Public Disclosure Authorized

Public Disclosure Authorized

Document of

The World Bank

FOR OFFICIAL USE ONLY

LN 3236-UNI

Report No. 8035-UNI

STAFF APPRAISAL REPORT

FEDERAL REPUBLIC OF NIGERIA

FIRST TELECOMMUNICATIONS PROJECT

MAY 16, 1990

Africa Region, Western Africa Department
Industry and Energy Operations Division

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

Currency and Equivalent Units

Currency Unit = Naira (₦)

US$1 = ₦7.94
₦ = US$0.13
₦ = Kobo 100

Weights and Measures

Metric System

List of Abbreviations

DEL	-	Direct Exchange Line
FGN	-	Federal Government of Nigeria
ICB	-	International Competitive Bidding
LCB	-	Local Competitive Bidding
LIB	-	Limited International Bidding
MOC	-	Ministry of Communications
NEPA	-	National Electricity and Power Authority
NET	-	Nigerian External Telecommunications
NITEL	-	Nigerian Telecommunications Limited
OECF	-	Overseas Economic Cooperation Fund (Japan)
PABX	-	Private Automatic Branch Exchange
PMBX	-	Private Manual Branch Exchange
PPF	-	Project Preparation Facility
TCPC	-	Technical Committee for Privatization and Commercialization
UHF	-	Ultra High Frequency
VFT	-	Voice Frequency Telegraph

Fiscal Year

January 1 - December 31

FIRST TELECOMMUNICATIONS PROJECT

STAFF APPRAISAL REPORT

Table of Contents

Page No

LOAN AND PROJECT SUMMARY iv

I. INTRODUCTION 1

II. THE TELECOMMUNICATIONS SECTOR 1

1. Background

A. Sector Organization 1
B. Access to Service 2
C. Usage of Service 3
D. Existing Facilities 3
E. Quality of Service 3
F. Demand for Service 4

2. The Entity

A. Institutional Background 5
B. Organization and Management 5
C. Commercialization of NITEL 6
D. Staff and Training 7
E. Accounts 7
F. Billing and Collection 8
G. Audits 8

3. Development

A. Sector Objectives 9
B. Sector Constraints 9
C. Sector Strategy 10
D. Rationale for Bank Involvement 10

III. THE PROGRAM AND THE PROJECT 11

1. The Program 11

This report is based on the findings of a mission in April 1989 composed of Messrs. Rajesh Pradhan (Task Manager and Financial Analyst), Rogati Kayani (Senior Telecommunications Engineer), and James Cowie (Senior Telecommunications Specialist) and technical discussions held in Washington in March 1990.

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

Page No.

2. The Project 13

A. Project Objectives 13
B. Project Description 13
C. Project Costs 15
D. Project Financing 16

3. Procurement and Implementation

A. Procurement 17
B. Disbursement 19
C. Implementation 20
D. Overall Project Management 20
E. Performance Indicators 21

IV. FINANCIAL AND ECONOMIC ANALYSIS 22

1. Financial Analysis

A. NITEL's Past Financial Performance 22
B. NITEL's Present Financial Position 23
C. Financial Objectives 24
D. Projected Financial Performance. 25
E. Projected Financing Plan 26

2. Economic Analysis

A. Tariffs 27
B. Benefits 27
C. Least Cost Solution 28
D. Return on Investment 28
E. Risks 29
F. Environmental and Health Aspects 29

V. AGREEMENTS REACHED AND RECOMMENDATIONS 29

ANNEXES AND CHARTS

2-1 Existing Telecommunications Facilities. 32
2-2 Existing Demand 33
2-3 NITEL Organization Chart 34
2-4 Commercialization of NITEL 35
3-1 Investment Program (1990-1994) 39
3-2 Detailed Project Description 42
3-3 Terms of Reference for Consultancy Services 45
3-4 Project Financing Plan 57
3-5 Schedule of Disbursements 59

FEDERAL REPUBLIC OF NIGERIA

FIRST TELECOMMUNICATIONS PROJECT

LOAN AND PROJECT SUMMARY

Borrower:	Nigerian Telecommunications Limited (NITEL)
Guarantor:	Federal Republic of Nigeria
Amount:	US$225 million equivalent
Terms:	Twenty years, including a five year grace period, at the Bank's variable interest rate.
Project Description:	The main objectives of the project are to support and strengthen the institutional and policy framework and to facilitate the commercialization of NITEL; improve the access to and quality of telecommunications services; and improve NITEL's financial performance. The proposed project consists of: (a) an institutional development program including technical assistance to: develop a long-term network development strategy and realistic investment program; undertake technical audit of Lagos network; review NITEL's accounting and financial systems and procedures as well as its billing and collection system; implement an integrated management information system, review tariff levels and structure, and revalue fixed assets; improve project management, financial management, materials management, and network planning; and human resource development for NITEL; and (b) a physical development program including: rehabilitation of existing facilities; supply, installation and commissioning of new exchanges and matching external line plant in the Lagos metropolitan area and major cities; rehabilitation of the Lanlate satellite earth station; expansion of long distance transmission links; establishment of the teleprinter and telex module repair center; construction of buildings; and provision of telephone instruments, vehicles and ancillary equipment.
Project Benefits and Risks:	Investments focussed on rehabilitation and improved utilization of existing assets as well as expansion in high demand areas would maximize the utilization of NITEL's existing facilities and hence improve its financial and economic

FEDERAL REPUBLIC OF NIGERIA

FIRST TELECOMMUNICATIONS PROJECT

LOAN AND PROJECT SUMMARY

Borrower:	Nigerian Telecommunications Limited (NITEL)
Guarantor:	Federal Republic of Nigeria
Amount:	US$225 million equivalent
Terms:	Twenty years, including a five year grace period, at the Bank's variable interest rate.
Project Description:	The main objectives of the project are to support and strengthen the institutional and policy framework and to facilitate the commercialization of NITEL; improve the access to and quality of telecommunications services; and improve NITEL's financial performance. The proposed project consists of:

(a) an institutional development program including technical assistance to: develop a long-term network development strategy and realistic investment program; undertake technical audit of Lagos network; review NITEL's accounting and financial systems and procedures as well as its billing and collection system; implement an integrated management information system, review tariff levels and structure, and revalue fixed assets; improve project management, financial management, materials management, and network planning; and human resource development for NITEL; and

(b) a physical development program including: rehabilitation of existing facilities; supply, installation and commissioning of new exchanges and matching external line plant in the Lagos metropolitan area and major cities; rehabilitation of the Lanlate satellite earth station; expansion of long distance transmission links; establishment of the teleprinter and telex module repair center; construction of buildings; and provision of telephone instruments, vehicles and ancillary equipment.

Project Benefits and Risks:	Investments focussed on rehabilitation and improved utilization of existing assets as well as expansion in high demand areas would maximize the utilization of NITEL's existing facilities and hence improve its financial and economic

returns. The project will alleviate a major infrastructure constraint to the sustainability of economic development and adjustment in Nigeria through upgrading the country's standard of telecommunications, currently among the lowest in Sub-Saharan Africa. Furthermore, the institutional building and strengthening of NITEL's management systems would result in improved financial performance and net transfer of funds from the sector to FGN. While progress has been made in seeking commitment from both FGN and NITEL on major areas and required actions for substantially improving the performance of the sector, the principal risk relates to the pace at which NITEL's implementation capacity can be strengthened. However, this risk is minimized by Bank requirement of upfront actions by FGN and NITEL wherever appropriate and NITEL's agreement to an action plan for strengthening the sector and entity management and other related issues. In addition, annual review by FGN and the Bank of NITEL's achievements would provide a framework to ensure satisfactory implementation of the institutional aspects of the proposed project.

Estimated Project Costs:

By Items	Local	Foreign	Total
	---US$ Million Equivalent---		
Switching Equipment	5.8	102.1	107.9
External Line Plant (ELP)	19.4	149.2	168.6
Transmission	1.2	10.9	12.1
Space Communication	0.1	3.0	3.1
Telephones and Teleprinters	0.1	9.1	9.2
Buildings	25.8	0.0	25.8
Rehab. of Power and Airconditioning	0.1	1.2	1.3
Vehicles	3.0	2.0	5.0
Training (Equipment and Fellowships)	0.1	6.1	6.2
Consultancy	0.4	7.2	7.6
Miscellaneous and Ancillary Equipment	0.0	1.0	1.0
Customs Duties	37.8	0.0	37.8
Base Cost	93.9	291.7	385.6
Physical Contingency	9.4	14.6	24.0
Price Contingency	9.3	28.7	38.0
Project Cost	112.6	335.0	447.6
Interest During Construction			
On Bank Loan	0.0	20.5	20.5
On Other Loans	0.0	15.4	15.4
Total Financing Required	112.6	370.9	483.5

Project Financing Plan:

Sources	Local	Foreign	Total
	-------US$ Million Equivalent------		
IBRD	-	225.0	225.0
Cofinanciers	-	110.0	110.0
NITEL	112.6	35.9	148.5
Total Project Financing	112.6	370.9	483.5

Estimated Disbursements:

IBRD FY	FY91 1/	FY92	FY93	FY94	FY95
	----------US$ Million Equivalent----------				
Annual	20.0	58.0	88.0	41.5	17.5
Cumulative	20.0	78.0	166.0	207.5	225.0

1/ Includes refinancing of PPF

Economic Rate of Return: 23.7%

Map: IBRD No. 21860

FEDERAL REPUBLIC OF NIGERIA

FIRST TELECOMMUNICATIONS PROJECT

I. INTRODUCTION

1.01 The Federal Government of Nigeria (FGN) recognizes telecommunications as an infrastructure vital to the sustainability of economic development and adjustment in Nigeria. FGN has requested Bank assistance in financing the development of its telecommunications sector. FGN's principal objectives are focussed on developing a sound telecommunications policy and institutional framework; commercializing Nigerian Telecommunications Limited (NITEL); and improving the quality of and access to telecommunications services. This will be the Bank's first lending operation in the telecommunications sector in Nigeria.

1.02 The estimated cost of the project is US$483.5 million with a foreign exchange component of US$370.9 million, about 77% of total cost. The project comprises the new works of NITEL's telecommunications development program for the 1990-94 period. The foreign exchange cost of the project is expected to be financed from a loan of US$225 million equivalent from the Bank and credits totaling US$110 million from co-financiers. The interest during construction (US$35.9 million) and local cost of the project (US$112.6 million) are expected to be financed from NITEL's internal cash generation.

II. THE TELECOMMUNICATIONS SECTOR

1. BACKGROUND

A. Sector Organization

2.01 The responsibility of the telecommunications sector in Nigeria rests with the Ministry of Communications (MOC). Under MOC, NITEL is responsible for management and development of domestic and international public telecommunications services. In addition to the public telecommunications services, dedicated networks exist to meet the specialized requirements of the police, military, railway, civil aviation and the oil companies. Other private users also operate radio services especially in areas without public networks but even in areas served by NITEL, private users operate radio link services to supplement NITEL's unreliable network.

2.02 MOC is responsible for setting policies and carrying out the regulatory functions such as licensing of private operators while NITEL carries out the more technical regulatory functions such as setting equipment standards and granting of equipment type approvals on behalf of MOC. Management of the radio frequency spectrum is carried out by the Nigerian Frequency Registration Board which is chaired by the MOC and

consists of members from the military, police, civil aviation, MOC, Federal Ministry of Information, NITEL and the national security. MOC has prepared a national telecommunications policy paper to articulate the operating and regulatory framework and determine conditions and areas under which service will be provided for telecommunications. The Bank has had extensive policy dialogue both with the MOC and NITEL during the project preparation and has provided MOC with its assessment of the important considerations in the formulation of a national telecommunications policy paper. During negotiations, the Minister of Communications reassured the Bank that the policy paper is in line with the trends in the sector in most other countries and is consistent with the Bank's dialogue on the policy framework. In addition, he stated that the FGN has already taken substantive actions along the lines proposed by the Bank in its dialogue. Some of the major steps that have been taken are: (i) a decision to fully commercialize NITEL; (ii) an implementation of a rational digitalization policy; (iii) limiting investment to reasonable levels; (iv) a decision to open up previously contracted equipment to international competitive bidding; and (v) substantial increases in tariffs. In addition, MOC will employ consultants to strengthen its capacity to regulate the sector and monitor sector performance.

B. Access to Service

2.03 Access to telephone service is currently limited to 20% of the country's area. Coverage, both in terms of percentage of area and population served, varies regionally. Considerable differences exist in availability of telephone facilities between the Northern and Southern parts of the country which more or less reflect regional disparities of population densities and economic development.

2.04 At the end of 1988, Nigeria had a total of about 260,000 direct exchange lines (DELs). This translates to an overall telephone density of 0.2 lines per 100 inhabitants, which is only about 50% of average penetration in Sub-Saharan Africa. The available telephone facilities are inadequate for the level of economic development as reflected by the long list of waiting applicants (para 2.11). The existing facilities are not only inadequate but there is an imbalance between urban and rural areas. Telephone service is concentrated in the 21 state capitals, which accounts for 73% of the total lines but only 8% of the population. The 21 state capitals show an average density of 2.5 lines per 100 inhabitants compared to the national average of 0.2 lines per 100 inhabitants. The rural density is only about 0.07 lines per 100 inhabitants. However, to improve the current very poor quality of service, the project concentrates on rehabilitation of the network in main urban centers, with expansion restricted to that feasible within the constraints of NITEL's limited manpower and financial resources.

2.05 At the end of 1988, automatic telex service was available to about 5,900 subscribers of whom 60% were located in Lagos.

C. Usage of Service

2.06 Nationwide, the distribution of telephone lines between business and residential users is almost even with a slight emphasis on residential telephones, 55%. Regionally, residential subscribers prevail in the southern zones and business subscribers in the northern zones. In smaller exchange areas, the majority of subscribers are business. In Lagos the statistics show an equal distribution of residential and business subscribers. However, within the city, certain areas (such as Lagos Island, Ikoyi and Apapa) are business oriented and others predominantly residential. In Nigeria, like in many developing countries where telephone service is underprovided, many of the residential telephones are used for both business and private purposes.

D. Existing Facilities

2.07 The telecommunications services provided by NITEL include: telephone; telex; telegram, private wires and leased circuits; data transmission; bureaufax (facsimile); T.V. transmission; and mobile maritime service. Details of the existing facilities are given in Annex 2-1.

2.08 Among the services, the telephone service is the most important with the greatest impact on social and economic activities. At the end of 1988, total telephone switching capacity (exchanges) installed was about 394,300 lines. About 97% of the lines were served from automatic exchanges and the remaining lines were provided by manual exchanges. Due to the lack of an appropriate policy in the past, there are nine different types of analog automatic exchanges in use which create inter-working, maintenance and spare part problems. Future expansion will be based on a digitalization policy which aims at a maximum of three different systems. Total telex capacity was 12,800. The average capacity utilization for telephone and telex exchanges was low at 66% and 42%, respectively. This was mainly due to the fact that many telephone exchanges have been recently commissioned and, until recently, there has been a shortage of teleprinters to connect new telex subscribers. The main long distance transmission media is microwave radio with a few UHF spurs. There is one coaxial cable in the trunk network running from Lagos via Ibadan and Ilorin to Kaduna. Some local exchanges are connected via coaxial tail-links to the nearest microwave stations. There is a domestic satellite system (DOMSAT) with 21 earth stations used primarily for TV transmission. For international telecommunications, there are two earth stations and two international exchanges located at Lagos and Kaduna. Nigeria is directly connected to 20 countries by satellite system. Nigeria is also linked to West Africa and Europe by a submarine cable which handles about 10% of total international traffic.

E. Quality of Service

2.09 The quality of service is poor due to congestion in the local switching equipment leading to long dial tone delay and low call completion rates. On the average, the call completion rates for local, long distance (STD) and incoming international calls are low at about 30%, 30% and 20%, respectively. One major finding of the consultants employed under a Bank

PPF advance to investigate the problems of the Lagos network and recommend appropriate steps to improve its performance was that, contrary to NITEL's belief, the amount of equipment available is sufficient to carry all the traffic generated by the existing subscribers. The low call completion rate of 30% (instead of the expected 60%) for local calls is due to a large proportion of faulty common control equipment. This results in excessive repeat attempts which generate false traffic thus overloading the available common control equipment. On average, in Lagos, for every successful call, the caller has to attempt five times. The isolation of faulty equipment at some of the exchanges has led to improvement in the call completion rates by 30%. NITEL was unable to analyze the problem and take these measures prior to the consultants' assistance because of:

a) inadequate operations and maintenance organization;

b) lack of trained staff to diagnose the problems; and

c) lack of maintenance tools and test equipment.

The project will address the above problems and provide the necessary spare parts and modules to repair the faulty equipments (paras 3.08 and 3.10).

2.10 Other main causes of poor quality of service are breakdown of power equipment and airconditioning plant. Due to the unreliable power supply from NEPA, NITEL's standby power equipment is often used beyond its design capacity leading to frequent breakdowns. NITEL has not been able to repair most of the broken down standby power equipment due to lack of foreign exchange to procure the necessary spare parts. Some 75% of the faults on the long distance transmission network are caused by problems in the power supply systems. This problem is being addressed in this project through the provision of rehabilitation equipment and spare parts. Unlike many other developing countries, the fault rate on the external local cable network is relatively low because most of the network is fairly new, having been constructed after 1976.

F. Demand for Service

2.11 Consultants, financed under the Bank's PPF advance, have carried out a detailed survey of national telephone demand. They assessed that the total demand nationwide for March 31, 1988 was about 1.0 million potential subscribers, which is over 300% of the supply of about 246,000 DELs at that period. However, expressed demand (DELs plus registered waiting applicants) was only 400,000 indicating a large suppressed demand (600,000). Summary of subscriber potential is shown in Annex 2-2. The large suppressed demand indicates that many would be applicants have been discouraged from applying for telephone service probably because of: (a) the long average waiting time for connection (exceeding ten years) due to lack of facilities; and (b) the quality of service has been poor (para 2.09). This is common in many countries in Sub-Saharan Africa. During the five year period covered by this project, the total demand is conservatively expected to grow at about 3% per annum reaching about 1.2 million at the end of 1994. However, because of the very poor quality of existing network and the urgent need for its rehabilitation, the project

provides for only high priority development works. Thus, during the same period, the supply will increase at about 9% per annum to about 438,500 by 1994 due to the project and ongoing works in the program and the demand will still be about 200% above supply.

2.12 As regards to telex service, the present potential demand is estimated at about 8,000 with registered waiters of about 2,000. There is adequate telex switching capacity available but the shortage of teleprinters and cable pairs have hindered the utilization of this capacity. The project will overcome these deficiencies. The demand for telex service is estimated to reach about 12,000 in 1992 and 14,700 in 2002, an average growth of about 5%. However, the actual demand for telex is likely to be less than forecast because of higher expected penetration of data and facsimile in the Nigerian network.

2. THE ENTITY

A. Institutional Background

2.13 Until 1984, responsibility for the operation of domestic telecommunications services was vested in the Posts and Telecommunications Department (P&T) of the government, and responsibility for international services rested with a wholly government owned company, Nigeria External Telecommunications Limited (NET). In 1984, FGN decided in favor of creating a single entity to "enhance service provision" through improved planning and coordination and reduced staffing and overlap between the two entities. The merged entity was required to operate telecommunications services in Nigeria on a commercial basis.

2.14 NITEL was established on January 1, 1985 under the Companies Act of 1968 through a merger of the "Department of the Telecommunications Section of the Posts and Telecommunications" of the Ministry of Communications and the "Nigerian External Telecommunications Limited" as a wholly government owned limited company with responsibility of providing domestic and international public telecommunications services. According to its Memorandum and Articles of Association, it has a share capital of N4 million which cannot be increased without government approval. NITEL is required to be managed by an eight-member Board, of whom five including the chairman must be nominated by government. Currently, the functions of the Board are being carried out by three members, namely the Minister of Communications as Chairman, the Director General of the Ministry of Communications and the Managing Director of NITEL. The autonomy of NITEL including the independence of the Board of Directors is being actively pursued by the Technical Committee for Privatization and Commercialization (TCPC) for NITEL as for all other public enterprises that have been nominated to operate on a fully commercial basis.

B. Organization and Management

2.15 There was inadequate advance planning of the merger of P&T and NET, with the result that a stable and rational organization and management structure and adequate trained staffing were not in place until about August 1986. The organization structure, together with job descriptions,

was prepared by a telecommunications consulting firm in 1986. Under this structure, the post of Deputy Managing Director for Operations and Maintenance has been introduced. Operations are decentralized to the managers of five regional zones, one of which is Lagos. A further level of subdivision is the territory, which corresponds to Nigeria's state boundaries. To streamline its functions and improve the efficiency and effectiveness of its various functional units, NITEL restructured its organization effective January 1, 1989. This, however, did not include the financial functions because the consultant financed under the PPF advance had not finalized its recommendation. The financial functions were restructured effective April 1, 1989 based on the consultant's recommendation. The new organizational structure is shown in Annex 2-3.

2.16 While NITEL's structure is appropriate for commercial operation, it at present lacks proper management systems and procedures essential to manage it as a commercial enterprise. In addition, NITEL's management reporting is fragmented and there is no formal and uniform structure for flow of information. This has contributed to weaknesses in planning, operations and maintenance, financial management, billing and collection, procurement and project management. Consultants will be employed to assist NITEL in its efforts in these areas (paras 3.08 and 3.09).

C. Commercialization of NITEL

2.17 In July 1988, in furtherance of its efforts to improve NITEL's performance, FGN announced its decision to fully commercialize NITEL as part of the broad reforms of the public enterprise sector involving privatization and commercialization of some 135 parastatals. A sub-committee of the Technical Committee for Privatization and Commercialization (TCPC) has examined NITEL's situation in detail and made its recommendations on commercialization of NITEL to TCPC for its review and implementation. FGN has clearly recognized the need for NITEL to become a financially sound commercial entity and the proposed project will provide the support for FGN's efforts. The Bank submitted its input to the sub-committee of the TCPC dealing with NITEL on appropriate steps to enable autonomy for NITEL and the continuing policy oversight by the MOC to be effective. The Minister of Communications, who is the Chairman of the committee responsible for implementing TCPC's recommendations, assured the Bank that the recommendations of the TCPC sub-committee are in line with the Bank's dialogue with FGN.

2.18 During negotiations, an understanding was reached with FGN and NITEL on the main elements of the commercialization of NITEL to ensure that NITEL will become self-reliant, have more autonomy in personnel policies, salaries, procurement, and management of its financial affairs, etc., and in return, making it accountable for its performance (Annex 2-4). FGN's operational and financial objectives for NITEL will be incorporated in a formal performance contract between FGN and NITEL against which NITEL's achievements will be monitored. It was agreed that a draft performance contract between the FGN and NITEL will be submitted to the Bank for comments by October 31, 1990 and will be made effective by January 1, 1991. There will be an exchange of views with the Bank on NITEL's progress in meeting agreed specific targets under the performance contract. Key

performance objectives and targets for inclusion in such a contract were also agreed (para 3.25 and Annexes 2-4 and 3-9).

D. Staff and Training

2.19 As of December 31, 1988, NITEL employed about 17,000 staff, of whom about 12,000 were technical. This represented a considerable reduction since September 1984 (prior to reorganization), when there were severe overstaffing problems in the sector. At that time, the total telecommunications staff was estimated at 27,000, equivalent to a staffing ratio of 180 per 1000 DELs. The staffing ratio decreased to 66 per 1000 DELs by the end of 1988. The staffing ratio in Nigeria compares well with other African countries but is still higher than in most developing countries. The staff ratio will be closely monitored during the project to reduce it to a target of about 60 per 1000 DELs by the end of 1990, 55 by 1991, 50 by 1992. This will be included as part of the performance contract between FGN and NITEL.

2.20 All three consultants financed under the PPF advance identified the inadequacy of trained and experienced manpower in NITEL, in all disciplines and at all levels, as a major issue. The introduction of digital technology and commercialization of NITEL will change the composition of the staff profile of NITEL requiring better educated and trained staff to effectively manage the sector. NITEL with the assistance of consultants has identified skill gaps and the training needs, and recruitment requirements. NITEL has started an intensive recruitment effort to employ the necessary staff with special efforts to attract qualified accountants, who are in short supply.

2.21 Training is provided through the main school at Oshodi, at Kano and at a series of six regional schools. Whilst generally well equipped, there are shortcomings for technical training in the latest technologies, e.g., optical fiber, digital, and training in finance and information management. NITEL has embarked on an intensive training of its staff at all levels and disciplines, including finance, personnel, management, computer, and technical. During 1989, about 900 staff received training in non-technical areas and about 1,800 staff received training in technical areas. The training was held in Nigeria as well as overseas with foreign administration and equipment suppliers. This effort will continue during the project period. The project will provide a total of 130 man years of fellowships for all disciplines, which is considered adequate for the next five years, to complement NITEL's efforts to train its staff overseas (para 3.08). In addition, the project will provide 24 manmonths of experts for setting up courses in data and digital technology at the training school.

E. Accounts

2.22 The process of merging the two different accounting systems of P&T (cash based) and NET (commercial based) after the creation of NITEL is not fully completed. Whilst external consultants have been employed to help, this process has been rendered difficult by the loss of most experienced financial staff during the reorganization and the lack of

adequate training of P&T financial staff on accrual accounting concepts. As a result, there is a shortage of reliable information for evaluation of NITEL's financial position and performance. A consulting accountancy firm was retained by government to prepare an opening statement of affairs as of December 31, 1984 for NITEL. This difficult task was only realized in November 1986, with substantial qualifications about the validity of the statement.

2.23 Consultants financed under the PPF advance to review NITEL's accounting and financial systems, procedures and policies have identified numerous deficiencies. Their main findings are as follows: (a) no official consolidated statement of NITEL's accounting policy exists; (b) the existing accounting system is largely cash based; (c) lack of appropriate financial management systems and procedures; and (d) lack of adequately trained financial staff at all levels on accrual accounting systems. The consultants recommended reorganization of financial functions in the headquarters, zones and territories to avoid duplication of tasks and better management and control of NITEL's finances. NITEL has implemented some of the recommendations of the consultants. Under the project, financial consultants will be employed to assist NITEL in its implementation efforts (para 3.08).

F. Billing and Collection

2.24 On its creation, NITEL inherited major problems of billing and collection. The billing system is based on two mainframe computers in Lagos and Kaduna, and manual systems are to be replaced shortly by minicomputers in the other zonal headquarters of Ibadan, Enugu and Bauchi. The existing equipment, however, functions poorly due to spare parts and service problems. Up to 20% of subscribers do not receive bills at all. Current collection rates are difficult to estimate because, at present, collection data do not separate outpayment for current billing and arrears. Further, there is no aging analysis. The outstanding subscriber accounts receivable as of December 31, 1988 was about five months of billing for the year, which is high compared to an acceptable norm of two months. Consultants were employed under PPF financing to review the existing billing and collection systems and procedures at NITEL and recommend improvements. NITEL has already started implementing some of the recommendations of the PPF consultants on billing and collection and this has resulted in improvements both in the billing and collection performance. Experts will be provided under the project to assist NITEL in its efforts to further improve the billing and collection performance (para 3.08). During negotiations, it was agreed that NITEL will reduce its outstanding subscriber receivables to 120 days of billing for the year by 1990, 90 days by 1992, 60 days by 1994, and maintain it thereafter. Those targets will be monitored during the implementation of the project (para 3.25).

G. Audits

2.25 External auditors are appointed by NITEL in accordance with its Articles of Association. Currently, two reputed private auditors carry out joint audits of NITEL's accounts. This arrangement is satisfactory and

will be continued under the proposed loan. The long delays in completing audits are due to delays in completion of the accounts and their poor quality (para 2.22). FY85 audited statements for NITEL was ready only in November 1988 and it had numerous qualifications. The auditors were unable to form an opinion as to whether the financial statements give a true and fair view of the state of the company's affairs. NITEL is presently unable to meet either the special government requirement for audits or the requirement of its Articles of Association to present such audited accounts within nine months after the end of the fiscal year. This is mainly a result of the problem of maintaining regular and proper accounts. Recently, NITEL's management has placed high priority on the completion of the outstanding audits and mobilized the necessary staff to assist the auditors. This has resulted in the completion of the draft audits for 1988 which are being discussed between NITEL and the auditors. The situation is expected to improve further after the recommendations of the PPF consultants are fully implemented after which NITEL should be able to meet its audit requirements. During negotiations, the timetable for submission to the Bank of draft and audited financial accounts were agreed as follows: (a) audited FY87 accounts will be conditions for loan effectiveness; (b) audited FY88 accounts will be within eighteen months of the close of the fiscal year; and (c) draft and audited FY89 accounts will be within nine and twelve months of the close of the fiscal year, respectively, and for each year, thereafter, the unaudited and audited accounts within four and six months of the close of the fiscal year, respectively.

3. DEVELOPMENT

A. Sector Objectives

2.26 The present situation of undersupply and poor quality of telecommunications service is a severe constraint to economic growth, particularly in the export and trade sectors. FGN has recognized the need to: (a) develop telecommunications as an economic infrastructure vital to the sustainability of development and adjustment in Nigeria and as a vehicle for national as well as regional integration; and (b) strengthen and commercialize the sector organization and management to improve the sector performance for sustained growth in telecommunications services. With these objectives in view, and as mentioned earlier, the FGN on January 1, 1985 established NITEL to operate telecommunications services on a commercial basis (para 2.14). In July 1988, NITEL was included as one of the public enterprises to be fully commercialized as part of the FGN's broad reforms of public enterprise involving privatization and commercialization of key public enterprises.

B. Sector Constraints

2.27 The main constraints to sector development are:

(a) lack of comprehensive FGN policy on telecommunications development (para 2.02);

(b) lack of autonomy for NITEL (para 2.14);

(c) lack of proper management systems and procedures (para 2.16) and of adequate trained manpower (para 2.20), which constrains NITEL's capacity to maintain the existing facilities and to plan and implement development projects; and

(d) lack of adequate funds, both local and foreign, which limit procurement of essential equipment and materials for maintenance, rehabilitation and expansion.

Constraints (a) to (c) are being addressed through the TCPC work and the institutional component of the proposed project. Regarding (d) the project provides the foreign exchange required for maintenance, rehabilitation and limited expansion and includes measures for increasing the availability of local funds through improved operational and financial performance of NITEL.

C. Sector Strategy

2.28 In its continued effort to achieve its objectives, the FGN's medium term strategy for the sector are as follows:

(a) separation of NITEL's role as the operating entity from that of MOC as the unit responsible for regulation and control of the sector (para 2.17);

(b) full commercialization of NITEL through, inter alia:

(i) reinforcement of NITEL's autonomy (para 2.18);

(ii) adequate measures of tariff increases and improved operational efficiency of NITEL to ensure financial viability (para 4.06); and

(iii) strengthening of NITEL's operating framework by agreeing on explicit operational, technical and financial performance targets (para 2.18), and establishing appropriate control mechanisms such as regular external audit (para 2.25).

(c) improvement in the quality of service to existing subscribers through rehabilitation and better utilization of existing facilities (para 3.10); and

(d) provision of new facilities to improve access to telecommunications services (para 3.10).

D. Rationale for Bank Involvement

2.29 The Bank's proposed support for telecommunications in Nigeria is an important component of the public enterprise reform process, a key objective of the FGN's structural adjustment program. This program calls for measures to reduce unproductive capital investment, improve efficiency in operations and adopt economic pricing policies. It specifically

addresses the poor past performance of the public enterprise sector which has absorbed substantial amounts of government subventions, budgetary support and concessionary loans. FGN's concern is focussed primarily on a group of large parastatals, including NITEL.

2.30 The Bank supports FGN's objective of improving the performance of the telecommunications sector. Through this first telecommunications lending operation in Nigeria, the Bank would play an important role in assisting FGN and NITEL to: (a) implement a rational national telecommunications sector policy and institutional and development strategies for the efficient long-term development of the telecommunications sector; (b) implement a realistic investment program that would maximize benefits consistent with NITEL's implementation capacity and resource availability; and (c) accelerate the implementation of commercialization of NITEL. The Bank's cross country experience in the telecommunications sector in Sub-Saharan Africa would be directly and immediately relevant in assisting FGN and NITEL in their efforts. In addition, the Bank has considerable experience in the region in the "commercialization" of such public sector entities and in particular in the introduction of practical steps towards improved performance monitoring and target setting. Such steps would be heavily emphasized during project processing and project supervision. Furthermore, the multi-disciplinary approach of the Bank will be of particular value in Nigeria because of the need to develop solutions for interrelated engineering and financial problems as well as ensuring that the program meets the priority economic constraints.

2.31 The Bank has already assisted in the process of rationalizing NITEL's investment program through the employment of consultants under the PPF advance for developing medium and long-term sector development strategies and proposing a realistic investment program consistent with NITEL's implementation capacity and resource availability that would improve service and expand coverage in high priority areas. The Bank's participation in the project would also help in ensuring efficient procurement of equipment and mobilization of cofinancing. In the current economic climate, the telecommunications sector is one of the few in which incremental cofinancing opportunities exist. However, there is a need both to avoid the dissipation of expensive money as happened in the past and to ensure that, in the medium-term, new investment concentrates on rehabilitation and maintenance.

III. THE PROGRAM AND THE PROJECT

1. THE PROGRAM

3.01 In 1985, NITEL prepared its fifth five year investment program (1986-1990). The program consisted of ongoing works carried over from its third (1975-1980) and fourth (1981-1985) five year programs, and a large expansion component aimed at meeting FGN's stated goal of one million DELs

by 1990, equivalent to average access to telephone service in the sub-region. The total cost of the program was N3.3 billion (equivalent to US$3.0 billion at the then exchange rate of N1.0 = US$1.0). This was an interim objective to an even more ambitious goal of access for all to telephone services by year 2000. Subsequently, FGN realized that these goals were clearly over ambitious and unrealistic relative to NITEL's implementation capacity and financial resource availability.

3.02 In December 1986, NITEL requested Bank assistance to review the viability of the program. The Bank's preliminary review found the program overly ambitious. In addition, the program was highly focussed towards expansion without due consideration to the most urgent needs of NITEL which are rehabilitation and institutional development. On the Bank's recommendation, NITEL employed consultants under a PPF advance to review the investment program and propose a realistic program which will, inter alia, address the most urgent medium-term requirements in compliance with the long-term network strategy. In parallel, consultants were also employed to investigate the specific problems of the Lagos network and propose a rehabilitation program aimed at removing the present bottlenecks.

3.03 NITEL's original program for 1986-1990 (rolled to 1987-1991), estimated to cost about US$1.8 billion, was analyzed by the consultants. Part of the program was already under implementation financed under the "Siemens' Loan" of US$250 million equivalent from the Federal Republic of Germany. The consultants reviewed the component financed by Siemens to determine if it complies with the long-term network development strategy. The consultants proposed some equipment rearrangements that would not impede the speed of implementation. However, the consultants focussed mainly on a review of the rest of the program consisting of new works estimated by NITEL to cost about US$1.6 billion. These were scaled down by the consultants to US$980 million to include requirements to meet the rehabilitation needs and most urgent demand.

3.04 The Bank reviewed the program proposed by the consultants and refined it to be within the framework of FGN's and NITEL's goals and constraints (paras 2.27 and 2.28). The revised program which incorporates the Bank project is not sufficient to meet the rising demand for telecommunications services (para 2.11), but reflects the implementation and resource constraints. The Bank emphasized the need to prioritize investments and to concentrate on rehabilitation, maintenance and institutional development with marginal expansion before embarking on a large expansion of the network in the next phase. Since even the proposed investment program is large in light of the current constraints, any major addition to the program could impose a serious strain on NITEL's financial and institutional resources. Accordingly, during negotiations, an agreement was reached with NITEL that it will review with the Bank not later than October 31 each year the composition of its capital expenditure program for the five years immediately following such review together with details of the financing plan prepared for such program until the completion of the project.

3.05 The revised program, which is for the period 1990-94, consists of: (a) the ongoing works including Siemens' contract, mobile exchanges and

Standard A Earth Station in Victoria Island; and (b) new components, which will constitute the proposed project. The cost of the revised program, including interest during construction, is estimated at about US$670 million including foreign cost of about US$523 million (Annex 3-1).

2. THE PROJECT

A. Project Objectives

3.06 To support the FGN's development strategy in the sector, the project has the following physical and institutional development objectives:

(a) to support strengthening of the institutional framework and facilitate full commercialization of NITEL;

(b) to improve the quality of service and system efficiency through, inter alia better utilization of existing facilities, reducing faults and increasing call completion rates;

(c) to improve NITEL's financial performance so as to reduce, and finally eliminate existing government subsidies and enable NITEL to be a net contributor to government treasury; and

(d) to expand available facilities so as to satisfy the most urgent demand.

B. Project Description

3.07 The project is described in detail in Annex 3-2. It includes the following components:

Part I - Institutional Development

3.08 The institutional development component of the project provides for consultants and experts to assist NITEL in the tasks specified below and 1,600 manmonths of fellowships for overseas training of NITEL's personnel. The technical assistance under the project are as follows:

(a) drawing up long-term network development strategy and medium-term investment program, undertaking technical audit of the Lagos network and reviewing NITEL's accounting, financial and billing and collection policies, procedures and systems;

(b) establishing a project management team in the implementation of the project;

(c) designing and implementing financial management systems and procedures, including implementation of accrual accounting system, and improvement of budgeting, forecasting, cost control,

etc. to ensure that the financial objectives of the project are achieved;

(d) providing experts in traffic engineering, switching, and transmission for network planning;

(e) setting up of comprehensive and integrated materials and storage management control systems and procedures;

(f) reviewing telecommunications tariff levels and structure;

(g) establishing a management information system for monitoring technical and financial performance at different levels of management;

(h) re-valuing fixed assets;

(i) computerizing subscriber records and stock records and valuation; and

(j) providing training fellowships to NITEL staff.

3.09 For the tasks under (a), 50 manmonths of consultants were employed under PPF advance approved on July 3, 1987. Consultancy services and training requirements under (b) to (j) are based on the findings of those consultants. The detailed terms of reference for those consultancy services were discussed and agreed with NITEL and terms of reference for consultancy services to be financed by the Bank are given in Annex 3-3. It has also been agreed with NITEL that: (a) it will identify and nominate counterpart personnel for each task and inform the Bank prior to issuance of the letter of invitation to consultants for proposals; and (b) NITEL and the Bank will each year review the impact of the technical assistance including counterpart staff training and agree on the implementation objectives for the following year. Letters of invitation for project and financial management consultants have been issued. Appointment of those consultants and issuance of letters of invitations for remaining consultancy services are conditions of loan effectiveness.

Part II - Rehabilitation and Expansion

3.10 This component comprises the new works in the revised investment program for 1990-94, including:

(a) rehabilitation of existing switching, transmission, power and airconditioning equipment including the provision of spare parts, modules, tools and test equipment to repair and refurbish them;

(b) supply, installation and commissioning of:

(i) 265,000 lines of switching equipment including 143,000 lines in the Lagos metropolitan area and 122,000 lines in other major cities;

(ii) complementary external line plant to match item (i) above; and

(iii) digital microwave radio systems in high priority areas.

(c) design, procurement of facilities, and establishment of a teleprinter and telex module repair center;

(d) rehabilitation and upgrading of Lanlate satellite earth station;

(e) provision of 100,000 telephone instruments and 8,000 pay phones for replacement of unserviceable instruments and connecting new subscribers;

(f) provision of 300 motor vehicles for planning, construction and maintenance works;

(g) construction of buildings to accommodate equipment and for residential purposes; and

(h) ancillary equipment, including software for management information system.

C. Project Costs

3.11 The total cost of the project is estimated at N4.7 billion (US$483.5 million equivalent) with a foreign exchange cost of about N3.6 billion (US$370.9 million equivalent), i.e. about 77% of total cost. The costs of equipment and consultants are based on NITEL's contracts for ongoing works and experience in other countries with adjustments up to July 1989. The project costs include N370.2 million (US$35.9 million) of "interest during construction" (IDC). Project cost estimates are detailed in Annex 3-1 and are summarized in Table 3.1.

Table 3.1: Project Cost Summary

By Items	Local (Naira Billion)	Foreign (Naira Billion)	Total (Naira Billion)	Local (US$ Million)	Foreign (US$ Million)	Total (US$ Million)	% Foreign of Total
Switching Equipment	46.6	801.4	857.0	5.8	102.1	107.9	95
External Line Plant (ELP)	158.5	1,184.8	1,338.3	19.4	149.2	168.6	89
Transmission	9.7	86.7	96.4	1.2	10.9	12.1	90
Space Communication	0.5	24.0	24.5	0.1	3.0	3.1	96
Telephones and Teleprinters	1.2	71.9	73.1	0.1	9.1	9.2	98
Buildings	205.0	0.0	205.0	25.8	0.0	25.8	0
Rehab. of Power and A/C	1.0	9.5	10.5	0.1	1.2	1.3	91
Vehicles	24.0	15.9	39.9	3.0	2.0	5.0	40
Training	0.7	48.3	49.0	0.1	6.1	6.2	99
Consultancy	3.5	56.9	60.4	0.4	7.2	7.6	94
Misc. and Ancillary Eqpt.	0.1	7.9	8.0	0.0	1.0	1.0	99
Customs Duties	300.0	0.0	300.0	37.8	0.0	37.8	0
Base Cost	745.8	2,816.4	3,562.2	93.9	291.7	385.6	75
Physical Contingency	74.6	115.8	190.4	9.4	14.6	24.0	61
Price Contingency	272.0	809.4	1,081.4	9.3	28.7	38.0	76
Project Cost	1,092.4	3,241.6	4,334.0	112.6	335.0	447.6	75
Interest During Construction							
On Bank Loan	0.0	211.3	120.3	0.0	20.5	20.5	100
On Other Loans	0.0	158.9	158.9	0.0	15.4	15.4	100
Total Financing Required	1,092.4	3,611.8	4,704.2	112.6	370.9	483.5	77

3.12 The physical contingencies are 5% on local and foreign costs for equipment and services and 10% on civil works. Price contingencies are based on annual domestic inflation rates as follows for local costs at 25% in 1990 and 10% thereafter; and international inflation rates for foreign costs at 4.9% for 1990 and onwards. It is assumed that the exchange rates will vary during the period to adjust for the difference between local and foreign inflation.

D. Project Financing

3.13 The sources of project financing are detailed in Annex 3-4 and summarized in Table 3.2. The Bank loan of US$225 million will meet about 67% of the foreign cost requirement excluding interest during construction. The FGN has informed the Bank that it has approached the Japanese government for possible co-financing for an amount up to US$110 million. The African Development Bank has shown interest in co-financing the project. NITEL will finance the interest during construction amounting to US$35.9 million.

Table 3.2: Project Financing

Source	Local	Foreign	Total
	---------US$ Million Equivalent-------		
IBRD	-	225.0	225.0
Cofinanciers	-	110.0	110.0
NITEL	112.6	35.9	148.5
TOTAL	112.6	370.9	483.5

3.14 The Bank loan of US$225 million equivalent would be lent to NITEL at the Bank's variable interest rate for 20 years including a five year grace period. Credits from co-financing sources are currently assumed to be onlent by FGN to NITEL at 8% p.a. for 15 years including five years grace on principal repayment. NITEL will bear the foreign exchange risk on Bank loan and credits.

3.15 Until 1988, FGN was meeting most of the local costs of ongoing telecommunications development. Based on the improved financial performance in 1989, domestic tariff increase effective February 1990 (para 4.10) and actions agreed to be taken by NITEL (paras 4.04 and 4.06), NITEL is expected to meet its local cost requirement of its investment program estimated at about N1.4 billion, through internal cash generation.

3. PROCUREMENT AND IMPLEMENTATION

A. Procurement

3.16 Procurement arrangements are summarized in Table 3.3. Goods and services to be financed by bilateral sources will comply with the guidelines of the individual donor country. Equipment worth US$202.4 million to be financed by the Bank would be procured through international competitive bidding (ICB) in accordance with the Bank's guidelines. Proprietary items totalling US$7.3 million covering spares and rehabilitation of existing equipment will be procured from sole source by direct negotiations with original suppliers. Given the limited number of suppliers, limited international bidding (LIB) would be used to procure training equipment, test equipment and specialized tools (US$1.2 million). Bank financed contracts for more than US$300,000 equivalent each, which are expected to cover 90% of the total value of Bank financed contracts, would be subject to the Bank's prior review of procurement documentation. Selection of Bank financed consultants (about US$8.8 million equivalent) would be in accordance with Bank guidelines. Local and overseas fellowships estimated at US$5.9 million would be provided by direct negotiations with the academic institutions concerned. Contracts for consultants employed under PPF advance (US$0.75 million), or 9% of total consultancy contracts under the project, have already been executed under Bank guidelines. Tender for the spare parts and equipment for rehabilitation of Lagos network estimated at US$15 million has been issued.

Table 3.3: Procurement Arrangements 1/
(US$ millions)

Project Item	ICB	Negotiated Purchase	LIB	LCB	Other	Total
Switching Equipment	64.6 (61.0)	4.8 (4.5)	-	-	54.8 2/	124.2 (65.5)
External Line Plant	182.9 (117.4)	-	-	-	61.4 2/	194.3 (117.4)
Long Distance Transmission	7.6 (6.8)	1.5 (1.4)	-	-	4.9 2/	14.0 (8.2)
Space Communication	8.5 (8.4)	-	-	-	-	8.5 (8.4)
Telephones and Teleprinters	10.6 (10.4)	-	-	-	-	10.6 (10.4)
Power and Airconditioning	-	1.6 (1.4)	-	-	-	1.6 (1.4)
Buildings	-	-	-	31.3	-	31.3
Vehicles	5.9 (2.3)	-	-	-	-	5.9 (2.3)
Training	-	-	1.2 3/ (1.2)	-	5.9 (5.8)	7.1 (7.0)
Consultancy	-	-	-	-	8.8 4/ (8.8)	8.8 (8.8)
Ancillary Equipment	1.2 (1.1)	- -	- -	- -	- -	1.2 (1.1)
TOTAL	226.3 (202.4)	7.9 (7.8)	1.2 (1.2)	31.3	135.8 (14.1)	402.5 (225.0)

(Figures in parentheses are amounts to be financed by Bank loan.)

1/ Excludes duties and taxes (US$45.3 million) and interest during construction (US$35.9 million) but includes contingencies.

2/ According to co-financiers' procurement procedures.

3/ LIB method to be used for specialized training equipment available from limited suppliers.

4/ Bank guidelines for the employment of consultants.

B. Disbursement

3.17 The Bank loan of US$225 million would be disbursed against 100% of foreign expenditures for equipment, vehicles, training and consultancy services, as shown in Table 3.4.

Table 3.4: Disbursement of Proposed Loan

Category	Amount (US$ Million)	% Financed by Bank
1. Switching, transmission and subscriber terminal equipment and cables	159.40	100% foreign expenditure
2. Vehicles, power, airconditioning, tools and test equipment	13.30	100% foreign expenditure
3. Training (including equipment) and fellowships	6.10	100% foreign expenditure
4. Consultancy Services	6.50	100% foreign expenditure
5. Refinancing of PPF	0.75	
6. Unallocated	38.95	
	225.00	

3.18 The estimated disbursement schedule is shown in Annex 3-5 and includes disbursement in FY88, FY89 and FY90 for PPF. Based on the Bank's standard disbursement profile for all projects in West Africa, disbursements would be completed in December 31, 1999. However, since NITEL will appoint project management consultants and execute contracts on turnkey basis to accelerate project implementation, the disbursements are expected to be completed by June 30, 1995. A special foreign currency account of US$10 million equivalent will be established by NITEL in a commercial bank on terms and conditions acceptable to the Bank. This amount represents four months estimated payments to contractors and consultants directly by NITEL during the peak implementation period of 1992 and 1993. The special account would be used for disbursements against all eligible expenditures and it would be replenished by the Bank on application by NITEL. All disbursement applications would be fully documented with the exception of applications relating to expenditures under contract valued less than US$50,000 equivalent, which would be disbursed on the basis of statement of expenditures (SOE).

3.19 NITEL will maintain separate accounts in accordance with accepted accounting principles to maintain records of all expenditures specific to the Bank project, commitments, reimbursements and the status of project funds. With respect to the amount withdrawn on the basis of SOEs, NITEL will prepare and maintain records such as contracts, invoices and evidence of payments readily available for inspection. During negotiations, it was agreed that Special Accounts, Project Accounts and SOEs will be audited by independent auditors acceptable to the Bank, and the reports will be submitted to the Bank with audited financial accounts for each fiscal year.

C. Implementation

3.20 The project implementation schedule is shown in Annex 3-6. The implementation of this complex project requires very careful planning to optimize NITEL's limited financial and manpower resources. In addition, the timely completion of the project is a prerequisite for the financial viability of NITEL. This calls for a comprehensive project management organization to supplement NITEL's existing organization.

3.21 NITEL's physical projects are implemented by five zones with the headquarters' Planning and Operations Unit playing only a monitoring role. Since NITEL has not planned and executed such a large project, to ensure its timely completion NITEL has agreed to:

(e) employ consultants to assist in overall coordination, preparation of technical specifications and bid documents, evaluation of bids and contract negotiations, supervision of contractors, installation and acceptance testing;

(b) execute contracts on turnkey basis; and

(c) train planning, installation and maintenance personnel.

3.22 The efficient implementation of the management consultancy services is critical to the success of the project. The action plan for the implementation of the project is detailed in Annex 3-7. To ensure timely appointment of these consultants, the appointment of the project management and financial consultants is a condition of loan effectiveness.

D. Overall Project Management

3.23 The physical and institutional components of the project will be managed by five functional units within NITEL consisting of:

a) physical project implementation;
b) network planning;
c) manpower development and training;
d) finance; and
e) computerization.

An organizational chart for overall project management is shown at Annex 3-8. Each of these units will have a qualified team leader who will

report directly to the concerned Director of the function in NITEL. For instance the team leader of the financial consultancy service will report to the Director of Finance who will be his controlling officer. The physical execution, which includes installation, supervision and acceptance testing of the physical components will be under the control of the respective Zonal General Managers. A Project Director reporting directly to the Managing Director will directly supervise the overall project implementation and coordination. The consultants for the project management will be under the control of the Project Director. These consultants will assist the Project Director in preparing all procurement documents, evaluation of bids, and contract negotiations. They would also assist NITEL's staff in supervision of contractors and acceptance testing and commissioning of equipment.

3.24 Each functional team leader in the headquarters and in the individual zones will prepare, with consultants' assistance, and issue monthly progress reports to the Project Director who will convene regular monthly meetings to discuss these reports. The Project Director, assisted by the Project Management Team Leader will prepare and issue consolidated quarterly progress reports for the management with Executive Summaries to be submitted to the Bank. During negotiations, the project management arrangements were agreed.

E. Performance Indicators

3.25 NITEL will prepare annually for the Bank's review a comparative analysis of its actual performance against the target indicators. Accordingly, NITEL's overall performance during project implementation will be monitored by means of selected performance indicators relating to technical, operational and financial performance, subscriber connections, service quality, and staffing. These indicators and the annual targets which will form a part of the performance contract between FGN and NITEL (para 2.18) are shown in Annex 3-9. While targets for later years are indicative, those for 1990 were agreed during negotiations as representing desirable and feasible levels of attainment. The target for subsequent years will be agreed jointly between NITEL and the Bank by October 31 of the preceding year together with any corrective actions necessary. Continuous monitoring of project implementation as well as NITEL's operational and financial performance and efficiency will assist NITEL in improving its management and allow timely corrective actions to be taken, when necessary. During negotiations, it was agreed that NITEL will report progress against technical and operational indicators in the quarterly progress reports to be submitted to the Bank within six weeks of the end of each quarter, and against financial indicators in annual financial statements.

IV. FINANCIAL AND ECONOMIC ANALYSIS

1. FINANCIAL ANALYSIS

A. NITEL's Past Financial Performance

4.01 Audited and unaudited financial statements for the years FY85-88 are at Annex 4-1, and the key elements are summarized in Table 4.1.

Table 4.1: Selected Historical Financial Performance Indicators
(Naira Million)

	1985	1986	1987	1988
Gross Revenue	283.5	260.9	406.3	676.9
Outpayment	21.3	37.6	181.4	143.9
Net Revenue	262.2	223.3	224.9	533.0
Total Operating Cost _1/	424.8	340.1	271.1	234.4
Net Operating Income(Loss)	(162.6)	(116.8)	(46.2)	298.6
Interest on Loans _2/	82.5	37.6	2.0	2.1
Net Income(Loss)	(245.1)	(154.4)	(48.2)	296.5
Subscriber Accounts Receivable (Days Billing)	228	242	178	145
Current Ratio (Times)	0.5	0.5	0.5	0.9
Debt/Equity Ratio	23:77	27:73	28:72	31:69

1/ In 1985 pre-NITEL bad debt of N44.2 million was written off. Total cost also includes bad debt provision for the year which accounts for about 20% of total billing. Depreciation charges are low because some assets which are in service are yet to be transferred from work in progress account to fixed assets account.

2/ The financial statements include only actual payment of interest for the fiscal year. Due to poor financial performance, NITEL did not service its debt in full, only some interest payments were made.

4.02 NITEL's financial performance during FY85-87 period has been poor. NITEL incurred losses during this period and the rate of return was negative and internal cash generation was insufficient to cover its debt service obligations. The factors that had contributed to poor financial performance were: (a) low tariffs (paras 4.08 and 4.09); (b) poor quality of service (para 2.09) due to poor maintenance of the network for lack of

spare parts as well as proper maintenance systems and procedure resulting in low revenue earning traffic; and (c) high billing inefficiencies. It is estimated that 40% of international traffic was not billed for technical and other reasons.

4.03 Effective February 1988, international tariffs were increased substantially to avoid an imbalance between incoming and outgoing international traffic and avoid net outflow of funds to other countries. This resulted in higher total international revenues and NITEL realized a pre-tax profit of N296.5 million for the year, which is a return of about 6% on revalued net fixed assets. The increased international tariff also resulted in a net flow of international traffic in favor of Nigeria, which is a source of foreign exchange income for NITEL. During 1989, the quality of service and billing and collection performance have been improved through better maintenance efforts and implementation of recommendations of consultants financed under the PPF Advance. These will be further improved under the Project. In addition, the domestic tariffs have been increased substantially effective February 1990 (para 4.09).

B. NITEL's Present Financial Position

4.04 The absence of asset revaluation distorts the balance sheet of NITEL. Consultants have been employed by NITEL to assist it in the revaluation of its fixed assets and prepare an asset register, and the consultants will also propose a methodology to revalue NITEL's assets annually based on agreed procedure so as to reflect their current replacement value. The financial position of NITEL, as per its unaudited balance sheet at the end of 1988 is summarized in Table 4.2. NITEL was facing liquidity problems, and had to rely on FGN for servicing of its external debt and on non-payment of debt service to FGN on Naira debt. It had a negative working capital of about N206 million in 1988 (a current ratio of only 0.9) and significant debt service arrears. The factors that have contributed to this are: (a) very poor financial performance (para 4.02); (b) poor collections performance with accounts receivable (net of bad debt provision) at N272 million, which is equivalent to about five months of billing for the year as against an acceptable norm of two months of billing.

Table 4.2: NITEL Unaudited Balance Sheet as of December 31, 1988
(Bank Estimate)

	Naira Million	As % of Total Assets
Assets		
Total Net Fixed Assets	259.8	5
Work in Progress 1/	3,006.0	62
Investments	48.4	1
Current Assets	1,535.5	32
Total Assets	4,849.7	100
Liabilities		
Equity	2,117.9	44
Long-term Debt 2/	962.7	20
Others	27.5	1
Current Liabilities	1,741.6	35
Total Liabilities	4,849.7	100
Current Ratio (times)	0.9	
Debt/Equity Ratio	31:69	

1/ Work in progress account includes some assets which are already in service.

2/ The balance sheet does not include about N348 million equivalent of loan for works carried out during FY88 under the Siemens' contract which is to be transferred to NITEL from FGN.

C. Financial Objectives

4.05 As an important step in the commercialization of NITEL and to set NITEL on the path towards financial self-sufficiency, the following financial objectives were agreed during negotiations:

(a) finance from internally generated funds net of debt service obligations, the local cost component of its annual investment program;

(b) earn an annual rate of return on revalued net fixed assets of not less than 10% in 1991 and thereafter;

(c) maintain a debt service coverage ratio of at least 1.5 throughout the project period;

(d) maintain debt equity ratio not more than 60:40; and

(e) maintain accounts receivable at a maximum of 120 days of billing by 1990, 90 days by 1992 and 60 days in 1994 and thereafter.

D. Projected Financial Performance

4.06 The projected financial performance of NITEL and the assumptions used are at Annexes 4-2 and 4-3, respectively. These projections reflect the improved financial performance in FY89. The key elements of the projections are summarized in Table 4.3.

Table 4.3: Selected Financial Performance Indicators
(Naira Million)

	1989	1990	1991	1992	1993	1994
Net Revenue	1,147.1	2,297.1	2,659.2	3,159.4	3,698.0	4,755.3
Total Operating Cost	526.7	772.6	942.9	1,127.8	1,390.9	1,740.5
Net Operating Income (Loss)	620.4	1,524.5	1,716.3	2,031.6	2,302.1	3,014.9
Interest on Loans	138.0	214.2	285.8	307.1	313.8	372.3
Foreign Exchange Loss	1.0	1.1	0.5	25.0	127.8	163.1
Tax	194.6	523.7	572.0	679.8	744.2	991.8
Net Income(Loss)	291.5	785.5	858.0	1,019.7	1,116.3	1,487.7
Operating Revenue/DEL Constant ('89 Prices)	5,082	6,998	6,792	6,567	6,317	6,705
Cash Op Cost/DEL Constant ('89 Prices)	1,520	1,580	1,474	1,405	1,387	1,397
Net Internal Cash Generation	102%	111%	80%	61%	78%	179%
Rate of Return on Net Revalued Assets	7%	13%	13%	14%	13%	16%
Subscriber Accounts Receivable (Days Billing)	150	120	110	90	75	60
Current Ratio (Times)	1.0	1.3	1.6	1.8	2.2	2.9
Debt/Equity Ratio	37:63	38:62	39:61	46:54	43:57	39:61
Debt Service Coverage	2.8	4.2	2.6	3.0	3.5	4.1

4.07 The financial situation of NITEL is expected to improve and NITEL is expected to meet its financial objectives (para 4.05) with the following measures being adopted by FGN and NITEL:

(a) annual review of tariffs and implementation of adjustments necessary (para 4.10);

(b) improvement in billing and collection performance (para 2.25);

(c) improvement of technical efficiency and quality of service to improve the call completion rates and consequent increase in revenue per subscriber. Reduce average faults per DEL per year from 2 in 1988 to 1 by 1993 in the whole country and from 0.4 in 1988, to 0.2 by 1993 in Lagos. Improve call completion rate for local

calls from about 20% to 70% by 1993, for long distance from 20% to 60% by 1993, and thereafter and for international calls from 30% to 50% by 1993 and thereafter (para 3.25 and Annex 3-9); and

(d) reduction of operating costs through improved staff efficiency and reduction in staff ratio. Reduce staff per 1000 DELs from 66 in 1988 to 60 in 1990, 55 in 1991 and 50 in 1992, and thereafter (para 2.19).

As a result of the above measures, net profit is expected to improve from about N292 million in 1989 to about N1,488 million by 1994, resulting in an increase in rate of return on revalued net fixed assets in operation from about 7% in 1989 to about 16% by 1994. Operating revenue per DEL in real terms is expected to increase from about N5,082 in 1989 to N6,705 in 1994, reflecting expected improvement in quality of service due to better maintenance and rehabilitation of the network, and improved billing efficiencies. Cash operating cost per DEL during the same period is expected to decrease in real terms from N1,520 to N1,397 due to staff efficiencies. During the forecast period, NITEL is expected to generate internal funds adequate to meet its local cost component of its annual investments. The liquidity position of NITEL is expected to improve from 0.9 in 1988 to 2.9 in 1994. The debt equity ratio remains satisfactory throughout the forecast period.

E. Projected Financing Plan

4.08 Table 4.4 below summarizes NITEL's sources and applications of funds for the 1990-94 period. NITEL is expected to finance about 59% of the total cost of its investment program and working capital needs.

Table 4.4: NITEL - Projected Sources and Applications of Funds
(Naira Million)

	Period 1990-94	Percentage of Total
Sources		
Net Income Before Interest	6,760	64
Depreciation	1,708	16
Foreign Exchange Loss (Gain)	318	3
Internal Cash Generation	8,786	83
Less: Debt Service	2,570	24
Net Internal Cash Generation	6,216	59
Loans	4,402	41
Total Sources	10,618	100
Applications		
Capital Expenditure	6,793	64
Working Capital	3,826	36
Total Applications	10,618	100

2. ECONOMIC ANALYSIS

A. Tariffs

4.09 The present telecommunications tariffs are at Annex 4-4. International tariffs were substantially increased (average of about 600%) effective February 1988, to adjust for changes in exchange rate and accounting rate. This has been an important step in the government's effort to commercialize NITEL's operation. FGN and NITEL are fully aware of the need for regular adjustments in international tariffs to reflect changes in exchange rate to ensure that the net flow of traffic continues in favor of Nigeria.

4.10 The domestic tariffs were substantially increased effective 1990. Call charges for telephone and telexes were increased by 800% and 1600%, respectively. Rental charges for both services were increased by 300%. These increases should enable NITEL to achieve its financial objectives (para 4.04). For the past decade, no attempt other than increasing the connection charges has been made. The structure has been unchanged since 1972 except for the timing of local calls from October 1988 which will ease some of the congestion in the local network. FGN is aware of this problem as well as the need for adequate and timely adjustment of tariffs. Therefore, the President has constituted a Commission which has been charged with the responsibility to review tariffs for the parastatal sector, including telecommunications. This Commission is expected to employ consultants specialized in different sectors to review tariff levels and structure and identify an appropriate tariff review procedure to permit

some automaticity for future tariff increases. FGN has agreed to furnish the Bank with a copy of the recommendations on telecommunications tariffs.

B. Benefits

4.11 Telecommunications is a highly cost effective and preferred alternative to physical transportation, as it is more efficient in terms of energy and capital consumption and of user time. The project would therefore promote more efficient communications, in particular within Lagos, and between Lagos and some of the larger state capitals. Telecommunications is necessary for making markets work better by providing a cost effective means for the flow of information. The project will therefore particularly benefit business and the export trade whose encouragement is a central feature of FGN's Structural Adjustment Program.

4.12 The project at this time would confer additional benefits. The more rational development of the network, allied with appropriate pricing policies, would increase the flow of resources from the sector to the government. This increased flow could be used to expand service in the rural areas, where economic benefits would exceed the financial capacity to pay, to the benefit of the economy as a whole.

C. Least Cost Solution

4.13 The project design has been based on least cost solution methodologies for telecommunications development. The timing and dimensioning of the project components are based on generally accepted engineering practice after the study of feasible alternatives, and taking into account existing investments. Network rehabilitation and expansion will be carried out by using the latest digital and optical fiber technology except in those cases where the marginal cost of expanding existing analog equipment is comparatively lower; for instance where the basic capacity is available and expansion would only involve minor additions of sub units.

D. Return on Investment

4.14 Assuming that the domestic and international tariffs are adjusted to reflect changes in cost and in exchange rate, respectively, from 1994, the internal financial rate of return on NITEL's 1990-94 investment program is about 17.2% (Annex 4-5). Adjusting for taxes from financial costs and benefits and shadow pricing local costs, the minimum estimated internal economic rate of return is about 23.7%. This underestimates the benefits to be derived from the investment, because it does not take into account consumer surplus and indirect, as well as external benefits received by non-users of telecommunications services. Sensitivity analysis shows that a 20% increase in capital costs combined with a 20% reduction in benefits would reduce the estimated internal economic rate of return to 17%. This is, however, unlikely because: (a) the cost of telecommunications equipment will continue to decrease in real terms, due to advances in technology; (b) each year NITEL will review with the Bank the composition of its capital expenditure program for the next five years (para 3.04); and

(c) benefits will be ensured through timely implementation of the project (para 3.21) and maintaining tariffs at appropriate levels (para 4.06). On balance, there is a good prospect that the project will earn a high economic return.

E. Risks

4.15 There are three principal risks of the project. Firstly, the project itself could be subject to considerable delays in execution given the poor implementation record in the sector in Nigeria. This risk is being minimized by both adequate advance procurement planning and review of NITEL's procurement procedures and appointment of project management and financial management consultants as conditions for loan effectiveness. Secondly, the project may be poorly coordinated or compromised by other investments under the program. This risk is being minimized through consultancy financed under the project to review the investment program. Thirdly, there may be delays in terms of assuring the commercialization of NITEL. This risk is considered small given the commitments by FGN. Finally, annual review by FGN and the Bank of NITEL's achievements would provide a framework to ensure satisfactory implementation of the institutional aspects of the proposed project.

F. Environmental and Health Aspects

4.16 The project is expected to have no adverse environmental and health aspects. Indeed, the project should improve both by reducing the need for wasteful physical transportation and improving the delivery of health services.

V. AGREEMENTS REACHED AND RECOMMENDATIONS

5.01 During negotiations, the following agreements were reached:

(a) furnish to the Bank, by October 31, 1990, for its review and comments the final draft of the performance contract to be entered into between NITEL and FGN; begin implementation by January 1, 1991 (para 2.18);

(b) improve NITEL's billing and collection performance, and reduce outstanding subscriber receivables to 120 days of billing for the year by 1990, 90 days by 1992 and 60 days by 1994 and maintain it thereafter (paras 2.25 and 4.04);

(c) submit draft and audited financial accounts for each fiscal year within four and six months of the end of the fiscal year starting in fiscal year 1990. Submit

draft and audited accounts for fiscal year 1989 within nine and twelve months of the end of the fiscal year (para 2.25).

(d) submit audits of project accounts, special accounts and statement of expenditures along with audited financial accounts for each fiscal year (para 3.19);

(e) review with the Bank not later than October 31 of each year the composition of its capital expenditure program for the five year immediately following such review, together with details of the financing plan prepared for such program until the completion of the Project (para 3.04);

(f) technical, operational and financial performance indicators and targets for 1990. Targets for subsequent years, together with action plan to improve performance, if necessary, will be agreed upon by October 31 of the preceding year (para 3.25 and Annex 3-9);

(g) report progress on the project implementation and against technical and operational indicators in the quarterly progress reports to be submitted within six weeks of the end of each quarter and against financial indicators in the annual financial statements (para 3.25); and

(h) NITEL will: (i) finance from internally generated funds net of debt service obligations, the local cost component of its annual investment program; (ii) earn an annual rate of return on revalued net fixed assets of not less than 10% in 1991 and thereafter; (iii) maintain a debt service coverage ratio of at least 1.5; and (iv) maintain debt equity ratio not more than 60:40 (para 4.05).

5.03 The main <u>conditions for loan effectiveness</u> are:

(a) the appointment of consultants for project management and financial management (para 3.09); and

(b) the issuance of letters of invitation for remaining consultancy services (para 3.09).

Recommendation

5.04 Subject to agreement being reached on the above, the proposed project is suitable for a Bank loan of US$225 million equivalent at the Bank's variable rate of interest for 20 years, including a five-year grace period.

AFTIE
May 16, 1990

Annex 2-1

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Existing Telecommunications Facilities
(As of March 31, 1988)

Item	Number
Local Telephone Exchanges	259
- of which manually operated	8
Installed Capacity Lines	387,602
Subscribers connected	246,104
Local Network:	
- primary pairs (pair x kms)	1,874,400
- secondary pairs (pair x kms)	414,500
National Transit Exchanges	46
Installed Trunks	20,214
International Transit Exchanges	2
International circuits	541
Microwave Systems	376
Route-km Trunk Routes	9,600
Route-km Toll-routes	4,640
Trunk Circuit Capacity (channel x km)	27,786,800
Toll Circuit Capacity (channel x km)	2,437,200
Coaxial Cable (channel x km)	1,632,600
Multiplex, primary groups terminated	5,188
Telex Exchanges	17
Telex Installed Capacity	12,800
Telex Subscribers Connected	5,727
Gentex Stations	301
Telex Transit Exchanges	3
Telex Trunk Circuits	5,432
International Telex Exchanges	1
International Telex Circuits	245
Satellite Earth Stations	
- international	2
- domestic	21
Coastal Radio Station (Maritime Mobile Radio)	1

Annex 2-2

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Existing Demand
(March 31, 1988)

Item	Zone					
	N-E	S-E	N-W	S-W	Lagos	Total
Subscribers	17,503	49,751	33,988	55,354	89,508	246,104
Registered Waiters	10,157	29,622	41,054	27,421	55,163	163,417
Expressed Demand	27,660	79,373	75,042	82,775	144,671	409,521
Suppressed Demand	36,790	107,835	119,929	115,985	226,000	606,539
Total Potential	64,450	187,208	194,971	198,760	372,671	1,016,060
Subscriber Demand Density 1/	0.075%	0.21%	0.11%	0.25%	2.50%	0.23%
Demand Density	0.12%	0.34%	0.23%	0.37%	4.00%	0.39%
Potential Density	0.28%	0.81%	0.61%	0.90%	10.30%	0.98%

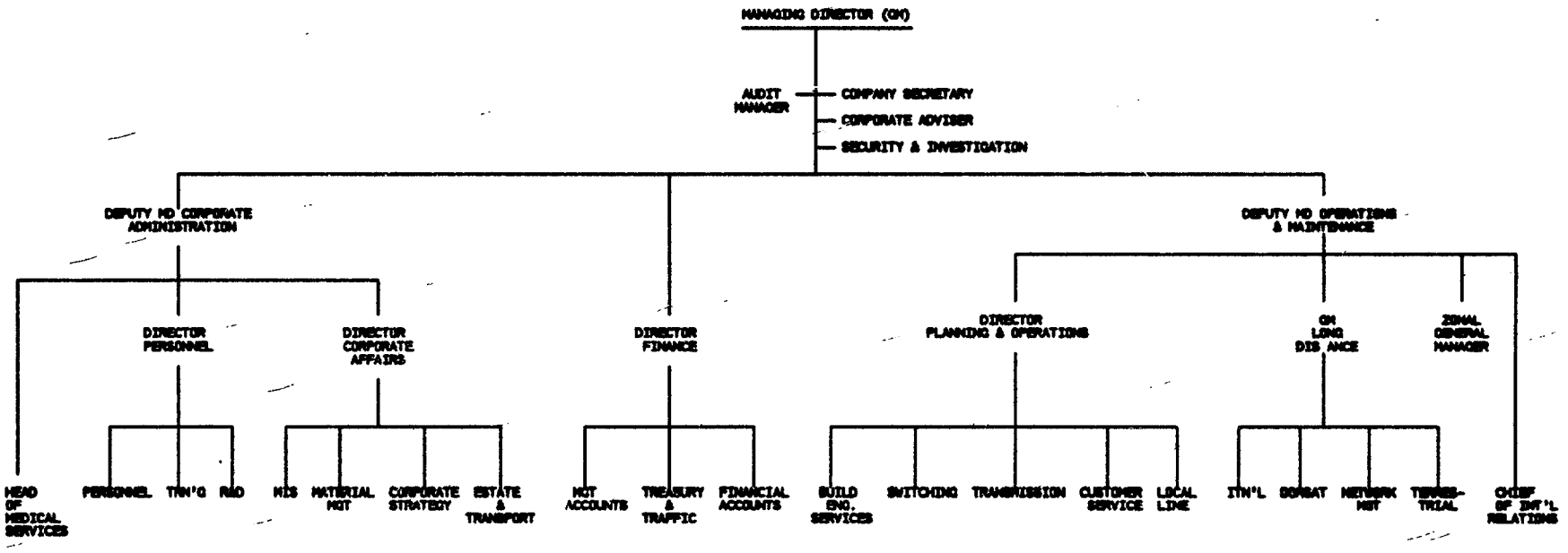
1/Lines per 100 population.

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

NITEL ORGANIZATION CHART



ANNEX 2-3

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Commercialization of NITEL

1. The future relationship between the Government and NITEL should be based on the following: (a) establishing clear and attainable objectives compatible with commercial operations; (b) providing NITEL's management greater autonomy over its operations and the selection of managers capable of operating independently; (c) establishing clear rules and procedures for government involvement in decision making; and (d) holding the management accountable by negotiating targets, monitoring and evaluating results and rewarding them and their staff on the basis of performance.

2. The above new relationship between the Government and NITEL could best be achieved through a "performance contract," under which the Government would set up medium-term objectives for NITEL, pledge to meet its financial and other obligations in a timely manner and extend greater autonomy in exchange for NITEL's commitment to achieve agreed performance in the efficiency and reliability of its telecommunications services and in the maintenance of its assets. The performance contract could be reviewed annually and modified as necessary based on experience.

3. The Government should agree to the following:

(a) Provide support for NITEL's efforts to make its organization more responsive to telecommunications sector needs in fulfillment of its assigned role under its Act.

(b) Make NITEL's management accountable to its board and not to the Ministry of Communications (MOC). Therefore, it would be self-defeating for the Chairman of NITEL's Board to be from within either the Government or NITEL itself. The members of the Board should include individuals and representatives of commercial and consumer groups who are properly qualified with extensive and proven management capabilities and who offer a diversity of skills, independent viewpoints and experiences. They should be compensated well and take the job seriously. The Government should decentralize power to the Board of Directors as a way to depoliticize decisions and take NITEL's interests into account.

(c) Assure that the management team of NITEL is competent, business-minded, and action-oriented with utmost regard to efficiency in operational/financial matters. The Managing Director should be appointed by the Board

in consultation with and approval of the Government. The Managing Director should be left free to appoint his top management team.

(d) Give the Board the primary responsibility for providing strategic guidance to the management and monitoring performance within the overall framework of long-term objectives of the Government for the telecommunications sector. The Board's functions would include decision-making on the medium and long-term borrowing over and above stated amounts, short-term borrowings in excess of normal requirements, major capital expenditures exceeding predefined limits, new or revised compensation programs, salary increases and bonuses for the Managing Director and top executives. It would review and approve strategic plans, annual budgets and audited financial statements, and discuss regular and special reports. It would review management's effectiveness in running the day-to-day business, but abstain from intervention in day-to-day operations. The Board should be responsible to the Government, which would restrict its role to the setting of long-term objectives for NITEL including key monitorable performance indicators, against which the performance of the organization and its Board would be judged. If this performance is unsatisfactory, the Government could replace the Board in part or in its entirety.

(e) Delegate authority to NITEL to determine all contract awards for capital goods, spares and maintenance. NITEL's management should be able to award all contracts with Board approval. The NITEL management should be able to award contracts (without the Board's approval) up to US$5 million. These limits should be revised regularly to keep pace with inflation.

(f) Delink NITEL's salary structure form that of the civil service, as in the case of NNPC. The salary structure should be competitive and flexible to attract and retain qualified and highly competent personnel.

(g) Agree on financial objectives for the sector.

(h) Provide NITEL in a timely manner with the capital required for commercially unattractive projects the Government wishes NITEL to construct (e.g., rural telecommunications).

(i) Arrange for the immediate settlement by Government

departments and parastatals of their past due telecommunications bills with NITEL; and also of arrears of NITEL to other parastatals. Institute a mechanism to ensure that the Government departments and parastatals will pay their bills to NITEL within 30 days.

(j) Allow NITEL to effect regular tariff increases as necessary to achieve its financial objectives. Allow NITEL to incorporate an automatic adjustment clause in tariffs so as to neutralize the impact of change in exchange rate and inflation to NITEL without the need to obtain specific Government's approval for this purpose.

4. To summarize, the Government's role should be limited to setting basic objectives for NITEL (to develop and maintain an efficient, coordinated and economical system to provide telecommunications on a commercial basis); approving Board members, and the Board's selection of the Managing Director; reviewing and evaluating performance of the Board in meeting the above objectives; reviewing financing decisions that affect public funds (for example, requests for Government equity, debt with Government guarantee, etc.); reviewing tariff levels proposed by NITEL according to agreed principles; and long-range planning and coordination across sectors. The performance evaluation should focus only on a comparison of efficiency and profitability achievements with targets. Reliable and timely flow of appropriate standardized information is critical to good performance evaluation.

5. NITEL should agree to the following:

(a) Develop and implement improved personnel management policies and a staffing plan aimed at streamlining the work force to match job requirements with appropriate skills and eliminate overstaffing.

(b) Promote operational efficiency, increase staff productivity from 66 employees per 1,000 DELs in 1988 to 50 by 1992, reduce average faults per DEL per year from 2 to 1 by 1993 in Nigeria and from 0.4 to 0.2 by 1993 in Lagos. Improve call completion rate for local calls from about 20% to 60% by 1993.

(c) Reduce the average age of accounts receivable from about 140 days of revenue to 120 days by end 1990, 90 days by end 1992, and 60 days by end 1994, and maintain it thereafter at the same level.

(d) Develop plans by June 30, 1991 for improved management information, budgeting and financial reporting systems and take steps for their implementation.

(e) Develop plans by June 30, 1991 for an improved manpower development program, and take steps to implement the findings in a phased manner by December 31, 1992.

(f) Have its accounts audited by qualified and independent auditors in a timely manner within six months of the close of the fiscal year.

(g) Improve its tariff levels and operations to (i) generate adequate internal funds to finance all the local costs required for its annual capital expenditure, (ii) earn a rate of return on net revalued fixed assets of not less than 7% in 1990, 10% in 1991 and thereafter, (iii) maintain a debt service coverage ration of at least 1.5, and (iv) maintain debt equity ratio not more than 60:40.

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Investment Program (1990-94)
(Naira Million)

By Item/Year	1990 Local	1990 Foreign	1990 Total	1991 Local	1991 Foreign	1991 Total	1992 Local	1992 Foreign	1992 Total	1993 Local	1993 Foreign	1993 Total	1994 Local	1994 Foreign	1994 Total
A. ONGOING WORKS:	148.6	722.7	918.3	80.8	308.6	389.4	11.2	71.6	82.9	0.0	0.0	0.0	0.0	0.0	0.0
B. NEW WORKS:															
1. Telephone Switching Exchange															
1.1 New Exchange Lines	0.0	0.0	0.0	0.0	118.2	118.2	18.9	453.6	467.6	27.7	124.6	152.2	4.6	88.8	88.2
1.2 Spare Parts, Modules, Tools, and Test Equipment	0.0	0.0	0.0	0.0	4.0	4.0	0.1	20.0	20.1	0.1	11.1	11.8	0.0	0.0	0.0
2. Telex Exchange	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. External Line Plant (ELP)															
3.1 ELP to Match Switching in 1.1	0.0	0.0	0.0	18.8	146.8	165.6	75.4	833.8	908.6	18.8	144.2	168.0	12.5	100.8	118.3
3.2 ELP Network Rehabilitation	0.0	0.0	0.0	0.0	28.7	28.7	14.0	186.0	200.0	14.0	26.0	40.0	0.0	0.0	0.0
4. Transmission															
4.1 Long Distance Transmission	0.0	0.0	0.0	1.4	10.7	12.1	5.1	47.2	52.3	1.4	10.7	12.1	0.8	8.6	9.4
4.2 Rehabilitation of Long Distance Transmission	0.0	0.0	0.0	0.0	1.6	1.6	0.5	7.1	7.6	0.6	0.8	1.4	0.0	0.0	0.0
5. Space Communication	0.0	0.0	0.0	0.1	3.7	3.8	0.3	14.3	14.6	0.1	3.7	3.8	0.0	2.4	2.4
6. Telephones and Teleprinters	0.0	0.0	0.0	0.0	11.0	11.0	0.6	22.4	23.0	0.6	28.6	29.2	0.0	0.0	0.0
7. Buildings	41.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	41.0
8. Rehab. of Power and A/C	0.0	0.0	0.0	0.0	1.6	1.6	0.5	7.1	7.6	0.6	0.8	1.8	0.0	0.0	0.0
9. Vehicles	0.0	0.0	0.0	0.0	2.5	2.5	12.0	7.0	19.0	12.0	6.4	18.4	0.0	0.0	0.0
10. Training (Equipment and Fellowships)	0.0	0.0	0.0	0.1	11.9	12.0	0.2	12.6	12.8	0.8	11.9	12.2	0.1	11.9	12.0
11. Consultancy	0.5	2.9	3.3	0.7	13.3	14.0	0.9	16.5	17.4	0.8	13.3	14.1	0.7	10.8	11.5
12. Miscellaneous and Ancillary Eqpt.	0.0	0.0	0.0	0.0	1.6	1.6	0.1	6.4	6.5	0.0	0.0	0.0	0.0	0.0	0.0
13. Customs Duties	0.0	0.0	0.0	0.0	0.0	0.0	150.0	0.0	150.0	150.0	0.0	150.0	0.0	0.0	0.0
Base Cost of Project	41.6	2.9	44.4	62.1	360.7	422.8	314.6	1,352.8	1,667.4	267.8	388.1	646.9	59.8	217.9	277.7
Physical Contingency	4.2	0.1	4.3	8.2	18.0	24.2	31.5	67.6	99.1	26.8	19.1	45.9	6.0	10.9	16.9
Price Contingency	8.8	0.2	8.8	16.9	81.8	98.4	107.0	441.7	548.7	110.4	166.0	276.4	29.2	120.0	149.2
Project Cost	54.3	3.2	57.5	85.2	460.5	545.5	453.0	1,862.1	2,315.1	404.9	567.2	972.1	95.0	348.8	443.8
Interest During Construction															
Bank Loan	0.0	0.2	0.2	0.0	8.8	8.8	0.0	50.2	50.2	0.0	88.4	88.4	0.0	64.2	64.2
Other Loans	0.0	0.0	0.0	0.0	6.1	6.1	0.0	37.8	37.8	0.0	66.8	66.8	0.0	48.5	48.5
Total Project Cost	54.3	3.4	57.6	85.2	474.6	550.8	453.0	1,950.1	2,403.1	404.9	722.2	1,127.2	95.0	461.6	556.5
D. TOTAL PROGRAM COST(A+B)	247.9	726.1	973.9	166.0	983.2	1,149.2	464.2	2,021.8	2,486.0	404.9	722.2	1,127.2	95.0	461.6	556.5

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Investment Program (1990-94)
(US$ Millions)

By Item/Year	1990 Local	1990 Foreign	1990 Total	1991 Local	1991 Foreign	1991 Total	1992 Local	1992 Foreign	1992 Total	1993 Local	1993 Foreign	1993 Total	1994 Local	1994 Foreign	1994 Total
A. EXISTING WORKS:	23.6	88.9	112.8	8.9	55.0	64.9	1.2	7.5	8.7	0.0	0.0	0.0	0.0	0.0	0.0
B. NEW WORKS:															
1. Telephone Switching Exchange															
1.1 New Exchange Lines	0.0	0.0	0.0	0.0	14.5	14.5	1.7	57.2	59.9	3.5	15.7	19.2	0.6	10.5	11.1
1.2 Spare Parts, Modules, Tools, and Test Equipment	0.0	0.0	0.0	0.0	0.5	0.5	0.0	2.5	2.5	0.0	1.4	1.4	0.0	0.0	0.0
2. Telex Exchange	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. External Line Plant (ELP)															
3.1 ELP to Match Switching in 1.1	0.0	0.0	0.0	2.4	18.5	20.9	5.5	57.2	78.7	2.4	18.2	20.5	1.8	12.7	14.5
3.2 ELP Network Rehabilitation	0.0	0.0	0.0	0.0	4.9	4.9	1.8	24.8	26.5	1.8	3.5	5.0	0.0	0.0	0.0
4. Transmission															
4.1 Long Distance Transmission	0.0	0.0	0.0	0.2	1.4	1.5	0.8	5.9	6.5	0.2	1.4	1.5	0.1	1.1	1.2
4.2 Rehabilitation of Long Distance Transmission	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.9	1.0	0.1	0.1	0.2	0.0	0.0	0.0
5. Space Communication	0.0	0.0	0.0	0.0	0.5	0.5	0.0	1.5	1.5	0.0	0.5	0.5	0.0	0.3	0.3
6. Telephones and Teleprinters	0.0	0.0	0.0	0.0	1.4	1.4	0.1	4.1	4.2	0.1	3.5	3.7	0.0	0.0	0.0
7. Buildings	5.2	0.0	5.2	5.2	0.0	5.2	5.2	0.0	5.2	5.2	0.0	5.2	5.2	0.0	5.2
8. Rehab. of Power and A/C	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.9	1.0	0.1	0.1	0.2	0.0	0.0	0.0
9. Vehicles	0.0	0.0	0.0	0.0	0.3	0.3	1.5	0.9	2.4	1.5	0.8	2.3	0.0	0.0	0.0
10. Training (Equipment and Fellowships)	0.0	0.0	0.0	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5
11. Consultancy	0.1	0.4	0.4	0.1	1.7	1.5	0.1	2.1	2.2	0.1	1.7	1.5	0.1	1.4	1.4
12. Miscellaneous and Ancillary Eqpt.	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
13. Customs Duties	0.0	0.0	0.0	0.0	0.0	0.0	15.9	0.0	15.9	15.9	0.0	15.9	0.0	0.0	0.0
Base Cost of Project	5.2	0.4	5.5	7.5	45.4	53.2	30.5	170.4	210.0	33.7	48.1	81.9	7.5	27.4	35.0
Physical Contingency	0.5	0.0	0.5	0.5	2.5	3.1	4.0	8.5	12.5	3.4	2.4	5.5	0.5	1.4	2.1
Price Contingency	0.9	0.0	0.9	0.5	3.0	3.7	5.5	15.5	19.5	3.1	5.5	8.9	0.7	4.1	4.5
Project Cost	6.7	0.4	7.1	9.4	50.7	60.0	47.4	194.7	242.0	40.2	56.5	96.5	9.0	32.9	41.9
Interest During Construction															
Bank Loan	0.0	0.0	0.0	0.0	0.9	0.9	0.0	5.1	5.1	0.0	5.5	5.5	0.0	5.9	5.9
Other Loans	0.0	0.0	0.0	0.0	0.7	0.7	0.0	5.9	5.9	0.0	6.5	6.5	0.0	4.5	4.5
Total Project Cost	6.7	0.4	7.1	9.4	52.2	61.5	47.4	205.5	251.0	40.2	71.5	111.5	9.0	43.5	52.2
D. TOTAL PROGRAM COST(A+B)	30.5	89.5	119.9	18.5	108.2	126.5	48.5	211.1	259.7	40.2	71.5	111.5	9.0	43.5	52.2

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Investment Program (1980-1984)

	By Items	TOTAL (Naira Mill) 1980-84 Local	Foreign	Total	TOTAL (US$ Mill) 1980-84 Local	Foreign	Total
A.	ONGOING PROGRAM	285.6	1,303.0	1,588.6	33.9	152.4	186.3
B.	NEW WORKS:						
1.	Telephone Switching Exchange						
1.1	New Exchange Lines	46.2	775.2	821.4	5.8	97.6	103.5
1.2	Spare Parts, Modules, Tools, and Test Equipment	0.3	35.2	35.4	0.0	4.4	4.5
2.	Telex Exchange	0.2	0.0	0.2	0.0	0.0	0.0
3.	External Line Plant (ELP)						
3.1	ELP to Match Switching in 1.1	125.5	925.0	1,050.5	15.8	116.5	132.3
3.2	ELP Network Rehabilitation	28.0	259.8	287.8	3.5	32.7	36.2
4.	Transmission						
4.1	Long Distance Transmission	8.6	77.2	85.8	1.1	9.7	10.8
4.2	Rehabilitation of Long Distance Transmission	1.1	9.5	10.6	0.1	1.2	1.3
5.	Space Communication	0.5	24.1	24.5	0.1	3.0	3.1
6.	Telephones and Teleprinters	1.2	71.9	73.1	0.2	9.1	9.2
7.	Buildings	205.0	0.0	205.0	25.8	0.0	25.8
8.	Rehab. of Power and A/C	1.0	9.5	10.5	0.1	1.2	1.3
9.	Vehicles	24.0	15.9	39.9	3.0	2.0	5.0
10.	Training (Equipment and Fellowships)	0.7	48.3	49.0	0.1	6.1	6.2
11.	Consultancy	3.5	56.9	60.3	0.4	7.2	7.6
12.	Miscellaneous and Ancilliary Eqpt.	0.1	7.9	8.0	0.0	1.0	1.0
13.	Customs Duties	300.0	0.0	300.0	37.8	0.0	37.8
	Base Cost	745.8	2,316.3	3,062.2	93.9	291.7	385.7
	Physical Contingency	74.6	115.8	190.4	9.4	14.6	24.0
	Price Contingency	272.0	809.4	1,081.4	9.3	28.7	37.9
	Project Cost	1,092.4	3,241.6	4,334.0	112.6	335.0	447.6
	Interest During Construction						
	Bank Loan	0.0	211.3	211.3	0.0	20.5	20.5
	Other Loans	0.0	158.9	158.9	0.0	15.4	15.4
	Total Project Cost	1,092.4	3,611.9	4,704.3	112.6	370.9	483.5
C.	TOTAL PROGRAM COST	1,378.0	4,914.8	6,292.8	146.5	523.3	669.8

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED
FIRST TELECOMMUNICATIONS PROJECT

Detailed Project Description

A. EXCHANGES

A.1 LAGOS

Exchange	Existing Capacity	Proposed Capacity
1. Lagos C toll (trunks)	5,900	18,000
2. Iponri A local (LU)	10,000	30,000
3. Ikeja A local (LU)	5,000	30,000
4. Lagos E (LU) with 5,000 lines RSU at Ikoyi	-	45,000
5. Apapa (LU) with 5,000 lines RSU at Ajegunle	10,000	10,000
6. Isolo (LU)	7,000	5,000
7. Victoria Island (LU) with 5,000 RSU at Lekki	-	10,000

A.2 ZONAL CENTERS (Switching)

Exchange	Zone	Existing Capacity	Proposed Capacity
1. Enugu Local (LU)	SE	16,000	20,000
2. Enugu (trunks) Secondary Centre	SE	3,876	3,200
3. Onitshia Local (LU)	SE	10,000	15,000
4. Onitshia (trunks)	SE	1,241	1,800
5. Aba Local (LU)	SE	8,000	20,000
6. Aba (trunks)	SE	477	1,000
7. Port Harcourt (LU)	SE	7,000	20,000
8. Port Harcourt (trunks)	SE	1,452	2,000
9. Nnewi Local (LU)	SE	1,000	10,000
10. Ogoja Local (LU)	SE	500	5,000
11. Ogoja (trunks)	SE		700
12. Orlu Local (LU)	SE	1,000	5,000
13. Owerri Local (LU)	SE	5,000	10,000
14. Owerri (trunks)	SE	1,390	2,000
15. Makurdi Local (LU)	NE	4,800	10,000
16. Makurdi (trunks)	NE		1,200
17. Gboko Local (LU)	NE	1,000	5,000
18. Oturkpo Local (LU)	NE	500	5,000
19. Zaria Local (LU)	NW	4,200	10,000
20. Zaria (trunks)	NW		1,000

B. LOCAL CABLE NETWORK

Locations	New MDF Pairs Required
1. Lagos C	42,000
2. Lagos B	42,000
3. Iponri A	45,000
4. Apapa	10,000
5. Isolo (Ejigbo)	6,000
6. Victoria Island	6,000
7. Zaria	2,400
8. Ilorin	7,500
9. Enugu	18,000
10. Onitshia	18,000
11. Aba	12,000
12. Port Harcourt	12,000
13. Nnewi	10,000
14. Owerri	8,000
15. Makurdi	6,750

C. Transmission

1. Lagos Area Optical fibre junction network.
2. Kaduna - Kano digital microwave radio.
3. Kaduna - Beji - Ilorin - Ibadan - Ijebu-Ode - Ikorodu digital microwave radio.
4. Benin - Onitsha - Enugu digital microwave radio.
5. Enugu - Umuahia - Aba - Port Harcourt digital microwave radio.
5. Enugu - Makurdi digital microwave radio.
6. Port Harcourt - Warri - Benin digital microwave radio.

D. Space Communication

Rehabilitation of STD A earth station at Lanlate

F. Telephone and Payphones

Procurement of 50,000 telephones and 8,000 pay phones.

G. Vehicles

Procurement of 300 vehicles.

H. Telex/Gentex

Establishment of a teleprinter repair center and telex module repair center.

I. Consultancy to be financed by the Bank			Total Manmonths	Initial Contract
1. PPF Consultants			50	50
2. Project Management-	Transmission	-2	96	48
	Switching	-2	96	48
	ELP	-2	96	48
3. Planning	-Transmission	-1	24	-
	Switching	-1	24	-
4. Traffic Administration	-Traffic	-1	24	24
5. Financial Management		-3	54	36
Total			464	254

J. Training

(i) Fellowships

Management	High Level 15 staff/4 months		60
Engineers	Transmission	20/4 months	80
	Switching	20/4 months	80
	Power	20/4 months	80
	ELP	20/4 months	80
Technicians	Transmission	50/4 months	200
	Switching	50/4 months	200
	Power	50/4 months	200
	ELP	50/4 months	200
Finance		50/6 manmonths	300
Supplies		20/6 manmonths	120
		365	1,600 manmonths

(ii) Instructors

24 manmonths for setting up courses in data and digital technology at the Oshodi training Centre.

K. Buildings

Construction of buildings to accomodate equipment and for residential purposes.

L. Ancillary Equipment

Ancillary euipment including software for management information system.

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Terms of Reference for Consultancy Services

I. CONSULTANCY SERVICES FINANCED UNDER PPF

1. Telecommunications consultancy firms were employed under PPF financing to undertake the following three tasks:

A. TASK 1: ENGINEERING ASSISTANCE

Objective: To carry out diagnostic assessment of the performance of Lagos Network, recommend equipment requirements and assist NITEL in the implementation of the Lagos Rehabilitation work under World Bank Project.

ELEMENTS

1. In collaboration with local task force carry out a technical and traffic audit of Lagos Network including equipment validation and traffic measurements on all junction groups and common control equipment.
2. Recommend rearrangements and additions to circuit groups as a result of (1).
3. Recommend suitability of Lagos junction cable Network for PCM Transmission including suitability of existing manholes for PCM repeater installations.
4. Produce a junction traffic and circuit matrix for Lagos Network present, 2 year and 5 year requirements.
5. Document the forecasting methodology employed for (4) and the recommended trunking change applicable at the 2 year and 5 year dates.
6. To prepare technical specifications and general bid documents for goods and services to be procured under this project.
7. To assist in bid evaluation and preparation of recommendations for NITEL and Bank approval.
8. To assist in drawing up contracts with successful bidders.
9. To assist in supervision of implementation of works and periodic inspection.
10. To assist in acceptance testing and on site and commissioning of equipment financed under the project.

INPUT Three Consultants working with counterparts for up to 10 manmonths over a period of up to 4 manmonths.

OUTPUT Design, plan and bid documentation necessary to invite tenders for the required works.

B. TASK 2: REVIEW OF EXISTING INVESTMENT PLANS

Objective: To review the 1986-1991 investment program prepared by NITEL and set out long-term network development strategy and plans.

ELEMENTS

1. Review the program in light of Nigeria's development objectives for the year 1992 and long-term objectives to the year 2,000.
2. Analyze the balance between rehabilitation and expansion.
3. Review financial and manpower requirements for the program in the context of NITEL's financial position presented and projected in close collaboration with financial consultants to be appointed by NITEL.
4. Review unit costs for material and labor used in determining total local and foreign costs.
5. Review NITEL's implementation capacity of the program and recommend appropriate strategy for implementation.
6. Review technical feasibility of program in light of digitalization and introduction of new services.
7. Prepare standard specifications for switching, transmission and local network in line with the digitalization policy and strategy.
8. Establish demand projection for various NITEL services over 5 and 10 year periods according to available demographic and economic data.
9. Make projections of traffic and circuit requirements for 5 and 10 years.
10. Establish series of hypotheses for meeting this demand and indicate potential use of computer programming.
11. Review the network digitalization policy and strategy prepared by NITEL and recommend appropriate amendments.
12. Develop fundamental plans for signalling, numbering, routing, transmission, and synchronization consistent with the digitalization strategy.
13. Develop plans for switching, transmission and local network needs of the 1987-1992 development program including network optimization.

INPUT Four Consultants (Engineers and Economists as appropriate) for a period of six months (24 manmonths) working with counterparts.

OUTPUT 1: Report on investment program to 1992, fundamental plans to year 2,000 plus methodologies to employ, including potential uses of computer programs.

OUTPUT 2: In addition and on the assumption that positive recommendations are made on the potential use of computer programming, element 10, bidders are also requested to present optional proposals for the development of a series of a computerized network planning programs. NITEL will determine whether or not and when to exercise this option at the time of evaluation of proposals.

C. TASK 3: FINANCIAL MANAGEMENT (NON-ENGINEERING)

Objective: Preparation of fundamental financial data for loan application and selected review of financial system with emphasis on billing and collection.

ELEMENTS

1. Preparation of Memorandum internal accounts (including Balance Sheets, Profit and Loss Accounts and source and application of funds statements) on an Approximate Basis for calendar years 1985 and 1986.
2. Financial Evaluation of current and medium term NITEL's investment program, including the financing plan giving due consideration to findings of technical consultants to be appointed by NITEL.
3. Preparation of a financial presentation document in support of the Government's application for a first World Bank Nigerian Telecoms Project (including issues such as the financial implications of stated policies on Tariffs, Capital Restructuring. Medium-term investment programs and debt service implications).
4. Review of existing systems (and related consultant proposals) traffic billing, collection and receivable management.
5. Recommendation of short-term improvements and assistance with implementation of priority tasks in traffic billing and receivables management.
6. Formulation of recommendations for medium-term improvement to management accounting, financial control and related Data Processing Systems.

INPUT: Three Consultants (as appropriate) for up to 12 manmonths in total with counterparts. Access to Historical Financial Statements for NET and P&T prior to 1985, and for NITEL as of 1985.

OUTPUT: Memorandum accounts for years 1985 and 1986 with supporting commentary, financial presentation document and report giving full analysis and detailed plan of actions for billing, collection and receivables management.

II. CONSULTANCY SERVICES TO BE FINANCED DURING THE PROJECT

TASK A: Project Management, Network Planning and Traffic Management

Objectives

1. The Nigerian Telecommunications Limited (NITEL) is executing a 1990-1994 investment program of rehabilitation and expansion of telecommunications facilities and institutional development of NITEL. The program is being financed by IBRD and bilateral and other sources. The broad tasks for which the Project Planning, Engineering and Management Consultants are proposed to be employed to assist NITEL in implementation of this program are as follows:

(a) assist NITEL's staff to carry out design, detailed engineering, procurement, supervision of installation, acceptance testing and commissioning of all equipment items (switching and transmission equipment, outside plant network and subscriber facilities) and civil works; coordination of implementation of different program components; and in general project management including supervision of contracts and coordination of project implementation;

(b) provide suitably skilled personnel to work with Nigerians as counterparts in undertaking the following tasks:
- development of detailed network plans for implementing the first telecommunications development project; and
- set up traffic engineering group in NITEL.

(c) transfer know-how to NITEL staff in planning, design, techno-economic evaluation, engineering and project management for all program components through direct class training and/or on the job training, etc.

Scope of Services

2. The scope of services to be provided by the consultants in conjunction with NITEL's counterpart are grouped as follows:

(a) design and detailed network system engineering;
(b) procurement;
(c) supervision of installation, acceptance tests and commissioning;
(d) transfer of know-how and training; and
(e) project management.

The above services are to be coordinated by NITEL.

Detailed Engineering

3. The consultants shall guide NITEL staff to prepare detailed equipment design and detailed engineering to achieve:

(a) the least-cost solution appropriate to the component;
(b) effective integration with existing facilities;
(c) satisfactory grade of service; and
(d) adherence to appropriate CCITT/CCIR recommendations.

4. The consultants in conjunction with NITEL will be required to undertake full field/site surveys and test measurements or make spot checks to verify data and minimize implementation risks due to deficient basic data.

Procurement

5. The consultants shall prepare all the required tender documents including commercial conditions, technical specifications, schedules of requirements and delivery, draft contract) for procurement of all equipment items and for civil works, through international/local competitive bidding for new items or sole source repeat orders for extensions to existing equipment.

6. The consultants' role in the procurement cycle shall include, but not be limited to the following:

(a) joint preparation of tender documents. The documents shall include the procedure for repeat orders, if the long-term development program includes such recommendation, and the formula for future pricing of such repeat orders that takes into account inflation, technology advances, induced economies in manufacturing costs, and international market situation at time of ordering;
(b) assist NITEL in answering bidders' queries on tender documents and participate in bidders' conferences, when scheduled, for complicated cases;
(c) joint evaluation of bids, and preparation of technical and financial evaluation reports with recommendations on contract award;
(d) after NITEL management's decision on selection of the contractor, drafting contract and assisting in contract negotiations and award;
(e) prepare amendments/addenda to contracts as may become necessary during program implementation; and
(f) tasks (a) and (e) shall primarily be carried out by NITEL's staff under supervision and guidance by the consultants.

Installation, Acceptance Testing and Commissioning

7. The consultants shall provide detailed support and actively assist NITEL in administration of NITEL's contracts for equipment supplies and civil works, through:

(a) review and approval of all contractor's submission in respect of engineering designs, plans and schedules; lists of main equipment, installation and maintenance test equipment, tools and spare parts; installation and acceptance test procedures, etc.;
(b) monitoring of delivery and installation/construction schedules;
(c) undertaking factory testing when called for;
(d) checking types and quantities of equipment, materials, documentation, software, etc. supplied by contractors to ensure conformation to contracts;
(e) coordination in implementation of different program components and resolution of problems that may arise in interaction between contractors of different components;
(f) supervision of equipment installations and civil works construction per contracts to ensure quality and completeness;
(g) preparation of schedules, and conductance of acceptance tests;
(h) commissioning of equipment; and
(i) assist NITEL in resolution with the equipment contractors of problems that arise in the commissioned equipment during the warranty period.

Transfer of Know-how and Training

8. An essential item of the consultants' total assignment shall be the upgrading and development of NITEL's human resources through transfer of know-how and training of NITEL's staff in all aspects of the work undertaken by the consultants in Nigeria. The transfer of know-how and training of NITEL's staff shall cover but not be limited to techniques and methods of planning, design and detailed engineering; technical and economic evaluation of different alternatives; preparation of technical specifications; procurement documentation and procedures; installation, acceptance tests and commissioning of equipment; general project management, etc., and shall include mode of updating these technologies and methods.

9. The consultants shall prepare a detailed plan for transfer of know-how and training which is a major task of their assignment. The transfer of know-how can be through training courses to be conducted in NITEL's training school and/or through on-the-job training. The training plan should be designed with the objective that, on completion of the consultants' assignment, the NITEL staff shall have developed inherent

capability of implementing independently a significant proportion of NITEL's future development programs without substantial further external technical assistance.

10. The consultants shall review the availability of NITEL's staff to act as counterparts, specify the required qualifications for each such staff, assist NITEL in selecting such staff from within NITEL or through outside recruitment and, if necessary, recommend foreign training of NITEL staff in specific disciplines.

Project Management

11. NITEL shall provide the organization, staff and infrastructure necessary for management of the total scope of work as detailed above. It shall establish and maintain necessary project files and records (including records of all expenditures).

12. The consultants shall appoint a team leader who will assume overall responsibility for the total assignment and liaison with NITEL for all activities and performance of other consultants' personnel and settlement of all accounts in Nigeria.

13. The consultants shall prepare and submit to NITEL within five days at the end of each month, a composite and detailed report on each task preceded by an Executive Summary for the information of the senior NITEL's management.

Network Planning

14. Using the demand data, fundamental plans and digitalization policy articulated in the master plan study, develop detailed plans for switching, transmission and local network needs of the 1990-1994 development program.

15. Prepare a planning manual (engineering instructions) containing rules and procedures for rational development of the network.

16. Review the engineering planning organization of NITEL including staffing and propose suitable changes.

17. Identify training needs for planning staff in light of digitalization.

18. Propose suitable courses for planning staff.

Traffic Administration

19. Propose a suitable organization for a traffic planning and monitoring group in NITEL.

20. Draw up systems for monitoring traffic flow for local, national and international traffic, including a suitable management information system.

21. Prepare technical specifications and recommend list of test equipment for measuring traffic.

22. Identify training needs for traffic engineering personnel and recommend suitable courses of study.

23. Prepare and conduct initial courses in traffic engineering for:

(a) exchange supervisory staff with emphasis on practical application of traffic measurement, monitoring and analysis in maintaining quality of service;
(b) managerial staff to be given a better understanding of the network and the importance of traffic engineering in its planning, design and operations.

Experts Requirements

24. It is estimated that the following expertise will be required during the implementation of the project:

(a) Switching Expert;
(b) Transmission Expert;
(c) External Plant Expert;
(d) Traffic Administration Expert.

The duration for each expert or experts will be different, but the expertise will be required for about four years.

TASK B: Financial Management

Background

1. NITEL was established as of January 1, 1985 as a limited liability company under the 1968 Company Decree. NITEL was specifically to undertake the business of telecommunications, both external and internal to Nigeria. The company is 100% owned by the Government. However, since inception there has been a considerable lack of adequately trained manpower in the company's Finance Division. This situation, therefore, has resulted in serious delay in the efforts of the Division to keep and maintain proper and adequate up-to-date accounting and management accounts information records.

2. In order to improve its financial management and to enable NITEL to operate on a commercial basis, financial consultants were employed under the World Bank Project Preparation Facility (PPF) advance to carry out

diagnostic analysis of NITEL's financial and accounting policies, procedures and systems, and propose an action plan for improvement. The major findings of the consultants were as follows:

(i) significant short comings and delays in accounts recording and processing in most functional areas;
(ii) lack of meaningful management accounts. There are delays in finalization of financial accounts and audited accounts have had numerous qualifications;
(iii) absence of effective financial management and control of working capital;
(iv) technical and operating difficulties resulting in problems in billing and collection for the services rendered; and
(v) adequately trained accounting and finance staff to carryout the financial function in NITEL.

3. The basic approach to implementation of improvements recommended by the consultants will involve the following tasks:

(i) prepare detailed manuals setting out the step by step description of the tasks to be carried out by each level of staff in accomplishing the objectives of the revised systems and ensure the implementation;
(ii) develop training programs for each staff level in the aspects of the procedures and systems relevant to each financial staff and carry out the necessary training;
(iii) assist the special teams and task forces setup at NITEL to carry out any investigation or exercise to bring arrears of processing of all records up-to-date. This will particularly apply to the accounting records at headquarters, zones and territories, fixed assets registers, consolidation of territorial records and others;
(iv) develop and implement financial and accounting systems at headquarters, zones and territory closely with NITEL staffs;
(v) monitor the performance of the staff in the operation of the systems and make necessary improvements; and
(vi) assist the deputy directors in the finance department at NITEL to manage their functions and any other tasks they would require to be carried out.

4. NITEL, since the Consultants Reports, has reviewed some accounting systems, billing and collection procedures and these are working effeciently. Also the backlog of accounts preparation has been cleared and the existing staff have updated processing and recording of current transactions with the effect that the audit of both 1987 and 1988 fiscal years are now at the final stage. The situation of a permanent backlog has therefore been eliminated.

5. A team of financial experts will be required for a period of one year with the possibility of a six months extension to assist Task Force to implement the recommendations of the Task Group, to improve the financial and accounting policies, procedures and systems that may require improvement. One expert will be the team leader and will be responsible for coordinating the work of the team and ensure that the tasks are carried out effectively. The team will consists of three experts. Each expert will be attached to the three deputy directors in the Finance Department in the headquarters. Implementation of systems and procedures will be carried out with NITEL counterparts staff from the headquarter, zones and territories. In addition, each expert will also be required to undertake any other tasks that the deputy directors they are assigned to requests.

6. The current organization chart of the Finance Department, which is based on the recommendations of the PPF financed consultants, is attached as Annex 1. The Finance Department consists of three subdirectorates, Financial Accounts, Management Accounts, and Treasury and Traffic. NITEL has its national headquarter in Lagos, five zonal headquarters and 22 territorial offices. Each of these territorial offices is self accounting. In addition, each territorial office controls several district offices where some limited accounting functions take place.

7. The assignments will include a requirement to field train NITEL's counterpart staff and assigned officers in the expert's activities to the maximum extent possible while performing the tasks.

8. The specific tasks and the responsibilities associated with the three experts and their qualifications are set out below.

Expert 1: Treasury and Traffic Accountant

Scope of Work

8. The expert who should report to Deputy Director of Treasury and Traffic will lead a group of NITEL staff in implementation of the recommendations of the consultants and those of the Task Force after approval by the Deputy Director Treasury and Traffic and in particular in:

- billing and collection, review the efficiency of the newly installed system.
- accounts receivables/aging analysis.
- monitoring the incoming and outgoing transaction.
- monitoring of inpayment and outpayment ratios.
- cash management, including cash flow projections.
- foreign exchange management.
- credit control
- ensure compliance with policy already developed. Review weakness and update policy.
- prepare appropriate monthly/quarterly management information required as appropriate for NITEL management in the related financial functions.

Requirements

9. A qualified accountant with over five years experience as a commercial manager in a telecommunications entity and relevant work experience in a developing country. The assignment is expected to start in August 1990 and be for a period of about 12 months. As the position requires an unusual amount of time and resources for staff development and training, candidates with a track record and/or capacities in these areas would be preferred.

Expert 2 - Financial Accountant
Scope of Work

10. The expert will assist the Deputy Director of Financial Accounts in the implementation of the recommendations of the consultants and those of the Task Force after approval of Deputy Director Financial Accounts and in particular:

- prepare of headquarter accounts;
- development of a costing system to determine traffic costs.
- payroll;
- staff loans and pension; and
- prepare appropriate regular management information report as related to financial functions.

Requirements

11. A qualified accountant with over five years experience as a chief accountant and relevant work experience in a developing country. The assignment is expected to start in August 1990 and be for a period of about 12 months. As the position requires an unusual amount of time and resources for staff development and training, candidates with a track record and/or capacities in these areas would be preferred.

Expert 3 - Management Accountant
Scope of Work

12. The expert who should report to the Deputy Director of Management Accounts will lead a group of NITEL staff in the implementation of the recommendations of the consultants/Task Force after the approval of the Deputy Director Management Accounts and in particular:

- prepare consolidated of Group accounts for NITEL.
- review financial accounting recording procedure.
- project accounts.
- prepare financial projection model with full capacity for sensitivity analysis to test financial objectives.
- prepare monthly and annual operational and development budget.
- monitor actual versus budget estimates.

- prepare appropriate regular management information reports related to financial functions.

Requirements

13. A qualified accountant with over ten years experience as management accountant and relevant work experience in a developing country. The assignment is expected to start in August 1990 and be for a period of about 12 months. As the position requires an unusual amount of time and resources for staff development and training, candidates with a track record and/or capacities in these areas would be preferred.

ANNEX 3-4
Page 1 of 2

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Project Financing Plan

	TOTAL (Naira Mill)			TOTAL (US$ Mill)		
	Local	Foreign	Total	Local	Foreign	Total
IBRD		2,178.5	2,178.5		225.0	225.0
OTHER SOURCES		1,063.1	1,063.1		110.0	110.0
NITEL	1,092.4	370.3	1,462.7	112.6	35.9	148.5
Project Financing	1,092.4	3,611.9	4,704.3	112.6	370.9	483.5

ANNEX 3-4
Page 2 of 2

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Project Financing by Items

By Items	Foreign Costs				- Local -	- Total -
	US$ Million Equivalent					
	IBRD	OTHERS	NITEL	Total	NITEL	
- Switching Exchange						
- Expansion	60.4	51.8		112.2	6.9	119.1
- Rehabilitation	5.1			5.1	0.1	5.2
- External Line Plant (ELP)						
- Expansion	80.0	58.8		138.8	18.9	152.7
- Rehabilitation	37.3			37.3	4.2	41.6
- Transmission						
- Expansion	6.8	4.4		11.2	1.3	12.5
- Rehabilitation	1.4			1.4	0.2	1.5
- Space Communication	3.5			3.5	0.0	3.5
- Telephone	10.4			10.4	0.1	10.5
- Buildings				0.0	31.3	31.3
- Rehabilitation of Power & A/C	1.4			1.4	0.2	1.5
- Vehicles	2.3			2.3	3.6	5.9
- Training (Equipment and Fellowships)	7.0			7.0	0.1	7.1
- Consultacy	8.2			8.2	0.5	8.8
- Misc. and Ancilliary Eqpt.	1.1			1.1	0.0	1.2
- Customs Duties				0.0	45.3	45.3
- Interest During Construction			35.9	35.9	0.0	35.9
Total Project Financing	225.0	110.0	35.9	370.9	112.6	483.5

Annex 3-5

FEDERAL REPUBLIC OF NIGERIA
FIRST TELECOMMUNICATIONS PROJECT

Schedule of Disbursements

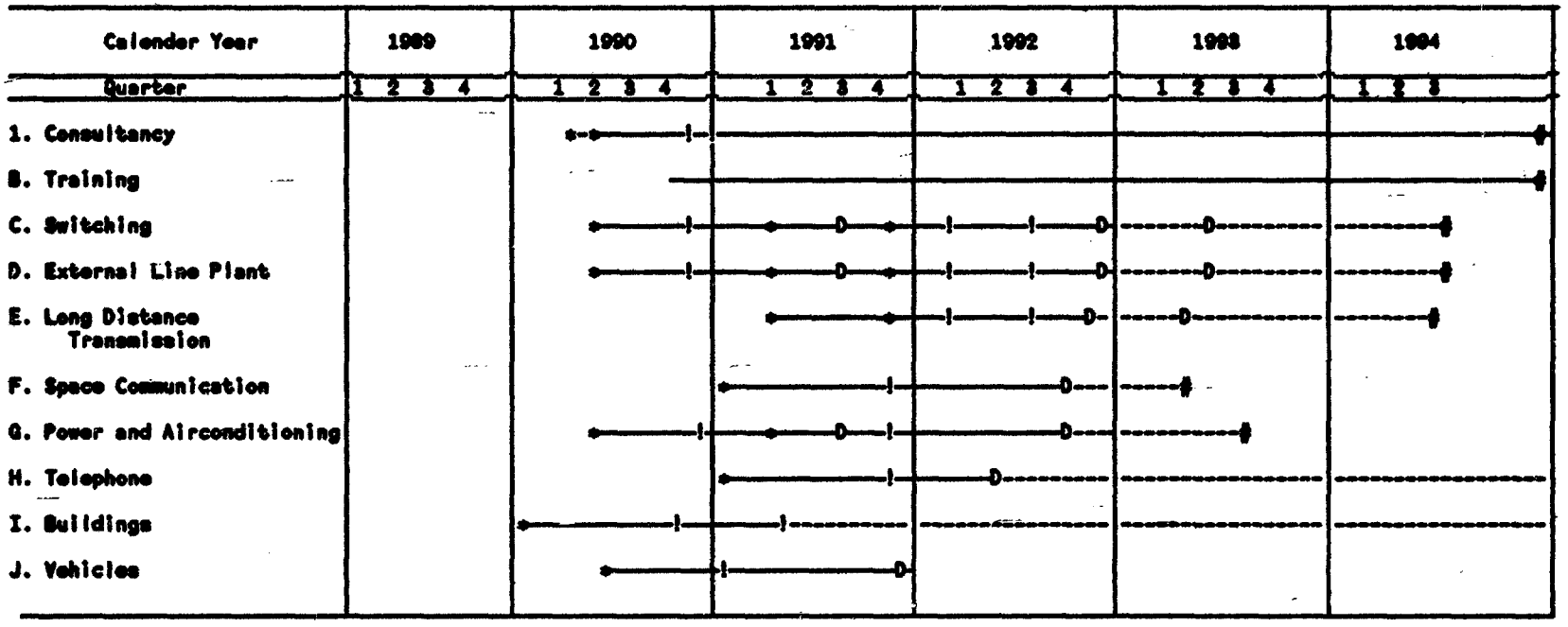
(US$ Million)

IBRD FY/Semester Ending	Disbursement in Semester	Cumulative Through Semester	Bank's Profiles For all sectors in West Africa	Bank's Profiles Telecom Sector World Wide
FY88				
June 30, 1988	0.2 1/	0.2 1/	-	-
FY89				
Dec. 31, 1988	0.3 1/	0.5 1/	-	-
June 30, 1989	0.2 1/	0.7 1/	-	-
FY90				
Dec. 31, 1989	0.0	0.7	-	-
June 30, 1990	0.0	0.7	-	-
FY91				
Dec. 31, 1990	10.0	10.7	2.4	2.4
June 30, 1991	9.3	20.0	10.7	6.1
FY92				
Dec. 31, 1991	20.0	40.0	24.9	15.4
June 30, 1992	38.0	78.0	40.3	30.6
FY93				
Dec. 31, 1992	48.0	126.0	59.2	49.7
June 30, 1993	40.0	166.0	79.3	70.9
FY94				
Dec. 31, 1993	26.5	192.5	98.9	94.7
June 30, 1994	15.0	207.5	119.6	119.6
FY95				
Dec. 31, 1994	12.0	219.5	138.4	138.4
June 30, 1995	5.5	225.0	157.5	165.4
FY96				
Dec. 31, 1995	-	-	173.9	173.9
June 30, 1996	-	-	186.5	189.5
FY97				
Dec. 31, 1996	-	-	199.6	200.1
June 30, 1997	-	-	201.7	210.8
FY98				
Dec. 31, 1998	-	-	216.2	214.0
June 30, 1999	-	-	223.2	222.6
FY99				
Dec. 31, 1999	-	-	225.0	225.0

1/Financed through PPF1

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Implementation Schedule



LEGEND:
* Tender announcement or call for quotations
! Contract Award
D Delivery in Nigeria
----- Installation
End of Installation or Assignment

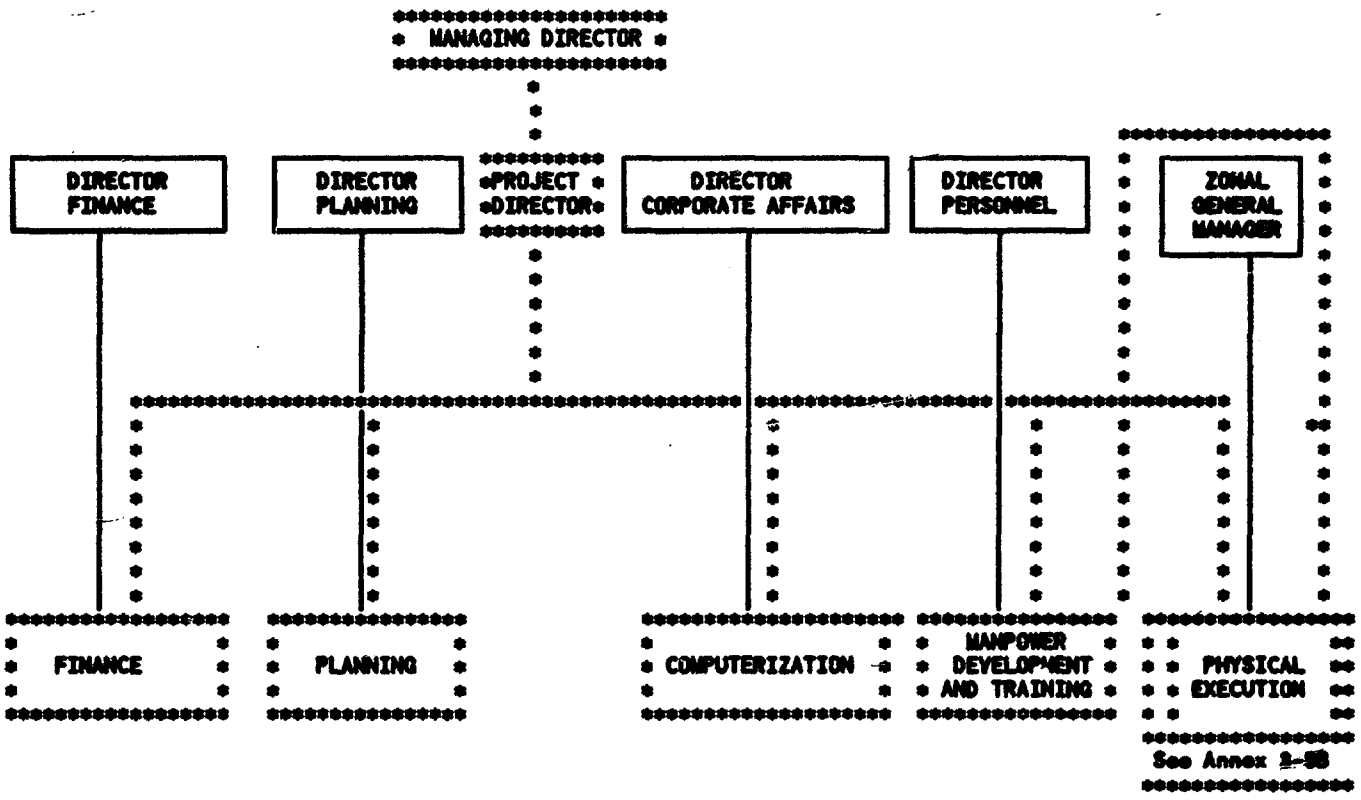
FEDERAL REPUBLIC OF NIGERIA
NIGERIA TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Action Plan for Consultancy Services

Task	Call for Proposals	Selection of Consultants	Commencement of Work	Final Report	Implementation of Recommendation
1. PPF1					
Development Plans	March 1987	November 1987	May 1988	November 1988	June 1989
Lagos Network Audit	March 1987	November 1987	May 1988	November 1988	June 1990
Financial Systems	March 1987	November 1987	May 1988	January 1989	June 1990
2. Project Management, Planning & Traffic Administration	April 1990	October 1990	December 1990	Quarterly Reports	Throughout the Project
3. Financial Management	April 1990	October 1990	December 1990	Quarterly Reports	Throughout the Project

FEDERAL REPUBLIC OF NIGERIA
NIGERIA TELECOMMUNICATIONS LIMITED
FIRST TELECOMMUNICATIONS PROJECT

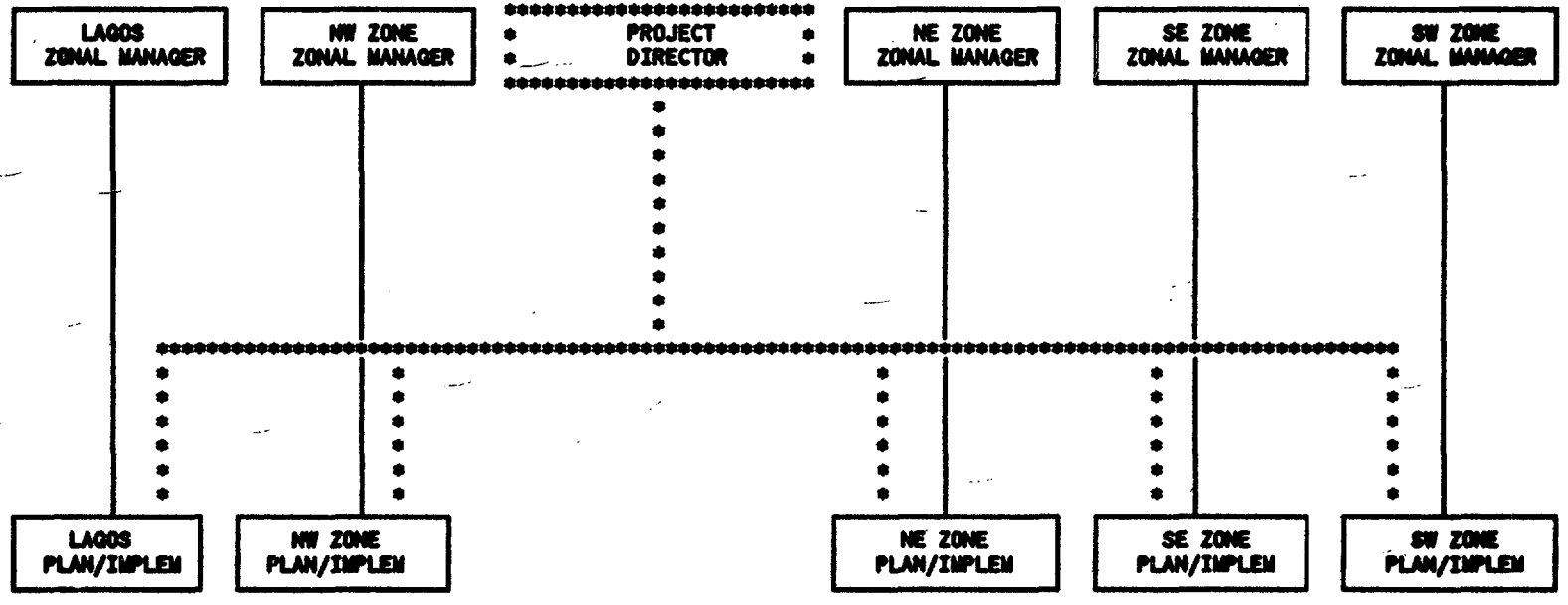
Overall Project Management Organization Chart



ANNEX 3-8A

FEDERAL REPUBLIC OF NIGERIA
NIGERIA TELECOMMUNICATIONS LIMITED
FIRST TELECOMMUNICATIONS PROJECT

Physical Project Management Organization Chart



ANNEX 3-8
Page 1 of 3

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Performance Indicators

		Est	Forecast				
		1989	1990	1991	1992	1993	1994
1.	Telephone Exchange Capacity:						
	-Lagos	115,000	115,000	135,000	135,000	135,000	213,000
	-North West	89,620	89,620	150,620	150,620	150,620	156,420
	-North East	28,250	28,250	28,250	28,250	28,250	41,950
	-South West	99,360	99,360	99,360	99,360	99,360	99,360
	-South East	82,100	82,100	90,100	90,100	90,100	146,600
	Total	394,330	414,330	503,330	503,330	503,330	677,330
2.	Direct Exchange Lines Year-end:						
	-Lagos	98,100	98,100	103,100	112,100	120,100	140,100
	-North West	42,140	48,500	62,140	83,700	96,500	108,000
	-North East	20,250	21,750	22,250	22,750	23,250	25,750
	-South West	68,860	68,860	78,860	78,860	83,860	83,860
	-South East	55,800	60,800	64,800	68,800	70,800	80,800
	Total	275,150	298,010	326,150	366,210	394,510	438,510
3.	Exchange Fill (%)						
	-Lagos	81%	85%	76%	83%	89%	60%
	-North West	61%	54%	41%	56%	64%	69%
	-North East	72%	77%	79%	81%	82%	61%
	-South West	64%	69%	74%	79%	84%	84%
	-South East	68%	74%	72%	76%	79%	55%
	Total	70%	72%	65%	73%	78%	65%
4.	Number of STD Circuits (Lagos)	8,160	8,160	8,160	8,160	8,160	8,160
5.	Capacity of International Telephone	930	930	3,330	3,330	3,330	3,330
6.	Telex Exchange Capacity:						
	-Lagos	4,900	6,364	6,364	6,364	6,364	6,364
	-North West	2,450	3,450	3,450	3,450	3,450	3,450
	-North East	950	950	950	950	950	950
	-South West	2,200	2,200	2,200	2,200	2,200	2,200
	-South East	2,300	2,300	2,300	2,300	2,300	2,300
	Total	12,900	15,264	15,264	15,264	15,264	15,264
7.	Telex Subscriber Lines Year-end:						
	-Lagos	4,020	4,470	4,760	4,900	5,050	5,170
	-North West	735	960	1,180	1,350	1,650	1,820
	-North East	285	330	360	380	430	490
	-South West	660	770	825	880	990	1,110
	-South East	690	810	860	920	1,040	1,150
	Total	6,390	7,340	7,985	8,430	9,160	9,730
8.	Exchange Fill (%)						
	-Lagos	82%	70%	75%	77%	79%	81%
	-North West	30%	28%	34%	39%	48%	53%
	-North East	30%	35%	38%	40%	45%	51%
	-South West	30%	35%	38%	40%	45%	50%
	-South East	30%	35%	37%	40%	45%	50%
	Total	50%	48%	52%	55%	60%	64%

		Est 1989	Forecast 1990	1991	1992	1993	1994
9.	Average Number of Faults/DEL per Year						
	-National	1.7	1.5	1.3	1.1	1.0	1.0
	-Lagos	0.3	0.3	0.3	0.2	0.2	0.2
10.	% of Faults Cleared (National)						
	-Within 24 Hours	50%	50%	59%	62%	65%	65%
	-Wihtin 48 Hours	20%	70%	75%	78%	80%	80%
	-Within 7 Days	58%	80%	86%	90%	95%	95%
	-Within 30 Days	80%	86%	90%	95%	100%	100%
11.	Dial Tone - % Within 3 Sec						
	-National	50%	80%	90%	95%	100%	100%
	-Lagos	50%	80%	90%	95%	100%	100%
12.	Call Completion Rates						
	-International - Outgoing	30%	40%	45%	50%	50%	50%
	-International - Incoming	20%	40%	45%	50%	50%	50%
	-National (STD)	20%	30%	40%	50%	60%	60%
	-Local - National	30%	55%	60%	60%	70%	70%
	-Local - Lagos	30%	55%	60%	60%	70%	70%
13.	Average Operator Answering Time % Within 10 Seconds						
	-International	20	40	60	70	90	90
	-Inland	20	40	60	70	90	90
14.	Telecom Staff/1000 DELs	60	60	55	50	50	50

		Est	Forecast				
		1989	1990	1991	1992	1993	1994
15.	Operating Revenue/DEL						
	Constant ('89 Prices)	5,082	6,998	6,782	6,567	6,317	6,705
	Current	5,082	8,741	9,389	9,982	10,510	12,271
16.	Telephone Revenue/DEL						
	Constant ('89 Prices)	3,829	5,673	5,483	5,283	5,192	5,596
	Current	3,829	7,092	7,589	8,036	8,639	10,241
17.	Telex Revenue/Subscriber						
	Constant ('89 Prices)	17,013	27,987	26,285	24,625	23,200	23,770
	Current	17,013	34,984	36,078	37,246	38,599	43,502
18.	Cash Operating Cost/DEL						
	Constant ('89 Prices)	1,520	1,580	1,474	1,405	1,387	1,397
	Current	1,520	1,918	2,027	2,125	2,307	2,557
19.	Operating Ratio (%)	89%	81%	82%	83%	85%	84%
20.	Net Internal Cash Generation (%)	102%	111%	90%	61%	78%	179%
21.	Rate of Return on Av. NFA (Revalued)	7%	13%	13%	14%	13%	16%
22.	Accounts Receivables (Days Billing)	150	120	110	90	75	60
23.	Current Ratio (Times)	1.0	1.5	1.6	1.8	2.2	2.9
24.	Debt/(Debt+Equity) Ratio	37%	38%	39%	46%	43%	39%
25.	Debt Service Coverage	2.8	4.2	2.6	3.0	3.5	4.1

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Historical Income Statement
(Naira Millions)

Revenue	1985	1986	1987	1988
Billed Revenue_1/	268.6	254.0	336.1	644.5
Others	14.9	6.9	70.2	32.4
Gross Operating Revenue	283.5	260.9	406.3	676.9
Net Outpayments	21.3	37.6	181.4	143.9
Net Revenue	262.2	223.3	224.9	533.0
Operating Expenses				
Salaries & Wages	112.0	107.0	115.1	136.1
Other Operating_2/	210.5	191.6	74.4	72.4
Bad Debt Provision	67.3	14.7	51.3	10.9
Depreciation_3/	35.0	26.8	30.3	15.0
Total Operating Expenses	424.8	340.1	271.1	234.4
Net Operating Income(Loss)	(162.6)	(116.8)	(46.2)	298.6
Less: Interest on Loans _4/	82.5	37.6	2.0	2.1
Net Income(Loss) Before Tax	(245.1)	(154.4)	(48.2)	296.5
Tax_5/	0.0	0.0	0.0	0.0
Net Profit (Loss)	(245.1)	(154.4)	(48.2)	296.5

_1/ Includes inpayments from foreign administrations for incoming international calls.
_2/ 1985 figure includes bad debt write off of Naira 44.2 million pre-NITEL.
_3/ Depreciation charges are low because some assets which are in service are yet to be transferred from work in progress to fixed assets.
_4/ Interest charges are on cash basis. Interest charges in 1987 and 1988 lower than in 1986 because unpaid interest charges are not reflected.
_5/ Losses can be carried over for three years.

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Historical Balance Sheets
(Naira Million)

ASSETS	1985	1986	1987	1988
Gross Fixed Assets	273.4	287.4	301.8	411.0
Accumulated Depreciation	79.3	105.9	136.2	151.2
Total Fixed Assets	194.1	181.5	165.6	259.8
Work in Progress_1/	2,498.3	2,530.6	2,679.8	3,006.0
Investments	28.1	29.7	27.8	48.4
Current Assets:				
-Cash and Bank Deposits	229.7	272.8	249.4	1,054.6
-Subscriber Accounts Receivable_2/	179.6	175.7	201.0	272.0
-Other Receivables	40.0	105.2	133.3	156.5
-Inventory	45.2	48.7	49.6	52.4
Total Current Assets	494.5	602.4	633.3	1,535.5
TOTAL ASSETS	3,215.0	3,344.2	3,506.5	4,849.7
LIABILITIES				
Equity	1,760.2	1,605.9	1,599.3	2,117.9
Loans_3/	526.0	585.6	609.9	962.7
Staff Pension Scheme	14.4	17.4	26.2	27.5
Current Liabilities:				
-Accounts Payable	732.6	893.4	1,022.9	1,448.9
-Bank Overdrafts	145.6	205.7	212.0	256.5
-Taxation	36.2	36.2	36.2	36.2
Total Current Liabilities	914.4	1,135.3	1,271.1	1,741.6
Total Liabilities	3,215.0	3,344.2	3,506.5	4,849.7

_1/ Work in progress includes some assets which are already in service.
_2/ Net of bad debt provision.
_3/ Includes N347.8 million equivalent of loan for works carried out during FY88 under the Siemens' contract which is to be transferred to NITEL from the government.

ANNEX 4-2
Page 1 of 3

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Income Statements
(Naira Mill)

	Est	<-------- Forecast -------->				
Revenue	1989	1990	1991	1992	1993	1994
Telephone	1,024.3	2,032.3	2,852.7	2,792.4	3,285.9	4,265.4
Telex	104.6	240.2	276.4	305.7	339.5	410.9
Telegraph	3.2	3.8	4.6	5.5	6.6	8.0
International Inpayments	227.5	228.7	280.9	334.7	365.4	426.5
Gross Operating Revenue	1,359.5	2,505.0	2,914.6	3,438.3	3,997.5	5,110.8
Less: International Outpayments	212.4	207.9	255.4	278.9	304.5	355.5
Net Revenue	1,147.1	2,297.1	2,659.2	3,159.4	3,693.0	4,755.3
Operating Expenses						
Salaries & Wages	178.5	245.1	284.0	334.9	416.7	534.9
Other Operating	233.1	303.0	348.5	400.8	460.9	530.0
Bad Debt Provision	44.3	56.8	65.7	77.5	90.6	116.9
Depreciation	75.8	167.6	244.7	314.8	422.7	558.6
Total Operating Expenses	526.7	772.6	942.9	1,127.8	1,390.9	1,740.5
Net Operating Income(Loss)	620.4	1,524.5	1,716.3	2,031.6	2,302.1	3,014.9
Less: Interest on Loans	133.0	214.2	285.8	307.1	313.8	372.3
Foreign Exchange Loss	1.0	1.1	0.5	25.0	127.8	163.1
Net Income(Loss) Before Tax	486.4	1,309.2	1,429.9	1,699.5	1,860.4	2,479.4
Tax	194.6	523.7	572.0	679.8	744.2	991.8
Net Profit (Loss)	291.8	785.5	858.0	1,019.7	1,116.3	1,487.7

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Balance Sheets

(Naira Mill)

ASSETS	Est 1989	1990	1991	1992	1993	1994
		<--------	Forecast	--------		
Gross Fixed Assets	1,611.0	2,859.1	3,666.1	4,727.6	6,545.2	8,351.8
Accumulated Depreciation	227.0	394.7	639.3	954.1	1,376.8	1,935.5
Total Fixed Assets	1,384.0	2,464.4	3,026.7	3,773.5	5,168.4	6,416.3
Work in Progress	2,447.0	2,173.8	2,516.6	3,966.1	3,403.5	2,816.6
Investments	49.7	49.7	49.7	49.7	49.7	49.7
Current Assets:						
-Cash and Bank Deposits	1,202.5	1,130.7	1,366.4	1,986.3	2,918.9	4,127.7
-Subscriber Accounts Receivable_1/	566.5	835.0	890.6	859.6	832.8	851.8
-Other Receivables	635.6	751.5	728.7	687.7	599.6	511.1
-Inventory	88.1	125.8	185.5	304.3	348.2	390.9
Total Current Assets	2,492.7	2,843.0	3,171.1	3,837.8	4,699.5	5,881.4
TOTAL ASSETS	6,373.3	7,531.0	8,764.1	11,627.1	13,321.1	15,164.0
LIABILITIES						
Equity	2,468.1	3,254.7	4,118.2	5,157.9	6,402.0	8,052.8
Loans	1,424.0	1,975.7	2,668.7	4,344.8	4,900.2	5,067.0
Others	27.5	27.5	27.5	27.5	27.5	27.5
Current Liabilities:						
-Accounts Payable	2,011.7	1,365.8	1,008.2	1,049.8	996.2	705.5
-Taxation	35.4	523.7	572.0	679.8	744.2	991.8
-Other	406.6	383.7	379.5	367.8	351.0	319.5
Total Current Liabilities	2,453.7	2,273.2	1,959.7	2,096.9	2,091.4	2,016.8
Total Liabilities	6,373.3	7,531.0	8,764.1	11,627.1	13,321.1	15,164.0

_1/ Net of bad debt provision.

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Funds Flow

(Naira Mill)

	Est. 1989	Forecast 1990	1991	1992	1993
Internal Cash Generation					
-Net Income Before Interest	999.7	1,143.8	1,328.7	1,480.1	1,860.0
-Depreciation	167.6	244.7	314.8	422.7	558.8
-Foreign Exchange Loss	1.1	0.5	25.0	127.8	163.1
Internal Cash Generation	1,168.5	1,389.0	1,668.5	1,980.6	2,581.8
Others	0.0	0.0	0.0	0.0	0.0
Loans	611.5	941.5	1,910.0	581.6	357.6
TOTAL SOURCES	1,780.0	2,330.6	3,576.6	2,562.2	2,939.4
APPLICATIONS					
Capital Expenditure	973.9	1,149.2	2,496.0	1,127.2	1,056.5
Investments	1.3	0.0	0.0	0.0	0.0
Debt Service Long Term Debt					
-Interest	214.2	285.8	307.1	313.8	372.3
-Principal	61.0	254.0	254.0	254.0	254.0
Total Debt Service	275.2	539.8	561.0	567.8	626.3
Change in Working Capital	530.9	641.5	529.5	867.2	1,256.6
APPLICATIONS	1,780.0	2,330.6	3,576.6	2,562.2	2,939.4

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Notes and Assumptions for Financial Projections

Price Levels and Tariffs

1. Prices. The following inflation and exchange rate were assumed:

Year	Foreign (%)	Local (%)	Exchange Rates Naira/(US$)
1989	4.9	45	7.40
1990	4.9	25	8.85
1991	4.9	10	9.32
1992	4.9	10	9.81
1993	4.9	10	10.33
1994	4.9	10	10.87
1995	4.9	10	11.43
1996	3.7	10	12.10

2. Tariffs. Tariffs schedules as shown in Annex 4-4 are used. Domestic tariffs were increased substantially effective February 1, 1990. Domestic and international tariffs are assumed to be adjusted to reflect changes in cost and exchange rate, respectively.

Income Statements

3. Operating Revenues. The operating revenues are calculated individually for the five zones.

(i) Telephone and Telex - Traffic revenues are calculated by multiplying the traffic per line times the average number of lines, and the average changes for local, long distance and international calls. The subscription installation revenues are calculated on the basis of existing lines and additional lines installed.

(ii) Telegraph - Forecast to growth by 20 percent per annum.

(iii) Other revenues - Forecast to growth by 10 percent per annum.

4. Operating Expenses. The operating expenses are assumed as follows:

(i) Personnel is average number of employees times average salary per employee. The total number of employees is

expected to increase, but the staffing ratio is expected to decrease as measures are taken to improve operational efficiency, annual salaries are projected to increased by 5 percent p.a. in real terms, to account for increase in proportion of skilled staff.

(ii) Other Costs comprising administrative and maintenance cost expected to increase in real terms by 5% p.a.

(iii) Bad Debt Provision is a percentage of billed revenues and is projected at 5%.

(iv) Depreciation has been calculated on a straight line at an average composite rate of 7.5 percent on average gross fixed assets in operation.

(v) Exchange losses resulting from projected currency devaluation were charged against operating income per current accounting practices.

(vi) Interest expense. A schedule of assumed rates, loan amounts available during the 1988-94 period, and repayment terms for the various foreign/FGN financing sources is tabulated on page 3.

Balance Sheet Items

5. Gross fixed assets reflect the investment program (Annex 3-1) and transfers from work-in-progress.

6. Accounts Receivable is a percentage of total operating revenue. It is assumed to decrease to a level of 60 days of billing in 1994.

7. Inventories is estimated as a percentage on gross fixed assets in service and work in progress with a gradual build-up over the period 1988-94 to achieve an average inventory level of 3.5% of GFA by 1992.

8. Other Receivables are assumed to decrease to 10% of operating revenue by 1994 and remain at that level thereafter.

9. Long-term debt and current portion are based on the project financing plan, cost of funds and projected debt service, including financing restructuring.

10. Accounts Payable is a percentage of cash operating cost and capital expenditure. It is expected to decrease to 40 percent by 1994 and remain at that level thereafter.

11. Capital Investment. Details of NITEL's investment program are given in Annex 3-1.

12. Loans and Terms Long-term loans and their terms are assumed as shown below:

	Currency	Amount (Fx Cur) (Mill)	Onlending Rate of Interest	Grace Period Principal	Repayment Years
Existing					
PRE-NITEL	Naira	302	7.50%	3	10
NITEL-85 & 86	Naira	130	9.00%	3	10
NITEL-87	Naira	152	16.00%	3	10
NITEL-87	Naira	26	13.00%	3	10
NITEL-88	Naira	36	15.00%	2	10
SIEMENS	Naira	1,930	8.00%	3	10
New					
IBRD 1/	US$	225	7.75%	5	15
OTHERS	US$	110	8.00%	5	10

1/ Commitment charge of 0.25%.

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECTS

Tariff Schedule

A. Telephone Services

1. Installation Charges

Private (Residential) Telephone Line

- Installation Charges	₦	500.00
- Advanced Rental for 3 months	₦	25.00
- One copy of current National Telephone Directory (Soft Cover)	₦	10.00
- Refundable Deposit	₦	300.00 1/

For Business Telephone Line

- Installation Charges	₦	700.00
- Advanced Rental for 3 months	₦	30.00
- One copy of Current National Telephone Directory (Soft Cover)	₦	10.00
- Refundable Deposit	₦	300.00

2. Extensions

- Each Internal Extension	₦	30.00
- Each External Extension	₦	100.00
- Each Socket for Plugs	₦	100.00

3. Monthly Rental Charges

Exclusive Exchange Lines

- Direct Exchange Line	₦	20.00
- Direct Exchange Business Line	₦	50.00

Extension Lines - Internal

- Private	₦	20.00
- Business	₦	50.00

1/ Effective December 1967.

4. Call Charges

The Periodic Metering Pulse Method is applied for STD service. The unit fee per pulse is 90 Kobo (0.9 Naira). The pulse rates (duration) are as follows:

Rate Class	Distance (in Km)	Pulse Rate 1/
1	Local Call	3 plus 5 minutes 2/
2	Charging Areas (short distance calls)	3 minutes
3	< 50	60 seconds
4	51 -- 90	30 seconds
5	91 -- 160	20 seconds
6	161..-- 250	15 seconds
7	251 -- 400	12 seconds
8	> 400	9 seconds

1/ The off-peak (6pm to 7am) pulse rate (or half rate pulse) is double the above for each rate class.

2/ Since October 1988, local calls in all electronic exchanges are timed at a pulse rate of 3 minutes for the first pulse and five minutes for subsequent pulses.

5. International Charges

To participate in International Direct Dialing the subscriber has to register with NITEL, paying a fee of N500.00 and making a refundable deposit of N1,000.00 (N2,000.00 for business lines).3/

The international call charges are:

for:	Europe	N22.00	per minute
	Americas	N25.00	per minute
	Asia, Oceania	N25.00	per minute
	Africa	N16.00	per minute

For Europe, there is a minimum charge of N66.00 for 3 minutes.

3/ All Victoria Island subscribers are required to have IDD Services all on connected DELs.

B. Telex and Telegraph services

1. The Periodic Metering Pulse Method is also applied in the telex inland service. The fee per pulse is 90 Kobo. The pulse rate varies between 60 seconds and 4.5 seconds depending on the distance.

2. International charges are as follows:

--	Europe	N20.00	per minute
--	Americas	N20.00	per minute
--	Asia, Oceania	N20.00	per minute
--	Africa	N15.00	per minute

3. The charges for telegrams are:

--	Ordinary	12 words	30 Kobo
--	Urgent	12 words	60 Kobo
--	Greeting	standard	50 Kobo
--	Press ordinary	50 words	30 Kobo

International All Countries N 5.00 per word.

FEDERAL REPUBLIC OF NIGERIA
NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Return on Investments

1. The proposed project is an integral part of NITEL's 1990-1994 investment program which also includes ongoing works from various projects. The inter-relationship between the various components of the investment program makes it difficult and arbitrary to separate the incremental benefits and costs of the project and the rest of the program. Hence the rates of return computed below are based on the overall investment program plus the pre-investment in 1989 for the ongoing works.

2. The benefit period of the investment program extends from 1991-2010, when on average the equipment provided under the program is expected to have completed its useful life. Without the program, the network is expected to deteriorate, resulting in falling revenue and increasing costs of operation. The rate of return calculation assumes that without the program, the revenue and operating cost will remain at the 1990 levels. The benefits attributed to the program, due to the increase in traffic on the new lines connected and higher traffic on existing lines, are assumed to be the incremental revenue with respect to 1990 level. Similarly, the operating costs attributed to the program due to the costs of the new lines less the operating cost savings realized on existing lines are assumed to be the incremental operating cost with respect to 1990 level. From 1996 on, benefits and operating costs relating to the program are assumed to be constant. No residual values of fixed assets have been taken into account as the present value of these in real terms would be minimal.

3. A summary of financial and economic costs and benefits are given on page 3. All the benefits and costs have been deflated to comparable 1989 prices. The internal financial rate of return for the program is estimated at 17.2 percent. Adjusting for taxes and applying a standard consumer factor of 0.85 to all local costs to convert them into economic border prices, the minimum economic rate of return for the program is estimated at 23.7 percent. This return underestimates the benefits to be derived from the telecommunications investment program. It does not take into account consumer surplus and indirect and external benefits received by non-users of the telecommunications services.

4. A sensitivity analysis was made on the economic rate of return with the following results:

Sensitivity Analysis on Rates of Return

Component	Change (%)	Economic Rate of Return (%)
- Program Cost	+20	21
	-20	28
- Benefits	+20	28
	-20	19
- Combination: Program Cost / Benefits	+20 / -20	17
- Combination Program Cost / Benefits	-20 / +20	32

FEDERAL REPUBLIC OF NIGERIA

NIGERIAN TELECOMMUNICATIONS LIMITED (NITEL)

FIRST TELECOMMUNICATIONS PROJECT

Financial and Economic Rate of Return

Year	Deflator (%)	Program Cost Local	Program Cost Foreign	Total Program Cost (Net IDC)	Operating Cost	Taxes	Operating Revenue	Financial ROR Streams (Constant 1989 Prices) Program Cost	Incremental Op. Cost & Taxes	Incremental Op. Revenue	Net Benefit	Economic ROR Streams (Constant 1989 Prices) Program Cost	Incremental Op. Cost	Incremental Op. Revenue	Net Benefit
1989	100%	65	548	840				840			(840)	828			(828)
1990	122%	248	726	974	548	824	2,297	779	0	0	(779)	749	0	0	(749)
1991	138%	188	948	1,135	633	872	2,659	825	19	98	(747)	807	18	98	(729)
1992	151%	464	1,934	2,398	736	680	3,159	1,585	78	251	(1,413)	1,639	41	251	(1,829)
1993	168%	405	567	972	878	744	3,693	584	117	382	(320)	548	76	388	(241)
1994	182%	96	349	444	1,065	992	4,755	242	266	761	252	235	122	761	404
1995	201%				1,238	1,459	5,475		532	1,379	847	0	192	1,379	1,187
1996	221%				1,611	2,164	6,625		847	2,057	1,210		245	2,057	1,812
1997									847	2,057	1,210		245	2,057	1,812
1998									847	2,057	1,210		245	2,057	1,812
1999									847	2,057	1,210		245	2,057	1,812
2000									847	2,057	1,210		245	2,057	1,812
2001									847	2,057	1,210		245	2,057	1,812
2002									847	2,057	1,210		245	2,057	1,812
2003									847	2,057	1,210		245	2,057	1,812
2004									847	2,057	1,210		245	2,057	1,812
2005									847	2,057	1,210		245	2,057	1,812
2006									847	2,057	1,210		245	2,057	1,812
2007									847	2,057	1,210		245	2,057	1,812
2008									847	2,057	1,210		245	2,057	1,812
2009									847	2,057	1,210		245	2,057	1,812
2010									847	2,057	1,210		245	2,057	1,812
										FNR =	17.2%			ENR =	28.7%

1. The SCF of 0.8% has been applied to local costs and benefits for the years 1989 to 1998.
2. The economic rate of return is the minimum return.

FEDERAL REPUBLIC OF NIGERIA
NIGERIA TELECOMMUNICATIONS COMPANY (NITEL)
FIRST TELECOMMUNICATIONS PROJECT

Selected Documents and Data Available in Project File

Draft List of Documents to be sent to Project File

1. Nigeria: Public Expenditure Review (1986-90), World Bank, October 29, 1985.

2. Nigeria: Telecommunications Sector Review, World Bank, August 5, 1985.

3. Situation Review 1986: Document prepared for African Telecommunications Development Conference, Tunis, January 1987.

4. World Bank Project Identification Mission, November 1987: Back-to-Office Report dated December 17, 1987; report on financial consultant dated December 18, 1987; report of engineering consultant dated November 1987.

5. NITEL: Memorandum and Articles of Association, dated December 20, 1984.

6. Nigeria: Fifth Five Year Development Plan for Telecommunications, May 1985.

7. Press Briefings on the activities of the Ministry of Communications, June 16, 1986 and March 6, 1987.

8. Reports and Papers presented at the Telecommunications Policy Seminar, January-February 1987.

9. CTO: A Survey of the Telecommunications Network, May 1986.

10. BT: Report on the Proposed Organizational Structure of NITEL, January 1986.

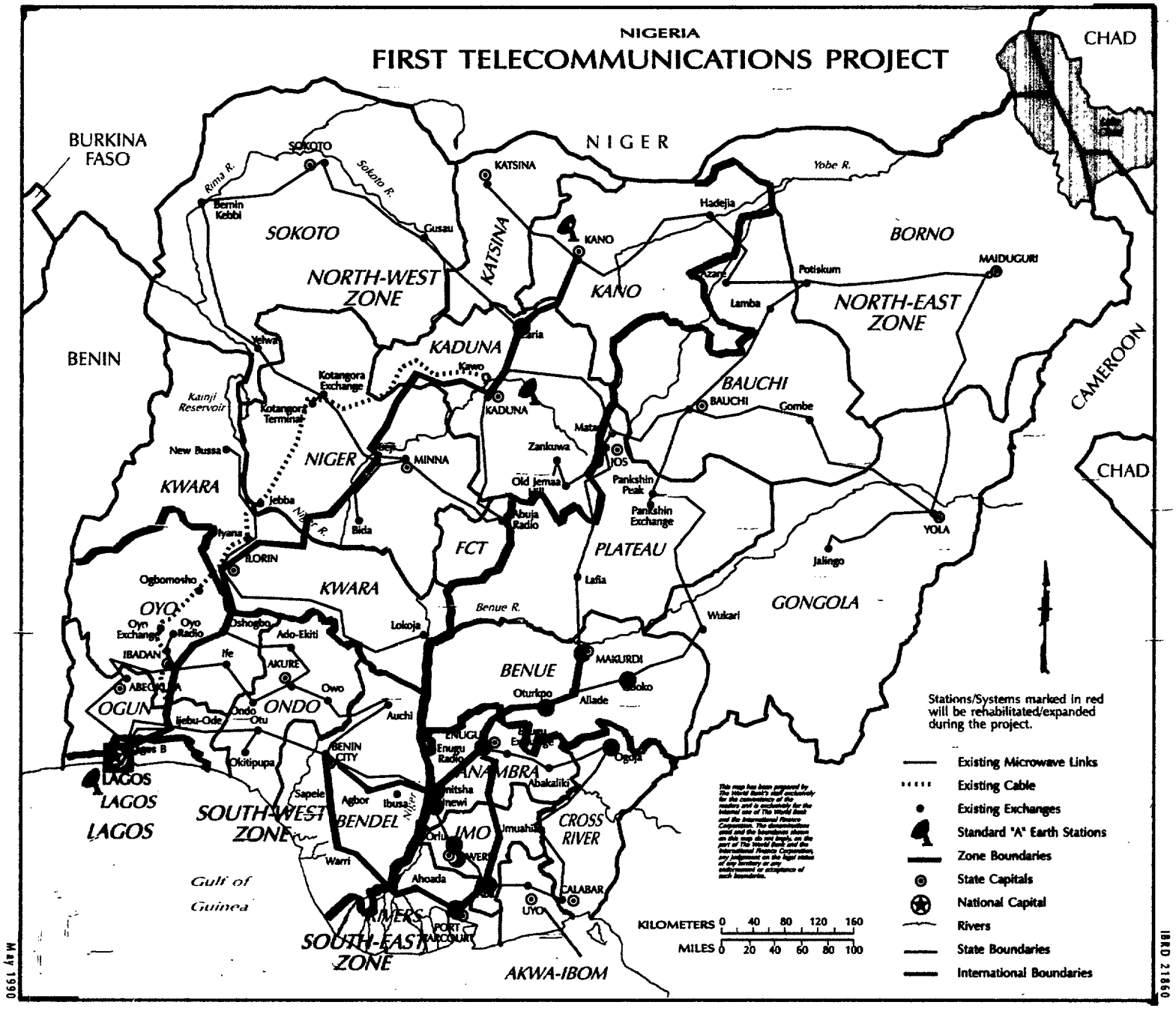
11. Coopers and Lybrand: Opening Balance Sheet of NITEL based on book valuation, November 15, 1986.

12. DETECON: Review of NITEL's Development Plan for 1987 to 1991 and Long Terms Network Development Strategy.

13. Hydroservices: Diagnostic Assessment of the Performance of Lagos Network.

14. Peat Marwick: Review of NITEL's financial and accounting system.

15. Peat Marwick: Financial Presentation Document for Bank loan application.


NIGERIA
FIRST TELECOMMUNICATIONS PROJECT
CHAD
BURKINA FASO
NIGER
BENIN
CAMEROON
CHAD
SOKOTO
Rima R.
Sokoto R.
Yobe R.
KATSINA
Hadejia
KANO
BORNO
MAIDUGURI
Potiskum
Lamba
NORTH-NORTH ZONE
KATSINA
KANO
NORTH-EAST ZONE
KADUNA
Kano
BAUCHI
BAUCHI
Gombe
Kotangora Exchange
Kotangora Terminal
Kainji Reservoir
New Bussa
NIGER
MINNA
Zankuwa
JOS
Pankshin Peak
Pankshin Exchange
YOLA
KWARA
Jebba
Niger R.
Bida
Old Jemaa Hill
Abuja Radio
FCT
PLATEAU
Jalingo
Ilorin
Ogbomosho
KWARA
Lafia
OYO
Oyo Exchange
Oyo Radio
Oshogbo
Ado-Ekiti
Lokoja
Benue R.
Wukari
GONGOLA
IBADAN
Ife
AKURE
MAIDURDI
BENUE
ABEOKUTA
Owo
Oturkpo
Makurdi
OGUN
ONDO
Ondo
Otu
Auchi
Ijebu-Ode
Okitipupa
BENIN CITY
ENUGU
Enugu Radio
ANAMBRA
Abakaliki
Ogoja
LAGOS
LAGOS
LAGOS
SOUTH-WEST ZONE
Sapele
Agbor
Ibusa
Niger
BENDEL
Imo
Imuahia
CROSS RIVER
Warri
Ahoada
RIVERS
PORT HARCOURT
CALABAR
UYO
Gulf of Guinea
SOUTH-EAST ZONE
AKWA-IBOM
Stations/Systems marked in red will be rehabilitated/expanded during the project.
Existing Microwave Links
Existing Cable
Existing Exchanges
Standard "A" Earth Stations
Zone Boundaries
State Capitals
National Capital
Rivers
State Boundaries
International Boundaries
KILOMETERS 0 40 80 120 160
MILES 0 20 40 60 80 100
MAY 1990
IBRD 21860