

AFRICAN DEVELOPMENT FUND



PROJECT COMPLETION REPORT

DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT

CHAD

INFRASTRUCTURE DEPARTMENT
CENTRAL & WEST REGIONS

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CURRENCY EQUIVALENTS

	<u>At appraisal</u> (April 1996)	<u>At PCR</u> (October 2001)
UA 1	= CFAF 735.210	CFA.F 926.001 CFAF
UA 1	= FF 7.35210	FF 9.26001
UA 1	= DM 2.15631	DM 2.76101
CFA.F 1	= UA 0.00136	UA 0.00107
FF 1	= UA 0.13602	UA 0.10799
DM 1	= UA 0.46376	UA 0.36219

Trend of exchange rate

Periods	UA/FF exchange rate (annual averages)	UA/CFA.F exchange rate (annual averages)	UA / DM exchange rate (annual averages)
1995	7.4139	741.39	2.1791
1997	7.9764	797.64	2.2683
1998	8.0229	802.29	2.0478
1999	8.3814	838.14	2.4985
2000	9.3848	938.48	2.7982
2001	9.3463	934.63	2.7867

FINANCIAL YEAR

1 January to 31 December

LIST OF ANNEXES

<u>Titles/Numbers</u>	<u>No. of pages</u>
1 Site map	1
2 Detailed implementation schedule	1
3 Project cost at appraisal and at completion (in million CFA F and UA)	2
4 Project financing sources and financing by component	1
5 Financing by category of expenditure (at appraisal and at completion)	1
6. Annual disbursement by financing source (at appraisal and at completion)	1
7 Loan agreement conditions	1
8 Calculation of internal rate of return	2
9 Performance evaluation and rating	2
10 Recommendations and follow-up measures	2
11 Borrower's contribution (borrower's PCR)	1
12 Information sources	1

ACRONYMS AND ABBREVIATIONS

AADT	:	Annual Average Daily Traffic
ABEDA	:	Arab Bank for Economic Development in Africa
ADB	:	African Development Bank
ADF	:	African Development Fund
BD	:	Bidding Document
CAER	:	Compte Autonome d'Entretien Routier (autonomous road maintenance fund)
DR	:	Direction des Routes (highways department)
ECI	:	Economic Cost of Investment
EU	:	European Union
FER	:	Fonds d'Entretien Routier (road maintenance fund)
HV	:	Heavy vehicles
IDB	:	Islamic Development Bank
INH	:	Inhabitants
IRR	:	Internal Rate of Return
LM	:	Linear Metre
LV	:	Light Vehicles
MCFA.F	:	Million CFA francs
MTPTHU:		Ministère des Travaux publics, des transports, de l'habitat et de l'urbanisme (Ministry of Public Works, transport, housing and town planning)
MUA	:	Million UA
OPEC	:	Organization of Petroleum Exporting Countries
PARDM	:	Project d'aménagement de la route Djermaya-Massaguet (Djermaya-Massaguet Road Construction Project)
PASET		Programme d'ajustement sectoriel des transports (transport sector adjustment program)
PCR	:	Project Completion Report
PIU	:	Project Implementation Unit
PR	:	Payment Request
PRONAT	:	Programme national des transports (national transport program)
PST2	:	Deuxième projet sectoriel des transports (second transport sector program)
V/d	:	Vehicles per day
VOC	:	Vehicle Operating Cost

BASIC DATA

1.	COUNTRY	:	CHAD
2.	LOAN NUMBER	:	F/TCH/AME-RTE/97/26
3.	BORROWER	:	Government of the Republic of Chad
4.	EXECUTING AGENCY	:	Ministry of Public Works, Transport, Housing and Town Planning

A LOAN

		<u>Estimate at appraisal</u>	<u>Actual</u>
1.	Amount (in million UA)	13.25	10.28 (*)
2.	Service charge	0.75%	0.75%
3.	Commitment charge	1%	1%
4.	Repayment period	50 years	50 years
5.	Grace period	10 years	10 years
6.	Negotiation date	**	3 - 4/12/96
7.	Approval date	18/12/1996	23/01/97
8.	Signature date	18/06/97***	11/02/97
9.	Loan effectiveness date	18/12/97***	30/07/97

(*) This amount covers the effective payments (MUA 10.27) and pending PRs (MUA 0.01) for the works and control thereof as well as the project's financial audit.

(**) It is assumed that the date fixed for negotiation was kept.

(***) The normal time-frame of six months from the approval and signature was considered respectively for these two dates.

B. PROJECT DATA

Project	Estimate at appraisal			Actual figures		
	Foreign exchange	LC	Total	Foreign exchange	LC	Total
1. Total cost (in million UA)	11.09	3.65	14.74	8.64	3.34	11.98
2. Financing plan (Million UA)						
ADF	11.09	2.16	13.25	8.64	1.64	10.28
Government		1.49	1.49		1.70	1.70
Total	11.09	3.65	14.74	8.64	3.34	11.98
3. Effective date of 1 st disbursement	July 1997			26 February 1999		
4. Deadline for last disbursement	31 December 2000			31 December 2002		
5. Date of commencement of project operations (updating of bidding document for works)	January 1997			12 January 1998		
6. Date of completion of project operations (end of activities of the Project Implementation Unit and end of final external audit of project accounts)	30 June 1999			31 August 2001		

C. PERFORMANCE INDICATORS

Title			
1. Loan balance after settlement of pending PRs (under final audit of the works and control thereof)	UA 2.97 million	22.42% of loan amount	
2. ADF share of additional works (provision and operation of boreholes for drinking water points in adjacent villages)	UA 0.665 million	5.02% of loan amount	
3. Loan balance after settlement of additional works	UA 2.305 million	17.40% of loan	
4. Time overrun / underrun as against schedule	Period	%	
* Slippage on effectiveness (required deadline)	4.6 months (underrun)	76.67%	
* Slippage on completion date envisaged	43.6 months	86.7%	
* Slippage on last disbursement	24 months	80%	
No. of last disbursement deadline extensions	1 (a)		
5. Project implementation status	Completed		
6. List of verifiable indicators and completion stage (in % of stages envisaged)	Quantity completed	%	
Length of paved road (in km)	47	100 %	
Vehicle	1	100%	
Computer	1	100%	
Printer	1	100%	
Photocopier	1	100%	
Office furniture (2 desks, 3 armchairs, 4 chairs, 3 tables and 3 cabinets)	1	100%	
7. Performance	Unsatisfactory	Fair	Satisfactory
Institutional performance		X	
Contractor's performance	X		
Suppliers' performance			X
Consultant's performance (Control mission)	X		
Consultant's performance (external accounts audit)			X
8. Profitability	Appraisal	completion	
Internal profitability rate	12.56%	13.9%	

(a) This extension should make for: i) the conduct of the final project audit, ii) the carrying out of additional works concerning the provision of boreholes for drinking water points, financed from the loan balance, and iii) the settlement of the last payments

D. MISSIONS

	Dates	No. of persons	Composition			Persons / day
			Civil Engineer	Transport Economist	Environmentalist	
1. Identification	na	0	na	na	na	na
2. Preparation	na	0	0	na	na	na
3. Appraisal	April/May 1996	2	1	1	-	30
4. Supervisions						
- Supervision 1	Sept./oct.1998	1	1	-	-	7
- Supervision 2	July 1999	1	1	-	-	15
- Supervision 3	Nov. /Dec.1999	2	1	-	1	30
- Supervision 4	May 2000	1	1	-	-	13
6. PCR	Oct. / Nov.2001.	2	1	1	-	32
Total		9	5	2	1	

E. DISBURSEMENTS (in million UA)

Years	1997	1998	1999	2000	2001	2002	Total
a) Disbursements envisaged under project	4.10	7.13	2.02	0	0	0	13.25
b) Disbursements made under project	-	-	5.15	4.52	0.5	0.09	10.27
c) Estimated loan balance before settlement of last PR	-	-	-	-	-	-	2.98
d) Payment request (pending) for audit, works and control	-	-	-	-	-	0.01	0.01 ⁽ⁱ⁾
e) Disbursements envisaged for additional works (utilization of loan balance)	-	-	-	-	-	0.665	0.665 ⁽ⁱ⁾
f) Estimated balance after settlement of (d) and (e)	-	-	-	-	-	0	2.305

⁽ⁱ⁾ : Payment request pending worth UA 0.01 million of which works (PR No. 75 of 2 147 545 CFAF, that is UA 2 381.13, control of works (balance of the PR No. 77 of 2 673 458 CFAF, or UA 2 964.24) and audit (PR No. 78 of 4 759 200 CFAF, or UA 5 276.85).

(i i) Unbilled works

F. MAIN CONTRACTORS, SUPPLIERS AND CONSULTANTS

- F.1** **Name** : **SATOM (France)**
Contract description : Djermaya –Massaguet road construction works
- i) **Contract**
Type of contract : Following international competitive bidding
Date of contract signature : 14/12/1998
Expiry date of contract : 31/10/2000
Contract period : 19 months
Contract price before taxes (in CFAF) : CFA.F 7 449 717 200 before taxes
- ii) **Contract amendment No. 1**
Date of signature of amendment : 15/08/2000:
Expiry date of amendment : 31/10/2000
Amendment period : 3 months
Amendment price before taxes (in CFA.F) : 793 110 608 CFA.F before taxes
- F.2** **Name** : **GELSENCONSULT (Germany)**
Contract description : Control and supervision of works
Type of contract : Following international competitive bidding on basis of short-list
Date of contract signature : 09/11/98
Expiry date of contract : 31/11/2000
Contract period : 21 months
Contract amount before taxes (in CFAF) : CFA,F 474 586 200 before taxes
- F.3** **Name** : **ERNST & YOUNG (Cameroon)**
Responsibility : Audit of project accounts
Type of contract : Following international competitive bidding on basis of short-list
Date of contract signature : 09/11/98
Expiry date of contract : 18/04/2000
Contract period : 21 days
Contract amount before taxes (in CFAF) : CFA.F 11 898 000 before taxes

F 4	<u>Name</u>	:	<u>TCHAMI TOYOTA</u> (France)
	Contract description	:	Supply of vehicle for the Unit
	Type of contract	:	Consultation of local supplier
	Date of signature of contract	:	21/07/1998
	Contract amount before taxes (in CFAF)	:	CFA.F 21 751 522
F 5	<u>Name</u>	:	<u>REPRO SERVICE</u> (Chad)
	Contract description	:	Supply of computer and photocopying equipment
	Type of contract	:	Consultation of local supplier
	Date of contract approval	:	5 July 1999
	Delivery date	:	21 days
	Procurement date	:	07/12/1999
	Contract amount before taxes (in CFAF)	:	CFA.F 14 418 047
F 6	<u>Name</u>	:	<u>DIASPORA</u> (Chad)
	Contract description	:	Supply of office furniture
	Type of contract	:	Consultation of local supplier
	Date of signature of jobbing order	:	8/06/1999
	Validity of order	:	21 days
	Procurement date	:	28/09/1999
	Contract amount before taxes (in CFAF)	:	CFA.F 1 975 000

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
LOGICAL FRAMEWORK

Prepared by : Mrs N. SENOU and Mr. M. AMARA

Hierarchy of objectives	Objectively verifiable indicators	Verification methods	Assumptions/Risks
<p><u>Sector Goal</u></p> <p>1 Reduction of transport costs on the priority network to help open up the country and foster regional integration</p>	<p>1.1 Significant drop in transport cost as from November 2000</p>	<p>1.1 National surveys of transporters by MTPTHU</p>	
<p><u>Project objective</u></p> <p>1 Sustainable improvement of the service level of the Djermaya-Massaguet link which is part of the regional highway linking Chad to Sudan.</p>	<p>1.1 Permanent link between Djermaya and Massaguet, as from November 2000</p> <p>1.2 Reduction of vehicle operating cost by 35% to 45%, as from November 2000</p> <p>1.3 Reduction of travel time by over 100% as from November 2000, owing to improved travel speed</p> <p>1.4 Overall improvement in traffic by 5% for light vehicles and 4.5% for heavy vehicles, as from November 2000</p>	<p>1.1 Recordings of traffic count by MTPTHU</p> <p>1.2 Calculation of VOCs</p> <p>1.3 Surveys conducted by MTPTHU</p> <p>1.4 Recordings of traffic count by MTPTHU</p>	<p>Building by other donors of the rest of the Massaguet-Abéché-Sudanese border highway</p>
<p><u>Achievements</u></p> <p>1. A 47 km paved dual carriageway built between Djermaya and Massaguet</p>	<p>(1.1) 47 km of paved road and 8 450 LM of kerb as well as 4 reinforced concrete culverts built in November 2000.</p>	<p>1.1 Implementation status and supervision reports, final implementation report, borrower's completion report, project audit report</p>	<p>1 Proper maintenance of the Djermaya-Massaguet road.</p> <p>2 Maintenance and proper use of drinking water points.</p>

EXECUTIVE SUMMARY

1. Introduction

1.1 Bank activities in Chad started in 1974, but its transport sector operations only date back to 1987. Three operations have been financed in this sector. As part of the implementation of the second transport sector project (PST2), the Government in 1994 requested the Bank to finance the construction of the 47 km Djermaya-Massaguet road, the subject of this project completion report (PCR), in order to mitigate the adverse effects of the poor state of this road. It is located in Département de Hadjer Lamis (former Chari Baguirmi Prefecture), and is part of the priority road network. It also constitutes a vital part of the 800 km N'Djamena-Abéché regional highway linking Chad to Sudan.

1.2 On the strength of various studies conducted, the ADF approved the financing of the project which seeks to cut transport costs and sustainably improve the Djermaya-Massaguet road's service level within the framework of construction of the aforementioned regional highway. The project as approved comprises a) construction of a 47 km road between Djermaya and Massaguet; b) control and supervision of the works; c) monitoring and coordination of the project; and d) audit of the project.

2. Preparation, Appraisal and Loan Effectiveness

Project preparation essentially comprised conducting the PST2 study financed by the World Bank, and feasibility studies financed by the Islamic Development Bank (IDB). At the Government's request, the project was appraised in June 1994 and reappraised in April/May 1996. The loan agreement was signed on 11/02/97 and became effective on 30 July 1997, about 5 ½ months after the signature of the agreement.

3. Project Implementation Performance

3.1 The project started in January 1998, with the updating of the bidding documents for the works. It was completed in August 2001 when the PIU's operations as well as the audit ended, that is a 26 (twenty-six)-month overrun as against the June 1999 appraisal forecasts, due mainly to delays in awarding contracts and to additional works. The latter were covered by Amendment No. 1, representing 9.56% of the contract amount. The implementation schedule drawn up at appraisal was realistic. The delays in project implementation had no financial impact on project cost.

3.2 On the whole, the project objectives have been achieved given that the service level of the Djermaya-Massaguet asphalted road has improved compared with the former deteriorated earth road. As it is now permanently passable compared with its situation at project appraisal, it helps to substantially reduce travel time and transport costs. Project cost remained within the estimated amount and the projected traffic is largely surpassed. The project's internal profitability rate of 13.9% is higher than estimated at appraisal. The project remains viable. Furthermore, the project objectives will be surpassed in terms of improving the living conditions in adjacent villages with the provision of drinking water points authorized by the Bank and financed from part of the loan balance. However, the sustainability of project objectives is subject to the repair of damage that has occurred and this must be done prior to final acceptance of the works.

4. Cost, Financing and Disbursement

4.1 The cost, exclusive of taxes, at project completion is UA 11.98 million, that is an 18.72% drop as against the estimate at appraisal. Of this amount, the ADF financed up to UA 10.28 million, or 85.81% of the project cost. The ADF disbursed UA 10.27 million. The Government's contribution to the project is worth about UA 1.7 million or 14.19% of total project cost.

4.2 Final payment requests totalling UA 0.01 million are pending at the Bank (disbursement Division). The Government has no arrears of payment of bills under the project.

5. Socio-Economic and Environmental Impact of the Project

5.1 Socio-Economic Impact: The project's service area, covering about 40% of the country's population, is a highly agricultural grain producing and stockbreeding area. Its production represents more than half of the country's. The implementation of the project has fostered good economic conditions, namely movement of people, marketing of goods produced and purchase of those imported into Chad, easy access to basic socio-economic infrastructure (education and health centres, markets, etc.), in neighbouring towns and Massaguet, or even the capital, N'Djamena, reduction of transport cost leading to the development of commercial activities, encouraging farmers to produce, considerable saving of time.

5.2 Environmental Impact. The project is classified under Category II. The few provisions to mitigate the project's adverse effects on the environment as contained in the contractor's specifications were not entirely well implemented. This created environmental problems mainly flooding in Massaguet in homesteads adjacent to the road, owing to the elevated roadway and the inadequate drainage systems, and the erosion of slopes. Chadian authorities have requested the Bank's financial assistance for these works estimated to cost about 250 million CFA francs. However, given that in April 2001, the Bank had already authorized the utilization of part of the loan balance (prior to the preparation mission of this PCR), for additional works – (provision of boreholes for drinking water points in adjacent villages), the opinion of the Legal Services Department was sought for the second utilization of the loan balance. Through its memo of 4 July 2002, the Department indicated that "in principle, there is no problem as far as the utilization of the balance is concerned, and this must be done in accordance with the relevant regulations. The legal opinion will only be expressed on the basis of an analysis of the borrower's request". Furthermore, the difficulties of access to certain adjacent villages were also noted owing to the non-restoration of the sites by the contractor upon completion of the works.

6. Performance of the Bank, the Borrower and the Executing Agency

6.1 Bank's Performance: The Bank ensured the application of the rules of procedure for the procurement of goods, works and services as well as the diligent execution of the project. It supervised the project on a regular basis. However, it authorized sand asphalt verge kerbs which the country finds difficult or even impossible to maintain. Considerable delays in payments were also noted (for works and controls carried out since 1999 and 2000), resulting in interest on arrears borne by the country, as well as the rather ill-organized settlement of certain payment requests (partially settled). In spite of a few shortcomings, the Bank's overall performance is considered satisfactory.

6.2 Borrower's Performance. The borrower fulfilled its commitments in terms of i) deadlines for signing the loan agreement and for loan effectiveness, ii) procurement procedure for goods, works and services, iii) submission of quarterly project implementation status reports and audit reports on a regular basis, iv) payment of the local counterpart funds, there are no arrears of payment. However, there were some delays in payment. Furthermore, there was no monitoring of the effective payment of the local counterpart funds, owing among others to the poor filing of relevant financial documents within the services in charge at the Ministry of Finance. The borrower's overall performance is considered satisfactory.

6.3 Performance of the Executing Agency. The executing agency submitted its project monitoring and coordination reports regularly. However, there were weaknesses in the technical monitoring of the works and in the accounting management of the local counterpart funds. The executing agent's performance is fair.

7 - Lessons Learnt and Recommendations

7.1 Lessons Learnt

The following lessons can be drawn from an analysis of the aforementioned elements:

- a.1) the importance of the choice and quality of the materials used as well as strict geotechnical control during the execution of works;
- a.2) risk of non-application of contract terms strictly and entirely, as concerns tree planting and the systematic restoration of access roads to adjacent villages upon completion of works;
- a.3) the need to envisage appropriate environmental protection measures in the project in order to ensure drainage of rainwater and durability of roadside slopes, especially in certain urban areas;
- a.4) the urgent need to ensure checks for leakages of oil products (diesel, lubricants) which have damaging effects on road surfaces;
- a.5) the need to ensure during project supervision missions, double-entry (debit-credit) accounting, according to standard practice, the taking of an annual inventory of the fixed assets acquired under the project and the regular supply of accounting documents on the payment of local counterpart funds;
- a.6) the negative impact of delayed disbursements by the Bank, on the borrower's financial charges and possibly on the project implementation schedule (interest on arrears borne by the Government); and
- a.7) the need for the borrower to mobilize, on a regular basis, sufficient financial resources to ensure road maintenance, so as to protect its roads.

7.2 Recommendations

A - For the Government

For the Djermaya-Massaguet Road Construction Project

a.1) On the Bank's recommendations, the Government financed an external expert's technical survey report of the works carried out. Following discussions on the expert's findings between the Bank and the executing agency, the latter plans to draw up another expert's report that will help to better determine the causes of the premature deterioration of the roadway as well as appropriate solutions. We strongly believe that such deterioration is due to the poor laying and quality of the materials. Repair should therefore be borne by the contractor. The sand asphalt verges should also be restored by the contractor. The executing agency should therefore ensure that the damage repair works are carried out in accordance with the technical solutions approved by it.

a.2) The trees already purchased under the project contract should be effectively planted by the contractor and preserved by it. The Forestry Department must be involved in all stages of that operation. Furthermore, it is the responsibility of the contractor to restore the access ways to adjacent villages to a passable state or at least to as good as they were prior to the works.

a.3) The Government should ensure that the road and environmental protection works are carried out (provision of riprapping, drainage of rainwater in Massaguet town, etc.), in order to protect the embankments, protect the road and avoid flooding around roadside dwellings.

a.4) The Government should encourage awareness campaigns among road users as part of the World Bank's "Support program of the National transport program", with emphasis on road protection so that the users should avoid the spilling of petroleum products (diesel, lubricants) on the roadway.

For Future Projects

a.5) In designing future projects, it will be necessary to avoid sand asphalt verges given the extreme difficulty in repairing them which requires setting up a permanent sand asphalt production unit.

a.6) The Government should ensure the use of a recognized accounting software and the keeping of a double-entry accounting system for projects, in accordance with the required norms. In the case of the Massaguet-Ngoura road which is about to start, the project accountant should: i) familiarize himself with the accounting procedures required by the Bank and ii) ensure that all fixed assets acquired under the project are inventoried for each accounting period.

a.7) The Government must also instruct the services of the Ministry in charge of Finance to ensure the proper conservation of the project's accounting documents in order to facilitate monitoring of payments by the executing agency and appropriate project accounting.

a.8) The Government should take appropriate measures to ensure sufficient funding of the FER in accordance with the commitments made vis-à-vis the donors.

B - For the Bank

- b.1) The Bank must ensure the repair of damage to the roadway and to verges;
- b.2) The Bank should, upon receipt of the 2nd request for the utilization of the loan balance, support the Government in financing the road and environmental protection works not carried out;
- b.3) In future, the Bank should avoid authorizing the utilization of a loan balance prior to establishing the proper performance of a project contract;
- b.4) The Bank must also avoid the late settlement of project-related payment requests, which entails interest on arrears borne by the Government; and
- b.5) The Bank should avoid partial settlement of payment requests, especially where there is no problem of funds.

1. INTRODUCTION

1.1 Chad's poorly diversified economy is largely centred on agriculture and stockbreeding. Given its communication problems, the vastness of its territory (1.284 million km²) is a major hurdle, heightened by the fact that the country is land-locked. Furthermore, its dispersed and unevenly distributed population of about 7.5 million inhabitants in 2000, of which 75% are rural dwellers, poses serious problems of internal trade and consequently of food security. The study and implementation of the project were conducted in a context marked by an economic recovery program and reform of the transport sector to support this program.

1.2 At the institutional level, several measures aimed at State divestiture from the transport sector were taken. The first one consisted in drawing up an interim development plan (1986-1988) which set the following objectives for the transport sector: i) reduction of transport costs, ii) institutional development and iii) the liberalization of the sector. To achieve these objectives, the Government successively implemented the transport sector adjustment program (PASET) covering the 1989-1993 period, and formulated the transport sector general policy statement. To reaffirm the objectives and pursue PASET actions, the Government launched the second transport sector project (PST2), covering the 1994-1998 period to which this project belongs. This PST2 is co-financed by donors including notably the ADF, World Bank, European Union (EU), French Development Agency (AFD), KfW, Islamic Development Bank (IDB), Arab Bank for Economic Development in Africa (ABEDA), OPEC Fund and the Kuwait Development Fund.

1.3 The Bank Group has been operating in Chad since 1974. However, its first transport sector operation in the road subsector only dates back to 1987 and concerns the road rehabilitation and maintenance project (PRER), financed from an ADF loan of UA 12.3 million. Since then, the Bank has financed two other operations in this subsector namely: i) the Djermaya-Massaguet road construction project (PARDM), which is the subject of this completion report and for which a loan of UA 13.25 million was approved in 1997; and ii) the Massaguet-Ngoura road construction project which is under way and for which a loan of UA 12 million was approved in April 2000. The PARDM is part of the priority road network which concerns all donor interventions. It falls in line with the Government's strategy to resolve road network inadequacies. This road is located in Département de Hadjer Lamis (former Chari Baguirmi Prefecture) and constitutes a vital link in the N'Djamena – Abéché – Sudanese border highway (see map in Annex I).

1.4 This project completion report is based on the findings of the Bank mission to Chad in October/November 2001. It examined the final project implementation report, the borrower's completion report, the project's progress reports, its financial audit reports, the payment documents and various project documents and correspondence.

2. PROJECT OBJECTIVES AND FORMULATION

2.1 Project Objectives

2.1.1 As at appraisal, the project at sector level is contributing to the achievement of the objectives set by the Government in the transport sector, notably the reduction of transport costs on the priority road network which is helping to open up the country and foster regional integration. Its specific objective is the sustainable improvement of the service level of the Djermaya-Massaguet road which is part of the regional highway linking Chad to Sudan.

2.2 Project Origin and Formulation

Despite the advantages of the project's service area, its economic development has been constrained by its remoteness, due mainly to the state of disrepair of the Djermaya-Massaguet road concerned by the project. In 1994 under PST2, the Government requested financing from the Bank for the asphaltting of this road in order to mitigate the adverse effects of this remoteness. Following this request, the Bank in 1994 included this project for the first time in its loan programme. The project was designed on the basis of operations carried out in the country especially in specific aspects such as: a) adoption of a participatory approach during project definition, b) determination of appropriate measures to ensure overall project success, c) the link between poverty reduction and the population's access to markets and basic social and administrative services. Furthermore, the project took into account the technical solution regarding the swelling of the clay underlying the roadway in Chad.

2.3 Project Description

The project had four components: a) tarring of the two-lane road from Djermaya to Massaguet covering 47 km, drainage and sanitation works, works aimed at mitigating the adverse environmental impact of the road construction, b) the control and supervision of works, c) support to the Highways department for project monitoring and coordination, and d) project audit.

2.4 Preparation, Appraisal, Negotiation and Approval

Project preparation consisted mainly in conducting the PST2 study financed by the World Bank, and the project's feasibility studies financed by the IDB. The first project appraisal which took place in 1994 was not completed owing to the lack of ADF VII funds from which the project was to be financed. Following ADF VIII replenishment, a reappraisal of this project was conducted in April/May 1996. The loan agreement negotiations took place on 3 and 4 December 1996 at the Bank's headquarters. They notably concerned the management of the project, the implementation schedule, the goods and services procurement conditions, disbursements, loan conditionalities and conditions precedent to the presentation of the project to the Board of Governors. These conditions precedent concerned: (i) the reimbursement by the Treasury of the deduction of CFA.F 527, 471, 878 in 1995 from the freight charges in the road maintenance autonomous account (CAER), and noted at project appraisal, (ii) the commitment to maintaining the system of direct collection of these charges, by-passing the Treasury. It is noteworthy that the first condition was partially fulfilled by the Government which adduced proof of reimbursement of 2/3 (CFA.F 358, 235, 478) of the amount withdrawn from the CAER. For the balance, the Government in its letter of 18 September 1996 to the Bank, undertook to pay by instalments. Following the negotiations, it was agreed that the "Other conditions" of the loan should include respect of the repayment schedule by the Government as concerns the balance (169 236 400 CFAF) of the abovementioned amount withdrawn. The loan was approved on 23 January 1997 and the loan agreement was signed on 11 February 1997.

3. PROJECT IMPLEMENTATION

3.1 Loan Effectiveness and Project Start-up

Besides the provisions of Section 5.01 of the “General conditions”, the loan effectiveness was subject to the fulfilment by the borrower of the following single condition precedent: “proof of the appointment of a project coordinator whose CV should have been previously submitted to the Fund for approval”. The loan was effective on 30 July 1997, that is 5 months and 19 days following the signature of the loan agreement (11/02/97). This short time-frame was due to the Government’s dispatch in fulfilling the required conditions. The project started in January 1998, with the updating of the bidding documents for the works, instead of January 1997 as envisaged at appraisal. Furthermore, the commencement of works slated for November 1997 at appraisal was late (16 January 1999). This delay was due to: i) delays in awarding the contract, following an unfounded complaint by one bidder; and ii) problems of contract taxes not properly grasped by the executing agency and which led to considerable exchanges of correspondence. This late start was unforeseeable. However, as the first disbursement on the loan was only released more than two year (26/02/99) after signing the loan agreement, the Government had to pay commitment charges, without having started receiving the loan. The “Other conditions” of the loan were all fulfilled.

3.2 Modifications

3.2.1 The project was reviewed in two separate periods, during the updating of the tender documents for the works and during the implementation of works. During the updating, the main modification concerned changes in the pavement composition. In fact, the initial structure comprised: a two-layer carriageway surfacing and a single-layer verge surfacing, a 20 cm thick road base of 0/20 aggregate, a 35 cm sub-base of silty sand-gravel and a 25 cm subgrade of silty sand. This structure was modified following the conclusions and recommendations of a World Bank-financed study on the various pavements executed in Chad (including the Djermaya-Massaguet road). The Bank accepted the changes. Accordingly, the invitation to tender was launched on the basis of a pavement structured as follows: a 4 cm-thick sand asphalt surfacing on a 7m-wide pavement with 1 lm verges each, with a double-layer surfacing, a 10 cm-roadbase of 0/20 aggregate, a 30 cm sub-base of cement and silty sand, a 35 cm of sub-grade with a minimum CBR of 20 and a 25 cm sub-grade, with a minimum CBR of 7.

3.2.2 Other revisions also occurred during project implementation. The first one concerned reducing the actual width of the verges (from the 1m envisaged to about 0.8 m), because of the kerbs laid in backfill profile. The kerbs were necessary to permit the flow of water from the carriageway to the drainage systems, given the nature of the soil (light), high embankments and steep slopes. However, these kerbs were imbedded in the 9-metre platform. The second modification concerned providing riprapping on the embankments and stone-faced gutters in Massaguet town. This modification, authorized by the Bank led to an increase in the quantities of the initial works contract and an additional 3 (three)-month period of implementation. These works were covered by Amendment No. 1, representing a 10.65% increase in cost.

3.3 Implementation Schedule

The project was envisaged to cover 30 months (from January 1997 to June 1999). It actually took about 44 months (from 12/01/98 to 31/08/2001). The “works” component started on 16/01/99 for a contract period of 22 months (19 months for the initial contract and 3 months for Amendment No. 1). They were completed on 30/10/2000, that is 21.5 months of implementation. Work control and supervision operations started on 5/01/99, for an initial contract period of 21 months. In fact, they were completed on 30/11/2000, that is about 23 months and with no financial impact. The two

audit operations envisaged for 2000 and 2001 were conducted. The contracts for computer, photocopying and transport equipment for the PIU were performed within the set time-frame. The same applies to office furniture. There was only one request for an extension of the deadline for closure of the loan. This extension enabled the Bank to settle the final payments pending, in respect of the audit, works and related control, as well as payment for additional works concerning the provision of boreholes for drinking water points, financed from part of the loan balance. The project's implementation schedule drawn up at appraisal was realistic. The time overrun between appraisal and completion is due to the fact that the last audit (fiscal 2000) was conducted in 2001. The implementation schedule (envisaged and actual) are shown in Annex 2.

3.4 Reporting

The periodic project implementation status reports were submitted on time and regularly to the Bank. The contents of the reports were satisfactory. They furnish the information requested by the Bank, notably on the progress of the project and the difficulties encountered and proposed solutions. On the whole, the control mission produced 13 (thirteen) monthly reports and 3 (three) quarterly status reports as well as the final project implementation report. Furthermore, the executing agency through the PIU produced 9 (nine) project status reports. The borrower furnished on time its project completion report (PCR). The reports of the two project account audits for fiscal 1999 and 2000 were submitted to the Bank.

3.5 Procurement

All the goods and services were procured according to the Bank's rules of procedure. An international competitive bidding was launched for the works, in accordance with the appraisal provisions. The works contract awarded to SATOM was covered by Amendment No. 1. The project control and supervision firm Gelsenconsult was recruited by competition on the basis of a shortlist, as envisaged. The procurement of office equipment and furniture for the PIU was carried out through national shopping as envisaged. Following bidding, contracts were awarded to TCHAMI TOYOTA for the vehicle, to REPRO SERVICE for the computer and photocopying equipment, and to DIASPORA for office furniture. The auditing services were awarded to the ERNST & YOUNG firm through competition on the basis of a short list, as envisaged at appraisal.

3.6 Cost, Financing Sources and Disbursements

Project Cost

3.6.1 The actual project cost stands at CFA.F 10,368.94 million , that is UA 11.98 million as against CFA.F 10,834.37 million CFAF, or UA 14.74 million envisaged at appraisal which is a 4.3% drop in CFAF and 18.72% in UA. In spite of this slippage on project start-up, the actual cost is lower than the estimated cost owing to savings on the project. The savings are due to favourable costs, as a result of the competitive bidding and to the appreciation of the unit of account as against the payment currencies. The detailed table of the project cost at project appraisal and at completion (in CFAF and UA) is shown in Annex 3.

3.6.2 At the Government's request, the Bank, on 2 May 2001, approved the additional works amounting to CFA.F 680 million , or UA 0.74 million. These works concern the provision and operation of drinking water boreholes for adjacent villages.

Project Financing

3.6.3 The project is jointly financed by the ADF and the Chadian Government. The ADF was to finance the entire cost in foreign currency and 59.18% of the costs in local currency, that is 89.9% of total project cost, representing UA 13.25 million. At project completion, the ADF's contribution stood at UA 10.28 million, that is 85.81% of total project cost before taxes. The Government was to finance the balance (40.82%) of the expenditure in local currency representing 10.1% of total project cost, or CFA.F 1 095.46 million , that is UA 1.49 million. The actual contribution of the Government was CFA.F 1 354.57 million worth UA 1.7 million or 14.19% of total project cost before taxes. The increase of the local counterpart funds (compared with estimates at appraisal) is due mainly to the financing of damage repair works after project completion. The table below shows a financing plan at project appraisal and at completion.

Financing plan (million UA)

PROJECT	ESTIMATE (at appraisal)				ACTUAL FIGURES (at completion)			
	Foreign exchange	LC	Total	%	Foreign exchange	LC	Total	%
ADF	11.09	2.16	13.25	89.90	8.64	1.64	10.28 (i)	85.81
Government	--	1.49	1.49	10.1	-0	1.70	1.70	14.19
Total	11.49	3.65	14.74	100	8.64	3.34	11.98	100

(i) This amount includes the last PRs pending for works (MUA 0.002), control (MUA 0.003) and audit (MUA 0.005)

Disbursements

3.6.4 ADF disbursements. At the end of May 2002, the amount of UA 10.27 million from the loan had been disbursed. The balance of the project loan was about CFA.F 9.58 million , that is UA 0.01 million (at the June 2002 exchange rate). These outstanding payments covered the final payment request (PR) No. 75, concerning the works (UA 0.003 million) and the final PR No. 78, concerning the project accounts audit (UA 0.005 million). After settling these last PRs, the loan balance was UA 2.97 million (representing 22.42% of the loan amount).

3.6.5 Furthermore, the ADF contributed to the financing of the additional works mentioned in paragraph 3.6.2, providing up to 89.87% of their cost, that is UA 0.665 million (equivalent to CFA.F 611.116 million). After payment for these additional works, the total amount disbursed under the loan would stand at UA 10.945 million. The estimated balance of the ADF loan would be UA 2.305 million.

3.6.6 Local counterpart funds. The Government disbursed CFA.F 1,354.57 million , that is UA 1.7 million. All the payments under local counterpart funds were made. To date therefore, there is no outstanding payment in respect of project operations. Furthermore, the taxes, levies and customs duties borne by the Government under the project stood at CFA.F 1020.33 million that is UA 1.29 million. These taxes concern civil engineering works (CFA.F 1006.39 million) and the office equipment of the project implementation unit (CFA.F 13.94 million). Furthermore, the Government was to bear the interest on arrears totalling CFA.F 106.93 million of which about CFA.F 78 million are due: i) largely to delayed disbursements under the ADF loan; and ii) subsidiarily to the late submission by the borrower of supporting documents for certain payment requests. The Government had already paid as interest on arrears, the sum of CFA.F 5.874 million . The balance of the interest on arrears has not yet been paid.

3.6.7 The table below shows the schedule of disbursements, at project appraisal and project completion. The actual disbursements from the project loan span four years instead of the three years envisaged at appraisal, by reason notably of the considerable delays in ADF payments.

Disbursements schedule (in million UA)

Year	1997	1998	1999	2000	2001	2002	Total
Disbursements envisaged under the project	4.1	7.13	2.02	0.-0	0.-0	0.0	13.25
Disbursements made under the project ⁽ⁱ⁾	0	0	5.16	4.52	0.50	0.09	10.27

(i) This amount does not include pending payment requests totalling UA 0.01 million

4. PROJECT PERFORMANCE AND OUTCOMES

4.1 Overall Assessment

4.1.1 Project performance in terms of the linear metres of the physical road built is satisfactory. It has also opened up North-East of Chad and is contributing to regional integration. The service level of the present tarred road has improved considerably compared with the pre-appraisal situation (impassable earth road) when people were forced to use the road verges. However, the sustainability of these objectives is subject to the repair of the damages that have occurred prior to the final acceptance of the works. Furthermore, the loan conditions were fulfilled with dispatch. The same applies to the conduct of all the project operations. All the reports were submitted regularly and on time by the executing agency.

4.1.2 On the whole, the terms and conditions proposed for successful project completion (cost contained, implementation deadline adhered to, satisfactory technical performance) were partially fulfilled: satisfactory estimated project cost, non-constraining implementation deadline, but poor technical performance owing to premature damage. From 1999 to 2000, project implementation was virtually hitch-free.

4.2 Operating Performance

4.2.1 The project provided an asphalted 47 km road from Djermaya to Massaguet as envisaged. However, the technical performance is unsatisfactory, given the damage that has occurred on the pavement. Indeed, major longitudinal cracks have appeared on nearly half of the road. They lie 3.2 m away from the road. There are also other types of longitudinal cracks affecting areas localised throughout the length of the road (affected areas may range from 10 to 20 m²), in the most travelled portion of the carriageway and about 2.5 m from the road. This state of the surfacing will lead to increasingly widespread damage of the roadway. In spite of their having been previously filled in at certain spots, the cracks are still visible. Furthermore, small round holes of 2 mm to 3 centimetres in diameter have appeared and might become potholes. This may have been caused by the production and/or use of sand asphalt. Lastly, the sand asphalt verges are broken as a result of inadequate compacting of the edges. Maintaining this type of edges requires setting up a permanent unit for producing this material. Lastly, there is erosion on certain parts of the backfill embankments owing to inadequate drainage (insufficient number of rainwater pipes).

4.2.2 Apart from the poor quality of road markings, the aforementioned shortcomings were not observed during the provisional acceptance of the works in October 2000. It is noteworthy that the Bank's supervision mission of May 2000 had already reported the presence of minor cracks in the sand asphalt. According to the control mission, these cracks were going to close up, as a result of traffic, which is not the case. Following Bank's recommendations, an external technical expert's report was drawn with Government financing. The report which was submitted to the Bank was discussed with the Chadian party. Following the discussions, the executing agency has provided for another expert's report to verify whether the roadway was built in accordance with standard practice and with the technical specifications of the contract, and to determine the appropriate technical solutions. We do

presume that these damages are due to the poor laying and quality of the materials utilized by the contractor.

4.3 Institutional Performance

The executing agency at project appraisal as well as completion is the Ministry of Public Works, Transport, Town-Planning and Housing (MTPHU), through the Highways department (DR). To support the DR the project provided for a PIU which monitored project operations relatively well. This institutional development enabled the DR to gain experience in project management and technical monitoring of works. Furthermore, concerning the financing of road maintenance, the funds provided by the Government to the CAER were insufficient. That led to the creation by law No. 14/PR/2000 of 17 August 2000, of the second generation road maintenance fund (FER), which is a significant improvement of the road maintenance financing system. This FER, to which road users contribute up to 7.5% of their turnover, is already operational. The Government's significant progress in funding this FER is appreciated by donors. However, given the still inadequate level of funds as against estimated needs, donors urged the Government to take appropriate measures to provide sufficient resources to this fund. The overall institutional performance is fair.

4.4 Efficacy in Terms of Management and Organization

4.4.1 The establishment of the PIU had a positive impact on keeping the project's general implementation schedule. Status reports were regularly transmitted to the Bank. The organization put in place was efficient (fulfilment of loan conditions, tender documents, invitation to tender, procurement, project site visits, notification of instructions, financial monitoring, etc.). However, the DR and notably the PIU showed some shortcomings in monitoring the implementation of works. Consequently, certain works envisaged, but not implemented (rehabilitation of access ways to certain adjacent villages, drainage of rainwater, notably at Massaguet, protection of embankments against erosion, etc.) are creating environmental problems.

4.4.2 Furthermore, project accounting was not kept according to the double-entry (debit-credit) principle, as recommended by the Bank's internal audit. Following the audit's recommendations, the Government, within the framework of the national transport program (PRONAT), acquired an appropriate accounting software for transport projects. This software is not yet operational. Furthermore, at the financial level, the local counterpart funds payment documents are not properly kept by the services of the Ministry of finance which is responsible for them. This did not facilitate the monitoring of payments by the project's executing agency nor the proper accounting of payments made.

4.5 Staff Development, Training and Retraining

There was no specific training under this project. However, MTPHU officers were able to benefit from the experience of the works control and supervision missions. Furthermore, the executing agency benefited from on-the-job training during the Bank's various supervision missions to Chad.

4.6 Performance of Consultants, the Contractor and Suppliers

4.6.1 Works control mission. Consultancy services were used for the control and supervision of the works. The consultant regularly furnished periodic project implementation status reports. It also furnished within the deadline the works completion report. However, it did not carry out quality assurance of the works, which created the problems mentioned in paragraph 4.2. Works control

services were inadequate. Furthermore, it did not ensure compliance with contractual provisions when on several occasions, the contractor tried to flout the specifications by requesting a revision of the pavement structure. The consultant's overall performance is considered unsatisfactory.

4.6.2 Project audit. Consultancy services were used for the project account audit for fiscal years 1999 and 2000. The audits were conducted as envisaged. The consultant submitted the final reports on time. The consultant's overall performance is considered satisfactory.

4.6.3 Contractor. The works were not implemented according to standard practice. The Djermaya-Massaguet asphalted road is now entirely passable, but the poor laying of the asphalt sand surfacing has led to the premature damages mentioned in paragraph 4.2 which will jeopardize the durability of the road if urgent and adequate measures are not taken prior to final acceptance of the works. Inadequate development works (notably drainage and protection of embankments) were also noted, thus creating social problems for villages around Massaguet. Its overall performance was unsatisfactory.

4.6.4. Suppliers. The equipment supplied was compliant with the technical specifications and proved suitable for use in the context. They were delivered on time. The suppliers' overall performance was satisfactory.

4.7 Terms and Conditions

Loan effectiveness was subject to a single specific condition. Besides this condition precedent, there were 3 (three) "Other conditions" designed particularly to ensure the achievement of project objectives and better regional integration. The borrower fulfilled all the loan effectiveness conditions on time and the loan was declared effective on 30 July 1997. All the "Other conditions" of the loan, detailed in Annex 7 were also fulfilled.

4.8 Economic Performance

4.8.1 Road maintenance costs are determined on the basis of the strategies adopted by the Highways Department, taking into account the state of the pavement and the maintenance works undertaken. "With" or "without" a project, there is provision for routine road maintenance respectively two times per year and every year, and periodic maintenance respectively every two and five years. The maintenance unit costs are detailed in Annex 8. The economic investment cost of the project, before taxes was estimated at CFA.F 9815.01 million at appraisal, of which 9.96% for physical contingencies. In reality, this economic investment cost stands at CFA.F 9 088.57 million, of which 9.56% for physical contingencies. The EIC at project completion reduced by an overall 7.4% compared with the situation at project appraisal.

4.8.2 At appraisal, the average annual daily traffic in 1996 (reference year) was 234 vehicles/day of which 82.48% were light vehicles and 17.52% were heavy vehicles. The AADT was updated to a 4% annual rate per year up to 1999, the estimated year of the road's commissioning, then at 5.5% per year for light vehicles and 4.5% per year for heavy vehicles, during the project life (15 years). Based on these assumptions, the expected AADT at appraisal for year 2000 is 292 vehicles/day. The objective at appraisal is exceeded. Indeed, the actual AADT increased from 234 in 1996 to 440 vehicles/day in 2000, representing a 17.1% annual average increase. However, the 2000 baseline traffic taken into account by the PCR projections was determined on the basis of sliding averages of the AADT statistical series for the 1987-2000 period, in order to correct the annual traffic disparities. The baseline AADT obtained is 348 vehicles/day of which 64.6% are light vehicles and 35.4% heavy vehicles. The induced traffic is about 20% of normal traffic.

4.8.3 The project's economic viability was evaluated as at appraisal by comparing the costs and benefits of "without" the project (dirt road) and "with" the project (tarred road) during the envisaged 15-year lifespan of the road. The economic benefits of the road result from the vehicle operating cost and road maintenance costs. The HDM model served as a methodological basis for the calculation of the project's costs and benefits. The internal profitability rate obtained at ex post evaluation is 13.9%. It is higher than that of the ex ante evaluation (12.56%). This is due to a more significant rise in traffic and a lower investment cost.

4.8.4 Other benefits. The project area is a highly grain-producing agricultural and stockbreeding area. Indeed, millet, sorghum and berbere sorghum production which are the country's staple produce respectively represented 65.51%, 35.4% and 88.08% of national production in 2000. Stock breeding covers about 56.31% of the national herd. The road built provides good economic conditions of movement of persons and goods. Discussions held notably with prefectural delegations, road users, big farmers and women's groups highlighted the significant contribution of this road to the region's agricultural and commercial development. The travel time between Djermaya and Massaguet has dropped from an average of a half day to two hours. Furthermore, the reduced transport cost fosters the sale of produce in consumption centres like Djermaya, Massaguet and the capital N'Djamena. The fare has reduced from 2000 CFAF/passenger to 1000 CFAF following the commissioning of the road. The price of a sack of millet or sorghum has dropped from 1,500 CFAF to 750 CFAF following the commissioning of the road. The project has also helped reduce post harvest losses, notably through annual grain surpluses. Furthermore, the easy movement of persons and sale of produce has led to the emergence of cooperatives, notably of rural women whose incomes have improved substantially as a result of the asphalted road. Furthermore, the carrying out of additional works concerning the provision of drinking water points, mentioned in paragraph 3.6.2 will strengthen project objectives in terms of improving the living conditions of about 362,000 inhabitants of the Département de Hajer Lamis who are directly concerned, thereby contributing substantially to the reduction of the water-borne diseases recorded in this region.

5. SOCIAL AND ENVIRONMENTAL IMPACT

5.1 Social Impact. The project's social impact is significant. The population of the project's service area is 41% of that of the country, of which 52% are women. The implementation of the project has helped improve the living conditions of the populations concerned. Given Chad's internal and external isolation, the building of this asphalted road is contributing to the fight against extreme poverty which is rampant in Chad, in that on the one hand, it has opened up the region concerned, and on the other hand, it facilitates mobility of the people at all times. Through this project rural dwellers are now able to access the best urban services. Hence, project area dwellers no longer consider it a burden to travel to urban centres for specialized health care services. The project is furthermore helping to reduce rural poverty: (i) by linking rural areas to urban areas, ii) by providing the rural poor permanent access to markets, social and administrative services of neighbouring towns and the capital N'Djamena, and iii) making rural dwellers especially women and children less vulnerable.

5.2 Environmental Impact. Regarding the environment, the project was classified under category II. The implementation of road works generally had no major impact on the quality of the environment: few earthworks, no opening of new quarry zones. The area covered by the road was respected and the few negative impacts of the project on the environment are contained in the bidding documents for the works. However, the passage of the road in backfill profile as it crosses Massaguet town created some problems for adjacent dwellers. Indeed during the rainy season the road acts like a dyke whose embankment base is not sufficiently equipped with drainage facilities, causing flooding in certain homesteads. The wall of one roadside dweller gave way and certain

villagers use stones and big branches to support their houses. Furthermore, in the same area, there is severe erosion of embankments and exposure of the pavement would be inevitable if riprapping is not urgently considered.. The Chadian authorities requested the Bank's financial support to carry out these works whose cost is estimated at 250 million CFAF. This measure taken has yielded good results. Certain access ways were not restored by the contractor at the end of the works. Also in certain places, petroleum products (diesel, lubricants) are carelessly spilled on the pavement.

5.3 To resolve the abovementioned problems, the project's executing agency requested the Bank's financial assistance for appropriate protection works (rainwater drainage facilities, provision of riprapping on embankments and stone-faced culverts in certain sections of the road, in order to protect the embankment from erosion. However, given that the Bank in April 2001 had already authorized the first use of part of the loan balance (prior to the preparation mission of this PCR) for additional works (provision of boreholes for drinking water points in adjacent villages), the opinion of GECL was sought for the second use of the loan balance. The latter in its memo of 4 July 2002 indicated that "in principle, the use of the balance poses no problem and that should be done in compliance with the relevant regulations. The legal opinion will be expressed on the basis of the analysis of the borrower's request". Furthermore, there are also difficulties of access for certain neighbouring villages, due notably to the non-restoration of the site by the contractor upon completion of the works.

6. PROJECT SUSTAINABILITY

6.1 It is measurable notably through the use and maintenance of the facilities provided. Regarding use, there is provision under PRONAT, for institutional support to structures responsible for the exploitation of roads. Sensitization seminars for road users to make better use of the road network are also envisaged (observance of the highway code, compliance with axle load, etc.). Concerning maintenance, it is regularly carried out on the priority network by the private sector (local SMEs and foreign companies), which can improve the road network. The recent creation of the FER (the road maintenance fund) which is managed autonomously and funded mainly through the usual road charges, is likely to ensure sustainability of funding for maintenance of the priority road network as defined under PRONAT. The level of FER resources remains inadequate considering its set objectives (annual available resources of 6.2 billion CFAF). In fact, for fiscal 2000-2001, the amount stands at 4.215 billion CFAF. Road maintenance should not constitute a constraint in so far as the Government is striving and has pledged to pursue efforts to finance road maintenance. However, with the efforts expected from the Government, it is hoped that the needs in this domain would be met.

7. PERFORMANCE OF THE BANK, THE BORROWER AND THE EXECUTING AGENCY

7.1 Bank's Performance. The project preparation was conducted normally. The Bank's reactions to implementation issues were appropriate. It ensured the application of the procurement rules when difficulties arose during the award of the works contract, between the executing agency and one of the bidders. The supervision missions (over 1.5 on average per year) were regular. They helped avoid attempts by the contractor and the control mission during implementation, to make changes in the pavement structure envisaged, and somewhat helped to improve project implementation. However, there were delays in Bank disbursements entailing interest on arrears borne by the Government. Furthermore, works carried out in May and August 2000 (payment request Nos. 59 and 70) and control services of June 1999 and December 2000 (Payment Request Nos. 17 and 77 (a)) were paid up only in 2002. In spite of these shortcomings, the Bank's overall performance is satisfactory.

7.2 Borrower's Performance. The borrower fulfilled the loan conditions satisfactorily, and ensured compliance with the Bank's rules of procedure and estimated deadline for project implementation. It regularly transmitted project implementation status reports to the Bank and furnished the project completion report. It has no payment arrears in respect of its financial contribution to the project. However, there were some delays in payment at project start-up causing the contractor to charge interest on arrears. The borrower's overall performance is considered satisfactory.

7.3. Performance of the Executing Agency. The organization of project management enabled the executing agency through the highways department to ensure relatively good coordination of project operations. The latter was involved in project management and monitoring the works. The executing agency regularly furnished project status reports. However, there were shortcomings in monitoring the execution of works, recalled in paragraph 4.4.1, and in the accounting management of the local counterpart funds. The executing agency's overall performance is fair.

8. OVERALL PERFORMANCE AND RATING

On the whole, project objectives were achieved without exceeding costs. The project respectively scores 2.5 out of 4, for implementation performance and for the Bank's performance (IP1 and BP1 form in Annex 9), and 3 for project outcome (PO1 form in Annex 9). On the whole, implementation performance and project outcome are satisfactory. The project's overall performance is satisfactory.

9. CONCLUSIONS, LESSONS LEARNT AND RECOMMENDATIONS

9.1 Conclusions

9.1.1 The major actions which are preconditions for the project's success were identified during its study and execution. These are notably measures concerning organization. An assessment of the project shows complete achievement of the activities envisaged, as part of the tarring of a 47 km road. The objectives pursued through this project have been achieved in terms of reducing transport costs, effective improvement in the level of service of the road, contribution to opening up the country and regional integration. The project has a 13.9% profitability rate. Furthermore, has produced definite social and economic effects as it has made for the effective accessibility at low cost of the populations to basic social services and centres of economic activity. However, to ensure the sustainability of the investment, the technical and environmental flaws affecting the infrastructures put in place must be repaired prior to the final acceptance of the works.

9.2 Lessons Learnt

The following lessons can be drawn from an analysis of the aforementioned elements:

- a.1) the importance of the choice and quality of the materials used as well as strict geotechnical control during the execution of works;
- a.2) risk of non-application of contract terms strictly and entirely, as concerns tree planting and the systematic restoration of access roads to adjacent villages upon completion of works;
- a.3) the need for appropriate project environmental protection measures, to ensure rainwater drainage and durability of roadside slopes, especially in certain urban areas;

- a.4) the urgent need to ensure checks for leakages of oil products (diesel, lubricants) which have damaging effects on road surfaces;
- a.5) the need to ensure during project supervision missions, the double-entry (debit-credit) bookkeeping system, according to standard practice, the taking of an annual inventory of the fixed assets acquired under the project and the regular supply of accounting documents on the payment of local counterpart funds;
- a.6) the negative impact of delayed disbursements by the Bank, on the borrower's financial expenses and possibly on the keeping of the project implementation schedule (interest on arrears borne by the Government); and
- a.7) the need for the borrower to mobilize, on a regular basis, sufficient financial resources to ensure road maintenance, so as to protect its roads.

9.3 Recommendations

A - For the Government

For the Djermaya-Massaguet road

- a.1) On the Bank's recommendations, the Government financed an external technical expert's report on the works carried out. Following discussions on the report's findings between the Bank and the executing agent, the latter plans to draw up another expert's report that will help to better determine the causes of the premature deterioration of the pavement and appropriate solutions. We do presume that these damages are due to the poor laying and quality of the materials. Their repairs should therefore be borne by the contractor. The sand asphalt verges should also be restored by the contractor. The executing agency should therefore ensure that the damage repair works are carried out in accordance with the technical solutions approved by it.
- a.2) The trees already purchased under the project contract should be effectively planted by the contractor and preserved by it. The Forestry Department must be involved in all stages of that operation. Furthermore, it is the responsibility of the contractor to restore the access ways to adjacent villages to a passable state or at least to as good as the were prior to the works.
- a.3) The Government should ensure that the road and environmental protection works are carried out (provision of riprapping, drainage of rainwater in Massaguet town, etc.), in order to protect the embankments, protect the road and avoid flooding around roadside homes.
- a.4) The Government should encourage awareness campaigns among road users as part of the World Bank's "Support program of the National transport programme" with emphasis on road protection so that the users should avoid the spilling of petroleum products (diesel, lubricants) on the pavement.

For future projects

- a.5) In designing future projects, it will be necessary to avoid sand asphalt verges given the extreme difficulty in repairing them, which requires setting up a permanent sand asphalt production unit.
- a.6) The Government should ensure the use of a recognized accounting software and the keeping of a double-entry accounting for projects in accordance with the required norms. In the case of the Massaguet-Ngoura road which is about to start, the project accountant should: i) familiarize himself

with the accounting procedures required by the Bank and ii) ensure that all fixed assets acquired under the project are inventoried for each accounting period.

a.7) The Government must also instruct the services of the Ministry in charge of Finance to ensure the proper conservation of the project's accounting documents in order to facilitate monitoring of payments by the executing agency and appropriate project accounting.

a.8 The Government should take appropriate measures to ensure sufficient funding of the FER in accordance with the commitments made vis-à-vis the donors.

B - For the Bank

b.1) The Bank must ensure the repair of damages to the pavement and to verges;

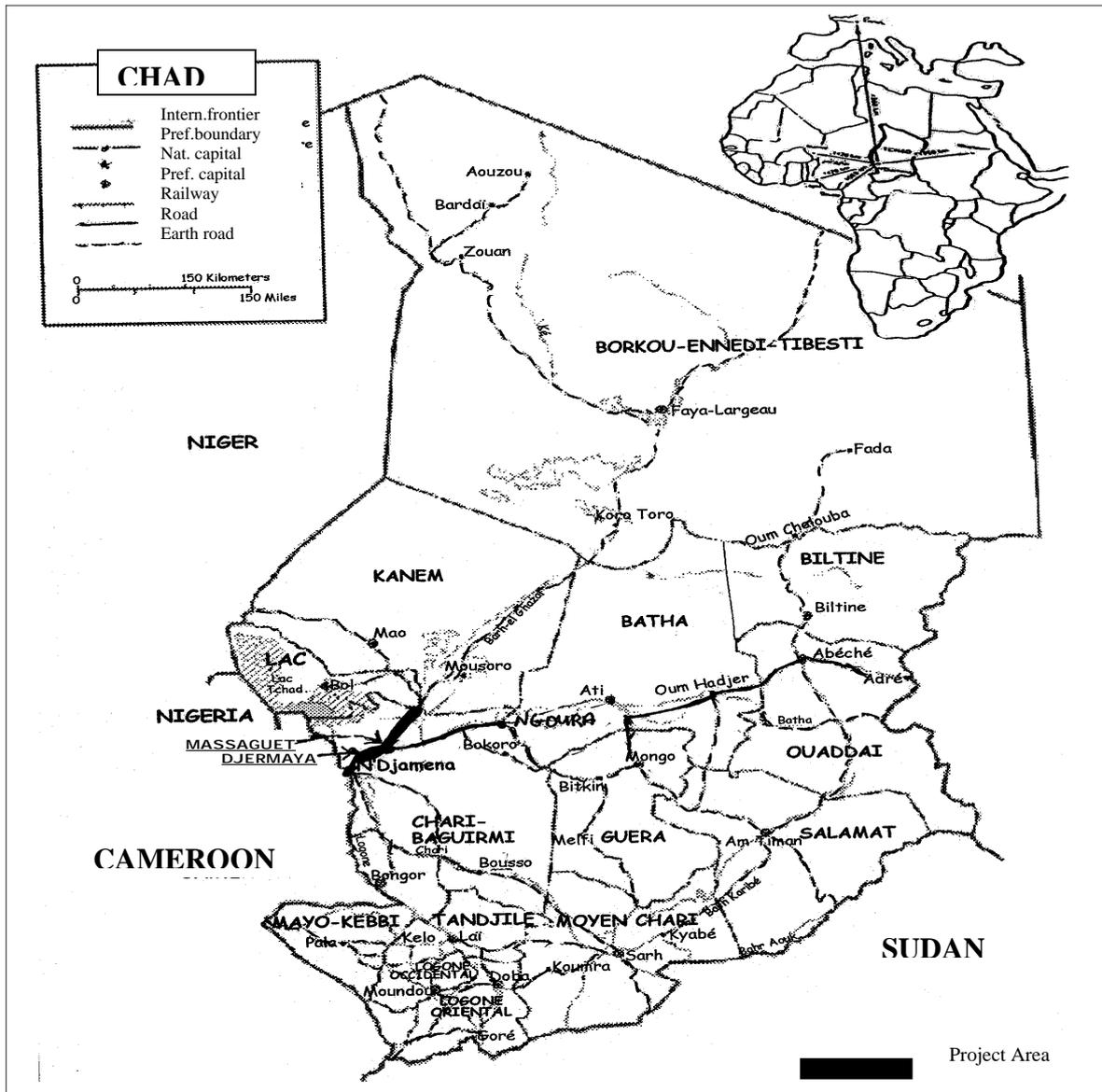
b.2) The Bank should, upon receipt of the 2nd request for the utilization of the loan balance, support the Government in financing the road and environmental protection works not carried out;

b.3) In future, the Bank should avoid authorizing the utilization of a loan balance prior to establishing the proper performance of a project contract;

b.4) The Bank must also avoid late settlement of requests for payments under the project, which entails interest on arrears borne by the Government;

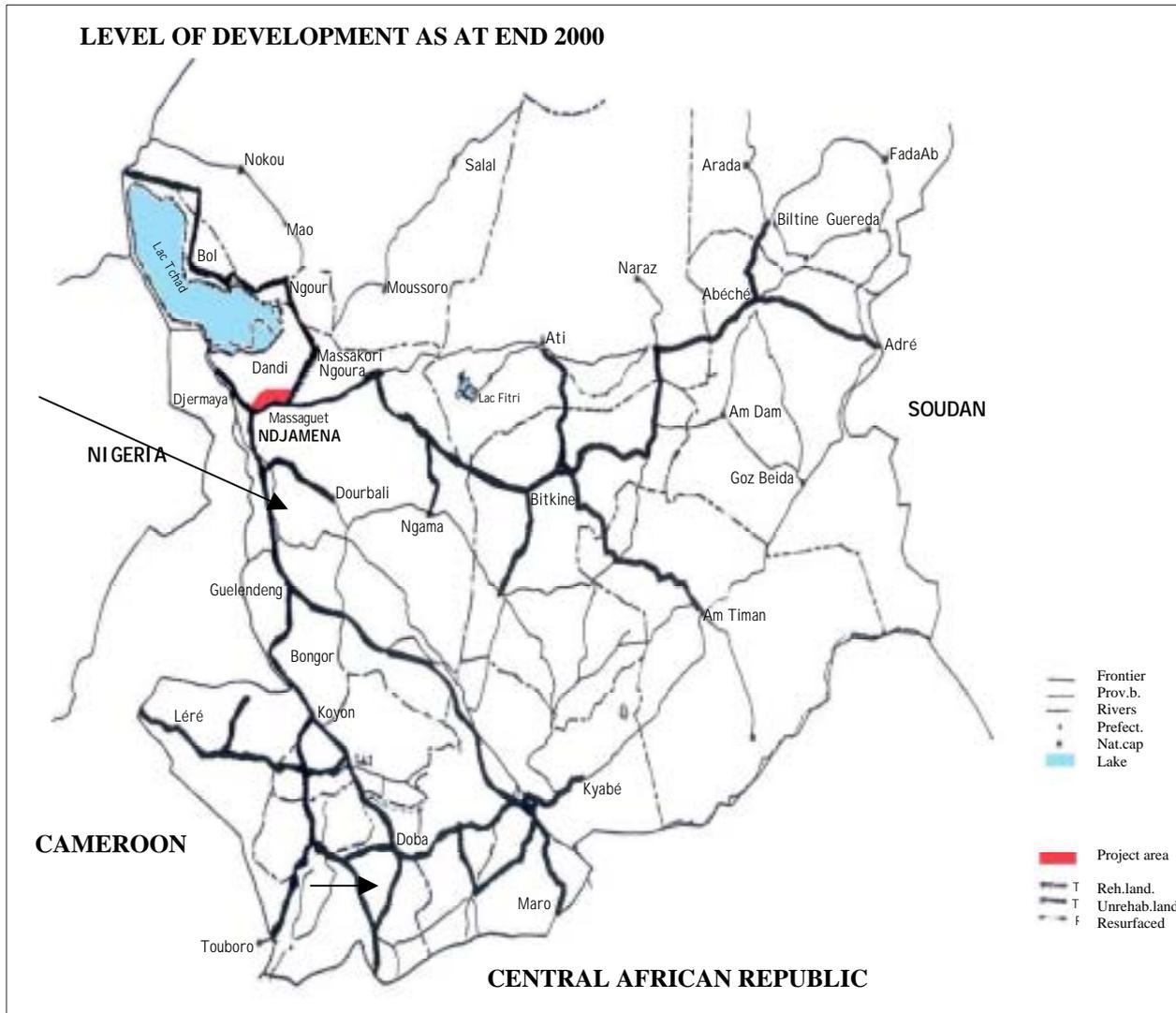
b.5) The Bank should avoid partial settlement of payment requests, especially where there is no problem of funds.

REPUBLIC OF CHAD: DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT



This map is furnished by staff of the African Development Bank exclusively for readers of the report to which it is appended. The names used and the boundaries shown on this map do not imply on the part of the ADB Group and its members any opinion concerning the legal status of a territory nor any approval or acceptance of its boundaries whatsoever.

REPUBLIC OF CHAD: DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT



REPUBLIC OF CHAD:
DJERMAYA–MASSAGUET ROAD CONSTRUCTION PROJECT

PROJECT COMPLETION REPORT
DETAILED PROJECT IMPLEMENTATION SCHEDULE

Operations	Responsibility	Date at appraisal	Actual date
A <u>Works</u>			
Updating of bidding documents	MTPTHU	January 97	January 98
ADF approval	ADF	February 97	February 98
Invitation to bid	MTPTHU	April – June 97	16 April 98
Examination of bids	MTPTHU	July 97	Jul/August 98
Award approval	ADF	August 97	October 98
Contract negotiation	MTPTHU	Sept 97	November 98
Contract approval	ADF	October 97	December 98
Project start-up	MTPTHU	November 97	January 99
End of works	MTPTHU	April 99	October 00
B <u>Control services</u>			
Updating of bidding document			
ADF approval	MTPTHU	December 96	June 97
Bidding	ADF	January 97	July 97
Examination of bids	MTPTHU	January - March 97	October 97
Award approval	MTPTHU	April 97	December 97
Contract negotiation	ADF	May 97	July 98
Approval of contract	MTPTHU	May 97	August 98
Commencement of services	ADF	June 97	September 98
End of services	MTPTHU	November 97	5 January 99
	MTPTHU	May 99	30 November 00
C <u>Monitoring and coordination</u>			
Appointment	MTPTHU	January 97	April 97
End of services	MTPTHU	June 99	31 August 01
D Audit			
Bidding	MTPTHU	August – October 97	June - August 99
Examination of bids	MTPTHU	November 97	Sept-October 99
Contract approval	ADF	December 97	17 December 1999
Audit services	MTPTHU	April 98 / May 99	May 2000 (audit 1999) August 2001 (audit 2000)

REPUBLIC OF TCHAD: DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT
PROJECT COST AT APPRAISAL AND AT COMPLETION

A	<u>Project cost at completion (in million CFAF)</u>			<u>Project cost at appraisal (in million CFAF)</u>			
	<u>Components</u>	<u>Foreign exchange</u>	<u>Loc. currency</u>	<u>Total</u>	<u>Foreign exchange</u>	<u>Local currency</u>	<u>Total</u>
	A) Works	5821.51	1969.23	7780.77	6209.43	2069.81	8279.24
	B) Control of works	367.62	83.12	450.74	463.64	115.91	579.55
	C) Monitoring and coordination	9.99	63.94	63.94	41.2	25.8	67.00
	D) Audit	<u>9.99</u>	<u>11.50</u>	<u>11.90</u>	<u>9.20</u>	<u>2.30</u>	<u>11.50</u>
	E) Base total (A+B+C+D)	8189.16	2118.19	8307.35	6723.47	2213.82	8937.29
	F) Physical contingency	539.59	253.52	750.11	668.94	219.86	899.8
	G) Price contingency	<u>865.82</u>	<u>402.68</u>	<u>1365.48</u>	<u>758.08</u>	<u>249.22</u>	<u>1007.28</u>
	H) Total before tax (E+F+G)	7594.58	2774.36	10368.94	8151.47	2682.90	10834.37
	I) Tax items	0.00	102.33	1020.33	0.00	0.00	0.00
	J) Total after tax (H+I)	7594.58	3794.70	11389.28	8151.47	2682.90	10834.37
	Interest on arrears	0.00	100.03	100.03			

REPUBLIC OF CHAD: DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT
PROJECT COST AT APPRAISAL AND AT COMPLETION

B	<u>Project cost at completion (in million UA)</u>				<u>Project cost at appraisal (in million UA)</u>				
	<u>Components</u>	<u>Foreign exchange</u>	<u>Local currency</u>	<u>Total</u>	<u>% cost before tax</u>	<u>For. Exch.</u>	<u>Local currency</u>	<u>Total</u>	<u>% cost before tax</u>
A) Works		6.80	2.43	9.23	77.05%	8.45	2.82	11.27	76.45%
B) Control of works		0.41	0.11	0.52	4.34%	0.63	0.16	0.70	5.36%
C) Monitoring & coordination		0.00	0.07	0.07	0.58%	0.06	0.04	0.09	0.61%
D) Audit (i)		0.00	0.01	0.01	0.08%	0.02	n.a.	0.02	0.14%
E) Base total (A+B+C+D)		7.21	2.62	9.83	82.05%	9.15	3.01	12.16	82.50%
F) Physical contingency		0.57	0.29	0.86	7.18%	0.91	0.30	1.21	8.21%
G) Price contingency		0.86	0.43	1.29	10.77%	1.03	0.34	1.37	9.29%
H) Total before tax (E+F+G)		8.64	3.34	11.98	100%	11.09	3.65	14.74	100.00%
I) Tax items (ii)		0.00	1.28	1.29		0.00	0.00	0.00	
J) Total after tax (H+I)		8.64	4.63	13.27		11.09	3.65	14.74	
Interest on arrears (iii)		0.00	0.10	0.10		0.00	0.00	0.00	

(i) Amount including last PR of the project audit (UA 0.005 million)

(ii) Taxes concerning PIU works and equipment

(iii) Interest on arrears owing to delayed payment by the ADF (UA 0.099 million) and by the Government (UA 0.006 million)

REPUBLIC OF CHAD: DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT
FINANCING SOURCE AND FINANCING BY COMPONENT (AT APPRAISAL) – In million UA

A Financing source at project completion**Financing source at project appraisal**

<u>Source</u>	<u>For. Exch.</u>	<u>Local currency</u>	<u>Total</u>	<u>%</u>	<u>For. Exch.</u>	<u>Local currency</u>	<u>Total</u>	<u>%</u>
ADF	8.64	1.64	10.28 (i)	85.81%	11.09	2.16	13.25	89.89%
Gov't	<u>0.00</u>	<u>1.70</u>	<u>1.70</u>	14.19%	<u>0.00</u>	<u>1.49</u>	<u>1.49</u>	<u>10.11%</u>
Total	8.64	3.34	11.98	100.00%	11.09	3.65	14.74	100.00%

(i) Amount including PRs pending at the disbursement Division

B Financing by component at project completion**Financing by component at project appraisal**

<u>Components</u>	<u>ADF</u>	<u>Gov't</u>	<u>Total</u>	<u>% ADF</u>	<u>ADF</u>	<u>Gov't</u>	<u>Total</u>	<u>% ADF</u>
A) Works	9.68	1.68	11.36	85.21%	12.21	1.45	13.66	89.39%
B) Control of works	0.53	0.01	0.54	98.15%	0.94	0.02	0.96	97.92%
C) Monitoring & coordin.	0.06	0.01	0.07	85.71%	0.08	0.02	0.10	89.00%
D) Audit	<u>0.01</u>	<u>0.00</u>	<u>0.01</u>	100.00%	<u>0.02</u>	<u>0.00</u>	<u>0.02</u>	100.00%
Total (A+B+C+D)	10.28	1.70	11.98	85.81%	13.25	1.49	14.74	89.89%

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT

FINANCING BY CATEGORY OF EXPENDITURE AT APPRAISAL AND AT COMPLETION (in million UA)

AT PROJECT COMPLETION

<u>Categories</u>	<u>Project expenditure</u>			<u>A D F l o a n</u>				<u>Project expenditure</u>			<u>A D F l o a n</u>			
	<u>Foreign</u> <u>exchange</u>	<u>Local</u> <u>currency</u>	<u>Total</u>	<u>For. Exch.</u>	<u>Local</u> <u>currency</u>	<u>Total</u>	<u>% ADF</u>	<u>Foreign</u> <u>exchange</u>	<u>Local</u> <u>currency</u>	<u>Total</u>	<u>Foreign</u> <u>exchange</u>	<u>Local</u> <u>currency</u>	<u>Total</u>	<u>% ADF</u>
A) <u>Works</u>	6.80	2.43	9.23	6.80	1.02	7.82	84.7%	8.45	2.82	11.26	8.45	1.63	10.08	89.52%
B) <u>Services</u>	0.41	0.19	0.60	0.41	0.17	0.58	96.67%	0.71	0.20	0.91	0.71	0.16	0.87	95.60%
<i>b.1 <u>Control of works</u></i>	0.41	0.11	0,2	0.41	0.10	0.51	98.08%	0.63	0.16	0.79	0.63	0.14	0.77	97.44%
<i>b.2 <u>Monitoring & coordination</u></i>														
b.2.1 <u>Equipment</u>	0.00	0.05	0.05	0.00	0.05	0.05	100.00%	0.06	0.00	0.06	0.06	0.00	0.06	100.00%
b.2.2 <u>Operating</u>	0.00	0.02	0.02	0.00	0.01	0.01	50.00%	0.00	0.04	0.04	0.00	0.02	0.02	50%
C) <u>Audit</u>	0.00	0.01	0.01	0.00	0.01	0.01	100.00%	0.02	na.	0.02	0.02	na.	0.02	100.00%
<u>Basic cost</u>	7.21	2.62	9.83	7.21	1.19	8.40	85.45%	9.15	3.65	14.74	9.15	1.79	10.94	89.97%
Not earmarked	1.43	0.72	2.15	1.43	0.45	1.88	87.44%	1.94	0.64	2.58	1.94	0.31	2.31	89.53%
<u>Total cost before tax</u>	8.64	3.4	11.98	8.64	1.64	10.28	85.81%	11.08	3.65	14.74	11.09	2.16	13.25	89.89%

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT

ANNUAL DISBURSEMENTS BY FINANCING SOURCES AT APPRAISAL AND AT COMPLETION (in million UA)

<u>AT PROJECT COMPLETION</u>						<u>AT PROJECT APPRAISAL</u>					
<u>Years</u>	<u>ADF</u>	<u>Gov't.</u>	<u>Total</u>	<u>%ADF/yr</u>	<u>%ADF/Total</u>	<u>Years</u>	<u>ADF</u>	<u>Gov't.</u>	<u>Total</u>	<u>%ADF/yr</u>	<u>%ADF/Total</u>
1997	-					1997	4.1	0.45	4.56	30.87%	3.12%
1998	-					1998	7.13	0.8	7.93	53.59%	5.43%
1999	5.16	1.20	6.35	50.59%	81.1%	1999	2.02	0.23	2.25	15.44%	1.56%
2000	4.52	0.50	5.02	44.40%	90.04%						
2001	0.50	0.50	0.00	4.91%	100.00%						
2002	0.10	0.00	0.01	0.10%	100.00%						
<u>Total</u>	<u>10.28 (i)</u>	<u>1.70</u>	<u>11.88</u>	100.00%	85.70%	<u>Total</u>	<u>13.25</u>	<u>1.49</u>	<u>14.74</u>	100.00%	10.11%

(i) Amount including outstanding payments of about UA 0.01 million for works, control and audit.

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT
LOAN CONDITIONS

Section 4.01. Conditions precedent to loan effectiveness. Under Section 5.01 of the General conditions, loan effectiveness shall also be subject to the fulfillment by the borrower of the following condition:

Proof of appointment of a project coordinator whose curriculum vitae must have been previously submitted to the Fund for approval.

Section 4.02 Other conditions

- 1) no later than 31 December 1997, produce proof of payment to “Compte Autonome d’Entretien Routier (CAER)” (the autonomous road maintenance fund), of the sum of 169 236 400 CFAF representing the balance of the deduction made in 1995 by the Government from CAER’s freight charges
- 2) communicate each year to the fund (from 1997 to 2000): (i) before 30 November, CAER’s draft budget; and (ii) before 31 March, CAER’s approved budget as well as the implemented budget of the preceding year; the amount of the approved budget must not be less than 2 500 million CFAF;
- 3) continue annual traffic counting and communicate to the Fund each year, the traffic figures on the Djermaya-Massaguet road ; and
- 4) make contacts and keep the fund informed thereof, with donors for the financing of the remainder of the N’Djamena – Abéché – Sudanese Border highway.

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT
SUMMARY OF ECONOMIC ANALYSIS OF THE PROJECT

I. Traffic

1.1) Baseline AADT (2000) in vehicles/day.

The AADT based on traffic count is 440 vehicles/day. Given the wide variety of traffic observed, the sliding mean of traffic was determined on the basis of the 1987 to 2000 statistical series. The mean for the AADT obtained for year 2000 is 348 vehicles/day broken down as follows:

Private vehicles	Pick-ups	Trucks	Articulated vehicles	Total
15	210	77	46	348

1.2) Estimated vehicle traffic (normal, induced): assumptions

i) Normal traffic : 5.5% per year for light vehicles and 4.5% for heavy vehicles; ii) induced traffic: estimated at 5% of normal traffic.

2. Costs and benefits

2.1 Economic investment cost (EIC). The EIC of the project is 9 088.57 million CFAF over the 1999-2000 period covering the road works, the controls thereof, monitoring and coordination and physical contingencies.

2.2 Road maintenance cost :

i) Without the project – Earth road (ER). Routine and periodic road maintenance costs are respectively 1.8 million CFAF/km/year and 4 million CFAF/km. Routine maintenance (appurtenances, clearing, grading) are envisaged two times a year and periodic maintenance (resurfacing) every two years;

ii) With the project – Paved road (PR). Routine and periodic maintenance costs are respectively 0.15 million CFAF/km/year and 9.6 million CFAF. Routine maintenance (appurtenances, clearing, patching) is envisaged every year and periodic maintenance (single-layer surface dressing) every five years as from commissioning in order to waterproof the pavement. The benefits in terms of maintenance cost reduction were calculated per year on the basis of length of road, frequency of intervention and type of maintenance works envisaged.

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT
SUMMARY OF ECONOMIC ANALYSIS OF THE PROJECT

2.3 Vehicle operating cost (VOC) The unit costs were determined on the basis of traffic structure and the state of the road (ER and PR). The HDM model served as a methodological framework for calculating the unit VOCs. Four traffic categories below were considered. The annual advantage concerning VOCs are calculated per year, on the basis of the unit gains realized on VOCs, AADT of vehicles and the length of road.

3 Internal rate of return (IRR) IRR = 13.9%. Compared with the opportunity cost of capital (12%), the project remains economically viable.

4. Net present value (NPV) in million CFAF

4.1 For a (adjustment rate) = 12% NPV = + 0.975

4.2 For a = 13% NPV = + 0.418

4.3 For a = 14% NPV = (-) 0.055

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT
PERFORMANCE EVALUATION AND RATING

A) IP 1 FORM : IMPLEMENTATION PERFORMANCE

<u>Component indicators</u>	<u>Score (1 to 4)</u>	<u>Remarks</u>
1 Compliance with general schedule	1	Over 26 months time overrun
2 Compliance with scale of costs	3	Cost underrun
3 Compliance with clauses	3	Compliance with all the clauses
4 Adequacy of monitoring, evaluation of reports	3	
5. Satisfactory operations, where applicable	-	
TOTAL	10	
Overall assessment of implementation performance	2.5	Overall assessment satisfactory

B) BP 1 FORM: BANK'S PERFORMANCE

<u>Component indicators</u>	<u>Score (1 to 4)</u>	<u>Remarks</u>
1 At identification	3	The project is part of national priorities and is included in the second transport sector project. Bank's performance is satisfactory in several respects.
2 At preparation	2	The project matrix is drawn up. The actions and measures taken prior to project appraisal are pertinent.
3 At appraisal	3	
4. During supervision	2	
5. Satisfactory operations, where applicable	--	
Overall assessment of Bank's performance	2.5	In spite of some shortcomings, Bank's overall performance is considered satisfactory.

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT

C) **PO 1 FORM: PROJECT OUTCOME**

No	<u>OPERATIONS INDICATORS</u>	Score (1 to 4)	<u>REMARKS</u>
1	<u>Pertinence and achievement of objectives</u>	3	Pertinence of objectives is generally confirmed
	i – Macroeconomic policy		
	Ii – Sectoral policy	4	
	iii – Equipment aspect (including production)	3	
	Iv – Financial aspect	4	
	V – Poverty reduction, social aspect and gender conflicts	3	
	vi – Environment	1	
	vii – Private sector development		
	Viii - Others (specify)		
2	<u>Institutional development</u>	2	The achievement of objectives has an average impact
	i – Institutional framework (including restructuring)		
	Ii – Financial and integrated systems (including restructuring)		
	iii – Technology transfer	2	
	Iv –Provision with qualified staff (including rotation) training and counterpart staff	2	
3	<u>Sustainability</u>	3	The sustainability of most of the project achievements and benefits is probable.
	i – Sustained borrower commitment	4	
	Ii – Environmental policy	3	
	iii – Institutional framework	4	
	Iv–Technical viability and provision with staff	2	
	V - Financial viability and cost recovery mechanisms	3	
	vi – Economic viability	4	
	vii – Environmental viability	2	
	viii – Continued use and maintenance (availability of funds to cover overheads, foreign exchange, replacement parts, workshops, etc.).	2	
4	<u>Economic Rate of Return</u>	4	IRR at completion = 1.3.9% > 12.56 envisaged
	TOTAL	12	
	Overall assessment of outcome	3	Satisfactory performance

REPUBLIC OF CHAD: DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT

PROJECT COMPLETION REPORT

RECOMMENDATIONS AND FOLLOW-UP MEASURES

Main observations and conclusions	Recommendations	Follow-up actions	RESPONSIBILITY
<p>1. Damaged pavements and sand asphalt verge kerbs.</p> <p>2. Tree planting envisaged in works contract not carried out.</p> <p>3. Access roads to adjacent villages not reopened</p> <p>4. Non-execution of environmental protection works engendered by the project (rainwater drainage works, construction of riprapping in certain urban areas to protect embankments).</p> <p>5. Potential damage to the road surface by diesel from road users' vehicles</p>	<p>1.1 i) on Bank's recommendation, an external expert's technical survey was conducted in order to determine the causes and appropriate solutions and ii) repair the damages to the pavement as well as the verge sides.</p> <p>2. Plan and preserve trees already paid for under works contracts -.</p> <p>3. Restore village access roads to a passable state, at least as good a state as before the works.</p> <p>4 Finance environmental protection works in order to safeguard the existing structure and avoid flooding of adjacent dwellings.</p> <p>5. Encourage awareness-raising actions for road users envisaged as part of the PRONAT support programme, with emphasis on the need to protect roads.</p>	<p>1. Ensure repair of damages to the pavement and verges and in future avoid using sand asphalt on verge sides. Bank must also decide on the expert's findings.</p> <p>2. Involve the Forestry Department in all stages of this operation.</p> <p>3. Ensure the restoration of village access roads.</p> <p>4. Ensure conduct of environmental protection works.</p> <p>5. Organize road user-sensitization seminars in the country, place traffic signs and posters, involve transporters' trade unions.</p>	<p>1. Borrower / Executing Agency / ADB</p> <p>2. Borrower / Executing Agency / Environment Service</p> <p>3. Borrower / Executing Agency</p> <p>4. Borrower / Executing Agency / Environment Service</p> <p>5. Borrower / Executing Agency /</p>

Main observations and conclusions	Recommendations	Monitoring actions	RESPONSIBILITY
<p>6. Maintenance of sand asphalt verge sides.</p> <p>7. Project accounting. The accounting of the project is not double-entry (debit-credit) accounting, and the annual inventory of fixed assets acquired under the project is not drawn up.</p> <p>8. Conservation of project accounting documents.</p> <p>9. Late payments by Bank. Due to this delay, the Government was charged interest on arrears for the works for which it is responsible.</p> <p>10. Financing of road maintenance.</p>	<p>6. In future project designs, avoid the putting in place of sand asphalt verge sides.</p> <p>7. Ensure: i) the use of a recognized accounting software for book-keeping in accordance with required norms, ii) annual inventory of all fixed assets to be acquired under the new project.</p> <p>8. Instruct the services of the Ministry in charge of finance to ensure proper conservation of project accounting documents to facilitate payments monitoring by the executing agency as well as appropriate accounting of the project.</p> <p>9. Ensure regular payment of project-related expenditure.</p> <p>10. Take appropriate measures to provide sufficient funds to the FER (road maintenance fund), in accordance with commitments made vis-à-vis donors.</p>	<p>6. Ensure implementation of the recommendation in the new road project.</p> <p>7. Ensure implementation of the recommendation on the new project and carry out monitoring during the Massaguet-Ngoura road project supervision missions.</p> <p>8. Ensure implementation of the recommendation in the new project and carry out monitoring during the Massaguet-Ngoura road project supervision mission.</p> <p>9. Ensure implementation of the recommendation in the new road project.</p> <p>10. Ensure implementation of the recommendation.</p>	<p>Executing Agency / ADB</p> <p>Borrower / Executing Agency / ADB</p> <p>Borrower / Executing Agency / ADB</p> <p>ADB</p> <p>Borrower</p>

REPUBLIC OF CHAD
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT
BORROWER'S CONTRIBUTION (BORROWER'S PCR)

The borrower's completion report was submitted to the Bank on time.

REPUBLIC OF CHAD:
DJERMAYA-MASSAGUET ROAD CONSTRUCTION PROJECT
PROJECT COMPLETION REPORT

INFORMATION SOURCES

- Project appraisal report,
- Final project implementation report and completion report of the Borrower
- Project accounts audit reports
- Bidding documents
- Bid examination report
- Project implementation status reports
- Deductions and payment request and disbursement status (ledger) in Palms
- Provisional situation of payments made under the SAP system
- Various aide-mémoires, mission and project supervision reports
- Vehicle count on highways
- General routine and periodic maintenance programme
- ADF loan agreement concerning the project
- Works contract and amendment 1
- Control contracts, project audit contract, jobbing orders and PIU equipment contract.
- Letter of approval of the use of the loan balance for drinking water points
- Report of loan negotiations
- Report of provisional acceptance of works
- Crop and livestock statistics
- Correspondence files.