

AFRICAN DEVELOPMENT BANK GROUP



CHAD

**TELECOMMUNICATIONS INFRASTRUCTURE
REHABILITATION PROJECT**

Project Performance Evaluation Report (PPER)

**OPERATIONS EVALUATION DEPARTMENT
(OPEV)**

23 May 2001

TABLE OF CONTENTS AND ANNEXES

Equivalents and Abbreviations	(i)
Preface	(ii)
Basic Project Data	(iii)
Chapter I. Evaluation Summary	1
Chapter II. Context	6
2.1 National Economic Context	6
2.2 Sector Operations Background	6
2.3 Project Formulation	7
2.4 Project Basis	7
2.5 Objectives and Scope at Appraisal	7
2.6 Financial Provisions	8
2.7 Evaluation Methodology and Approach	8
Chapter III. Project Outputs	9
3.1 Loan Effectiveness	9
3.2 Project Modifications	9
3.3 Schedule of Implementation	9
3.4 Reporting	9
3.5 Procurement of Goods and Services	9
3.6 Project Costs	10
3.7 Sources of Finance and Disbursement	11
3.8 Application of Loan agreement Conditions and Provisions	11
Chapter IV. Performance Evaluation	12
4.1 Operation	12
4.2 Financial Performance	14
4.3 Economic Performance	17
4.4 Institutional and Social Performance	17
4.5 Impact on Female Population and on the Environment	18
4.6 Performances of Consultants, contractors, suppliers and the Borrower	19
4.7 Performance of Bank Group	19
Chapter V. Project Sustainability	20
Chapter VI. Performance Rating	20

6.1	Performance with regard to Implementation	21
6.2	Performance of the Bank	21
6.3	Results	21
Chapter VII.	Conclusions and Recommendations	21
7.1	Overall Rating	21
7.2	Retrospective view and Recommendations	21
7.3	follow up measures	23

Annexes

	Number of pages
1. Matrix for Follow-up Action	2
2. Retrospective Matrix	2
3. Implementation Performances	1
4. Performance of the Bank	1
5. Project Outputs	2
6. ONPT Performance Indicators	1
7. ONPT Financial Statements and Operating Accounts	1

This report has been prepared by Mrs. Z. Khorsi, Post Evaluation Expert at OPEV, following a mission to Chad in April 1999. All inquiries relating to this report should be addressed to Mr. G.M.B. KARIISA, Director OPEV, ext. 4052.

EQUIVALENTS, ACRONYMS AND ABBREVIATIONS

CURRENCY EQUIVALENTS

Currency Unit: CFA Franc (F.CFA)

Average Monthly Value

Appraisal (November 86)	1 UA =	CFA F 413
PCR (September 1997)	1 UA =	CFA F 796
PPER (November 2000)	1 UA =	CFA F 997

WEIGHTS AND MEASURES

Hertz (Hz)	:	Frequency Unit
Giga hertz (GHz)	:	10 ¹² Hz
1 tonne (t)	=	2 205 pounds (lbs)
1 kilogramme (kg)	=	2.205 pounds (lbs)
1 kilometre (km)	=	0.612 miles
1 metre (m)	=	3.29 feet (ft)
1 square kilometre (km ²)	=	0.3861 sq. miles
1 hectare (ha)	=	2.471 acres

FINANCIAL YEAR

1 January - 31 December

ACRONYMS AND ABBREVIATIONS

ADB	:	African Development Bank
ADF	:	African Development Fund
AFD	:	Agence française de développement
ERR	:	Economic Rate of Return
FRR	:	Financial Rate of Return
GOC	:	Government of Chad
ITU	:	International Telecommunications Union
LDC	:	Least Developed countries
ML	:	Main line
MSTT	:	Modernisation du secteur des télécommunications du Tchad
MUA	:	Million Units of Account
ONPT	:	Office national des postes et télécommunications
PCR	:	Project Completion Report
PAR	:	Project Appraisal Report
RIT	:	Rehabilitation des infrastructures de télécommunications
TIT	:	Télécommunications Internationales du Tchad
UA	:	Unit of Account

PREFACE

1. The present performance evaluation report (PPER) concerns the Telecommunications Infrastructure Rehabilitation Project in Chad, for which the Bank granted in December 1986, an ADF loan of MUA 15.10, under an agreement signed on 5/2/87 and brought into effect on 26/8/87. Telecommunications services in Chad are under the responsibility of Office national des postes et télécommunications (ONPT), a public enterprise, that is the loan beneficiary and project executing agency.
2. The Government of Chad submitted to the Bank, in 1985, a request for financing of the telecommunications network rehabilitation and extension, as one of the components of the infrastructure reconstruction programme proposed in July 1981 to the international donor community. The resurgence of hostilities between political factions delayed the project processing with the result that the appraisal was only in November 1986.
3. The project has been implemented with a balance of MUA 0.83 from the ADF loan, and significantly behind schedule (4 years), owing to the persistent conflict in certain parts of the project areas, slow administrative processes, modifications during implementation and the death by accident of the ONPT Management team, including the project director. The loan was made effective without significant delay, however four of the « other conditions » were not fulfilled, which set back the efforts to restore ONPT's financial stability.
4. The completion report (PCR) distributed in April 1998, under the reference ADF/BD/IF/98/45, is considered quite satisfactory, however, the lack of adequate information, particularly on the status of sector restructuring, warranted a performance evaluation mission to supplement the analysis conducted.
5. This report has been based on the outcome of the post-evaluation mission conducted in April '99 and refers to the project appraisal and completion reports. It evaluates the project's performance and in particular the extent of attainment of the objectives, the operational and institutional performance and the sustainability of its outputs. It gives conclusions, draws lessons and makes recommendations in that regard to the Borrower and to the Bank Group, for consolidation of the project benefits and for its development. The post evaluation consisted in comparing the results of the project and resources provided to those determined at its appraisal.
6. This PPER has been communicated to the Borrower and also the Bank departments concerned; where appropriate, their observations and recommendations have been incorporated.

BASIC PROJECT DATA**Preliminary Data**

1.	Country	:	Chad
2.	Project	:	Telecommunications Infrastructure Rehabilitation (RIT)
3.	Loan number	:	CS/TCH/SP (TL)/86/11
4.	Borrower	:	Government of the Republic of Chad
5.	Beneficiary	:	Office national des Postes et Télécommunications (ONPT)
6.	Executing Agency	:	Office national des Postes et Télécommunications (ONPT) B.P. 1132 N'djamena - Chad Telex 52 56 KD Telephone 235 - 52 14 40 Fax 235 - 52 14 03

A – Basic Loan Data

	<u>ITEM</u>		<u>ESTIMATED</u>	<u>ACTUAL</u>
1.	Financing Request	:		July 1981
2.	Amount (MUA)	:	15.105	15,105
3.	Annual Interest Rate	:	1% from the 11 th to the 20 th	1% from the 11 th to the 20 th year and 3% thereafter
4.	Commitment Charge (%)	:	0.75	0.75
5.	Repayment Period (years)	:	40	40
6.	Grace Period (years)	:	10	10
7.	Loan Negotiation	:	-	10/12/86
8.	Loan Approval	:	-	18/12/86
9.	Loan Signing	:	-	05/02/87
10.	Date of Entry into Force :		04/8/87	26/8/87

B – Project Data

	<u>ITEM</u>		<u>ESTIMATED</u>			<u>ACTUAL</u>		
1.	Total Cost (UA million)	:	16.78			15.98		
2.	Financing Plan (MUA)	:	<u>F.E.</u>	<u>L.C.</u>	<u>Total</u>	<u>F.E.</u>	<u>L.C.</u>	<u>Total</u>
	- ADB	:	14.55	0.55	15.10	13.75	0.52	14.27
	- <u>Government</u>	:	-	<u>1.68</u>	<u>1.68</u>	-	<u>1.71</u>	<u>1.71</u>
	- Total	:	14.55	2.23	16.78	13.75	2.23	15.98
3.	Project Preparation	:	NA			January 1985		
4.	Project Appraisal	:	NA			November 1986		
5.	Date of First Disbursement	:	30/6/88			11/4/88		
6.	Date of Last Disbursement	:	31/12/92			23/10/96/96		
7.	Date of Works Start-Up	:	2 nd Quarter 87			August 87		
8.	Works Completion Date	:	2 nd Quarter 90			June 94		

C – Performance Indicators

1.	Over-estimation of Project Cost (in UA)	:	+ 4.8% at appraisal
2.	Estimated Period of Implementation	:	39 months
3.	Change in Date of Entry into Force	:	+22 days
4.	Change in Date of First Disbursement	:	- 2.5 months
5.	Number of Extensions of the Date of Last Disbursement	:	2

6.	Change in Works Start-up Date	:	3 months
7.	Change in Works Completion Date	:	+ 4 years
8.	Status of Implementation	:	Completed
9.	Performance in Implementation	:	Unsatisfactory
10.	Bank Performance	:	satisfactory
11.	Performance concerning operation	:	Unsatisfactory

D – Missions

N°	Type of mission	Number of missions	Date	Number of Persons	Person/days
1	Preparation	1	1984	2	30
2	Appraisal	1	Nov. 86	2	30
3	Supervision	7	87 - 97	2/mission	140
4	Completion	1	Sept 97	2	38
5	Post-evaluation	1	April 99	1	15

E – Loan Disbursements (UA million)

1.	Amount Disbursed	:	14.274
2.	Amount Cancelled	:	0.831
3.	Annual disbursements of loan (in MUA)		

	<u>ESTIMATED</u>		<u>ACTUAL</u>	
	<u>Annual (MUA)</u>	<u>Cumulative (%)</u>	<u>Annual (MUA)</u>	<u>Cumulative (%)</u>
1987	1.717	10.5	0	0
1988	5.376	43.3	0.096	0.7
1989	9.304	100	0.437	3.7
1990	-	-	0.294	5.8
1991	-	-	3.108	27.6
1992	-	-	1.532	38.3
1993	-	-	5.585	77.4
1994	-	-	2.452	94.6
1995	-	-	0.108	95.4
1996	-	-	0.659	100.0
Total	16.399	100	14.274	100.0

F – Main Contractors and Works

See PCR, pages (iii) and (iv)

G – Other projects financed by the Bank Group in the Telecommunications sector

<u>Name of Project</u>	<u>Year</u>	<u>Loan Amount</u>	<u>Project Status</u>	<u>PCR</u>	<u>PPER</u>
		Approval (MUA)			
1. Institutional Support to ONPT 1990		2.855	underway	NA	NA

1. EVALUATION SUMMARY

1.1 Objectives and Scope

1.1.1 This performance evaluation report concerns the Telecommunications Infrastructure Rehabilitation project (RIT), identified in 1981 on presentation of the emergency infrastructure rehabilitation programme for financing by the International Donor Community. The project was appraised in November 1986 and the corresponding ADF loan, for an amount of MUA 15.10 million, covering 90% of the project cost (MUA 9.847) and the entire foreign exchange cost, was approved on 18/12/98 and signed on 5/2/87. The Government of Chad financed 75.3% of the local costs, representing MUA 1.68. The works were estimated to take 39 months and the executing agency was ONPT.

1.1.2 From the sector standpoint, the project seeks to restore the main telecommunications activities and, specifically, it aims to meet demand and ensure high quality service in the country's three major population centers and in the landlocked region of Abéché, and also to link 19 new locations.

1.1.3 The project comprises (i) rehabilitation and extension of the N'djamena network, as well as reconstruction of the Sarh, Moundou and Abéché networks, (ii) procurement and installation of three automatic switching exchanges at Sarh, Moundou and Abéché, (iii) installation of an N'djamena–Abéché HF link and 19 other HF links for prefectures and sub-prefectures (iv) construction or rehabilitation of three technical buildings, procurement of 3000 telephone sets for users and maintenance and logistics equipment and (v) institutional support in the form of technical assistance and staff training.

1.2 Implementation Performance

1.2.1 The implementation aspect of the project's performance is not satisfactory, since the project fell four years behind schedule and the conditions relating to stabilization of the Office's financial situation as well as the project accounts audit were not fulfilled. Though indeed the conditions for effectiveness were fulfilled relatively rapidly, it is noted that only five of the eight "Other Conditions" were met, excluding those concerning the financial aspects and tariffs. The persistent socio-political tension, the modifications to the project, as well as bureaucratic procedures also seriously handicapped project completion. Quarterly activity reports of satisfactory quality were regularly transmitted to the Bank, as well as the completion report.

1.2.2 The Bank Group financed 89.3% of the project cost, which is the total foreign exchange cost and 23% of the local costs, and the Government 10.7%. The project has been executed with a balance of UA 831,581 out of the loan amount that was cancelled in September 1998, and the overall project cost is 5% lower than the projected cost. This aspect should however be viewed with circumspection since the data on local expenditure financed by Chad is not very reliable. The Bank rules for procurement of goods and services and the specific project terms and conditions have been followed and there is nothing to report concerning loan disbursement.

1.3 Institutional Performance

The structure of ONPT, a public agency in charge of national post and telecommunications, has not changed much since the appraisal of the project. The study to restructure the sector, undertaken on Bank financing as part of the project for institutional support to ONPT, recommended that the post and telecommunications activities should be separated and a mixed telecommunications company set up for national as well as international telecommunications, which are now managed separately. The Government adopted the relevant

texts in November 1999 and the restructuring process is well underway, with the establishment of Sotel-Chad whose privatization is now underway.

1.4 Results and Performances

1.4.1 All of these project components have been carried through and the facilities are functioning satisfactorily, with the exception of the transmission equipment, since only four of the links are still working. The exchange, distribution and supply installations are working satisfactorily, but have for the most part attained saturation, considering their rates of utilization varying between 68 and 93%. The network development and extension phase, which in the normal operating cycle should have started, was postponed, pending the finalization of restructuring operations.

1.4.2 The equipment in place, which runs in conjunction with that installed by MSTT, has made it possible to quadruple the connection capacity, that is now 10,820 PL, and thereby improve the country's coverage and the telephone density which went from 0.04 to 0.12 ML/100 inhabitants between 1986 and 1998. The gradual reinforcement of the company's institutional capacity and that of the network have brought about a significant increase in operational performance and the quality of services provided by ONPT, which saw its annual fault rate for 100 ML fall from 110 to 81 between 1986 and 1998; the gain in staff productivity, for its part, went from 79 to 43 employee's between '86 and '98. These results however have tended to deteriorate in recent times, owing primarily to saturation of networks and the lack of means of maintenance.

1.4.3 The financial rate of return of the project was 12.9%, up from the 8.9% estimated at appraisal whereas investment returns stand at about 1.5%, which is lower than the 10% indicated in one of the loan conditions. This low rate of return actually reflects the intensification of investments and highly capital intensive nature of the sector, but it also translates rather, ineffective management, due to under-use of the equipment provided and the disparities existing between the capacities of the different networks. The ONPT financial situation is overall stable and its short and medium-term financial solvency is secured, despite a gradual deterioration of its financial independence and the aggravation of the amount of claims on the public administration, which attained 9 billion CFAF in 1999.

1.4.4 The performances of consultants, contractors and suppliers were satisfactory, with the exception of the supplier of the transmission equipment, some of which was unsuitable and of poor quality, and in addition some works that were poorly executed. The performances, of the Borrower, the Executing Agency and the Bank are deemed overall satisfactory, considering the recurrent socio-political instability during project implementation.

1.5 Sustainability

The telecommunications equipment recently acquired from ONPT uses modern and reliable technology, however its utilization is hampered by saturation of the cables in particular, and rather inadequate maintenance system and staff qualifications as well as cash-flow problems that detract from the project institutional performance and worsen the risks in terms of sustainability. The actual introduction of the sector restructuring plan will enable the telecommunications activities to be more efficient and more transparently managed, and thus remove or alleviate certain constraints to sustainability of the project outputs.

1.6 Project Impacts

The project has mainly contributed to opening up the country internally and also towards the outside world and thus developing economic activity and improving the efficiency of

economic operators. The re-establishment of the minimum coverage and service level also helps improve the quality of life and the environment of populations concerned. For lack of statistics and a table of indicators to monitor the project results, it is not possible to improve the impacts. No adverse effects on the environment and on integration of women in development have been noted.

1.7 Conclusions

Despite unsatisfactory execution, the overall project performance is satisfactory and the prospects of sustainability, which intrinsically were not good; are attenuated by the expected benefits deriving from the sector restructuring and from privatization. The project objectives have been largely implemented and the installations are working efficiently, with the exception of certain items of transmission equipment.

1.8 Retrospective view and Recommendations

The performance evaluation of the Telecommunications Infrastructure Rehabilitation Project is generally in line with the lessons and recommendations of the PCR.

1.8.1 Lessons

the lessons drawn from this performance evaluation are as follows:

- a) Insufficiently clear objectives and lack of criteria and performance indicators could lessen the quality of the project monitoring and evaluation process (see para. 2.5.3, 4.1.1),
- b) a significant delay in implementation of a project often leads to saturation of the equipment when it is brought into service and therefore limits its technical, economic and financial viability and ultimately the sustainability of its effect (see para. 4.1.2, 5.1, 5.2),
- c) the risks that remain hidden owing to lack of or inadequate project studies may bring on delays and cost overruns that lessen the project's viability and the sustainability of its outputs (see para. 2.3.3),
- d) premature dis-establishment of the projects' coordinating units detracts from sound management of their implementation and its archive conservation (see para. 4.6.2 & 6.1),
- e) the non-fulfillment of loan conditions hampers restoration of ONPT's financial balances and compromises the sustainability of the project outputs (see para. 2.6, 3.8),
- f) lack of strict management of contracts, and in assignment of roles between suppliers, managers and consultants could be a source of defects in the project implementation (see para 4.1.5),
- g) the lack of coordination between donors co-financing programmes adversely effects management of the implementation schedule and therefore the expected project results (see para. 4.1.3, 4.1.4).

1.8.2 Recommendations

In view of the foregoing and the radical changes in the management telecommunications activity as a result of the current adoption of the restructuring plan, it is recommended.

To the Bank:

- a) reinforce the practice of complying with the logical framework matrix and ensuring the quality and reliability of its data throughout the project cycle (see para. 2.5.3, 4.1.1),
- b) strengthen and develop operational guidelines for appraisal and integrate into these specific tools for analysis of risk factors and sustainability (see para. 4.1.2, 5.1, 5.2),
- c) identify the risks and integrate them into the appraisal report and hedge these with measures, actions and conditions (in the loan agreement) to extenuate the negative impacts on the effects of the project (see para. 2.3.3),
- d) see to the maintenance and sound functioning of the project management and implementation units (see para. 4.6.2 & 6.1),
- e) develop and reinforce strict application of guidelines for systematic reminders for fulfilment of the loan agreement conditions, especially monitoring and systematic reminders for these conditions and for the project account audit and application of the relevant sanctions, as the case may be (see para. 2.6, 3.8),
- f) ensure that contracts are properly drafted and efficiently managed (see para. 4.1.5),
- g) see to close coordination with programme donors/cofinanciers or parties operating in the sector (see para. 4.1.3, 4.1.4),
- h) study the possibility of financing, within the frameworks and limitations set by its own policies and instruments, the investment measures proposed in the short-term programme, which would allow for maximum yields from past investments (see para. 5.1),
- i) participate actively and effectively in the telecommunications sector restructuring in regional countries and especially the one underway in Chad (see para. 4.4.2, 4.4.4 & 5.3).

The Borrower:

- j) comply with the measures adopted in conjunction with the Bank, for management of projects, and particularly the maintenance and utilization of the management and coordination units for the entire period of their implementation, and also the loan agreement conditions (see para. 2.6, 3.8 & 6.2),
- k) continue the effective and rapid implementation of the sector restructuring plan, and in that regard,
 - continue the minimum programme for equipment to ensure the yields from past investments and thereby consolidate the financial structure and ensure sustainability of the effects of projects implemented:
 - ensure that the Sotel-Chad maintenance system and human resources are strengthened, mainly through continuous training (see para. 5.1),
 - ensure judicious utilization and distribution in new institutions established as part of the sector restructuring, of technical, administrative and financial staff trained under the institutional strengthening project (see para. 5.2)
 - speed up the process of a privatization of Sotel-Chad to guarantee effective resumption of the technical as well as financial management of the telecommunications sector as well as sustainability of the effects of the RIT and MSTT projects (see para. 5.3).

1.9 Follow-up Action

In addition to the measures common to all projects and concerning the reinforcement of operational guidelines for study, appraisal and monitoring of projects, including the meeting of loan conditions, the post-evaluation recommends: (i) that the Borrower continues the institutional strengthening activities of Sotel-Chad and those relating to sector restructuring, and (ii) that the Bank gets involved in the sector restructuring in countries, Chad in particular. These measures are detailed in the matrix of measures, Annex 1 of this report.

II. CONTEXT

2.1 National Economic Context

2.1.1 Chad, with a per capita income of approximately USD 240, is classified amongst the LDC, and is a landlocked country dependent on Cameroon and Nigeria for its external trade. Its economy is characterized by a narrow productive base and primarily relies on agriculture and stockbreeding. The economic growth, though modest, was positive in real terms over the '85-90 period and attained an annual growth rate of 0.8%. However, the resumption of armed conflict in December 1990, worsened by the fall in cotton lint prices on the international market, led to a significant decline in growth and deterioration of public finances.

2.1.2 The measures taken following the devaluation of the CFAF in 1994 made it possible to firm up budgetary revenues, control the public expenditure level and mobilize the external resources needed to wipe up the Government payment arrears. Real GDP increased by 4.6% yearly, during the 1995 -98 period, whereas it had been negative in 1993 (- 15.7%); inflation, which recorded 41.3% in 1994 was contained at 9.5% in 1995, and continued declining, to attain 4.3% in 1998. The process of State withdrawal from public and para-statal enterprises is well underway, since 13 enterprises have been privatized and 4 are undergoing privatization, while 8 have been restructured and 13 others disestablished.

2.1.3 Just before the appraisal of this project, Chad's telephone network had suffered significant damage, as a result of the armed conflict, and ceased to function between 1979 and 1981. It was limited, linked some 2400 subscribers and covered the needs of the four largest urban centers and, also the Abéché area, for strategic reasons. Apart from the material damage and despite the resumption of a minimum service from 1982, the telephone network was saturated, at an advanced state of wear, for lack of maintenance and spare parts, and its penetration rate by region very limited and inconsistent. The telegraphic network, which was relatively more developed had always been the only means of interurban communications.

2.1.4 The monopoly of the public services of posts and telecommunications was still at the time of the performance evaluation, held by Office national des postes et télécommunications (ONPT), a public enterprise with financial autonomy and under the supervision of the Ministry of Posts and Telecommunications; the International Telecommunications Corporation (TIT), a mixed company under private law, was also operating in the sector, especially in the field of international communications. In terms of its organization and functions, the sector changed very little during the project execution phase, as paragraph 1.4 of the PCR clearly indicates. This situation is undergoing radical and rapid change, now that the process of sector restructuring has entered its active phase and a provisional administration has been introduced for the transitional period, to carry through the separation of posts and telecommunications activities and set up new management, and posts and telecommunications units and the regulatory body.

2.2 Sector operations Background

Since the start of its activities, the Bank Group has approved 2 operations in Chad, the present project and an institutional support project that is under implementation, for a commitment volume, net of cancellations, of 17.96 MUC under ADF. All sources considered, the telecommunications sector ranks fifth of the beneficiary sectors, with 6.6% of the amounts of operations, ahead of the health, water and drainage sectors, as well as industry and energy. The 1997 portfolio review indicated satisfactory portfolio quality, despite (i) the low institutional capacity of the executing agencies, linked with a lack of competent managers, (ii) the irregular release of counterpart funds, and (iii) the lack of familiarity with Bank rules and procedures for procurement of goods and services.

2.3. Project Formulation

2.3.1 Paragraphs 3.1 and 3.2 of the PCR clearly describe the origin and process of formulation of the project, which falls in the context of international aid for reconstruction of the country's infrastructure. This project was a component of the Emergency Programme for rehabilitation of infrastructure damaged or destroyed during the political uprisings of the 70s, that was proposed in 1980 for financing by the international community. Since the unrest persisted in the country, the specific request for the present project was presented in 1985 and, following a preparation mission in January 1985, finally appraised in November 1986, and its financing, for an amount of UA 15.10 million out of ADF resources, approved on 18/12/86. The cost of the project was estimated at MUA 16.78 and the duration of works was 39 months; the executing agency was ONPT.

2.3.2 For the specific purposes of reconstruction of telecommunications infrastructure, ITU had drawn up a short and medium-term programme for an amount of 50 million USD, including the costs of the present project, which had been defined, based on reliable UTU studies. However the context of socio-political upheaval limited the parameters, while the basic assumptions concerning the market expansion and the technological options had to be continually called to question, more so that the project implementation fell behind schedule. The project has undergone major modifications, given the implicit changes relating to the market and coverage.

2.3.3 The initial risks identified in the project appraisal (§ 7.4 of PAR) were those inherent in the political instability and the country's difficulties regarding external communication, with adverse effects on the state of the equipment and the implementation periods. Again, according to the PAR, mitigative measures were identified and steps envisaged accordingly, however, the delay of four years in the project implementation casts doubt on these statements.

2.4 Project Basis

2.4.1 Apart from the need to remedy the effects of the war on the vital communication infrastructure, so as to revive the country's economic and social activities; the state of wear of the equipment fully warrants its rehabilitation. Financially, though the expected rate of return (8.9%) could be considered low under normal conditions of operation of the economy, in the circumstances of Chad in 1986, they would be seen as satisfactory; they further afforded ONPT a positive cash flow to aid resumption of its activities.

2.4.2 The project activities were well in line with the national priorities of reconstruction of infrastructure, and the short and medium-term telecommunications development programme formulated in collaboration with UNDP and ITU in 1985. The Bank for its part, has no specific policy with regard to telecommunications, however, the project fell in line with the Bank's support to promotion of public sector enterprises as a means of contributing to economic growth.

2.5. Objectives and scope at Appraisal

2.5.1 The project, which is part of an infrastructure reconstruction programme, seeks, in terms of sector objectives, to restore the main telecommunications activities, and specifically, to meet the demand and provide quality service in the country's three major population centers and in the landlocked area of Abéché, and link 19 new areas.

2.5.2 The main project components are, in addition to institutional support consisting in varied technical assistance and training of technical staff.

- procurement and installation of three automatic telephone exchanges for Sarh, Moundou and Abéché, construction or rehabilitation of three technical buildings and procurement

of 3000 telephone sets for users.

- reconstruction of three cable networks for Sarh, Moundou and Abéché, rehabilitation with extension of the Ndjaména network and procurement of maintenance and logistics equipment (spare parts, vehicles, measuring devices),
- The Ndjaména–Abéché HF link and 19 others for prefectures and sub-prefectures.

2.5.3 The logical framework approach did not exist at the time of appraisal of the project, and the objectives set out at appraisal thus lack precision and do not include quantifiable indicators that would make it possible to measure the level of their implementation. The PCR did not provide a retrospective MPDE matrix and the objectives stated at appraisal were repeated, whereas they were not precise, with the result that the accuracy of the project performances analysis was lessened. The purpose of the post evaluation matrix presented in Annex 2 of the present report is to better show the project's contribution to the specific and sector objectives and identify the pertinent performance indicators.

2.6 Financial Provisions

The entire project, with an estimated cost of MUA 16.78, was financed by the Bank and the Government of Chad, for 86.7 and 13.3%, respectively. The Bank's contribution covered 100% of the foreign exchange expenditure and 24.7% of local expenditure and that of the Government, 75.3% of the local expenditure. The loan was subject to conditions that requiring:

- Improving the client portfolio by limiting client arrears to three months' bills, starting from 1990, and submission of a quarterly report on recovery of the arrears,
- Fixed asset yields to attain 10%, starting from 1990,
- Controlling ONPT's debt status, and obliging it to consult the Bank for any new investments in the sector,
- Conduct of a tariff study and application of the ensuing conclusions and recommendations starting from 1 January 1990.
- None of these conditions aimed at stabilizing 'ONPT'S finances was fulfilled; some like the tariff study were postponed as the project repeatedly fell behind schedule and the restructuring process got underway.

2.7 Evaluation Methodology and Approach

2.7.1 The quality of the PCR is deemed satisfactory, though diminished by the summary analysis of the operational and economic performances and results owing to the lack of data and of course in the absence of references for the appraisal stage and then on completion of the project (see § 2.5.3). Given the sector's rapid evolution, both in the institutional and technological contexts, it was recommended that a detailed assessment of the project performance be conducted, so as to update institutional aspects of ONPT and the sector policy currently underway in Chad, and to the extent possible supplement information on the specific project outputs and the operational performances.

2.7.2 The present project report, drafted following the audit mission, refers to the appraisal and completion reports and is based on (i) the information available in the project documents at the Bank, (ii) the documents, data and statistics collected by the mission team, (iii) the discussions and meetings that the team held with the ONPT senior staff, the heads of Restructuring Unit of the Ministry of Telecommunications, and the World Bank and Agence française de développement (AFD) representatives at N'djamena. Its retrospective evaluation of the project, states conclusions and makes recommendations to the Borrower and the Bank Group.

III. PROJECT OUTPUTS

3.1 Loan Effectiveness

The loan came into force less than seven (7) months after the loan signing, and within a reasonable period of 20 days behind the proposed deadline.

3.2 Project Modifications

3.2.1 Paragraph 4.2 of the PCR details the significant modifications made in the all the project components during implementation. The technical modifications, especially those concerning the N'djamena cable network, caused cost and time overruns during the implementation and seriously affected the project design, even if the objectives were not modified in essence.

3.2.2 Regarding equipment, the entire N'djamena cable network, which was to be rehabilitated, was fully replaced by a base 10 network with a larger capacity. For the switching facilities, additional equipment was installed to contain the technological dysfunction between the various stations, and the N'djamena switching station transformed into a subscriber station, pending the commissioning of the combined function exchange financed by AFD. Other minor modifications were made to the buildings and concerning vocational training and supervision, in response to project cost increases owing to the technical modifications and resumption of the armed conflicts in certain parts of the project area. Of the project studies envisaged, only the one on ONPT reorganization was actually conducted; the others were suspended, pending precise definition of the sector restructuring activities.

3.3 Schedule of Implementation

Overall, the modified version of the project was completed 4 years behind schedule, with an average delay relating to switching equipment, networks and transmission equipment of 2.5 to 3 years, and the longest lag was in respect of the training (4 years) and buildings (5 years), self-financed by ONPT. The reasons for the delay are detailed in paragraph 4.3.2 of the PCR and these mainly concern: (1) the administrative and bureaucratic delays leading to slow tender invitation and contract award procedures, (2) modifications in the design and technical planning of the networks and equipment, (3) resurgence of armed conflicts in certain parts of the project areas.

3.4 Reporting

The quality of the quarterly progress reports is satisfactory and their transmission was regular; the Borrower's PCR, on the other hand, was incomplete and the audit of the accounts was not conducted.

3.5 Procurement of Goods and Services

The proposals relating to goods and services, as determined at appraisal, and the Bank's rules of procedure in the matter were generally applied, without any significant incidents.

3.6 Project Costs

3.6.1 The final project cost was MUA 15.98, down 4.8% from the estimated cost. This figure is however not very reliable, since the accounts did not include the additional expenditure financed with ONPT funds and assessed by ONPT during the most recent mission, at CFAF 796.95 million, which is about UA 996,200. This amount is slightly higher than the balance of UA 831,581 from the ADF loan cancelled in September 1998.

3.6.2 The cost savings are distributed very unevenly between the project components. The local networks and the maintenance equipment and material show cost overruns in the order of 75% justified by major deviations from the original design. On the other hand, there were

significant savings (34%) with regard to the institutional support sub-component, particularly on the foreign exchange expenditure for the consultant, and part of the works inspection and monitoring services provided by the supplier of transmission equipment or by ONPT staff, and most of the studies were postponed and then cancelled. Table 3.1 below shows the trend of the sector's costs by component:

Table 3.1 – Estimated and Actual Project Costs (in UA Million)

		<u>Appraisal</u>		<u>Implementation</u>			<u>Gap (%)</u>		
		<u>F.E</u>	<u>LC</u>	<u>Total</u>	<u>FE</u>	<u>LC</u>	<u>Total</u>	<u>FC</u>	<u>LC</u>
Switching	1.982	0.195	2.177	1.701	0.071	1.772	-14.2	-63.6	-18.6
Networks		3.925	0.943	4.868	7.636	0.848	8.484	+94.6-10.0	+74.3
Transmission		0.910	0.196	1.106	1.138	-	1.137	+25.0	- +2.8
Buildings		0.627	0.156	0.784	0.313	0.407	0.720	-50.2	+160.1 -8.1
Equipment & plant		0.507	-	0.506	0.910	-	0.910	+79.7	- +79.7
Total Equipment		7.951	1.491	9.442	11.698	1.327	13.024	+47.1	-11.0 +37.9
Institutional Support		4.258	0.286	4.544	2.057	0.904	2.961	-51.7	+215.6 -34.8
Total Exc. Contingencies		12.209	1.778	13.986	13.755	2.231	15.986	+12.7	+25.5 +14.3
Various Contingencies			2.347	0.449	2.796	-	-	-	- -
Project Total		14.556	2.227	16.783	13.755	2.231	15.986	- 5.5	+0.2 -4.8

3.7 Sources of Finance and Disbursement

3.7.1 The Bank should finance 90% of the total project amount, which is the total foreign exchange amount (MUA 14.55) and 25% of the local costs, and the Chad Government, the remaining 10% which represents 75% of the local costs. Finally, given the modifications in the project, the Bank financed 89.3% of the project costs while the Government covered the remaining 10.7%¹. Table 3.2 below sums up the financial evolution of the project.

¹ Not including the local expenditure financed by the borrower, but not reflected in the project accounts.

Table 3.2 –Project Financing (in UA million)

<u>Financing</u>	<----- Appraisal ----->				<--- Implementation ---->			
	<u>FC_</u>	<u>LC</u>	<u>Total</u>	<u>%</u>	<u>FC_</u>	<u>LC_</u>	<u>Total</u>	<u>%</u>
ADF	14.55	0.55	15.10	90	13.75	0.52	14.27	89.3
<u>Gvt. of Chad</u>	<u>0</u>	<u>1.68</u>	<u>1.68</u>	<u>10</u>	<u>0</u>	<u>1.71</u>	<u>1.71</u>	<u>10.7</u>
Total Exc. tax	14,55	2,23	16,78	100	13,75	2,23	15,98	100,0

3.7.2 The disbursement method selected for the loan was that of direct payment. Disbursement started over one year behind schedule and, as seen in the table below, spanned 9 years instead of the 3 initially envisaged. These disbursement lags are explained by delays of about 3 to 4 years with regard to equipment (switching, cable networks, various supplies) and providing justification for the ONPT pre-financing (buildings and switching) that led to resumption of the disbursements two years after completion of the project.

Table 3.3 – Trends in loan disbursement (MUA)

	<u>Estimates</u>		<u>Actual</u>	
	<u>Annual</u>	<u>Cumulative (%)</u>	<u>Annual</u>	<u>Cumulative(%)</u>
1987	1.717	10.5		
1988	5.376	43.3	0.096	0.7
1989	9.304	100.0	0.437	3.7
1990	-	-	0.294	5.8
1991	-	-	3.108	27.6
1992	-	-	1.532	38.3
1993	-	-	5.585	77.4
1994	-	-	2.452	94.6
1995	-	-	0.108	95.4
<u>1996</u>	<u>-</u>	<u>-</u>	<u>0.659</u>	<u>100.0</u>
Total	16.399	100.0	14.274	100.0

3.8. Application of loan Agreement Conditions and Provisions

The post evaluation is in line with paragraphs 4.1.4 and 4.1.5 of the PCR, concerning fulfillment of conditions for effectiveness of the loan within the required time frame, and of five of the nine other conditions. The two conditions concerning financial stabilization of the ONPT (clearing arrearage and yields on investments) have not been met; the condition requiring that the Bank be consulted prior to any new investment and the tariff study that was initially postponed under the institutional support project, have not been implemented. These lapses did not affect the quality of the implementation but certainly did affect the agency's cash flow and its financial performance. The Bank lacked vigilance in monitoring the fulfilment of these conditions that were inevitable for the agency's viability and for the sustainability of the project impacts.

IV. PERFORMANCE EVALUATION

4.1. Operation

4.1.1 The absence of a logical framework for project appraisal, which would have determined the parameters for reference, the relevant quantified objectives and the performance evaluation criteria, made it difficult to measure the degree of attainment of objectives and the intrinsic impacts of the project and therefore of its performance. These effects have been aggravated by the modifications in the project during its implementation.

4.1.2 The project installations all functioned satisfactorily, with the exception of the transmission facilities, of which only four of the links are still working; the other links have gradually been replaced by VSAT, financed by ONPT. The switching, distribution and supply equipment is running satisfactorily but has for the most part attained its saturation point, with a utilization rate of between 68 and 93%. The network development and extension phase, which under normal operating circumstances should start, has been stayed pending finalization of the sector restructuring operations. The institutional support given ONPT largely contributed to improving the effectiveness of its technical and financial management, however measures in the areas of staff training, provision of equipment and organization of maintenance are still necessary in order to avoid losing the effect of the results achieved.

4.1.3 The Cable network component essentially involved technological modification of this network (transformation into a base 10 network) which entailed modifications in the general design of the project (N'djamena network reconstructed) as well as financial constraints that have been resolved through ONPT financing or by adapting the works. The installed capacity of the N'djamena, Moundou, Sarh and Abéché networks, as shown in table 4.1 below, made possible the connection of 21 booths in the interior and 25 in N'djamena. These modifications and the poor coordination between the implementation schedules of RIT and MSTT resulted in restrictive management of the RIT equipment in N'djamena and difficulties with regard to connection of subscribers in the capital up to 1997, the year of entry into service of the N'djamena combined-function exchange.

Table 4.1 - Capacities of the Project cable and Switching network

<u>TOWN</u>	<u>Cable Network (Pairs)</u>	<u>Switching (ML)</u>	
	Installed	Equipped Potential	
N'djamena	8 160	+2 195	2 195 (Switching Center)
Sarh	1 200	960	2 000
Moundou	1 200	960	2 000
Abéché	800	640	1 000
Total	11 360	4 755	7 195

4.1.4 The switching component was entirely executed, with the exception of a model for the Sarh school that was provided as part of the ITU technical assistance. The numerical stations at Moundou, Sarh and Abéché, set up in accordance with the technical specifications determined at appraisal (see table 4.1 above), were handed over in December 1994; moreover, to ease the constraints concerning N'djamena (see. § 4.1.2), the N'djamena switching center was transformed into a subscriber center for the purposes of the project, pending the entry into operation, two years later of the combined-function exchange under the MSTT.

4.1.5 Eighteen short wave links were provided under the switching component, with three financed by ONPT and ITU; they were never definitively handed over and they were in

operation only briefly, owing to the defects in some of their components. The shortcomings of the unit responsible for works supervision and that of the equipment supplier have been explained as resulting from the resurgent insecurity in parts of the project area, a situation that had previously led ONPT to replace the contractors in assembling the equipment. The dispute was never settled.

4.1.6 The maintenance and logistics equipment was acquired in accordance with the projections, however part of the spare parts stock (mainly cables) was used directly in the project implementation to palliate the financial constraints resulting from the project modifications. For these same reasons, only the building intended for the N'djamena receiving station was financed under the RIT; the others were financed from ONPT resources.

4.1.7 Of the four technical assistants to be provided, only the switching training expert was recruited; the two experts intended to strengthen the accounting agency were finally recruited, under the institutional support project, for which the Bank provided in 1996, a grant of UA 2.85 million. The RIT project reinforced by the institutional support project, made possible the training of 21 managers, including 4 from the project unit, 9 in switching, 4 in financial management, and 4 in telecommunications planning; 50 technicians were trained in lines and networks. Unfortunately, this effort was not sustained subsequently and even the funds provided by the institutional support project are far from being exhausted, since about 50% of the Bank's grant was, at the time of the evaluation, on the point of being cancelled for lack of use. This poor performance can only partly be explained by the current transitional situation of the sector restructuring, as regards the financial resources available at no additional cost to ONPT.

4.1.8 Of the studies for RIT or the institutional support, only those relating to the ONPT master plan and the reorganization were conducted; the tariff study and that to formulate the recommendations of the preceding studies were postponed, pending the sector restructuring.

4.1.9 The Bank's implementation of the project made it possible to restore and modernize Chad's telecommunications services and also improve the ONPT performances in general. At end '98, the country's exchange capacity was 10 820 ML, connections stood at 8 417 ML, and the network density went from 0.04 to 0.12 ML/100 inhabitants between 1986 and 1998. This density is by far lower than the average density of 0.4%, encountered in sub-Saharan African countries. The average connection time, which was reduced to 61 days in 1998 will certainly increase in the medium-term, considering the rapid saturation of the telephone stations attaining 82.45% at N'djamena and 83.77% in the hinterland; the connection waiting list, which was shortened from 1880 to 1029 between 1993 and 1997, also showed a sharp increase to 3550, given the network saturation and the increased demand. The distribution of the connection capacity and the telephone density is most uneven, limited to the major urban and administrative centers, and there is yet a great effort required to increase the network density and better distribute the services in rural areas. Table 4.2 below gives the trend of the overall performance of ONPT, for all the projects since 1986, the reference year outside the project implementation period.

Table 4.2 – General ONPT Performance Trend

	1986	1993	1996	1998
a/ Switching Capacity (ML)	2 400	5 964	10 100	10 820
b/ Lines in service (ML)	2 203	4 571	6 004	8 417
c/ Capacity Utilization Rate (%)	91.8	76.6	59.4	77.8
d/ Telephone Density (ML/100 inhab.)	0.04	0.08	0.09	0.12
e/ Digitalization Rate (% ML)	0	16	100	100
f/ Staff (telecom) /1000 LP	70	79	55	43
g/ #Fault/100 ML/yr	na	109.5	81.1	82.0
h/ Fault clearance rate (%)				
	2d	na	27.99	35.36
	8d	na	53.52	52.55
	30d	na	75.46	75.52
j/ Connection waiting time	na	several months	50 d	45 d
h/ Telex subscriber rates	96	134	114	110

4.1.10 The rate of digitalization of the switching system, was nil in 1986 attained 100% starting from 1996, with start up of the RIT and MSTT. The quality of service, which had gone positive since the commissioning of the RIT project components, has once again become erratic owing to the scarcity of means of maintenance (spare parts, vehicles) and particularly the cable network saturation. The annual fault rate/ML decreased steadily from 1.10% in 1993 to 0.80 in 1997, however, it was 0.82% in 1998, whereas the trend in the **fault registration** rate is very irregular.

4.2 Financial Performance

4.2.1 The analysis of the ONPT financial performances is based on the financial statements available and compares the results of the period 1993/1997 with those of 1984, indicated in the appraisal report and taken as references. The 1988 financial statements were not yet ready at the time of evaluation mission and any further attempts to obtain the necessary data only resulted in the collection of very fragmentary unreliable information. This was because of the upheaval in the sector and the redrafting of the '98 accounts became merged with the property evaluation redrafting of closing accounts for ONPT and TIT, with a view to merging them and/or separating them into a national telecommunications unit and a posts unit.

4.2.2 ONPT activity over the period was characterized by an annual average increase of the overall billings by 18% from 1984, largely covering the operating expenses, which increased at an annual average rate of 11%. The implementation delay reperculated on the receipts schedule and brought about a definite loss in terms of the agency's cash flow and investment yields; thus the billings of 8.09 billion francs recorded in 1998 are still slightly lower than the estimated billings for 1992 (8.55 billion). The operating results showed a positive trend after deteriorating in 1992 and 93 and represented 19% of the billings from 1997 with the start of the activities of the N'djamena combined-function exchange. Because there was no stock accounting within ONPT, it was not possible to have a detailed analysis of the telecommunications activity, thought it appears to largely subsidize the postal activities, which account for 10 to 15% of the agency's total activities. Table 4.3 below sums up the principal results and operating ratios for the period, with the details given in Annex 4 of this report.

Table 4.3 – Operating Income (CFAF Million)

	1984	1992	1994	1996	1997	1998
Total Income	558	2 875	4 120	5 428	6 688	8 093
Of which Telecom.	499	2 621	2 991	4 306	5 469	6 941
Net Income	265	- 396	241	311	1 281	1 561
net Cash flow	na	1 163	1 378	2 602	3 234	na
Operating Ratio	0.53	1.14	0.94	0.94	0.81	na

4.2.3 The financial aggregates and ratios, summed up in table 4.4. below indicate that the ONPT financial structure is overall balanced and its short and medium solvency certain, despite the gradual decline of its financial independence, due to the increase in its medium and long-term debt burden. The claims portfolio is still too heavy; the claims on public administration and the State stood at 9 billion CFAF in 1999, complicating the merger/ privatization of the ONPT telecommunications activity of with TIT, envisaged as part of the sector restructuring.

Table 4.4 – Summary ONPT Balance Sheets (in CFAF million)

	1984	1992	1994	1996	1997
<u>Total assets</u>	1 478	12 186	31 596	37 469	35 211
Capital assets	178	6 856	18 922	20 532	21 252
Circulating Assets	1 300	5 330	12 674	16 937	13 959
Of which Client Claims	318	4 285	10 209	11 707	11 268
Equity	568	5 434	12 833	14 746	14 188
MLT Debt	222	4 293	12 024	15 117	15 69
<u>Ratios</u>					
Total Debt	1.60	1.24	1.46	1.54	1.48
MLT Debt	0.39	0.79	0.94	1.03	1.11
Liquidity	1.89	2.17	1.88	2.23	2.62
Financial Balance (%)	22.5	70.5	76.1	68.8	71.1
Investment Returns (%)	na	na	1.88	1.58	6.13

4.2.4 The returns on ONPT equity are very low and ranged between 1.04 and 1.45% from 1994 to 1996; they are negative for 1997, following some exceptional expenditure. The investment yields were still low, around 2% between 1992 and 1996; they are burdened by the capacity dysfunction between the cable networks and the switching system also deficient management. However in 1997, they increased by 6.1%; this positive upturn is due to the start-up of the N'djamena combined function exchange, which has enhanced the facilities installed upstream under RIT. The investments envisaged for upgrading and consistency of local capacities should make it possible to substantially improve these returns.

Project Financial Returns

4.2.5 The project financial returns are calculated in the PCR (para. 7.3 and Annex 9) as 12.9%; This is higher than the 8.1% estimated at appraisal and justified by the major modifications relating to both the capacity and the technology adopted during project implementation. The project performance evaluation confirms the result, as well as the methodology and assumptions for calculation that led to that result. This performance is very satisfactory compared to that envisaged at appraisal and can only improve in the new context of sector restructuring.

Accounting Audit

4.2.6 The agency does not have a real accounting and financial department and its system is based on a juxtaposition of the Budget and Accounting Department and an accounting office and does not delegate financial matters to Directors as much as it should. The other impediment to the principle of financial autonomy which this agency should in principle enjoy is the intervention of the Financial Control Department of the Ministry of Finance in the expenditure commitment procedure. The reinforcement of the accounting procedures and services and computerization of the accounting and financial systems as part of the institutional support project have significantly improved the quality and regularity of dissemination of the various financial reports and statements; however, in the opinion of the external auditor, the internal control is defective and weaknesses affecting accounting system procedures and have undermined the reliability and exhaustiveness of accounting entries and financial statements.

Tariffs

4.2.7 ONPT has never had a formal structured tariff policy and the tariff study to be carried out under RIT was delayed and rescheduled to after the sector restructuring. There have been no changes in the tariffs applied since project appraisal (6). The few modifications proposed in 1995, to reflect the new services made available on the market are still awaiting Government approval. The fact that ONPT lacks autonomy in the tariff adjustment mechanism has been a serious obstacle to the health financial results and returns.

Billing and Collection

4.2.8 Billing and collection is clearly set out in paragraph 6.6. of the PCR. The performance with regard to invoicing and billing improved with the establishment of a computerized system and benefited from the modernization of the network and digitalization of the telephone exchanges. The annual collection rate, which was 71% for 1990, gradually deteriorated, stabilizing between 70 and 75 %, starting from 1994. It will take about 4 years to attain an 85 or 90% collection rate of the amount billed annually.

4.2.9 The claims portfolio, as shown in table 4.5 below, has regularly deteriorated, despite the loan condition requiring its settlement, and attained 43.5 months of billing in 1993, subsequently falling to 20.2 months in 1997. This portfolio deteriorated because of the Government arrears, which since 84 have steadily increased to attain CFAF 9.77 billion at the end of '98; in the current context of sector restructuring, the need and urgency of the validation and settlement of arrears is real. These measures are all the more necessary as the centralization of TIT billing seriously limits the control and transparency of accounts and causes significant divergence in the distribution of expenditure and income between ONPT and TIT, as well as the claim amounts and their collection.²

² This problem has now been resolved since the merger of public and private enterprises of the telephone sub-sector is currently a reality with Sotel-Tchad, a public telecommunications company which is undergoing privatization.

Table 4.5 – Client Claims (in months of billings)

	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
Amount	17.9	43.5	29.7	23.8	25.9	20.2

4.3 Economic Performance

4.3.1 The development of modern and reliable means of communication is vital and inevitable for Chad's economic development, considering its landlocked position and sparse transport network. Since the combined exchange was set up under the project at N'djamena, the sector's share of the national economy has more than doubled and the income generated by the telecommunications services account for 0.85% of GDP against 0.36% in 1986. A relatively high number of economic operators and households are thus enabled to use modern communications facilities, with significant gains in terms of time and productivity and easier access to administrative, economic and social data.

4.3.2 These economic benefits, that are difficult to evaluate at this time because of the unavailability of statistics, will extend to the different population segments and geographical areas as the fixed network is extended and additional investments made, thereby increasing returns on previous investments. The demand is actually still hampered by the limited offer of the basic services, but also the lack of new, high value-added products (data transmission and mobile facilities). There is need to develop the network, and with it the services with value-added and interconnection with neighboring sub-regional countries (Panafel) that will consolidate and facilitate economic and commercial activity.

4.4 Institutional and Social Performance

A – Institutional Development

4.4.1 Chapter 6 of the PCR clearly sets out the institutional, legal and organizational framework of ONPT which, with the exception of a few organizational changes, has remained very much the same since its inception in 1976. A public establishment with an industrial and commercial mission, ONPT does have limited operational and financial autonomy, since Government clearance was required for all modification of the tariff and salary structure, while Direction du contrôle financier of the Ministry of Finance is involved in the expenditure commitment process.

4.4.2 Despite the equipment provided by the project and MSTT, the cumulative delay in the sector is still significant and calls for more major investments to raise Chad to the same level as other countries in the sub-region and ensure minimum coverage for reasonable development of economic activities. To mobilize the funds required for this purpose Government has been engaged in in-depth restructuring of the sector in order to attract private investors. This restructuring will actualize the principles of separation of posts and telecommunications activities, establishment of an independent regulating agency, privatization of the main telecommunications operator and gradual introduction of competition, for example through development of the cellular telephone system. The World Bank is piloting this operation with the Bank totally absent from it, despite its major commitment to the financing of the country's telecommunications and of studies for the reorganization of the agency, which have served as platforms for the restructuring process.

4.4.3 the telecommunications law and the decree establishing SOTEL-TCHAD, the main

telecommunications operator. were adopted and promulgated respectively in August and December 1998. The process of separation of the posts and telecommunications, and that to set up SOTEL-TCHAD were already well underway at the time of the project performance evaluation with the nomination of the temporary Director of ONPT and TIT responsible for setting up the new operational units and safeguarding assets of the two companies. Since this time, an operating permit has been issued to a private cellular telephone operator that was to start activities in June 2000; Sotel-Tchad had been set up, its schedule of privatization drawn up and the business bank overseeing the privatization plan was also to begin its services in June 2000.

B – Management and Organization Efficiency

4.4.4 The PCR in paragraph 6.1 to 6.5 clearly states the principles underlying ONPT management, organization and human resources, which, apart from the recent upheaval brought about by the sector restructuring, have changed very little since the inception of the project. The agency is handicapped by the lack of autonomy in relation to the supervisory organ, with regard to finances, tariffs and salaries. Most of the staff have civil service status, and as such have little incentive for mobility and productivity, and with 55 staff /1000 ML in 1999 they are below the 25/1000 recommended for Africa. The preeminence of the political authorities explains the significant rotation at the level of the agency 's directorate, which detracted from sustained rational and efficient management. With the sector restructuring, the establishment of new units and institutions, including Sotel-Tchad, the institutional environment will probably be deeply and radically modified, giving greater management autonomy and efficiency, and further diversification of services, following privatization of the activity.

C – Socio-economic Impact

4.4.5 The RIT project combined with MSTT significantly increased the country's capacity for communication and made for improved quality of life and of the environment of the populations of the country's largest urban and economic centers and increased competitiveness and efficiency of economic operators. These considerable efforts are still not sufficient, since the networks are for the most part saturated and the quality of services provided are mediocre, and the connection rate and fault clearance rates that are still mediocre. Moreover the majority of the population has no access to these services, since 80% of the installed capacity is devoted to meeting the needs of N'djamena, which has 9% of the country's total population, leaving 20% of the available lines to the remaining 91% of the population. Substantial additional investments will be needed for more extensive distribution of these socio-economic benefits to the rural dwellers and help open up the country and integrate it in the sub-regional economy.

4.5 Impact on Female Population and on the environment

Impact on Female population

4.5.1 There is no specific impact of this project and generally speaking of telecommunications projects on women/girls; they also benefit from the socio-economic benefits cited above. The situation of women in ONPT is comparable to that of the enterprises of the sector in general and Africa in particular, and is characterized by concentration in administrative or commercial specializations as well as at the lower levels. The make-up of the female staff at the Telecommunications department has varied very little in absolute terms between 1995 and 1999, from 15 to 22 persons for a total of between 259 and 302. In 1999, women represented 10.06% of the total ONPT staff and 2.19% of first line and other supervisory staff. The distribution of women in ONPT in general and the telecommunications department in particular, for 1998, is presented in table 4.6 below:

Table 4.6 – Distribution of Female staff in 1998

	Managers and supervisors	Line staff	Auxiliary	Total
ONPT staff	300	331	178	809
Including women (number)	17	62	1	80
% of total	5.6	18.7	0.6	9.9
Telecom Depart. staff	129	128	71	302
Of which women (number)	4	22	0	26
in % du total	3.1	17.2	0	8.6

Impact on the environment

4.5.2 The telecommunications sector is generally considered as neutral in terms of its effects on the environment. especially since it mainly has rehabilitation operations with no negative impacts on the environment. There has been no expropriation and the only negative impact that can develop during the routine operation are those relating to high consumption of paper (directories. etc) and frequent use of vehicles for network repair and maintenance activities. These secondary effects, practically non-existent in Chad at this time, given the narrowness of the market and the standard of living. Would thus be offset by the reduction of the number of road trips by customers. and thus of the harmful emissions, and in the paper saving as a result of the development of telephone communications and data transmission.

4.6 Performance of Consultants, contractors. Suppliers and the Borrower

4.6.1 With the exception of the supplier of the transmission equipment, some of which was unsuitable and of poor quality and in addition, certain works that were in fact poorly executed. the consultants, contractors and suppliers fulfilled their obligations in a timely manner and in accordance with the technical specifications; their performances are considered satisfactory.

4.6.2 The performances of the Borrower and ONPT, the loan beneficiary and project executing agency are not considered satisfactory. despite the fact that they kept within the project costs and complied with Bank procedures with regard to goods and services. The project implementation was marked by (i) administrative delays that brought the project considerably behind schedule (ii) dis-establishment of the project management and coordination unit. and, (iii) non-compliance with major loan conditions.

4.7 Performance of the Bank Group

The frequency and quality of Bank supervision missions was satisfactory and led to rapid and effective response to various requests from the project executing agency and the Borrower for adaptation and configuration of the project in light of the changing technological environment. to make up for weaknesses in the project appraisal as a result of the political instability of the time; the Bank's performance was thus considered satisfactory. This good performance was however diminished by (i) lack of adequate follow-up and reaction to effectively meet the conditions relating to stabilization and adjustment of the agency's finances (ii) to a lesser extent, its failure to participate in the process of reform and restructuring of the sector.

V - PROJECT SUSTAINABILITY

5.1 The telecommunications equipment recently acquired by ONPT is based on modern and

reliable technology. however its efficiency is reduced by the saturation of the cable networks in particular, a limited maintenance system and the usual inappropriate qualification of staff. The rehabilitation brought cable networks in line with technological trends. however the capacity available is insufficient, compared to the demand of the recently installed switching facilities. It is indispensable to harmonize the capacities of the different networks so as to eliminate the existing bottlenecks. stay deterioration of the service quality and gain higher returns on the investments already made with regard to switching. To remove the constraints affecting the equipment both in N'djamena and in the hinterland. ONPT has formulated and submitted for donor financing. a development plan along with a short term programme to safeguard the network.

5.2 The agency's cash flow limitations, mainly due to accumulation of Government arrears, led to chronic shortages of spare parts. plant and transport facilities needed for strict maintenance of equipment, and therefore compromised the performance and durability of this equipment. In addition, the insufficient numbers of adequately qualified staff and shortcomings as regards staff training and improvement in particular, limit the project results and institutional performance and worsen the risks with regard to the asset durability and protection. These two factors have contributed to deterioration of the quality of service given to subscribers. which in the current context of competitiveness, could diminish the perception of Sotel-Tchad and make the current clients leave for cellular telephone companies. One major asset to sustain the project outputs will be wise and rational distribution and utilization. amongst the new units established through the sector restructuring, of the agency's technical. administrative and financial managers and technicians, once they have been trained or upgraded as part of the institutional strengthening project implemented to back up the RIT project.

5.3 As part of the sector restructuring. which seems now to be an irreversible process, there is need to validate and settle the arrears owed by the Government. estimated at approximately CFAF 9 billion. The sector restructuring, which is well underway. will enable the telecommunications activity to be more efficiently and transparently managed, and thus remove or alleviate some of the constraints to sustainability of the project outputs; rapid privatization of Sotel-Tchad will increase this probability of sustainability.

VI - PERFORMANCE RATING

The performance ratings summed up below are detailed in Annexes 3. 4 and 5.

6.1 Performance in Implementation

The performance with regard to implementation is not satisfactory; the project time frames and conditions were not respected and the project management unit was disestablished. aggravating the implementation problems.

6.2 Performance of the Bank

the Bank's performance is deemed satisfactory, the quality and frequency of supervision missions were adequate and offset the shortcomings from the appraisal stage by updating the project configuration.

6.3 Results

The RIT project has, overall, attained its objectives. despite major delays in implementation, the shortcomings from the appraisal, the lack of coordination with the complementary project (MSTT). and the defective transmission equipment. The network contributed significantly to providing remedies to the communication constraints caused by the country's landlocked situation, and therefore to its socio-economic development. The risks for sustainability of the project outputs are however significant in the present context of transitional management. but are offset by the envisaged sector restructuring, which will make for more efficient management of the activity.

VII - CONCLUSIONS AND RECOMMENDATIONS

7.1 Overall Rating

Based on the ratings of all the individual indicators. the Telecommunications Infrastructure Rehabilitation Project scores an average of 2.54 . placing it in category S (satisfactory). The project. which is considered to have been unsatisfactorily implemented. with inadequate prospects of sustainability of its outputs. however had its score improved on account of the gradual improvement of its financial situation and its institutional capacity. however. its overall performance was above all hinged on the positive prospects a priori and potential repercussions of th sector restructuring.

7.2 Retrospective view and Recommendations

The performance evaluation of the Telecommunications Infrastructure Rehabilitation Project is generally in line with the lessons and recommendations of the PCR.

7.2.1 Lessons

the lessons drawn from this performance evaluation are as follows:

- a) nsufficiently clear objectives and lack of criteria and performance indicators could lessen the quality of the project monitoring and evaluation process (see para. 2.5.3, 4.1.1),
- b) a significant delay in implementation of a project often leads to saturation of the equipment when it is brought into service and therefore limits its technical, economic and financial viability and ultimately the sustainability of its effect (see para. 4.1.2, 5.1, 5.2),
- c) the risks that remain hidden owing to lack of or inadequate project studies may bring on delays and cost overruns that lessen the project's viability and the sustainability of its outputs (see para. 2.3.3),
- d) premature dis-establishment of the projects' coordinating units detracts from sound management of their implementation and its archive conservation (see para. 4.6.2 & 6.1),
- e) the non-fulfillment of loan conditions hampers restoration of ONPT's financial balances and compromises the sustainability of the project outputs (see para. 2.6, 3.8),
- f) lack of strict management of contracts, and in assignment of roles between suppliers, managers and consultants could be a source of defects in the project implementation (see para 4.1.5),
- g) the lack of coordination between donors co-financing programmes adversely effects management of the implementation schedule and therefore the expected project results (see para. 4.1.3, 4.1.4).

7.2.2 Recommendations

In view of the foregoing and the radical changes in the management telecommunications activity as a result of the current adoption of the restructuring plan, it is recommended.

To the Bank:

- a) reinforce the practice of complying with the logical framework matrix and ensuring the quality and reliability of its data throughout the project cycle (see para. 2.5.3, 4.1.1),
- b) strengthen and develop operational guidelines for appraisal and integrate into these specific tools for analysis of risk factors and sustainability (see para. 4.1.2, 5.1, 5.2),
- c) identify the risks and integrate them into the appraisal report and hedge these with measures, actions and conditions (in the loan agreement) to extenuate the negative impacts on the effects of the project (see para. 2.3.3),
- d) see to the maintenance and sound functioning of the project management and implementation units (see para. 4.6.2 & 6.1),
- e) develop and reinforce strict application of guidelines for systematic reminders for fulfilment of the loan agreement conditions, especially monitoring and systematic reminders for these conditions and for the project account audit and application of the relevant sanctions, as the case may be (see para. 2.6, 3.8),
- f) ensure that contracts are properly drafted and efficiently managed (see para. 4.1.5),
- g) see to close coordination with programme donors/cofinanciers or parties operating in the sector (see para. 4.1.3, 4.1.4),
- h) study the possibility of financing, within the frameworks and limitations set by its own policies and instruments, the investment measures proposed in the short-term programme, which would allow for maximum yields from past investments (see para. 5.1),
- i) participate actively and effectively in the telecommunications sector restructuring in regional countries and especially the one underway in Chad (see para. 4.4.2, 4.4.4 & 5.3).

The Borrower:

- j) comply with the measures adopted in conjunction with the Bank, for management of projects, and particularly the maintenance and utilization of the management and coordination units for the entire period of their implementation, and also the loan agreement conditions (see para. 2.6, 3.8 & 6.2),
- k) continue the effective and rapid implementation of the sector restructuring plan, and in that regard:

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