	23 336.47	30.06	5.86	35.92	21.95	4.28	26.23
Physical contingencies	1 164.38	201.09	1 365.47	1.79	0.31	2.10	1.31	0.23	1.53
Inflation	1 282.33	452.71	1 735.04	1.97	0.70	2.67	1.44	0.51	1.95
<b>TOTAL B</b>	<b>21 973.40</b>	<b>4 463.58</b>	<b>26 436.98</b>	<b>33.82</b>	<b>6.87</b>	<b>40.69</b>	<b>24.70</b>	<b>5.02</b>	<b>29.71</b>
<b>C) ENTIRE PROJECT</b>									
Base cost	67 008.05	12 729.20	79 737.24	103.14	19.59	122.74	75.31	14.31	89.61
Physical contingencies	3 995.87	689.71	4 685.57	6.15	1.06	7.21	4.49	0.78	5.27
Inflation	4 409.71	1 543.55	5 953.27	6.79	2.38	9.16	4.96	1.73	6.69
<b>GRAND TOTAL</b>	<b>75 413.63</b>	<b>14 962.46</b>	<b>90 376.08</b>	<b>116.08</b>	<b>23.03</b>	<b>139.11</b>	<b>84.75</b>	<b>16.82</b>	<b>101.57</b>

4.8.3 The project base costs have been determined following a detailed and complete study by experienced consultants. The base cost of the road works, including the construction of 80 hydraulic structures, and supervision of the works amounts to UA 77.63 million or FCFA 69 billion, which corresponds to a unit cost of about FCFA 200 million per km, and is quite acceptable in the sub-region for the same kind of works (structure coated with dense-graded bituminous mix with a number of hydraulic structures per kilometer much above the average, and need in Guinea to construct embankments to put the carriageway above water).

**Table 4.2**  
**Summary ADF Project Cost Estimates by Component**  
(in UA million)

Components	ADF			BOAD			Guinea	Mali	Total		
	F.E.	L.C.	Total	F.E.	L.C.	Total	L.C.	Total	F.E.	L.C.	Total
<b><u>A) KANKAN-KOUREMALE SECTION</u></b>											
A.1 Bridges over the Niger and the Tinkisso	8.07	0.41	8.48				1.01		8.07	1.42	9.49
A.2 Environmental measures							0.13			0.13	0.13
A.3 Supervision and monitoring	0.51	0.06	0.57						0.51	0.06	0.57
A.4 Audit	0.07	0.01	0.08						0.07	0.01	0.08
<b>Base cost</b>	<b>8.65</b>	<b>0.48</b>	<b>9.13</b>				<b>1.14</b>		<b>8.65</b>	<b>1.62</b>	<b>10.27</b>
Physical contingencies	0.51	0.03	0.54				0.06		0.51	0.09	0.60
Inflation	0.53	0.16	0.69				0.08		0.53	0.24	0.77
<b>Total A</b>	<b>9.69</b>	<b>0.67</b>	<b>10.36</b>				<b>1.28</b>		<b>9.69</b>	<b>1.94</b>	<b>11.64</b>
<b><u>B) KOUREMALE-BAMAKO SECTION</u></b>											
B.1 Road works (Naréna-Pt Y-Bamako)	10.94		10.94	3.77	1.13	4.90		1.47	14.71	2.60	17.31
B..2 Environmental measures								0.42		0.42	0.42
B.3 Supervision and monitoring	0.93	0.11	1.04						0.93	0.11	1.04
B.4 Audit	0.07	0.01	0.08						0.07	0.01	0.08
B.5 DNTP capacity building	0.07		0.07					0.01	0.07	0.01	0.08
<b>Base cost</b>	<b>12.01</b>	<b>0.12</b>	<b>12.13</b>	<b>3.77</b>	<b>1.13</b>	<b>4.90</b>		<b>1.90</b>	<b>15.78</b>	<b>3.15</b>	<b>18.93</b>
Physical contingencies	0.69	0.03	0.72	0.25	0.04	0.29		0.09	0.94	0.16	1.10
Inflation	0.78	0.02	0.80	0.25	0.15	0.40		0.20	1.03	0.37	1.40
<b>Total B</b>	<b>13.47</b>	<b>0.18</b>	<b>13.65</b>	<b>4.27</b>	<b>1.32</b>	<b>5.59</b>		<b>2.19</b>	<b>17.74</b>	<b>3.69</b>	<b>21.43</b>
<b>C) ENTIRE PROJECT</b>											
<b>Base cost</b>	20.66	0.60	21.24	3.77	1.13	4.90	1.14	1.90	24.43	4.75	29.17
<b>Physical contingencies</b>	1.20	0.06	1.26	0.25	0.04	0.29	0.06	0.09	1.45	0.25	1.70
<b>Inflation</b>	1.31	0.18	1.49	0.25	0.16	0.41	0.08	0.19	1.56	0.61	2.17
<b>TOTAL C</b>	<b>23.16</b>	<b>0.84</b>	<b>24.00</b>	<b>4.27</b>	<b>1.33</b>	<b>5.60</b>	<b>1.28</b>	<b>2.18</b>	<b>27.43</b>	<b>5.62</b>	<b>33.05</b>

4.8.4 The summary costs by expenditure category for the entire project and for the ADF project are shown in Tables 4.3 and 4.4 below respectively:

**Table 4.3**  
**Summary of Project Cost by Expenditure Category**

Categories	In FCFA million			In US\$ million			In UA million		
	Foreign Exchange	Local Currency	Total	Foreign Exchange	Local Currency	Total	Foreign Exchange	Local Currency	Total
<b>A. Bridges</b>	7 178.68	1 266.83	8 445.51	11.05	1.95	13.00	8.07	1.42	<b>9.49</b>
<b>B. Road works</b>	55 440.75	9 786.30	65 227.06	85.34	15.06	100.40	62.31	11.00	<b>73.31</b>
<b>C. Environmental measures</b>		1 206.94	1 206.94		1.86	1.86		1.36	<b>1.36</b>
<b>D. Consultancy services</b>									
D.1 - Works inspect. & superv.	3 978.32	442.04	4 420.35	6.12	0.68	6.80	4.47	0.50	<b>4.97</b>
D.2 - Audit	118.45	13.16	131.62	0.18	0.02	0.20	0.13	0.01	<b>0.15</b>
<b>E. Capacity building</b>	277.18	28.60	305.77	0.43	0.04	0.47	0.31	0.03	<b>0.34</b>
<b>F. Unallocated</b>	8 418.61	2 220.23	10 638.84	12.96	3.42	16.38	9.46	2.50	<b>11.96</b>
<b>Total</b>	<b>75 412.00</b>	<b>14 964.09</b>	<b>90 376.08</b>	<b>116.08</b>	<b>23.03</b>	<b>139.11</b>	<b>84.75</b>	<b>16.82</b>	<b>101.57</b>

**Table 4.4**  
**Summary ADF Project Cost by Expenditure Category**

Categories	in FCFA million			in US\$ million			in UA million		
	Foreign Exchange	Local Currency	Total	Foreign Exchange	Local Currency	Total	Foreign Exchange	Local Currency	Total
<b>A. Bridges</b>	7 178.68	1 266.83	8 445.51	11.05	1.95	13.00	8.07	1.42	<b>9.49</b>
<b>B. Road works</b>	13 088.00	2 312.29	15 400.28	20.15	3.56	23.71	14.71	2.60	<b>17.31</b>
<b>C. Environmental measures</b>		482.48	482.48		0.74	0.74		0.54	<b>0.54</b>
<b>D. Consultancy services</b>									
D.1 - Works inspect. & monit.	1 287.67	143.07	1 430.75	1.98	0.22	2.20	1.45	0.16	<b>1.61</b>
D.2 - Audit	118.45	22.06	131.62	0.18	0.03	0.20	0.13	0.02	<b>0.15</b>
<b>E. Capacity building</b>	55.00	21.90	68.00	0.08	0.03	0.10	0.06	0.02	<b>0.08</b>
<b>F. Unallocated</b>	2 678.83	759.94	3 438.77	4.12	1.17	5.29	3.01	0.85	<b>3.86</b>
<b>Total</b>	<b>24 406.63</b>	<b>5 008.57</b>	<b>29 397.40</b>	<b>37.57</b>	<b>7.71</b>	<b>45.25</b>	<b>27.43</b>	<b>5.62</b>	<b>33.05</b>

#### **4.9 Sources of Finance and Expenditure Schedule**

4.9.1 The entire project will be financed by ADF, BOAD, EDF, IDB, ABEDA, the Kuwaiti Fund, and the Governments of Guinea and Mali. Transmission of the financing agreements or conventions with the project donors by the two Governments to ADF is a condition for the project loans. The financing schedules by source for the entire project and for the ADF project are presented in Tables 4.5 and 4.6 below:

**Table 4.5**  
**Project Sources of Finance**  
(in UA million)

Source	For. Exch.	Local Currency	Total	%
ADF	23.16	0.84	24.00	23.6%
BOAD	4.27	1.33	5.60	5.5%
EDF	35.78	6.49	42.28	41.6%
ABEDA, IDB and FKW	21.54	2.65	24.19	23.8%
Gov't of Guinea		3.25	3.25	3.2%
Gov't of Mali		2.26	2.26	2.2%
<b>Total</b>	<b>84.75</b>	<b>16.82</b>	<b>101.57</b>	<b>100%</b>

**Table 4.6**  
**ADF Project Sources of Finance**  
(in UA million)

Source	Foreign Exchange	Local Currency	Total	%
ADF	23.16	0.84	24.00	72.6%
BOAD	4.27	1.33	5.60	16.9%
Gov't. of Guinea		1.28	1.28	3.9%
Gov't. of Mali		2.18	2.18	6.6%
Total	27.43	5.62	33.05	100%

4.9.2 The ADF contribution will be devoted to the following project components: (i) bridges over the Tinkisso and the Niger on the Kankan-Kourémalé section; and (ii) work on the Bamako-Point Y- Naréna portion of the Kourémalé-Bamako section; (iii) supervision and monitoring of these works; (iv) project audit; and (v) capacity building of DNTP in Mali. The ADF contribution will account for 23.60% of the total cost of the entire project and will cover 27.33% of the foreign exchange costs and 4.99% of the local currency costs. The ADF contribution to local currency costs (UA 0.84 million) accounts for 0.28% of the total contribution by the Fund and the two Governments to the financing of the entire project. The contribution expected from ADF (UA 24 million) would come from resources allocated to multinational operations.

4.9.3 The BOAD contribution, in joint funding with ADF, will be devoted to the road works component in Mali. The EDF will finance the road works and works supervision and monitoring components in Mali and Guinea. The three Arab donors, in joint funding with Guinea, will make a total contribution of UA 24.19 million. The ABEDA (UA 6.16 million) will finance the “road works” and “DNIR capacity building” components, while the contributions by the IDB (UA 7.04 million) and the Kuwait Fund (UA 10.99 million) will be devoted to the financing of the “road works” and “road supervision” components.

4.9.4 The contribution by the Government of Guinea (UA 3.25 million) accounts for 3.20% of the cost of the entire project. It will be used in financing the entire “environmental measures” component in Guinea, part of the road works costs, and the “DNIR capacity building” component. Compared to the components financed by ADF in Guinea, the contribution by Guinea (UA 1.28 million) which accounts for 11% of the total contribution by ADF and the Government of Guinea, will be used in financing all the environmental measures and part of the costs of the “bridge construction” component. In addition to this contribution, taxes amounting to about UA 16 million will not be collected.

4.9.5 The contribution by the Government of Mali (UA 2.26 million) accounts for 2.20% of the cost of the entire project. It will be used in financing all the “environmental measures” component in Mali, part of the road works costs, and the “DNTP capacity building” component. Compared to the components financed by ADF in Mali, the contribution by Mali (UA 2.18 million), which accounts for 13.78% of the total contribution by ADF and the Government of Mali, will be used in financing all the environmental measures and part of the cost of the “road works” and “DNTP capacity building” components. In addition to this contribution, taxes amounting to about UA 7 million will not be collected.



4.9.6 The ADF contribution to financing part of the local currency costs of the Kankan-Kourémalé section of the project is justified for the following reasons:

- i) The two countries have made efforts in various reform programmes and receive budgetary assistance from various multilateral Institutions. The assistance helps to build their capacities in mobilizing local resources for priority expenditure as recommended by the public expenditure reviews;
- ii) Since 1996, the two countries have no arrears as regards counterpart contributions. They have established a medium-term expenditure framework for consistent public investment programmes (PIP) during review of the PIP and public expenditure;
- iii) The domestic savings mobilization drive has so far not yielded tangible results, and the two countries will have to resort to external savings to cover their investment requirements;
- iv) In order to ensure financial discipline, the two countries should limit their curb and, in compliance with international commitments, contract only loans with concessional interest rates; this is not often possible with domestic sources of finance; and
- v) The nature of the project is such that most of the materials for the works and their use will be procured locally, in particular earthworks, and materials for concrete, and labour.

4.9.7 The expenditure schedules by component for the entire project and for the ADF project are presented below:

**Table 4.7**  
**Project Expenditure Schedule by Component**  
(in UA million)

Components	2001	2002	2003	2004	Total
<b><u>A) Kankan –Kourémalé Section</u></b>					
A.1 Bridges over the Tinkisso and the Niger	1.62	3.51	3.51	2.16	10.78
A.2 Road works	8.38	18.16	18.16	11.18	55.88
A.3 Environmental measures	0.75	0.05	0.05	0.01	0.86
A.4 Supervision and monitoring	0.60	1.30	1.30	0.79	3.99
A.5 Audit	0.00	0.03	0.03	0.02	0.08
A.6 DNIR capacity building	0.04	0.09	0.09	0.05	0.27
<b>Total A</b>	<b>11.39</b>	<b>23.13</b>	<b>23.13</b>	<b>14.21</b>	<b>71.86</b>
<b><u>B) Kourémalé-Bamako Section</u></b>					
B.1 Road works	4.11	8.91	8.91	5.48	27.42
B.2 Environmental measures	0.43	0.03	0.03	0.01	0.50
B.3. Supervision and monitoring	0.25	0.53	0.53	0.33	1.64
B.4 Audit	0.00	0.03	0.03	0.02	0.08
B.5 DNTP capacity building	0.01	0.03	0.03	0.01	0.08
<b>Total B</b>	<b>4.80</b>	<b>9.53</b>	<b>9.53</b>	<b>5.85</b>	<b>29.71</b>
<b>Grand Total</b>	<b>16.19</b>	<b>32.66</b>	<b>32.66</b>	<b>20.06</b>	<b>101.57</b>
Total in %	16%	32%	32%	20%	100%

**Table 4.8**  
**ADF Project Expenditure Schedule by Component**  
(in UA million)

Components	2001	2002	2003	2004	Total
<b>A) Kankan –Kourémalé Section</b>					
A.1 Bridges over the Tinkisso and the Niger	1.62	3.51	3.51	2.16	10.78
A.3 Environmental measures	0.11	0.01	0.01	0.00	0.13
A.4 Supervision and monitoring	0.10	0.21	0.21	0.13	0.65
A.5 Audit	0.01	0.03	0.03	0.01	0.08
<b>Total A</b>	<b>1.84</b>	<b>3.75</b>	<b>3.75</b>	<b>2.29</b>	<b>11.63</b>
<b>B) Kourémalé-Bamako Section</b>					
B.1 Road works	2.95	6.39	6.39	3.93	19.67
B.2 Environmental measures	0.35	0.03	0.03	0.01	0.42
B.3. Supervision and monitoring	0.18	0.38	0.38	0.24	1.18
B.4 Audit	0.01	0.03	0.03	0.02	0.08
B.5 DNTP capacity building	0.02	0.03	0.03	0.01	0.08
<b>Total B</b>	<b>3.51</b>	<b>6.86</b>	<b>6.86</b>	<b>4.20</b>	<b>21.41</b>
<b>Grand Total</b>	<b>5.35</b>	<b>10.60</b>	<b>10.61</b>	<b>6.49</b>	<b>33.05</b>
Total in %	16%	32%	32%	20%	100%

4.9.8 The expenditure schedules by source of finance for the entire project and for the ADF project are as follows:

**Table 4.9**  
**Project Expenditure Schedule by Source of Finance**  
(in UA million)

Source	2001	2002	2003	2004	Total
ADF	3.58	7.81	7.81	4.81	24.00
BOAD	0.84	1.82	1.82	1.12	5.60
EDF	6.34	13.74	13.74	8.46	42.28
ABEDA, IDB and KfW	3.63	7.86	7.86	4.84	24.19
Guinea	1.11	0.83	0.83	0.48	3.25
Mali	0.70	0.60	0.60	0.36	2.26
Total	16.19	32.66	32.66	20.06	101.57
	16%	32%	32%	20%	100%

**Table 4.10**  
**ADF Project Expenditure Schedule by Source of Finance**  
(in UA million)

Source	2001	2002	2003	2004	Total
ADF	3.60	7.80	7.80	4.80	24.00
BOAD	0.84	1.82	1.82	1.12	5.60
Guinea	0.28	0.38	0.38	0.23	1.28
Mali	0.63	0.60	0.60	0.35	2.18
Total	5.35	10.60	10.60	6.50	33.05
	16%	32%	32%	20%	100%

## **5. PROJECT IMPLEMENTATION**

### **5.1 Executing Agencies**

Each country will be directly responsible for the implementation of the project section on its national territory. Consequently, the Executing Agency for the Kankan-Kourémalé section of the project will be the DNIR on the Guinean territory; similarly, on the Malian territory, the Executing Agency for the Kourémalé-Bamako section of the project will be the DNTP. Each of these two Directorates has a service specialized in the monitoring of road works, and qualified staff.

### **5.2 Institutional Provisions**

5.2.1 A team of at least six (6) employees (two engineers from the DNTP, two engineers from the DNIR and an employee from each of the Directorates responsible for the environment in the two countries) will be permanently seconded to all the project worksites and will work in collaboration with the Consulting Engineers who will be recruited for the day-to-day monitoring of work on the field. The assignment of this team, whose qualifications and experience should be submitted beforehand to ADF for approval, is a loan condition for this project.

5.2.2 In view of the multinational nature of the project and its relative complexity, general coordination of the project will be ensured by the Joint Technical Committee set up during project studies, and which was efficient and functional during the studies and project preparation phase. The Technical Committee, coordinated by Guinea, comprises the Directors of the DNIR and DNTP, a representative of the Ministry of Planning (for Guinea), and of the Ministry of Public Works and Transport (for Mali). It will also include Directors responsible for the environment in the two countries. The Committee will provide the link between the different project participants (government services, contracting parties) and the donors, coordinate joint supervision missions by project donors, and assist in decision-making for all issues of common interest to project implementation. Secretarial services for the Committee will be provided by Guinea; the Committee will receive technical assistance funded by ABEDA. Establishment of this extended Committee is a project loan condition.

5.2.3 Work on the Kankan-Kourémalé section will be monitored by the Interurban Road Projects Technical Control Division of the DNIR; this Division is quite experienced in the monitoring of projects and has adequate staff and organization. As for the Bamako-Kourémalé section, it will be monitored by the Technical Studies and Works Division (DETT) and the Roads Reinforcement Service (SRR) of the DNTP which has long experience in similar projects, including ADF projects in Mali.

5.2.4 Qualified and experienced consulting firms will be recruited to inspect and monitor works and the concurrent implementation of environmental measures. Under the authority of the DNIR and DNTP, they will conduct field monitoring of the works as well as technical quality and environmental control; they will also take note of the work done and the billing, and prepare project implementation reports.

### **5.3 Implementation and Supervision Schedules**

5.3.1 Implementation of the project will run from April 2001 to May 2004, or about 38 months. The project implementation schedule, presented in Annex 4, may be summarized as follows:

## Implementation Schedule

<b>Activities</b>	<b>Responsibility/Actions</b>	<b>Date</b>
Loan approval	ADF	April-2000
Loan signature	ADF	May-2000
Publication of the General Procurement Notice	ADF/Governments	May-2000
<b><u>A.1-Bridges and Road works</u></b>		
Preparation and approval of BD	DNIR/DNTP/ADF	August-2000
Invitation to tender	DNIR/DNTP	Oct-2000
Submission of bids	ENTERPRISE/DNIR/DNTP	Dec-2000
Evaluation of bids and signing of contracts	DNIR/DNTP/ADF/ENTERPRISES	March-2001
Works start-up	ENTERPRISE/DNIR/DNTP	<b>April-2001</b>
End of works	ENTERPRISE/DNIR/DNTP	<b>April-2004</b>
<b><u>A.2-Environmental Measures</u></b>		
Compensation and vacation of the land required for road construction	Governments of Mali and Guinea	Dec-2000
Environmental improvement works	DNIR/DNTP	May-2004
<b><u>A.3-Works Supervision and Monitoring</u></b>		
Preparation and approval of BD and short lists	DNIR/DNTP/ADF	June -2000
Invitation to tender	DNIR/DNTP	August-2000
Submission of bids	CONSULTANTS	Oct-2000
Evaluation of bids and signing of contracts	DNIR/DNTP/ADF	Dec-2000
Support for the evaluation of bids for works	CONSULTANT	Dec-2000
Start of supervision	CONSULTANTS/DNIR/DNTP	<b>April-2001</b>
End of supervision	CONSULTANT/DNIR/DNTP	<b>May-2004</b>
<b><u>A4- Audit of the project</u></b>		
Preparation of short lists	DNIR/DNTP	April-2001
Invitation to tender	DNIR/DNTP	June-2001
Submission of bids	CONSULTANTS	July-2001
Evaluation of bids and signing of contracts	DNIR/DNTP/ADF/CONSULTANTS	Oct-2001
Start of services	CONSULTANTS/DNIR/DNTP	April-2002
End of services	CONSULTANTS/DNIR/DNTP	July-2004
<b><u>A5- Capacity Building</u></b>		
Training needs and selection of trainers	DNTP/ADF/Trainers	June-2001
Shopping and supply of equipment	DNTP/Suppliers	Sept-2001
Start of training	Trainers/DNTP	Sept-2002
End of training	Trainers/DNTP	Sept-2003

5.3.2 Upon approval of the loans, the Bank will send a project-launching mission, subsequently undertake supervision missions at least once a year, and on such occasions prepare detailed supervision reports. These supervision missions should be coordinated with those by the other cofinanciers. A project mid-term review mission will be undertaken with all the donors of the project. The predictive schedule and composition of the different missions are shown in the table below.

**Table 5.1**  
**Estimated Supervision Schedule**

Date	Activity	Composition of mission	Duration in s/wk
12/06/2000	Launching	- Project officer (Transp. Eng. or Econ.) , Disbursement officer, Procurement officer	3.6
12/02/2001	Verification of vacation of the land required for the road construction	- Project officer (Transp. Eng. Or Econ.) and an Expert in Cross-cutting Issues	2.0
10/12/2001	Supervision	- Project officer (Transp. Econ.) and Expert Pub. Works Eng.	4.3
15/06/2002	Supervision	- Project officer (Transp. Econ.), Consultant specialist in bridges and an Expert in cross-cutting issues	5.3
15/06/2003	Project mid-term review	- Project officer (Transp. Econ.) and Expert Pub. Works Eng.	4.3
15/06/2004	Supervision	- Project officer (Transp. Econ.) and Expert Pub. Works Eng. And an Expert in cross-cutting issues	5.3
15/05/2005	Completion Report	- 1 Transp. Eng., 1 Transp. Econ. and 1 Expert in cross-cutting issues	5.3

#### 5.4 Procurement of Goods, Works and Services

5.4.1 All procurements for the project sub-components financed by the ADF will comply with its rules of procedure; furthermore, the bidding documents and requests for tenders will be based on standard Bank documents or accepted by the Bank. The public contracts codes of Guinea and Mali have been analyzed and deemed acceptable. A General Procurement Notice will be issued and published in "Development Business" upon approval of the loan by the Board of Directors. The modalities for the various procurements to be made under the project are summarized in the table below:

**Table 5.2**  
**Provisions relating to the Procurement of Works and Services**  
(UA million)

Expenditure Categories	ICB	LCB	Others**	Short List	Other than ADF*	Total
A. Bridges	10.78 [9.63]					10.78 [9.63]
B. Road works	19.66 [12.32]				63.63 [0.0]	83.29 [12.32]
C. Environmental measures					1.36 [0.0]	1.36 [0.00]
D. Consultancy services						
D.1 - Inspect. and monitoring				1.83 [1.83]	3.83 [0.0]	5.66 [1.83]
D.2 - Audit				0.15 [0.15]		0.15 [0.15]
E- Support for DNIR and DNTP						
E.1- Equipment						
E.1.1- Computer equipment			0.02 [0.02]		0.02 [0.00]	0.05 [0.02]
E.1.2 – Vehicles					0.06 [0.00]	0.06 [0.00]
E.2 – Rehabilitation of premises					0.01 [0.00]	0.01 [0.00]
E.3 – Training			0.04 [0.04]			0.04 [0.04]
E.4 – Technical Assistance					0.18 [0.00]	0.18 [0.00]
<b>Total</b>	<b>30.44 [21.95]</b>		<b>0.06 [0.06]</b>	<b>1.98 [1.98]</b>	<b>69.09 [0.00]</b>	<b>101.57 [24.00]</b>

[ ]

ADF

\* Works and services procured in compliance with the procedures of EDF, Arab Funds and the two Governments.

\*\* National shopping for equipment and from specialized institutions for the training of DNTP employees.

### Road Works

5.4.2 All ADF-financed works will be procured through international competitive bidding. The bridges to be constructed in Guinea will form a single package; the same will apply to the road works in Mali.

### Consultancy Services for Works Supervision

5.4.3 Consultancy services for works supervision and monitoring will be procured through two invitations to bid on the basis of a short list, one for the supervision of the construction works of two bridges in Guinea and the other for the supervision of ADF-funded road works in Mali.

### Environmental Measures

5.4.4 The procedures of the two Governments will be used in compensating the affected population, replanting trees, monitoring, as well as sensitizing and training in environment, totally financed by the two Governments.

### Audit

5.4.5 Consultancy services for project audit will be procured through two invitations to bid on the basis of short lists. The cost estimates for these services are UA 75,000 each; consequently, publication of the notice of the competitive bidding will be local.

### Computer Equipment, Rehabilitation of Premises and Training Courses for the DNTP

5.4.6 Computer equipment costing UA 23,600 will be procured through national shopping. Rehabilitation of offices by Mali at the cost of UA 14,610 will be procured in accordance with the existing public contracts procedure in the country. The training programmes, costing about UA 38,211 will be prepared and implemented by consultants, training and consulting firms to be recruited through national shopping. In fact, the value of each contract will not exceed UA 30,000. For training modules covering a few weeks to two (2) months, the DNTP may procure the services through direct negotiation or recruitment of individual consultants based on the information it has or which could be provided by the Bank.

### Review Procedures

5.4.7 The following documents will be submitted to the Bank for review and approval before publication:

- i) Specific procurement information notes;
- ii) Bidding documents or invitation letter to the consultants;
- iii) Bid evaluation reports with recommendations on contract award; and
- iv) Draft contracts if those in the bidding documents have been modified.

## **5.5 Disbursement Provisions**

Disbursements will be made in compliance with the relevant Bank procedures. Specifically, disbursements for works, consultancy services for works supervision and project audit, as well as for computer equipment and consultants responsible for training will be made by direct payment to the various contracting parties. Requests for direct payment or disbursement for works (roads and bridges) will apply only to amounts exceeding UA 20,000.

## **5.6 Monitoring and Evaluation**

5.6.1 Each executing agency will submit a report on project implementation to the Bank every quarter. The report will draw on data to be provided by the works supervision and monitoring missions. From project start-up, the Bank will undertake launching and supervision missions. The supervision missions should, in particular, try to prevent any project implementation problems and coordinate the activities of the different project donors.

5.6.2 The executing agencies, assisted by employees of the Directorate in charge of the environment in each of the two countries and the Consulting Engineer, will conduct the environmental monitoring of the project.

5.6.3 On completion of road maintenance works, the DNIR (Guinea) and DNTP (Mali) will each organize, for 5 years on the road section within their respective territories, an annual traffic counting campaign and origin-destination survey to verify the traffic assumptions and assess vehicle operating costs; this is a loan condition for the present project.

5.6.4 The overall monitoring and coordination with the various donors of the project will be ensured by the Joint Technical Committee, which will forward a semi-annual report to ADF and the other donors. ADF will also participate in the annual donors' meetings on the sector and in joint project supervision missions by donors.

## **5.7 Audit Reports**

The project accounts will be kept separately in each of the two countries by the services responsible for administrative and financial affairs of the executing agencies. These accounts will be audited by an external audit firm. The annual audit of the project will be conducted during the implementation period and the two Governments will regularly transmit the related reports to the Bank.

## **5.8 Coordination with Other Donors**

5.8.1 Transport sector aid in the two countries will be coordinated within consultation and operating frameworks based on policy and strategy papers adopted following broad internal and external consultations by the two Governments. For example, since 1994, the Government of Mali has set up a Transport Sector Programme (TSP) financed by several donors (IDA, AFD, BOAD, ADF, ABEDA, Arab Funds, etc.). This programme is reviewed periodically with the donors; the last review took place in March 1998 in Bamako. The Bank was not represented in the review, but it is regularly kept informed and has had the opportunity during supervision missions in the country to exchange views on related issues with the authorities of Mali, the TSP Coordinator and the EDF.

5.8.2 Furthermore, as regards the integration of their economies, Guinea and Mali have instituted periodic meetings of their Ministers of Foreign Affairs; joint sectoral committees have been set up to monitor issues of regional interest in each sector. Coordination of these committees alternates every two years. That is why at the time of conducting studies on the Kankan-Kourémalé-Bamako road, such a committee was set up; it mobilized the required funding and ensured the completion of this Bank-financed study under good conditions.

5.8.3 Concerning this project, the various Bank missions to the two countries had discussions with the donors represented there. Furthermore, regular contacts have been established with the donors, cofinanciers of the project, through three round tables and meetings during annual meetings of the Bank and IDB. During project implementation, in addition to joint supervision missions, a mid-term

review of project activities will be conducted. These meetings will be scheduled and coordinated by the Joint Technical Committee.

## **6. PROJECT SUSTAINABILITY AND RISKS**

### **6.1 Recurrent Costs**

The current costs of the project mainly consist in routine maintenance costs and, to a lesser extent, periodic maintenance costs due to the dense-graded bituminous mix used for the road surface, which has a much longer lifespan than surface coating, provided that the routine maintenance is properly done. These costs are estimated in constant currency for the life of the project at FF 43.11 million or UA 5.28 million, comprising UA 3.33 million for Guinea and UA 1.95 million for Mali, and representing 2.1% and 1.9% of the annual budget estimates for road maintenance in Guinea and Mali, respectively.

### **6.2 Project Sustainability**

6.2.1 On project completion, each section will be taken over by the services responsible for road maintenance in each of the two countries, i.e. the DNIR for the Guinea section and the DNTP for the Mali section. Most of the periodic maintenance works are entrusted to private enterprises which have the suitable equipment to carry out the works properly.

6.2.2 Road maintenance faces the problem of availability of financial resources. In fact, there have been accumulated delays in the maintenance of road networks in the two countries due to the allocation of insufficient resources, and inconsistency between budgetary estimates and actual allocations. Consequently, with the consent of the donors, the two countries have initiated appropriate reforms to each establish an autonomous and viable road fund. The related studies, consultations and draft legal documents have been conducted and/or prepared. That is why the effective establishment of the second-generation road fund in Mali and Guinea is a loan condition for this project.

6.2.3 The resources of these Road Funds will come from direct allocation of taxes on petroleum products, access dues (business license, vehicle tax, etc.) and tolls on some crossings (bridges) on the territory of the two countries the budget headings of which will be defined after the ongoing general studies on toll gates in the two countries. The Road Funds will be managed by an agency comprising the administration, road users and operators in the sector. The results of the studies on the establishment of road funds and the ensuing consultations showed, without excessive taxation, real possibilities of providing the funds with regular and adequate resources to carry out all routine maintenance works.

### **6.3 Major Risks and Mitigating Measures**

6.3.1 The quantifiable project benefits, namely widespread reduced costs, different traffic categories and their annual increase depend on three basic assumptions: (i) total project implementation within schedule is a prerequisite for return on the capital invested, and achievement of the objectives of accessibility and sub-regional integration; (ii) the traffic deviated from the Ivorian corridor and, to a less extent, the Senegalese corridor depends on the volume of imports into and exports from Mali throughout the life of the project, and therefore on the vitality of the Malian economy; (iii) the estimated growth rates applied to the normal and induced traffic will essentially be based on the output of the project area and recovery of the national economy of Guinea and Mali. Achievement of the benefits and expected economic rates of return are therefore contingent on these assumptions. That is why, to verify the validity of these assumptions, the conduct of traffic counts and origin–destination surveys by the two Governments a few months after the commissioning of the road is a loan condition for this project.



6.3.2 Since the rate of return of the project depends on the need for close coordination, the first project risk lies in: (i) multiplicity of donors who should mobilize their respective contributions to facilitate total implementation of the project in a single phase; and (ii) the mobilization and availability of the counterpart contribution by the two Governments in line with the disbursement profile. This risk is mitigated by the fact that: (i) the project donors, other than the ADF, have already approved their financing agreements; moreover, it has been agreed that during project implementation, joint supervision missions and mid-term reviews should be undertaken by all the donors; and (ii) the two Governments have already included their counterpart contribution to the project in their investment programme; availability of this contribution in compliance with the disbursement profile is a loan condition for the project.

6.3.3 The second risk concerns the deviated traffic of which the forecast level may reduce significantly or even be marginal if the competitiveness of the Conakry port (security, tariffs, productivity) is not effective, and the police roadblocks along the highways are not reduced. The two countries have adopted and started implementing ECOWAS measures concerning the free movement of persons and goods, particularly the issue of the vehicle insurance brown card, the establishment of a committee for monitoring programmes on the free movement of persons and transport, the national transit operations guarantee and the Inter-State road transit procedure. As regards reduction of congestion in the Conakry port, there is an ongoing study, financed by German Cooperation, on technical and institutional aspects, and the Conakry port has placed an area at Mali's disposal to facilitate its external trade.

## **7. PROJECT BENEFITS**

### **7.1 Generalities**

7.1.1 The alignment of the road as well as the design of the carriageway and road structures are based on a feasibility study and the ensuing detailed engineering studies. Moreover, the studies were based on French ICTARN technical standards and take into account ECOWAS recommendations on the profile of community roads intended to facilitate regional integration.

7.1.2 Furthermore, the adopted alignment of the road follows, as much as possible, the existing road section and tries to pass through current population centres in improved operating and safety conditions, as well as to reduce the negative environmental impact of the project to the minimum.

7.1.3 The design of the carriageway, comprising a cement-stabilized laterite base and a bituminous concrete surface ranging from 4 to 5 cm, meets traffic requirements in terms of quantity and axle weight, while limiting costs.

7.1.4 Many direct, indirect, quantifiable and non-quantifiable benefits are expected from the implementation of this project, in particular :

- contribution to the integration of regional economies, the ultimate objective of ECOWAS of which Guinea and Mali are full-fledged members;
- accessibility to the project area throughout the year; this would result in greater mobility of factors of production and consumer goods;
- widespread reduction in transport costs (operating costs and waste of time) for all users of the project road, particularly for Mali's international trade;
- creation of jobs during the project implementation phase; and
- improvement of transport conditions (safety and comfort), as well as fewer accidents caused by poor state of the carriageway and alignment flaws.

7.1.5 The project will also generate specific benefits for the rural populations; the most significant benefits are as follows:

- the processing of agricultural products which will increase the incomes of farmers thanks to the opening up of large production areas through which the road passes;
- increase in agricultural and mining production as a result of possibilities of rapid access to large trading centres such as Bamako, Conakry, Kankan and Siguir; and
- poverty reduction among women, men, and unemployed youths as a result of the processing of products and increased output in the project area.

## **7.2 Economic Analysis**

7.2.1 The project is a priority operation for the two countries and fits perfectly into the regional integration pattern. The project is economically justified by its positive impact in terms of reduced average transport costs, increase in agricultural production in the project areas, and increase in the incomes of the rural population concerned. These aspects are reflected in the economic rates of return (ERR). The ERRs were calculated separately for the Kankan-Kourémalé section and the Kourémalé-Bamako section, and for the entire road on the basis of current and future traffic, generated and deviated traffic, vehicle operating costs, and routine and periodic maintenance costs. The data on the benchmark situation, the basic assumptions and the results obtained are listed below.

### **Basic Traffic**

7.2.2 The average normal traffic volumes weighted by the distances recorded in 1999, for all categories of vehicles, varied from one section to another, ranging from 178 and 287 vehicles/day. The most dense traffic situations were recorded near urban centres in Kankan (179 veh/d) and Bamako (2,093 veh/d). The lowest traffic (22 and 35 veh/d) were recorded on the Kourémalé - Naréna section in Mali, which portrays low trade between the two countries through this corridor, due to poor road service. The average weighted traffic (by distance) on the entire road is 218 veh/d.

### **Future Traffic**

7.2.3 The future traffic depends on the impact that the construction of the road with two bridges to replace the ferries will have on permanent accessibility, the mobility of goods and factors of production, reduced travel time and elimination of goods break bulk and distribution points between the different categories of vehicles. Furthermore, by making the Guinean road more competitive for Mali, the project will give comparative benefits to the Conakry port in comparison to its competitors: Bamako-Conakry corridor is shorter, improvement of the operational capacity and security conditions in the port, provision of a special warehouse for Mali, etc. It will therefore deviate to this port part of Mali's imports and exports, which increased from 948,813 tonnes in 1991 to 1,064,210 tonnes in 1995, representing an average annual growth rate of 2.9%. As regards the said comparative benefits, it is estimated that at least 18% of this overseas trade will each year pass through the Conakry port.

7.2.4 In the light of the foregoing, two traffic categories were considered, the normal traffic and the generated traffic (induced and deviated). These figures have led to growth rates which vary according to road sections and vehicle category between 2% and 8%. The highest growth concerns buses, which are not currently plying the roads, followed by heavy-duty trucks. Privately-owned vehicles (taxis) and pickups record the lowest growth rates, especially on the Kankan-Kourémalé section.

### **Economic Cost and Benefits**

7.2.5 The economic cost in question is the estimated cost of the project, less taxes and provision for inflation; it amounts to FCFA 84.42 billion (UA 94.88 million). Maintenance costs are also taken into account; these include periodic and routine maintenance as well as maintenance and operating costs of ferries.

7.2.6 The benefits expected from the project implementation have been determined on the basis of "project" and "no-project" scenarios over a period of 20 years. They are summarized as follows:

- a) Road works: (i) reduction in vehicle operating costs and routine maintenance costs; (ii) the residual value of the investment, estimated at 10% of the road construction costs.
- b) Structures (2 bridges): i) reduction in maintenance costs in comparison to the operating costs of ferries; (ii) shorter time to cross the river Niger and river Tinkisso.

### **7.3 Economic Rate of Return and Sensitivity Test**

7.3.1 The economic rates of return (ERR) are determined on the basis of the HDM model developed by the World Bank. Factors considered in this model are: the traffic, traffic growth, the operating costs of vehicles and ferries, the cost of the proposed road works, routine maintenance costs, the length of the road sections, the state of the road and the geometric and structural characteristics of the road in the "project" and "no-project" situations.

7.3.2 The ERR is 14.20% for the entire road. On the Kankan-Kourémalé section, the ERR stands at 13.30% and on the Kourémalé-Bamako section at 19.70 %. These rates are higher than the opportunity costs of the capital estimated at 12%. Moreover, the sensitivity tests show that the ERRs are relatively stable despite variations in costs (+10%) and benefits (- 10%). The project is therefore economically justified.

## **8. CONCLUSIONS AND RECOMMENDATIONS**

### **8.1 Conclusions**

8.1.1 The Kankan-Kourémalé-Bamako road provides an extremely important link for the economic and social development of the North-West regions of Guinea and South-East Mali; its construction will contribute to providing Mali with an external trade route that is more economical than the existing roads and will strengthen the economic ties between the two countries.

8.1.2 Moreover, all the required technical and economic studies on the project have led to the design of a justified engineering project. The studies also helped to identify the environmental risks and determine adequate mitigating measures.

8.1.3 Considering the economic rates of return which range from 13.30% to 19.70% depending on the road section, and unquantified economic benefits such as the increase in and processing of agricultural products, the project is economically viable. Furthermore, given the measures taken to protect the environment, the project will not have any significant negative impact; on the other hand, the shorter transportation time resulting from the project will improve social mobility and thereby facilitate access by the population to the administrative and health centres.

### **8.2 Recommendations**

In view of the foregoing, it is recommended that the Governments of Guinea and Mali be granted an ADF loan not exceeding UA 10.36 million and UA 13.64 million, respectively, for the implementation of the project as described in this report. The ADF (the Fund) loans will be subject to the following conditions:

#### A. Conditions precedent to entry into force of the loan agreements

In addition to fulfilment of the conditions under Section 5.01 of the General Conditions, entry into force of the loan agreements to be concluded with Guinea and Mali are subject to fulfilment of the following conditions by the two borrowing countries:

- i) Undertake to communicate to the Fund every six (6) months from works start-up, a monitoring report on the implementation of measures to mitigate the negative impacts on the environment (paragraph 4.6.9);
- ii) Undertake to conduct traffic counts and origin-destination surveys, not later than six (6) months following the commissioning of the road (paragraph 6.3.1).

#### B. Conditions precedent to the First Disbursement

The Governments of Guinea and Mali shall:

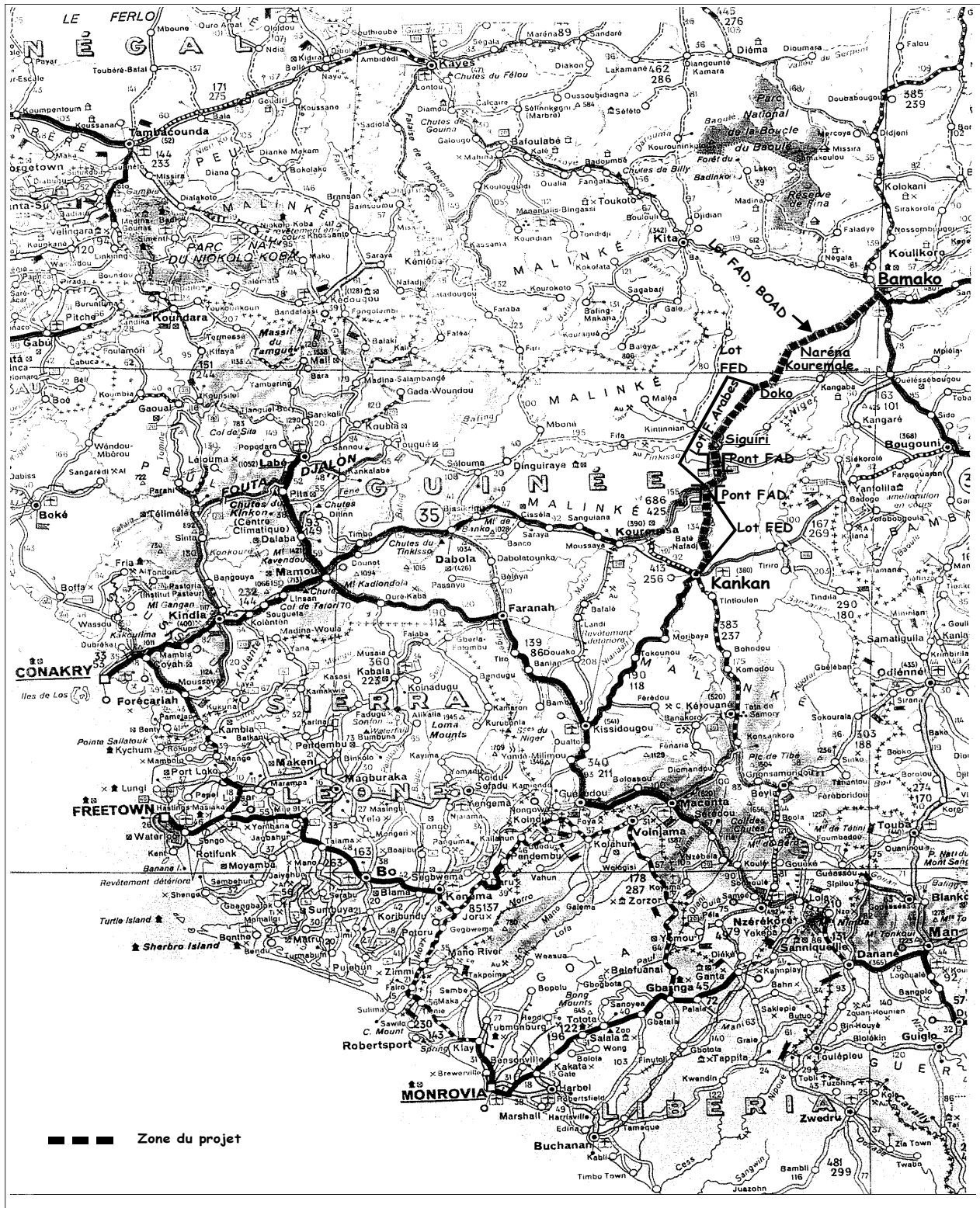
- i) Forward to the Fund the texts establishing an autonomous road fund and its administrative and management organs, and defining the modalities for providing resources to the fund (paragraph 3.5.5);
- ii) Provide the Fund with evidence of compensation of the population affected by the project (paragraph 4.6.9);
- iii) Provide the Fund with evidence of having seconded to the field, for the monitoring of the entire project, two (2) civil engineers from the DNIR, two (2) engineers from the DNTP and one (1) environmentalist from the Directorate of the Environment of each of the two countries; the qualifications and experience of these staff should be deemed acceptable beforehand by the Fund (paragraph 5.2.1);
- iv) Provide the Fund with evidence of having established Joint Technical Committee which will be coordinated by Guinea during project implementation. The Committee will comprise the Directors of the DNIR and DNTP, a representative of the Ministry responsible for the Plan in Guinea, a representative of MTPT in Mali and the Directors responsible for the environment in the two countries (paragraph 5.2.2);
- v) Provide the Fund with evidence that all the financing agreements have been concluded with the other donors of the project or that the donors have undertaken to finance the said project (paragraph 5.9.1);
- vi) Provide the Fund with evidence of having included in the budget for the year 2000 the amount of counterpart contributions by each Government in accordance with the disbursement schedule (paragraph 6.3.2) ;

C. Other Conditions

Furthermore, the Governments of Guinea and Mali shall:

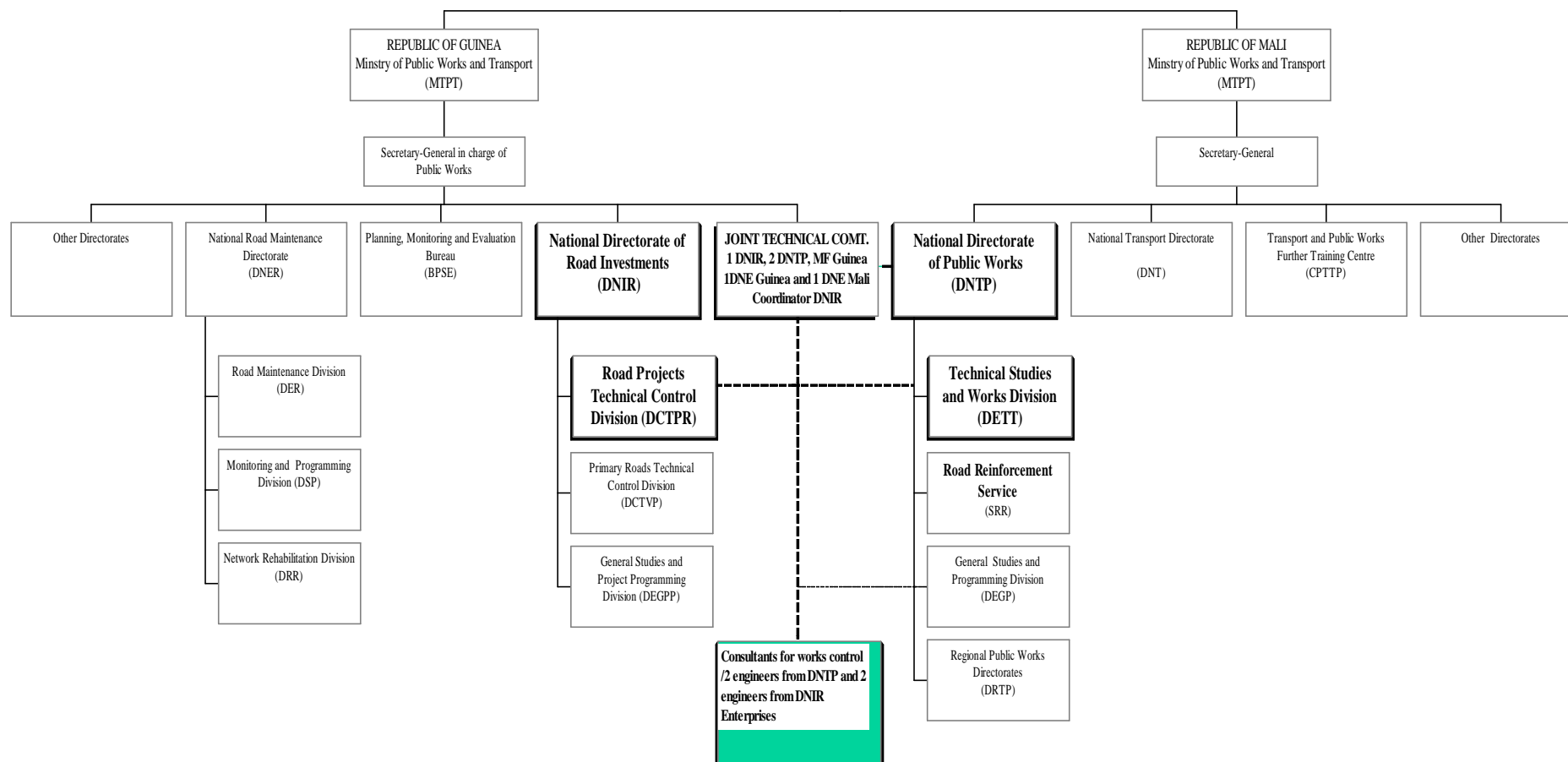
- i) Provide the Fund, not later than 30/04/2002, with evidence of having allocated adequate resources to the road fund, in particular a minimum of FG 12 billion for the road fund in Guinea and FCFA 8 billion for the road fund in Mali (paragraph 3.5.5);
- ii) Communicate to the Fund, not later than 30 April each year (from 2002 to 2005), for assessment, the budget allocated to the road fund and the balance sheet of its use for the preceding year (paragraph 3.5.5);
- iii) Communicate to the Fund, every six (6) months after works start-up, a report on the monitoring of measures to mitigate the negative impacts of the project on the environment, until the end of the works (paragraph 4.6.8);
- iv) Communicate to the Fund not later than six (6) months following the commissioning of the entire road, the results of the traffic counts and origin-destination surveys conducted on the road (paragraph 6.3.1); and
- v) Provide the Fund, every six (6) months as from January 2001 until the end of the works, with evidence of availability of the counterpart contribution in the national budget to make payments in compliance with the expenditure schedule defined at project appraisal or approved during project implementation (paragraph 6.3.2).

**MULTINATIONAL GUINEA-MALI  
KANKAN-KOUREMALE-BAMAKO ROAD PROJECT  
MAP OF THE PROJECT AREA**



This map has been prepared for the exclusive use of the readers of the report to which it is attached. The names used and the borders shown on this map do not imply, on the part of the ADB Group and its members, any judgement on the legal status of any territory nor any approval or acceptance of these borders.

**MULTINATIONAL GUINEA- MALI  
KANKAN-KOUREMALE-BAMAKO ROAD PROJECT  
ORGANIZATION CHART OF THE EXECUTING AGENCY**



**Expenditure Categories for the Entire Project**  
(in UA million)

Categories	ADF			BOAD			EDF			IDB/BADEA/FKW			Guinea			Mali			Total		
	F.E.	L.C.	Total	F.E.	L.C.	Total	F.E.	L.C.	Total	F.E.	L.C.	Total	F.E.	L.C.	Total	F.E.	L.C.	Total	F.E.	L.C.	Total
<b>A- Bridges</b>	8.07	0.41	8.48											1.01	1.01				8.07	1.42	<b>9.49</b>
<b>B- Road works</b>	10.94		10.94	3.77	1.13	4.90	29.85	5.27	35.11	17.75	2.04	19.80		1.09	1.09		1.47	1.47	62.31	11.00	<b>73.31</b>
<b>C- Environmental measures</b>																					
C1 - Compensations														0.75	0.75		0.44	0.44		1.19	1.19
C2 – Environmental monitoring														0.11	0.11		0.06	0.06		0.17	0.17
Total C														0.86	0.86		0.50	0.50		1.36	<b>1.36</b>
<b>D- Supervision and monitoring</b>	1.45	0.16	1.61				1.90	0.21	2.11	1.13	0.13	1.25							4.47	0.50	<b>4.97</b>
<b>E- Audit</b>	0.13	0.02	0.15																0.13	0.02	<b>0.16</b>
<b>F- DNTP and DNIR capacity building</b>																					
F1 – Equipment	0.02		0.02							0.08	0.01	0.09							0.10	0.01	0.11
F2 – Training	0.04		0.04																0.04		0.04
F3 – Rehabilitation of premises																	0.01	0.01		0.01	0.01
F4 – Technical Assistance										0.17		0.17		0.01	0.01				0.17	0.01	0.18
Total F	0.06		0.06							0.25	0.01	0.26		0.01	0.01		0.01	0.01	0.31	0.03	<b>0.34</b>
<b>G- Not allocated</b>	2.51	0.24	2.76	0.50	0.19	0.70	4.04	1.01	5.05	2.41	0.47	2.88		0.29	0.29		0.29	0.29	9.46	2.49	<b>11.95</b>
<b>Total</b>	<b>23.16</b>	<b>0.84</b>	<b>24.00</b>	<b>4.27</b>	<b>1.33</b>	<b>5.60</b>	<b>35.78</b>	<b>6.49</b>	<b>42.28</b>	<b>21.54</b>	<b>2.65</b>	<b>24.19</b>		<b>3.25</b>	<b>3.25</b>		<b>2.26</b>	<b>2.26</b>	<b>84.75</b>	<b>16.82</b>	<b>101.57</b>

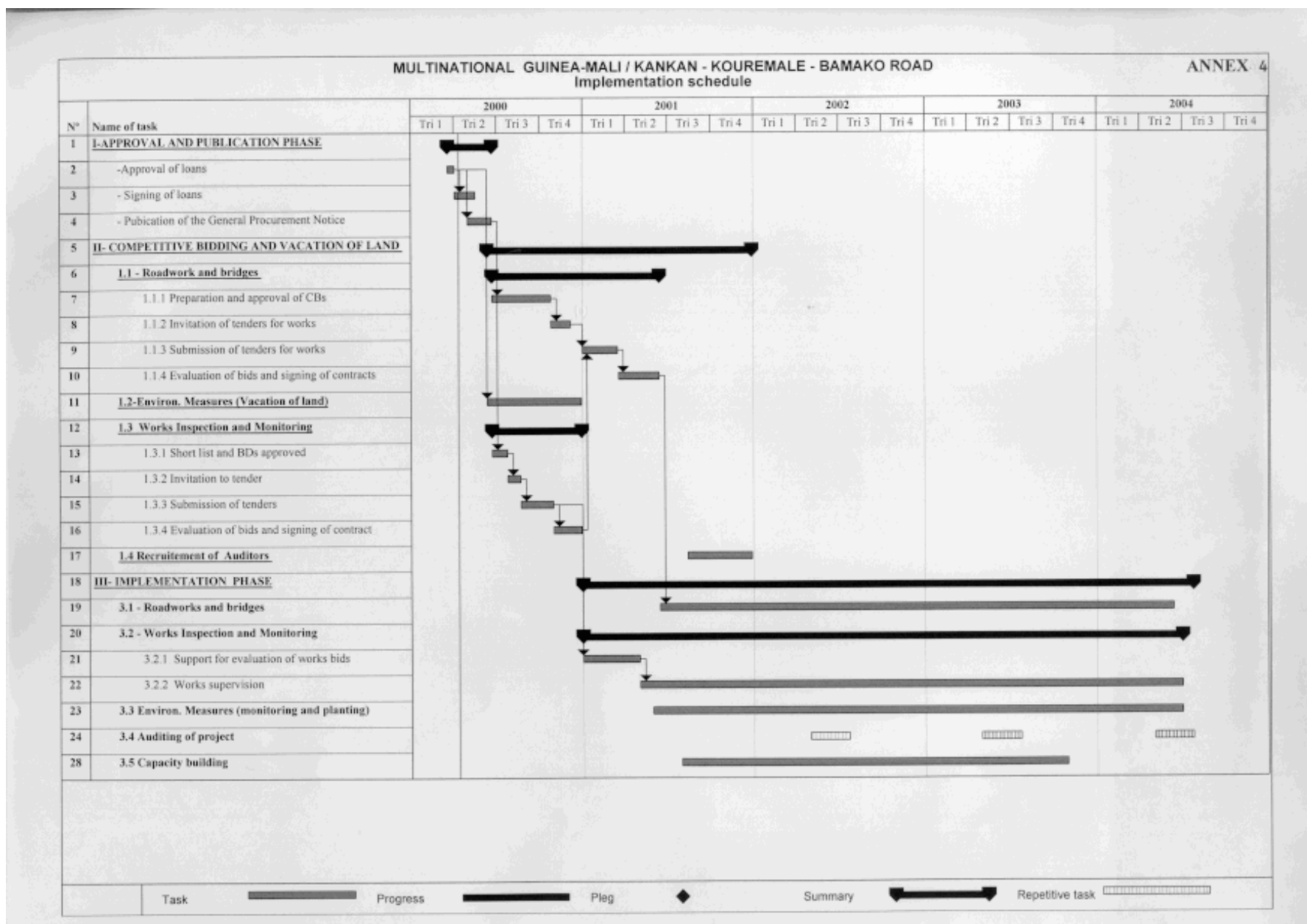


**Estimated List of Expenditure Categories**

Categories	in FCFA million			in US\$ million			in UA million			COFINANCIER (in UA million)					
	F.E.	L.C.	Total	F.E.	L.C.	Total	F.E.	L.C.	Total	ADF	BOAD	EDF	Arab Funds (IDB, FKW and BADEA)	Gov't Guinea	Gov't Mali
<b><u>1- Goods</u></b>															
1.1 Computer equipment	42.00		42.00	0.06	0.00	0.06	0.05	0.00	0.05	0.02			0.02		
1.2 Vehicles	56.00		56.00	0.09	0.00	0.09	0.06	0.00	0.06				0.06		
<b><u>2- Works</u></b>															
2.1 Bridges	7 178.68	1 266.83	8 445.51	11.05	1.95	13.00	8.07	1.42	9.49	8.48				1.01	
2.2 Roads	55 440.75	9 786.30	65 227.06	85.34	15.06	100.40	62.31	11.00	73.31	10.94	4.90	35.11	19.80	1.09	1.47
<b><u>3- Environmental measures</u></b>															
3.1 Compensations/Monitoring-sensitization		1 206.94	1 206.94		1.86	1.86		1.36	1.36					0.86	0.50
<b><u>3- Consultancy services</u></b>															
3.1 Supervision and monitoring	3 978.32	442.04	4 420.35	6.12	0.68	6.80	4.47	0.50	4.97	1.61	0.00	2.11	1.25	0.00	0.00
3.2 Audit	118.45	13.16	131.62	0.18	0.02	0.20	0.13	0.01	0.15	0.15	0.00	0.00	0.00	0.00	0.00
3.3 Technical Assistance	152.97	7.80	160.77	0.24	0.01	0.25	0.17	0.01	0.18				0.17	0.01	
<b><u>4- Others</u></b>															
4.1 Training	27.20	6.80	34.00	0.05	0.00	0.05	0.04	0.00	0.04	0.04					
4.2 Rehabilitation of premises	0.00	13.00	13.00	0.00	0.02	0.02	0.00	0.01	0.01	0.00					0.01
Base cost	67 036.38	12 771.86	79 737.24	103.13	19.60	122.74	75.30	14.31	89.61	21.24	4.90	37.22	21.31	2.97	1.98
Phy. & fin. Contingencies	8 405.58	2 233.26	10 638.84	12.94	3.44	16.38	9.45	2.51	11.96	2.76	0.70	5.05	2.88	0.29	0.29
<b>Total cost</b>	<b>75 441.96</b>	<b>15 005.12</b>	<b>90 376.08</b>	<b>116.07</b>	<b>23.04</b>	<b>139.11</b>	<b>84.75</b>	<b>16.82</b>	<b>101.57</b>	<b>24.00</b>	<b>5.60</b>	<b>42.28</b>	<b>24.19</b>	<b>3.25</b>	<b>2.26</b>

**DETAILED COST OF THE CAPACITY BUILDING COMPONENT**

Description	ADF/Government of Mali					BADEA/Government of Guinea			
	Qty	U.P.	Total in FCFA	Total in US \$	Total in UA	Qty	Total in FCFA	Total in US \$	Total in UA
Computer system (Computers +Printers+modem)	4	2 000 000	8 000 000	12 314	8 991	5	10 000 000	15 393	11 239
UPS	6	500 000	3 000 000	4 618	3 372	5	2 500 000	3 848	2 810
Photocopiers	1	4 000 000	4 000 000	6 157	4 495	1	4 000 000	6 157	4 495
Scanners	1	1 500 000	1 500 000	2 309	1 686	0	0	0	0
Software (Office98+HDM4+autres)	1	3 200 000	3 200 000	4 926	3 596	1	3 200 000	4 926	3 596
Subscription Internet	1	1 300 000	1 300 000	2 001	1 461	1	1 300 000	2 001	1 461
<b>Total computer equipment</b>			<b>21 000 000</b>	<b>32 325</b>	<b>23 601</b>		<b>21 000 000</b>	<b>32 325</b>	<b>23 601</b>
<b>Rehabilitation of premises</b>	1	13 000 000	<b>13 000 000</b>	<b>20 011</b>	<b>14 610</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Vehicles</b>	0	14 000 000	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>56 000 000</b>	<b>86 200</b>	<b>62 936</b>
<b>Training</b>	1	34 000 000	<b>34 000 000</b>	<b>52 336</b>	<b>38 211</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Technical Assistance</b>	0			0			<b>160 773 469</b>	<b>247 475</b>	<b>180 688</b>
<b>Total</b>			<b>68 000 000</b>	<b>104 671</b>	<b>76 423</b>		<b>237 773 469</b>	<b>366 000</b>	<b>267 225</b>
ADF/BADEA contribution	90%		61 200 000	94 204	68 781	96,72%	229 974 499	353 995	258 460
Gov't contribution			6 800 000	10 467	7 642		7 798 970	12 005	8 765



**MULTINATIONAL : GUINEA-MALI**  
**KANKAN-KOUREMALE-BAMAKO ROAD**  
**AVERAGE NORMAL TRAFFIC BY VEHICLE CATEGORY**

Year	Kankan-Kourémalé Section (217 km)							Kourémalé-Bamako Section (127km)							Average Kankan-Bamako (344 km)						Total
	PV	Pickups	Minibuses	Buses	Trucks 2 to 3 axles	Art. trucks	Total	PV	Pickups	Minibuses	Buses	Trucks 2 to 3 axles	Art. trucks	Total	PV	Pickups	Minibuses	Buses	Trucks 2 to 3 axles	Art. trucks	
Growth Rate	2%	2%	7%	4%	2%	5%		5%	4%	6%	8%	3%	5%		4%	3%	6%	7%	2%	5%	
1999	43	44	9	1	39	41	178	110	74	38	4	34	27	287	66	54	20	3	38	36	218
2000	44	45	10	1	40	43	183	116	77	40	4	35	28	300	69	56	21	3	39	38	226
2001	45	46	11	1	41	45	188	122	80	42	4	36	29	314	72	58	22	3	40	40	235
2002	46	47	11	1	42	47	194	128	83	45	5	37	31	329	75	59	24	3	41	42	244
2003	47	48	12	1	42	50	200	134	87	48	5	38	32	344	78	61	25	4	41	44	253
2004	48	49	13	1	43	52	206	141	90	50	5	39	34	360	81	63	27	4	42	46	263
2005	49	50	14	1	44	55	213	148	94	54	6	41	36	377	84	65	28	4	43	48	273
2006	50	51	15	1	45	58	219	155	97	57	6	42	38	395	87	67	30	5	44	51	283
2007	51	52	16	1	46	61	226	163	101	60	7	43	39	414	91	69	32	5	45	53	294
2008	52	53	17	1	47	64	233	171	105	64	7	44	41	434	94	71	33	5	46	56	306
2009	53	54	18	1	48	67	241	180	110	68	8	46	43	454	98	73	35	6	47	59	318
2010	54	55	20	1	49	70	248	189	114	72	9	47	46	476	102	75	38	6	48	62	330
2011	55	56	21	2	50	74	257	198	119	76	9	48	48	499	106	78	40	6	48	65	343
2012	56	57	23	2	51	77	265	208	123	80	10	50	50	522	110	80	42	7	49	68	357
2013	57	58	24	2	52	81	274	219	128	85	11	51	53	547	115	82	45	7	50	72	371
2014	58	59	26	2	53	85	283	230	133	90	12	53	55	574	119	85	47	8	51	75	386
2015	59	61	28	2	54	89	292	241	139	96	13	55	58	601	124	87	50	8	52	79	402
2016	60	62	30	2	55	94	302	253	144	102	14	56	61	630	129	90	53	9	54	83	418
2017	62	63	32	2	56	99	313	266	150	108	15	58	64	660	134	93	57	9	55	87	435
2018	63	64	34	2	57	103	324	279	156	114	16	60	67	692	140	95	60	10	56	91	452
2019	64	66	36	2	58	109	335	293	162	121	17	61	71	726	145	98	64	11	57	96	471
2020	65	67	39	2	59	114	347	308	169	128	19	63	74	761	151	101	67	12	58	101	490
2021	67	68	41	2	61	120	359	323	175	136	20	65	78	798	157	104	71	12	59	106	510
2022	68	70	44	2	62	126	372	339	182	144	22	67	82	837	164	107	76	13	60	111	531
2023	69	71	47	2	63	132	385	356	190	153	23	69	86	877	170	111	80	14	61	117	553
2024	71	72	51	3	64	139	399	374	197	162	25	71	90	920	177	114	85	15	63	123	576







**ANALYSIS OF ERR SENSITIVITY**

ROAD SECTION	H1: Assumption 1 variation of (+) 10% of the cost		H2: Assumption 2, variation of (-) 10% of benefits		H3: Assumption 3, variation of (+) 10% of cost and (-) 10% of benefits	
	ERR in %	NPV in FF million	ERR in %	NPV in FF million	ERR in %	NPV in FF million
Guinean section (Kankan - Kourémalé)	12.10	5.68	12.00		10.90	
Malian section (Kourémalé - Bamako)	18.40	196.31	18.20	173.97	16.90	146.87
Entire road (Kankan – Kourémalé- Bamako)	13.00	68.08	12.90	54.55	11.80	



MULTINATIONAL: GUINEA/MALIKANKAN-KOUREMALE-BAMAKO ROAD PROJECT-----  
**LIST OF DOCUMENTS USED**  
-----**A. GUINEA**

1. Textes organiques des services centraux du MTP (MTP)
2. Cadre des dépenses à moyen terme pour le secteur des Transports (MTPE, février 1997)
3. Politique sectorielle (MTT, décembre 1996)
4. Rapport du Gouvernement sur la politique sectorielle (mai 1996)
5. Etudes de la route Kankan-Kourémalé-Bamako (Louis Berger/BCEOM, 1996/1997):
  - Etude de factibilité technique et économique;
  - Etude d'impact sur l'environnement (EIE);
  - Etude d'exécution.
6. Stratégie de développement socio-économique à l'horizon 2010 (MEF, décembre 1996)
7. Enquête intégrale sur les conditions de vie des ménages avec module budget et consommation 1994-1995, (MPCE)
8. Cadrage macro-économique (MPC, mai 1997) ;
9. Code des marchés publics de la Guinée ;
10. Etude de configuration d'un Fonds routier de 2<sup>ème</sup> génération, rapport final, BCEOM, juin 1999 ;
11. Lettre de politique routière, Ministère de l'Equipement, novembre 1998 ;
12. Décret n° D/99/026/PRG/SGG du 17/05/99 adoptant le lettre de politique routière de novembre 1998.

**B. MALI**

13. Etude de faisabilité pour la création d'une société de location de matériel (Janvier 1995);
14. Etude d'un programme prioritaire d'investissement 1994 - 1998 (Mars 1993);
15. Codes des marchés publics du Mali ( Novembre 1995);
16. Annuaire statistiques des transports (1994, et 1994);
17. Organigramme du Ministère des travaux publics et des transports (MTPT)- carte routière du Mali;
18. Code des marchés publics du Mali ;
19. Etude en vue de la refonte de la fiscalité routière au Mali, B.P. BAYLATRY, consultant, juillet 1997 ;
20. Etude de création d'un Fonds d'entretien routier, rapport final, M.O. MAIGA, Consultant, octobre 1998 ;
21. Projet sectoriel des transports, rapport d'avancement au 30/06/99, MTPT.