

Document of
The World Bank

Report No. 13874-IND

STAFF APPRAISAL REPORT

INDONESIA

TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

MAY 18, 1995

**East Asia and Pacific Region
Country Department III
Industry and Energy Operations Division**

CURRENCY EQUIVALENTS

(December 1994)

Currency Unit	=	Indonesia Rupiah (Rp)
\$1	=	Rp 2,193
Rp 1.0 million	=	\$456

FISCAL YEAR

Government of Indonesia
April 1 - March 31

PT. TELKOM
January 1 - December 31

WEIGHTS AND MEASURES

Metric System

ABBREVIATIONS AND ACRONYMS

AMPS-A	-	American Mobile Phone Service - Analog
ASEAN	-	Association of South East Asian Nations
BAPPENAS	-	National Development Planning Agency
BPPT	-	State Ministry for Research and Technology
DGPT	-	Directorate General of Posts and Telecommunications
GDP	-	Gross Domestic Product
GSM	-	Global System for Mobile Telephony
ICB	-	International Competitive Bidding
IDD	-	International Direct Dialing
ITU	-	International Telecommunication Union
MTPT	-	Ministry of Tourism, Posts and Telecommunications
OSP	-	Outside Plant
INDOSAT	-	Majority State-Owned International Telecommunications Company
INTI	-	State Telecommunications Manufacturing Company
PSTN	-	Public Switched Telephone Network
TELKOM	-	State Domestic Telecommunications Company
REPELITA	-	National Five-Year Development Plan
UNDP	-	United Nations Development Programme
VSAT	-	Very Small Aperture Satellite Terminal
WITEL	-	TELKOM's Regional Operating Divisions

INDONESIA

TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT**Table of Contents**

	<u>Page No.</u>
LOAN AND PROJECT SUMMARY	v
I. THE TELECOMMUNICATIONS SECTOR	1
A. Sector Overview	
Performance Assessment.....	1
Institutional Framework	3
Market Structure.....	3
Tariffs.....	6
B. Sector Reform	
Strategic Sector Issues.....	7
Government Objectives and Strategy.....	8
Private Entry.....	8
Enabling Environment.....	9
Tariff Policies	10
Sector Vision.....	10
C. Bank Group Role	
Global Experience.....	11
Experience in Indonesia.....	12
IFC Involvement.....	12
Bank Strategy.....	12
Rationale for Bank Involvement.....	13
II. THE TELECOMMUNICATIONS NETWORK AND SERVICES	14
A. Telecommunications Network	
Demand.....	14
Local Telephone Network.....	14
Long Distance Network.....	15
International Network.....	16
Non-voice and Other Facilities.....	16

This report is based on the information supplied by TELKOM and on the findings of a Bank Appraisal mission comprising Messrs. A. Shanmugarajah (Task Manager and Engineer), P. Smith (Economist), and R. Pradhan (Sr. Financial Analyst), which visited Indonesia in November 1994. The peer reviewers for this project were Messrs. B. Wellenius, D. Joshi (IENTI), T. Kunieda (CFS), M. Sergio (SA3EI) and P. Guislain (PSD). Mrs. M. Haug, Director (EA3DR) and P. Scherer, Division Chief (EA3IE) have endorsed this report.

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.

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.

Table of Contents (Cont'd)

	<u>Page No.</u>
B. Service Access and Quality	
Access to Service-----	17
Quality of Service -----	18
Customer Service-----	20
Mobile Radio Services-----	21
New Services-----	22
III. THE BENEFICIARY-----	23
Organization and Management -----	23
Staffing -----	23
Training -----	25
Billing and Collection-----	25
Accounting and Financial Management Systems -----	25
Audit -----	26
Information Systems -----	26
IV. THE PROJECT -----	27
Background -----	27
Project Objectives -----	27
Project Description-----	27
TELKOM's Investment Program-----	28
Project Costs -----	28
Project Financing and Terms-----	29
Procurement-----	31
Disbursement-----	32
Implementation -----	34
Performance Monitoring and Supervision-----	35
V. FINANCIAL AND ECONOMIC ANALYSIS -----	36
A. Financial Analysis	
TELKOM's Historical Financial Performance -----	36
TELKOM's Financial Position -----	37
TELKOM's Projected Financial Performance -----	38
B. Economic Analysis	
Least Cost Solution-----	39
Project Benefits -----	39
Rate of Return-----	40
Project Risks -----	40

Table of Contents (cont'd.)**Page No.****VI. AGREEMENTS REACHED AND RECOMMENDATION-----41****Agreements Reached**

GOI -----41

TELKOM -----42

Condition of Loan Effectiveness-----42**Recommendation-----42****ANNEXES**

1.	Basic Telecommunications Sector Statistics-----	43
2.	MTPT Organizational Chart -----	54
3.	Structure of the Cellular Segment in 1994 -----	55
4.	Summary of TELKOM's Tariffs -----	56
5.	Policy Letter-----	58
6.	Joint Operations -----	63
7.	Performance Indicators - 1995-1999-----	70
8.	Supply vs. Demand -----	74
9.	Telephone Service - Issues -----	77
10.	TELKOM Organizational Chart-----	78
11.	TELKOM Restructuring Plan and Timetable -----	79
12.	TELKOM Staff Composition, Productivity and Education -----	80
13.	Project Components -----	85
14.	TELKOM Investment Program, 1994-1998 -----	89
15.	Procurement Packages and Schedule-----	91
16.	Disbursement Schedule-----	96
17.	Implementation Schedule -----	97
18.	Bank Supervision Plan-----	98
19.	Historical Balance Sheets & Income Statements-----	100
20.	Assumptions Used for Financial Projections -----	101
21.	Financial Projections -----	104
22.	TELKOM's Return on Investments-----	107
23.	Selected Documents and Data Available in Project File -----	109

Table of Contents (cont'd.)**Page No.****TABLES IN THE TEXT**

1.1	International Comparison of Telecommunications Services-----	1
1.2	Present Market Structure -----	5
1.3	Key Performance Indicators -----	13
4.1	Project Costs -----	29
4.2	Financing Plan -----	30
4.3	Procurement Arrangements -----	32
4.4	Disbursement of Proposed Loan -----	33
5.1	Key Historical Financial Performance Indicators -----	36
5.2	Summary of Audited Balance Sheet -----	37
5.3	Key Projected Financial Performance Indicators-----	38

FIGURES IN THE TEXT

1.1	Telephone Accessibility by Provinces -----	2
1.2	Projected Telecom Sector Investment Needs 1994-2003 -----	7
2.1	Telephone Lines in Service and Telephone Density-----	15
2.2	Number of Main Telephones and Telephone Density-----	17
2.3	Incidence of Faults: 1989-1993 -----	18
2.4	Fault Rate in Asian Countries -----	19
2.5	Successful Call Completion (SCR): 1989-1993 -----	20
2.6	SCR in Asian Countries-----	20
3.1	Staff Productivity -----	24

MAPS: IBRD Nos. 26332, 26333

INDONESIA**TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT****Loan and Project Summary**

- Borrower** : Republic of Indonesia
- Beneficiary** : PT. Telekomunikasi Indonesia (TELKOM)
Ministry of Tourism, Posts and Telecommunications (MTPT)
- Amount** : \$325.0 million equivalent
- Terms** : Twenty years including a five-year grace period at the Bank's standard variable rate.
- On-lending Terms** : The proceeds of the loan, except \$8.0 million for technical assistance to the Government of Indonesia (GOI), will be on-lent from the GOI to TELKOM for 20 years, including a grace period of 5 years; the subsidiary loan will be denominated in equivalent US dollars and the on-lending rate will be under the same terms as the Bank's loan plus 0.5 percent per annum. TELKOM will bear the foreign exchange risk.

**Project Objectives
and Description**

: The project supports, and is predicated on a comprehensive reform program for the telecommunications sector. The reform is based on three key elements: entry of world class operators, competition in all segments of the sector, and reorganization of the established public telecommunications service provider. The proposed project has a policy component, an investment component, and a technical assistance component.

The policy component of the project, fully financed by the Bank, entails (a) reviewing and developing as appropriate the telecommunications legal and regulatory environment to ensure effective entry of private investors and operators in the telecommunications sector; (b) strengthening MTPT's capability to manage regulatory issues including monitoring and evaluating operators' performance in the emerging multi-operator environment; (c) reviewing the management and allocation of radio frequency spectrum to ensure efficient use of the spectrum and appropriate use of modern technology; and (d) developing a plan for the provision of rural telephone services on a commercial basis.

The investment component, partly financed by the Bank and to be implemented over three years (1995-97), will support further improvements in quality of service and network modernization. It includes: (a) installation of local and inter-exchange networks based on the latest technology to add one

million telephone lines and effectively utilize the switching capacity in Jakarta and Surabaya; (b) installation of a second fiber optic back-bone system between Jakarta and Surabaya; (c) installation of submarine optical fiber cable transmission systems to upgrade transmission facilities to Kalimantan and Sulawesi; and (d) enhancement of information systems to improve TELKOM's business processes.

The technical assistance component, fully financed by TELKOM supports: (a) strengthening the project implementation, marketing, customer services and managerial capacities of TELKOM through the provision of specialized marketing and managerial services; and (b) improving TELKOM's managerial capabilities through the implementation of its ongoing restructuring program.

The project complements and supports the JOS operations through which private investors and operators will install a minimum of two million additional telephone lines and operate both the new and existing network in the regions outside Jakarta and Surabaya under stringent performance requirements. As a result of these and other initiatives, Indonesia's telephone density would be increased from about 1.26 in 1994 to 3.5 per 100 inhabitants at the end of REPELITA VI in 1999.

**Project Benefits
and Risks**

: **Project Benefits:** The proposed project will support the implementation of an ongoing reform agenda with profound effect on market structure, service coverage and regulatory environment, all aimed at bringing the performance of the Indonesian telecommunications sector to international competitive levels. The licensing of five consortia, each tied to a world-class telecommunications operator, to provide local telephone services in five regions of Indonesia will generate dynamic effects towards increasing competition in various market segments and developing an effective regulatory environment. The award of these licenses to the private sector through a transparent and competitive bidding process, the establishment of clearly defined performance targets for service quality throughout the country and the establishment of effective performance monitoring and enforcement mechanisms will not only contribute to the development of high quality low cost telecommunication systems throughout Indonesia, but also establish a framework approach as precedent for emulation in other Indonesian infrastructure sectors. Likewise, other elements of the reform agenda, i.e. the review of the Telecommunications Law, planned partial privatization of TELKOM, and the development of pilot projects for improved delivery of rural telephone services, will each contribute to improved sector performance. Taken together, these various elements of reform will lead to a substantially increased role for the private sector, a more competitive TELKOM and the evolution of a multi-operator environment.

Project Risks. Based on the past successful experience with Bank projects, the implementation of the physical components by TELKOM and achievement of the benefits associated with it essentially does not present any significant risks. However, there are risks in the implementation of the reform program in respect of: (a) transparency of selection and award process of the JOS; and (b) incentives for efficiency improvements, achievement of performance targets

and sharing benefits with customers. The quality of the requests for proposals (RFP), issued to 12 pre-qualified consortia, and the process to respond to bidders' questions and opening of bids (on March 21, 1995) in the presence of representatives of all bidders, have demonstrated MTPT's commitment to a transparent selection and award process. Similarly, the GOI has signaled in the clarification to the RFP that the GOI overriding objective in proceeding with the JOS is to bring the provision of telecommunications services in all parts of Indonesia up to internationally competitive levels in terms of range of services, availability, quality, and price. Thus, the GOI has linked explicitly the justification of reform to performance improvements and customer benefits. Specifically, in reviewing tariff proposals from JOS operators, the GOI will eschew a "cost-plus" approach by using the highest efficiency performance in the sector in Indonesia and in other competitor countries in the region as benchmarks.

Estimated Project Cost

ITEM	LOCAL a/ -----	FOREIGN (US\$ Million)	TOTAL -----
1. Switching Equipment	93.8	239.9	333.7
2. Outside Plant Network (OPN)	174.5	209.6	384.1
3. Transmission	106.5	208.8	315.2
4. Junction Network	24.4	67.9	92.3
5. Advanced Service Network	16.7	0.0	16.7
6. Computer Support System	0.9	9.4	10.3
7. Technical Assistance			
(i) Capacity Building			
- MTPT	0.5	5.4	5.9
- TELKOM	5.5	0.0	5.5
(ii) Training			
- MTPT	0.2	1.9	2.1
- TELKOM	0.5	5.6	6.1
(iii) Project Implement. Support	10.0	0.0	10.0
Total Base Cost	433.4	748.4	1,181.8
Physical Contingency	21.7	37.4	59.1
Price Contingency	37.4	10.4	47.8
TOTAL PROJECT COST	492.6	796.2	1,288.8
Interest during Construction	52.2	71.6	123.8
<u>TOTAL FINANCING REQUIRED</u>	<u>544.8</u>	<u>867.8</u>	<u>1,412.6</u>

/a TELKOM is exempted from duties and taxes on imported items. Local costs include VAT and other taxes estimated to be about \$117.9 million equivalent.

Financing Plan

SOURCES OF FUND	US\$ Million						PERCENT of TOTAL
	LOCAL		FOREIGN		TOTAL		
	MTPT	TELKOM	MTPT	TELKOM	MTPT	TELKOM	
World Bank	-	0.0	8.0	317.0	8.0	317.0	23.0
France	-	0.0	-	62.0	-	62.0	4.4
Germany (KfW)	-	0.0	-	95.0	-	95.0	6.7
Japan EXIM	-	8.0	-	33.0	-	41.0	2.9
Japan OECF	-	72.0	-	192.0	-	264.0	18.7
US EXIM	-	0.0	-	42.0	-	42.0	3.0
GOI	0.8	-	-	-	0.8	-	0.0
TELKOM	-	464.0	-	118.8	-	582.8	41.3
TOTAL	0.8	544.0	8.0	859.8	8.8	1,403.8	100.0

Estimated Disbursements (US\$ Million)

IBRD FY	1996	1997	1998	1999	2000
Annual	15.0	60.0	75.0	100.0	75.0
Cumulative	15.0	75.0	150.0	250.0	325.0

Economic Rate of Return : 33 percent

Poverty Category : Not Applicable

Project Identification No. : ID-PA-4001

INDONESIA

TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

I. THE TELECOMMUNICATIONS SECTOR

A. Sector Overview

Performance Assessment

1.1 **Where does Indonesia stand?** Indonesia's record of accomplishments in the telecommunications sector during 1988-94 is impressive. Annual investment increased from about \$340 million to about \$1 billion; investment costs per new line have dropped from US \$3,000 to US \$1,200; the rate of network expansion has increased from 8 percent per annum to over 20 percent per annum; the rate of long-distance call completion improved from 19 percent to 36 percent, and labor productivity improved from 20 to 50 lines per employee. Nevertheless, much remains to be done for the sector to meet the vigorous growth in demand for telecommunications and informatics services and to match the performance standards of Indonesia's best performing regional competitors (Table 1.1). Demand for telephones still exceeds supply; sophisticated telecommunications services - which are needed for businesses to compete in the global market place - are in their infancy; the efficiency of operations remains low; and service quality and reliability are below that of well dimensioned networks.

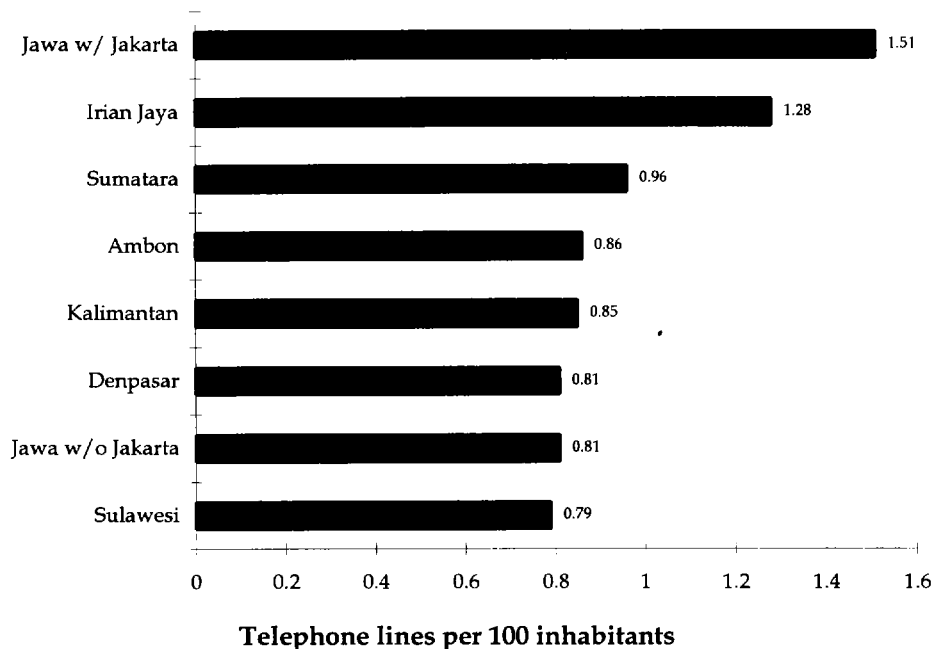
**Table 1.1: International Comparison of Telecommunications Services
(1993)**

Country	Call Completion Rate (In %)	Main Lines per 100 Inhabitants	Main Telephone Lines/Employee	Telephone Faults 100 main lines per Month
Indonesia	43	1.0	45	2.6
Japan	84	45.4	258	0.5
Malaysia	50	12.6	80	6.5
Singapore	70	43.5	172	1.1
Thailand	55	3.7	71	4.3

Source: ITU.

1.2 **Regional Distribution.** In 1994, the access to telephone service in Indonesia was low at around 1.26 telephone lines per 100 inhabitants. Jakarta, with only about 8 percent of Indonesia's population, has about 36 percent of the country's telephone lines. However, as shown in Figure 1.1, the regional distribution of telephone service throughout Indonesia, excluding Jakarta, is reasonably balanced. Outside of Jakarta, Sumatra and Irian Jaya are better served than the rest of the country. The telephone penetration in Jakarta was 9.7 lines per 100 population while the rest of the country averaged 0.85 lines per 100 inhabitants. The penetration ranged from a high of 1.28 lines per 100 population in the best served regions to 0.67 per 100 population in the worst served regions of the country. The regional distribution of telephone lines reflects the concentration of economic activity (especially in Jakarta) as well as of population in the different regions. Partly as a result of the Bank's Third and Fourth Telecommunications Projects, the access to service in East Indonesia improved substantially during the REPELITA V period with an average annual growth rate of about 35 percent per annum compared to about 8 percent during REPELITA IV. Public telecommunications service is currently available in all 27 provinces, 55 municipalities, 236 district capitals and 2,869 of the 3,539 sub-districts. However, of approximately 67,600 villages in the country, only 10,000 have telephone service. With the opening of all areas outside Jakarta and Surabaya to private sector through the Joint Operation Schemes (para. 1.17) during REPELITA VI, service will become available to the remaining sub-districts and 50 percent of the villages. In addition, the quality of service is expected to improve and new services currently not available will be introduced. Detailed regional distribution of telephone are shown in Annex 1.

**Figure 1.1: Telephone Accessibility By Region
(1994)**



Institutional Framework

1.3 The GOI exercises extensive regulatory authority and supervisory control over the telecommunications sector through the Ministry of Tourism, Posts and Telecommunications (MTPT). The MTPT Organization Chart is in Annex 2. The Telecommunications Law and certain regulations and decrees establish the legal framework for regulation of the telecommunications sector. Furthermore, REPELITA plans for the sector are established through the Ministry's Planning Bureau and regulations through its Law and Organization Bureau. Both bureaus report to the Secretary General of the MTPT. Within the MTPT, the Directorate General of Posts and Telecommunication (DGPT) supervises the directorates of telecommunications, frequency management and standardization. In addition to MTPT, important roles are played by the Ministry of Finance, the National Development Planning Agency (BAPPENAS), and State Ministry for Research and Technology (BPPT). The Ministry of Finance, as the owner, approves budgets and oversees TELKOM's financial performance. BAPPENAS coordinates and controls the GOI's Five-Year planning process (REPELITA) and approves investment plan funding. BPPT has a lead role in determining the introduction of the new technologies and their timing.

1.4 Faced with rapidly increasing demands for telecommunications services and equipment, the GOI enacted the Telecommunications Law in 1989 to facilitate the introduction of new technologies and to stimulate the growth of the telecommunications sector by tapping the resources of the private sector. Specifically, the Telecommunications Law permitted private sector participation in the provision of non-basic services without association or cooperation with either TELKOM or INDOSAT subject to licensing from the MTPT. Furthermore, decrees promulgated in 1993 after a high level Bank/MTPT seminar on sector development, permitted private sector participation in the provision of basic¹ domestic and international telecommunication services through the establishment of management agreements, joint operation schemes or joint venture corporations with TELKOM or INDOSAT.

Market Structure

1.5 TELKOM (a state owned enterprise) is the primary provider of basic domestic telecommunications services. RATELINDO (a majority privately owned joint venture with TELKOM) was authorized in 1993 to provide basic telecommunications services using wireless technology in Jakarta and Bandung. RATELINDO expects to begin offering service by mid-1995. INDOSAT (a partially privatized state-owned enterprise) is the primary provider of international telecommunications services. SATELINDO (a majority privately owned joint venture with TELKOM and INDOSAT) began providing international direct dialing telephone, low and high-speed leased lines and telecast service in November 1994. In addition to TELKOM and INDOSAT, there are currently five private companies authorized to provide cellular services (Annex 3); four companies for Very Small Aperture Terminals (VSAT) services (Annex 1); four companies for E-mail services; and one company for each of the following services:

¹ In general, basic services involve delivery of information between sender and receiver without processing or modification and include telephone, telex, telegram and leased circuits. Non-basic services are defined generally as services resulting from the ability of computers and sophisticated telecommunications facilities to process and modify the form of data contained therein. Examples of these services include store and forward facsimile, electronic data interchange and E-mail.

Packet-Switched Data Network (PSDN), low-speed leased lines, and store and forward facsimile. In addition, three equipment suppliers manufacture and supply switching equipment on a competitive basis in Indonesia. There are four private limited liability companies manufacturing telephone cables and 14 small privately owned companies manufacturing telecommunications equipments.

1.6 The market and ownership structures of the Indonesian telecommunications sector are shown in Table 1.2. This table shows that the Indonesian telecommunications sector has moved decisively away from the model of predominant state-owned enterprise monopoly that existed as recently as two years ago. Nevertheless, as a result of the requirements of the Telecommunications Law, the provision of basic fixed telecommunications involves substantial cross-ownership. Thus, TELKOM and/or INDOSAT have significant ownership interests in all basic service operations.

1.7 The structure of the cellular mobile market is shown in Annex 3. Until very recently this market was dominated by regional operators working under revenue sharing agreements with TELKOM. Decisions taken in 1993 and 1994 are already beginning to transform the cellular market. SATELINDO has been awarded a national license to provide cellular service using GSM technology and will be supported by its new strategic investor, Deutsche Telekom. Similarly, in late 1994, TELKOMSEL, a joint venture of TELKOM and INDOSAT, was awarded a national GSM cellular license and is believed to be seeking an experienced foreign partner. At the same time, the regional revenue sharing operators are being converted to majority private joint ventures with TELKOM. Thus, important elements of competition are being introduced for the provision of cellular mobile service in all areas.

1.8 Notwithstanding cross-ownership in the sector, competition is beginning to develop because both SATELINDO and RATELINDO have majority private investment, different foreign operator partners (namely Deutsche Telekom and Netherlands PTT respectively) and separate management from TELKOM and INDOSAT. Also, TELKOM's ownership interests in SATELINDO and RATELINDO will decline proportionately as private investment in these companies increases. For example, once SATELINDO's arrangements with its new partner, Deutsche Telekom, are completed, TELKOM's ownership share will decline from 30% to 22.5%. Furthermore, the substitutability of different types of telecommunications services, such as mobile cellular service for conventional fixed service, VSAT private networks for terrestrial leased lines, and the fact that cellular local calling areas are likely, in some cases, to include services that TELKOM would charge as long-distance calls, will result in more competition than implied by the market segment stratification shown in Table 1.2.

Table 1.2: MARKET STRUCTURE AND OWNERSHIP 1/

December 1994

Segment Classification				Market Structure	Main Operators	Ownership	
Services and Facilities	Basic	Domestic	Local	Wireline	Monopoly	PT. TELKOM	GOI
				Wireless	Emerging wireless/wireline duopolistic competition	PT.RATELINDO/ PT. TELKOM	PT. BAKRIE 55% (private) PT. TELKOM 45% / GOI
			Long-distance		PT. TELKOM monopoly	PT. TELKOM	GOI
			International		Emerging limited competition	PT. INDOSAT	GOI
						PT SATELINDO	PT. Bimagraha 60% PT. TELKOM 30% PT.INDOSAT 10%
			Satellite (space segment)		Emerging limited competition	PT TELKOM PT SATELINDO	As indicated above
		VSAT (earth segment) Private Networks		Competition	Multiple		
		Mobile	Cellular	Oligopoly	PT. TELKOM PT SATELINDO Others	PT. TELKOM 51% PT. INDOSAT 49%	
			Mobile	Paging	Competition	Multiple	
		Non-Basic	VAS 2/		Competition	Multiple	
Terminal Equipment	Customer Premises Equipment			Competition	Multiple		

1/ Prior to the Joint Operation Schemes (para 1.17).

2/ VAS: Value Added Service

Tariffs

1.9 **Tariff Study.** TELKOM's tariffs were reviewed in-depth by external consultants during 1994. The consultants' findings were:

- (a) TELKOM's overall level of tariffs is high in relation to its total costs and should be reduced in real terms over a period of time;
- (b) The level of the installation charge is substantially above costs. This charge should be gradually lowered in real terms (as a result of inflation) by maintaining the existing connection charges;
- (c) Monthly subscription and local call charges are low and should be increased;
- (d) Long-distance charges are substantially above costs and should be reduced. Furthermore, the number of long-distance charging bands should be reduced in order to simplify the tariff and reflect the reduced cost-sensitivity of long-distance calling now that the capacity of TELKOM's long-distance network has been substantially increased; and
- (e) Leased line charges should be reduced.

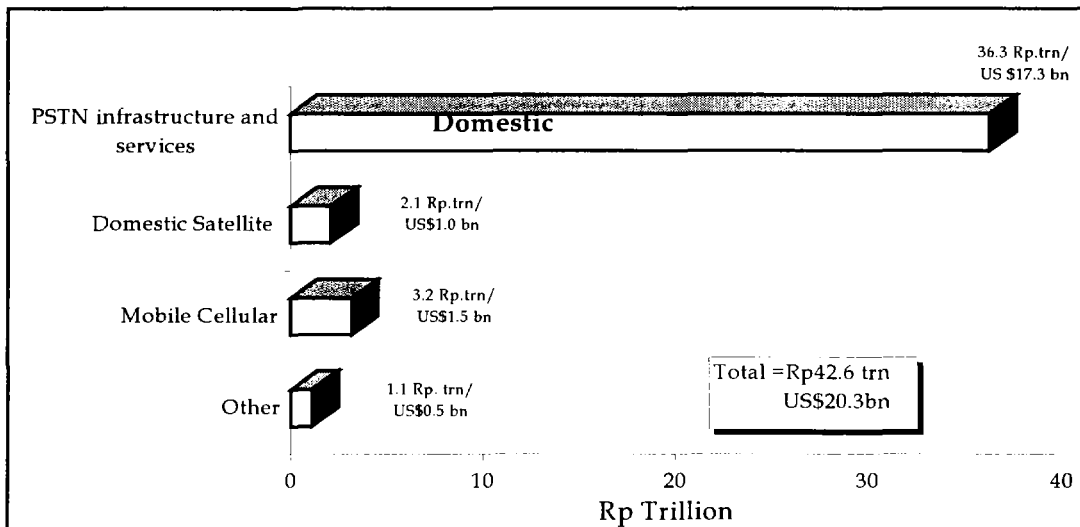
1.10 **Tariff Levels and Structure:** In response to the findings of the study, the Government authorized new tariffs that came into effect on January 1, 1995. The new tariff schedule makes substantial improvements in the structure of the tariff, very much in line with the recommended directions of the comprehensive tariff study completed by consultants. Telephone installation charges were reduced in most cases and the number of different regional charging zones reduced from ten to five. At the same time, differential charging for different customer categories (business, residential or several purpose) was introduced. The overall reduction in these high installation charges, which were originally intended, in part, to ration scarce new telephone lines, reflects both the easing of the shortage and a simultaneous increase in monthly rental charges. Monthly rental charges, the minimum payment made by customers each month regardless of telephone usage, have been substantially increased, for example, in Jakarta from Rp.10,000/month for all customers to Rp.15,500 for a social purpose customer, Rp.20,500 for a residential customer, and Rp.31,000 for a business customer. At the same time, the number of differential charging zones has been reduced from ten to five (as for installation charges). Even in the least expensive zone, monthly charges have been increased from Rp.5,000/month to Rp.10,500, Rp.13,000 or Rp.21,000 for the different customer categories. Importantly, this change is accompanied by inclusion of a number of free local calls. The net effect of these changes is to substantially eliminate the previous price incentive for consumption inefficiency whereby some customers would rent a telephone line below cost and make very few if any calls. Telephone usage charges were also restructured with (a) a ten percent increase in the price of local calls, (b) a reduction in the distance-sensitivity of long-distance charges implemented by reducing the number of long-distance charging bands from five to three, and (c) the introduction of significant discounts for off-peak usage. The overall effect of these changes in TELKOM's installation, monthly rental and usage charges, is to achieve a significantly improved tariff structure in terms of its incentives for economically efficient consumption of telephone services. TELKOM's tariffs are shown in Annex 4.

B. Sector Reform

Strategic Sector Issues

1.11 **The Challenges.** Inadequacies of the Indonesian telecommunications sector, both in quantity and quality of service, are a constraint to sustained industrial and export growth and regional development (para 1.1). To overcome these constraints, actions are required on the following: (a) mobilizing on attractive terms the capital needed for massive investments to accelerate network expansion (Fig.1.2); (b) ensuring world class operator participation to harness fully the benefits of emerging technology and modern operating practices; (c) improving regional service delivery through effective decentralization; and (d) developing TELKOM into a modern, efficient and business-oriented company.

Figure 1.2: Projected Telecommunications Sector Investment Needs - 1994-2003



Source: Coopers & Lybrand Study "Financing Options for the Indonesian Telecoms Sector"

1.12 **Private Sector Participation.** Meeting the financial, managerial and technical requirements of a competitive telecommunications sector development are predicated upon private sector participation. Hence, there is a need to create an appropriate framework for efficient private sector participation which creates both the capacity and incentives for excellent performance. Creating such a framework will require major organizational changes in TELKOM that would pave the way for strategic alliances with first-class international telecommunications operators.

1.13 **Enabling Environment.** With the emergence of a significant role for private investors and operators, regulatory oversight will need to be strengthened. First, the GOI needs to review the telecommunications law that has mandated TELKOM and/or INDOSAT equity stakes in all basic service providers and thereby stifled the development of competition in the sector. Second, MTPT's capacity to

monitor the performance of operators, to impose penalties for poor performance and to respond in a timely way to new regulatory issues, needs to be significantly strengthened.

1.14 **Tariffs.** A key goal of opening the telecommunications sector to private participation is to bring the provision of services in all parts of Indonesia up to internationally competitive levels in terms of price and performance. Accordingly, the future tariff policy should provide operators an incentive for cost efficiency and ensure that benefits of efficiency gains are shared equitably by both customers and investors. Inefficiency should not be shielded by accommodating tariff adjustments.

Government Objectives and Strategy

1.15 **Objectives.** The GOI recognizes that, because information has become a fundamental factor of production, adequate telecommunications infrastructure and services are key prerequisites for economic development. Thus, the GOI considers telecommunications a strategic investment for the Indonesian economy to maintain a competitive advantage and to participate effectively in the global economy. Furthermore, the GOI recognizes that telecommunications can play a key role in regional development and delivery of social services. Commensurate with these considerations, the GOI intends to improve rapidly the quality and coverage of service, while reducing the costs, so as to match the telecommunications performance standards of its East Asian economic competitors. In particular, the GOI's objectives are to substantially eliminate unmet demand for service by planning for the construction of a minimum five million additional lines during 1994-1999, a pre-requisite for upgrading sector performance to world-class standards.

1.16 **Strategy.** The strategy to achieve these objectives constitutes a fundamental departure from past practices in that the GOI will be relying mainly on private sector investment and expertise, in an increasingly competitive, multi-operator environment. This strategy, outlined below, which has already been initiated by the GOI, involves large scale Build/Join-Operate/Transfer Schemes (JOS), partial privatization initiatives, increased competition, and development of the legal and regulatory environment for the sector. The GOI has furnished to the Bank a **Policy Letter** which elaborates its strategy for development of the telecommunications sector (Annex 5). This letter forms the basis for implementing the telecommunications sector agenda and associated Bank support.

Private Entry

1.17 **Joint Operation Schemes.** The GOI is in the process of establishing JOS contracts between TELKOM and private consortia for the provision of local telephone service in five of the seven regions. The JOS will involve the construction, during REPELITA VI, of a minimum of two million new lines (with an investment cost of approximately US \$2 billion) by private consortia that include first-class foreign operators, and the operation of both new and existing local network facilities on an integrated basis in these five regions, which comprise about 40 percent of the overall market (see Map 26332). The consortia will be granted limited exclusivity, until 1999, for the provision of fixed local telephone services in their regions. Separate authorizations would be required to provide other services (para. 1.4). The prequalification of private consortia was completed in September 1994.²

² Prequalified consortia, each comprising both Indonesian investors and one or more foreign operators, including: ATI-Alberta (Canada), Bell Canada, Cable and Wireless, Deutsche Telekom, France Telecom, GTE (USA), Korean Telecom, New Zealand Telecom, Nynex (USA), NTT (Japan), Malaysia Telekom, Singapore Telecom, and Testra (Australia).

1.18 The JOS bids were opened in the presence of representatives of all bidders on March 21, 1995 and the contents of Bid Summary Forms were read out. The success of this process hinges on how well the next steps are managed: (a) the selection of the five consortia; (b) completion of negotiations and finalization of contracts with the five consortia; and (c) monitoring the JOS operators' performance. Therefore, during negotiations assurances were obtained from GOI and TELKOM that: (i) GOI will, by January 31, 1996, cause TELKOM to finalize and sign the JOS contracts paying due regard to the Bank's comments on the draft contractual terms submitted to the Bank for its review and thereafter furnish copies of signed contracts; (ii) TELKOM will sign contracts, with the five selected consortia by January 31, 1996; and (iii) GOI will appoint by June 30, 1996, qualified consultants to assist DGPT to obtain a professionally sound assessment of the operational performance of TELKOM and the five JOS operators under the JOS contracts. Copies of the consultants' report will be furnished to the Bank for its review and comments by June 30 of each year, commencing June 1997.

1.19 The limited geographical application of the JOS approach recognizes several factors: (a) the telecommunications development challenge is the greatest outside of the Jakarta and Surabaya regions, where the telephone density is the lowest and other services such as cellular, paging and data communications are not available. The initial assignment of foreign operator consortia to these areas matches their technical and managerial capabilities to the challenge of accelerated business development. In contrast, the Jakarta and Surabaya regions have already been developed to the point that they can be handled successfully by TELKOM's management which has been strengthened steadily in recent years; and (b) the judgment of the GOI that it would be best to gain experience with the JOS initiative before extending it on a national scale. More details on the joint operation scheme are provided in Annex 6.

1.20 **Privatization.** The GOI selected INDOSAT as the flag bearer for its fledgling privatization program across various sectors. INDOSAT successfully placed approximately 32 percent of its shares to public shareholders through its initial public offering in October 1994. These shares are listed and traded on the New York and Jakarta stock exchanges. TELKOM is expected to follow with a similar partial privatization during REPELITA VI. This will be a positive development since the stock exchange disclosure requirements and the vigilance of institutional investors will enhance the business orientation of TELKOM's management. During negotiations, agreements were reached with GOI that it will, prior to carrying out full or partial divestiture of TELKOM or the sale of TELKOM shares in major joint venture companies providing basic telecommunications services, afford the Bank a reasonable opportunity to exchange views with the Government and TELKOM on such proposed divestiture or sale and thereafter, carry out said divestiture or sale, paying due regard to the Bank's comments and recommendations, if any.

Enabling Environment

1.21 **Legal Framework.** The importance of providing benefits to customers as well as giving incentives for private participation highlights the need to build on the earlier reforms to the Telecommunications Law in 1989. GOI recognizes that this reform process needs to be conducted with a view to developing regulatory oversight of the sector that fairly balances the interests of government, consumers, investors, financiers and operators in the emerging multi-operator environment. The first stage of this process, involving an examination of international best practice in telecommunications regulation and an analysis of the shortcomings of the existing legal framework and developing recommendations for legal and regulatory reform, is already underway. Technical assistance is provided under the proposed project to help develop the legal and regulatory framework to further promote

efficient private sector participation in the telecommunications sector. During negotiations, agreement was reached with GOI that it will annually review with the Bank progress achieved in the development of the legal and regulatory framework.

1.22 **Regulation.** The GOI is planning to proceed gradually with the institutional development of the regulatory function. The immediate and most important step is to build a regulatory framework on the basis of clear-cut contractual arrangements with the new entrants into the telecommunications sector, which is being done satisfactorily under the present institutional arrangements. The creation of JOS are establishing regulatory mechanisms by specifying rights and obligations through contracts on key issues - the period of agreement, the responsibility for the assets used, the extent of competition, the pricing of the services and the quality of service to be achieved. They will determine how benefits and risks will be shared among TELKOM, the private sector party, and the customers. Furthermore, in a move to establish independent regulatory oversight in the Ministry, all TELKOM staff, who had been seconded to the Ministry, have now returned to TELKOM. A program to upgrade the technical capabilities of the Ministry's regulatory activities is in place and will be further strengthened by this project.

Tariff Policies

1.23 The GOI recognizes that appropriate tariffs are key elements of maintaining an environment in the sector that is attractive for investors, provides incentives for efficiency, and protects customer interests, and which thereby contributes to the international competitiveness of the Indonesian economy. Therefore, the GOI has decided that, in reviewing TELKOM's tariffs periodically (in principle every three years), to use as a comparator the performance of the highest efficiency service provider operating in Indonesia and in Indonesia's competitor countries in the East Asia region while taking into account the requirements of telecommunications operators in Indonesia to attract capital for future construction and expansion. Thus, the tariff setting will be performance based and be applied uniformly to all. As a result of this approach, one would see significant real reductions in the overall level of tariffs for basic telecommunications services. During negotiations, the above principles and the information the GOI would use in revising principal tariff for basic telecommunications services were agreed on. In addition, GOI agreed that it will exchange views with the Bank prior to adopting tariff revisions for basic telecommunications services.

Sector Vision

1.24 The Indonesian telecommunications sector is going through a period of significant structural transformation from almost total state monopoly of basic services to emerging competitive, multi-operator environment, a predominance of private sector investment, substantial elimination of unmet demand, and dramatic improvements in operational efficiency and customer service with declining real prices. During REPELITA VI about 50 percent of new investment in the sector will be private and it is expected that the telecommunications law will have been overhauled to eliminate the requirement for TELKOM or INDOSAT to have equity stakes in all basic service operators.

1.25 **Evolution of Competition.** The dynamics of these initiatives that have already been taken by the GOI are likely to lead to more competition in the future. Thus, as the costs of cellular technology continue to decline, this service will increasingly be a competitive alternative to conventional fixed telephone service. Furthermore, within 5 or so years, there is a potential that the regional JOS arrangements will have been converted into autonomous regional operating companies, each with the

participation of a highly qualified foreign operator, providing not only local service but, prospectively, also long-distance service within their own operating region in competition with TELKOM and SATELINDO. Similarly, cellular operators that are currently limited to providing local service on their own network facilities could in the future be authorized to link their cell sites with their own transmission facilities, thereby creating additional long-distance operators. Just as other countries that have initiated liberalization of the telecommunications sector (such as Australia, Malaysia or the United Kingdom) started somewhat cautiously before moving to authorize increased competition in the sector, Indonesia is on a path towards much increased competition in the sector. Expectations are that, by the beginning of REPELITA VII, Indonesia may have one of the most competitive telecommunications sectors in Asia, second only to Malaysia, with competition in all important market segments: terminals, basic local services, pay phones, cellular mobile telephone service, long-distance service, leased lines, VSAT private networks, international service, and value-added services.

C. Bank Group Role

Global Experience

1.26 The Bank has been involved in the telecommunications sector since the mid-1960's. Initially, the Bank focused on financing investment to modernize and expand physical plant. This included some strengthening of the operating enterprises (mainly in the areas of accounting and finance, planning and project preparation, and implementation) and improving dialogues with governments (especially regarding tariffs and finances). In the 1970s, broader efforts were made to strengthen the telecommunications' enterprises' organization and management. In the mid-1980's the Bank further expanded the scope of its support for telecommunications, emphasizing sectoral reforms including, where appropriate, the privatization of state telecommunications enterprises. In recent years, the Bank has focused its attention on overall sector policies, environment and institutional structures and assisted governments in the formulation and implementation of sector strategies designed to meet demand. This approach has included advocating policies designed to promote new entry, competition and private participation. In order to implement this new agenda, fuller use has been made of the range of assistance instruments available in the Bank Group, including sector work, investment lending, adjustment, technical assistance, underwriting and syndication and political risk insurance.

1.27 International experience suggests that: (a) in countries with a very small base of telephones, divestiture and privatization of the incumbent monopolist is at best, a partial solution to closing the gap between demand and supply. More important than this "top-down" approach is likely to be various "bottom-up" approaches, funded by a mix of public and private capital, involving new concessions to independent wireline and wireless (cellular radio) telephone companies, build-transfer schemes and joint ventures; and (b) among the various options (management contracts, joint venture and privatization) for introducing fresh management and technical expertise into the sector, the most potent approach is for leading international telecommunications operators to make an equity investment in the sector's operations. Such operators can bring hands-on experience and highly developed management systems to the development of local human resources, skills and institutional capabilities. The proposed project design takes these lessons into account.

Experience in Indonesia

1.28 Since the mid-1980s, the Bank has made three loans to the sector: the Technical Assistance Project in 1986; and the Third and the Fourth Telecommunications Projects in 1990 and 1992, respectively. In implementing these projects, the GOI has made impressive progress in improving the performance and transforming the structure of the sector (paras. 1.1 to 1.7). Substantial private investments are being made in the sector. Key sector reform initiatives that have been taken by the GOI in recent years include the following:

- (a) The enactment in 1989 of a new telecommunications law (Law No. 3) permitting competition in the provision of value-added services.
- (b) Conversion in 1991 of TELKOM from a “perum” state corporation to a limited liability “persero” company and implementation of a program of commercialization and performance improvements.
- (c) Promulgation in 1993 of a decree to expand the scope for private investment in the provision of basic services, i.e. through joint ventures and joint operations with the private sector.
- (d) The licensing in 1993 of PT. SATELINDO, a majority privately-owned joint venture with TELKOM and INDOSAT, to provide satellite, cellular telephone and international telecommunications services. SATELINDO commenced providing service in November 1994.
- (e) The licensing in 1993 of PT. RATELINDO, also a majority privately-owned joint venture with TELKOM and INDOSAT, to provide basic local telephone service in Jakarta and Bandung using wireless technology. With significant investment from the Netherlands PTT, plans are to install over 300,000 lines - the largest wireless local telephone service project in Asia. RATELINDO is expected to commence service provision by mid-1995.

IFC Involvement

1.29 The Bank has maintained a close dialogue with IFC in respect of private entry into the telecommunications sector in Indonesia, in particular, the Joint Operations Schemes. IFC has indicated that the JOS concept, which has been structured to provide for competitive private sector entry, would constitute a promising opportunity for IFC. Such an opportunity had not existed in the past. IFC has already held preliminary discussions with a number of JOS bidders and anticipates involvement in some of the JOS consortia.

Bank Strategy

1.30 The Bank’s dialogue in preparing this project has focused on restructuring the sector. Thus, the Bank has provided assistance to reorganize the sector, create openings for private investors and operators in basic services, rationalize tariff policies, introduce competition in various segments of the sector, address regulatory issues and to reorganize the corporatized TELKOM and decentralize its

management process. In particular, in recent months, the Bank has focused on helping the GOI to establish the competitive JOS bidding process on bringing cheaper and better telecommunications systems which support the international competitiveness of the Indonesian economy and the interests of customers in all parts of the country. A summary of the performance levels expected at the end of 1999 are in Table 1.3. Regional performance targets to be achieved during REPELITA VI are in Annex 7.

Table 1.3: Key Performance Indicators

Fiscal Year Ending December 31	1994	1999
1. Total main lines (millions)	2.5	8.0
2. Main telephone lines per 100 inhabitants	1.5	3.5
3. Fault Rate (Number of faults per 100 subscribers per month)	2.5	0.5
4. Call completion rate - long distance direct dialing service	36%	80%
5. Staff productivity - Main telephone lines/employee	50	138

Rationale for Bank Involvement

1.31 The proposed project is an integral part of Bank assistance to Indonesia. It will alleviate crucial bottlenecks in the telecommunications infrastructure, expand the coverage of service throughout the country and help enhance overall competitiveness of the Indonesian economy (Country Assistance Strategy was discussed by the Board on March 21, 1995). By blending policy advice and carefully targeting technical assistance with priority physical investments to exploit emerging technologies, the project will be an appropriate culmination of the Bank's years of commitment to modernize Indonesia's telecommunications sector. The GOI's reform agenda is consistent with the Bank's policy for telecommunications which advocates commercializing operations, encouraging new entrants and competition, increasing private participation, and shifting the role of GOI from ownership and operation to policy and regulation. The Bank has played a critical role in promoting this reform agenda in Indonesia and expectation of the proposed Bank loan has figured prominently in the GOI's decisions on sector reform. The GOI would like to see continued Bank involvement in the sector because of the Bank's track record of quality assistance in supporting the GOI's reform program. The GOI also values the Bank as a unique source of cross-country experience and as a stabilizing factor in helping oversee major players and in mitigating the risk of policy reversals.

II. THE TELECOMMUNICATIONS NETWORK AND SERVICES

A. Telecommunication Network

Demand

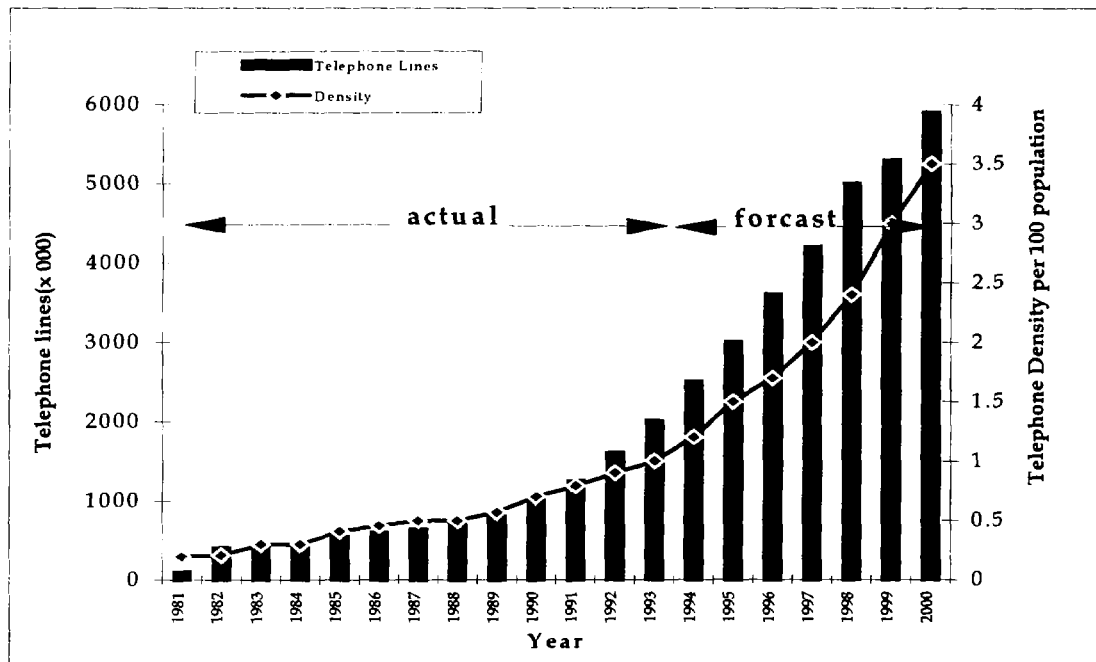
2.1 The demand for telephone service in Indonesia at present far exceeds supply. Official waiting lists were discontinued sometime ago as they were creating public expectations about the provision of services. A JICA report prepared in 1993 indicates that the demand for telephone service will rise to 8 million by 1998/99 (Annex 8). The demand forecast is based on the economic indicators, existing tariffs, and the size of the current and forecasted population. The forecast demand for 1998/99 is segmented into the business and residential categories: business 3.8 million and residential 4.2 million lines. With the expected reduction in tariffs (para. 1.23) due to efficiencies gains, demand for telephone service is likely to rise above 8 million.

Local Telephone Network

2.2 The number of telephone lines in service experienced an average annual growth rate of 18.9 percent for the period 1983 to 1993. This high rate of growth continues. In 1993, the number of lines in service grew to 1.9 million representing an increase of about 21 percent over the previous year. In 1994 it grew to 2.5 million representing an increase of about 32 percent. TELKOM forecasts a sustained growth equivalent to at least 25 percent annually from 1994 to the year 2000 (Fig. 2.1). Sustained growth at these levels will make Indonesia one of the most rapidly expanding telecommunications networks in the region.

2.3 The total number of lines in service in 1993 were 1.9 million, of which 1.5 million were in the urban network, and 0.4 million lines in rural areas (Annex 1). Lines in service vary considerably among provinces, from about 0.7 million lines in Jakarta to 0.015 in Maluku (Annex 1).

2.4 Development of the customer access networks (CANs) has lagged behind that of exchanges, resulting in idle switching capacity. Nationwide, in 1993, only 64 percent of the exchange lines were connected to customers. In the urban areas, 72 percent of capacity was utilized, compared with over 90 percent that normally should be expected given the existence of large unmet demand. This is a major problem in many developing countries, resulting from the complexity of constructing underground cable networks compared to installing exchanges. However, given TELKOM's rapid expansion of the CAN, idle switching capacity is expected to be quickly utilized. Furthermore, the introduction of wireless system in the local loop to overcome the complexities of constructing underground cable networks to be deployed under the Fourth Telecommunications Project, together with improved project coordination, will moderate this situation.

Figure 2.1 Telephone Lines in Service and Telephone Density

2.5 During the past decade, TELKOM has focused largely on introducing new technology for switching, inter-exchange transmission and network management. Attention now needs to be focused on the modernization of the CANs because these access networks provide the delivery systems for a wide range of modern and sophisticated information and telecommunications services to business enterprises and residential end users. Unless CANs are modernized, serious service bottlenecks will occur. The most immediate technical issues are: bandwidth on demand, quality and costs.

2.6 In line with the growing importance of data communication for businesses of all types and sizes, the prime concern of the business community is service bandwidth. The existing, largely copper-based customer access networks cannot generally be used as the carrier for broadband services over 2 Mb/s. For widespread use of data communications, availability and integrity of the CAN are vital. The crucial need for the future is for TELKOM to be able to deliver CANs of higher quality and greater bandwidth at reasonable costs to enhance the competitiveness of existing business, as well as to attract new business to Indonesia. Since the CAN accounts for the largest part of the total network expenditure in both original investment costs and recurrent operating costs, emerging technologies such as Fiber in the Loop will be deployed under the proposed project.

Long Distance Network

2.7 The domestic long distance network consists of two main components: (1) terrestrial and (2) satellite. The terrestrial network is based on microwave radio and coaxial as well as optic fiber cables. It

mainly uses the microwave system, stretching from Aceh in Sumatra to Ujung Pandang in Sulawesi, and includes Java and Nusa Tenggara. This terrestrial network includes the new fiber optic cable transmission link between Jakarta and Surabaya, and the submarine cable link between Surabaya and Banjarmasin. In order to accommodate traffic growth and improve network reliability, a second optic fiber cable transmission link will be provided between Jakarta and Surabaya. Furthermore, to improve services to Kalimantan and Sulawesi, submarine optic fiber cables will be installed between: (i) Surabaya-Banjarmansin-Ujung Pandang; and (ii) Pangkalpinang-Pontianak (Map 26333).

2.8 The satellite transmission system consists of the B-generation of Palapa satellites (including B2P, B2R AND B4 models), and 216 earth stations. Two more new C-generation satellites are scheduled to be commissioned in 1995 and 1996. Each of these will be equipped with 34 transponders, 10 transponders more than the B-generation satellites. All Palapa satellites are managed and operated by PT. SATELINDO, a joint venture corporation owned by PT. Bimagraha Telekom Indo, a private company (60 percent), TELKOM (30 percent) and INDOSAT (10 percent).

International Network

2.9 INDOSAT is the primary provider of international telecommunications services. International switched telecommunications services including: telephone, telex, telegram, packet switched data, store and forward facsimile are provided through gateways in Jakarta, Medan and Batam using more than 3,770 circuits via three earth stations, submarine cables and microwave transmission systems. INDOSAT is constructing a new gateway in Surabaya which is scheduled to be ready for service in April, 1995. International direct-dialing can be made to 209 destinations throughout the world. In recent years, INDOSAT has launched a variety of non-switched telecommunications services that typically involve the transmission of data or video rather than voice traffic. SATELINDO began to offer international services, in November 1994, in competition with INDOSAT.

Non-voice and Other Facilities

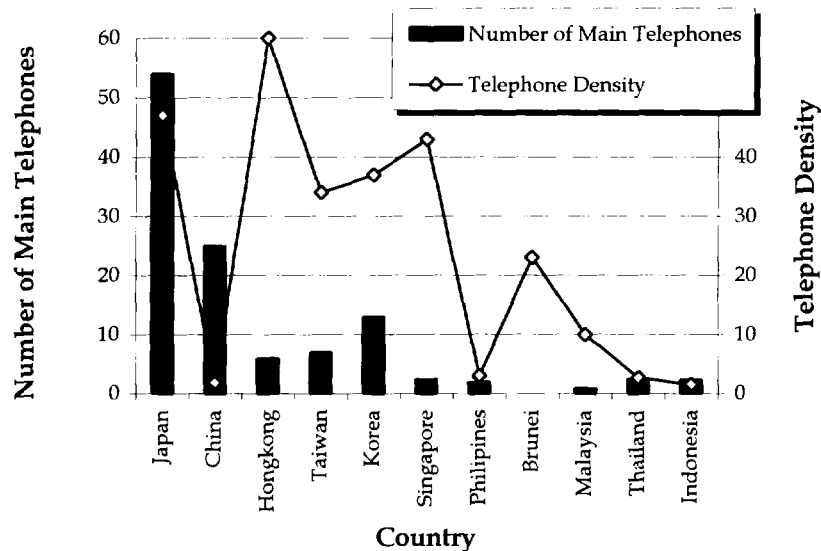
2.10 Packet-Switched Data Network (PSDN) is provided by Lintasarta, a joint venture company owned by TELKOM, INDOSAT and Bank Indonesia. Currently, Lintasarta provides such telecommunications services as a digital data network service at the speed of up to 64Kbps, a packet switched data network service (dial-up at 300 and 1,200 bps, and dedicated at 300, 1,200 and 4,800 bps), leased line service (local at up to 2,400 bps and intercity at up to 1,200 bps), and a VSAT network service. It also provides several banking information services: a banking reporting service, a banking information management service, an ATM service, and a banking payment service. These services are available in the following cities: Jakarta, Surabaya, Bandung, Semarang, Yogyakarta, Denpasar, Medan, Palembang, Batam, and Ujung Pandang. As of December 1993, a total of 1,875 customers are using Lintasarta's data communication network services. PSDN is also connected through the facilities of INDOSAT to directly or indirectly exchange data with users of approximately 116 other public packet-switched data networks in 49 countries.

B. Service Access and Quality

Access to Service

2.11 **Telephone.** At the end of 1993 there were 1.9 million working lines in operation in Indonesia, giving a density 1.0 line per 100 population, significantly below that in OECD countries and the lowest in the ASEAN countries. Figure 2.2 gives some comparative examples for telephone density as of the end of 1993 in Asian countries. In 1993, the density in Jakarta was 7.74 lines per 100 population. However, the average density for the rest of the country is only 0.67 lines per 100 population. The regional distribution of access to service is discussed in para 1.2 in more detail.

Figure 2.2: Number of Main Telephones and Telephone Density (per 100 person)



Source: TELKOM and ITU

2.12 As of December 31, 1993, there were 235,000 IDD lines. INDOSAT's top 100 customers accounted for approximately 9.3 percent of outgoing calls with 70 percent originating in Jakarta followed by 5.8 percent from Denpasar in Bali by revenue billed in 1993.

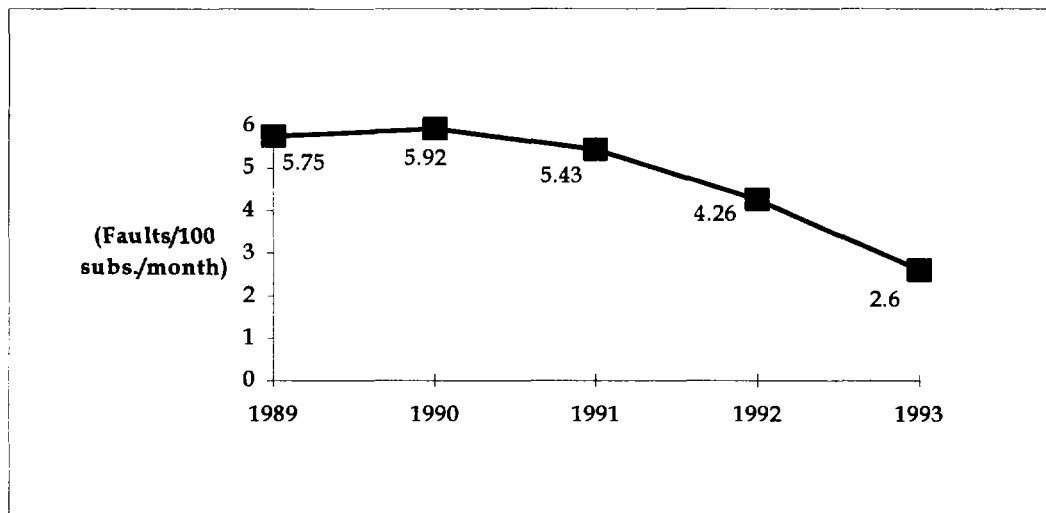
2.13 To provide a basic level of service and access to facilities to the non-subscribing public, the concept of Wartels was introduced in 1989. Wartels are franchised phone offices, from where local, long distance and international calls can be made and telexes, faxes and telegrams sent. Some 1,103 Wartels operate throughout the country. In addition, there are currently 49,556 pay phones, comprising 2.6 percent of TELKOM total lines. TELKOM's policy is to allocate 3.0 percent of the network capacity to provide payphones. This target is comparable to the standards followed by other international telecommunications administrations.

2.14 **Telex and Telegraph.** Aside from facsimile transmitted over the telephone network, telex is the most important non-voice service in Indonesia and accounts for approximately 3 percent of TELKOM's operating revenue. Only modest growth of telex lines is expected over the next five years because of significant substitution by fax and data. Installed telex switching capacity is sufficient to meet demand up to year 2000 and no further increase will be required. Telegram service is provided at affordable prices through a network of 689 telegraph offices.

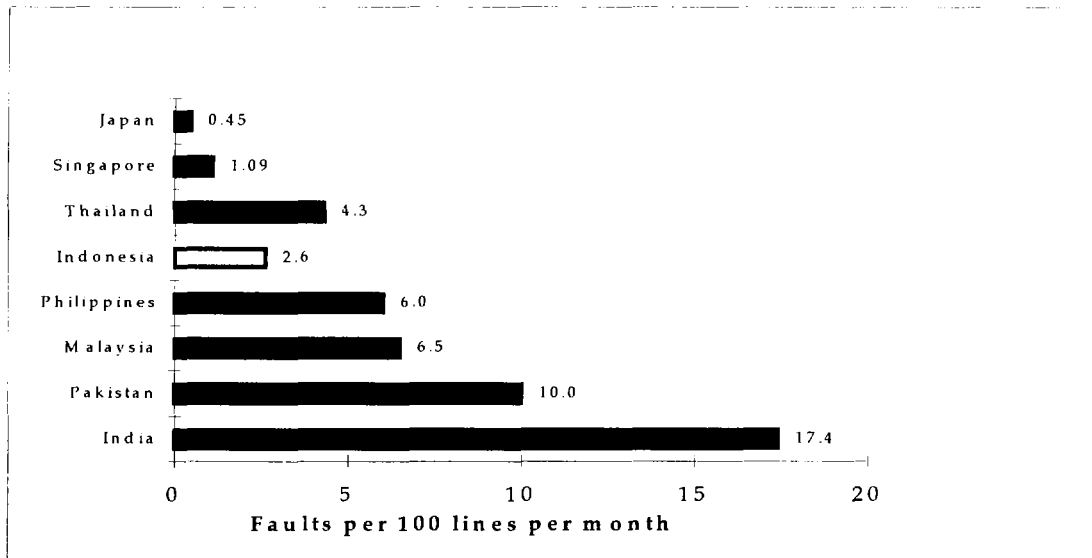
Quality of Service

2.15 Quality of telephone service is still relatively poor even though the incidence and duration of faults has been significantly reduced since the commencement of the Third Telecommunications Project in 1990 (Fig. 2.3). The average duration of faults in switching and inter-office facilities has also improved significantly (from 4.7 hours in 1988 to 0.2 hours in 1992) as a result of the introduction of digital stored program control (SPC) exchanges and fiber optic digital inter-exchange facilities. Indonesia's reported average of 2.6 faults per 100 telephone lines per month in 1993 was lower than in several other Asian countries (Fig. 2.4) and comparable to that in the ASEAN countries.

Figure 2.3: Incidence of Faults: 1989-1993



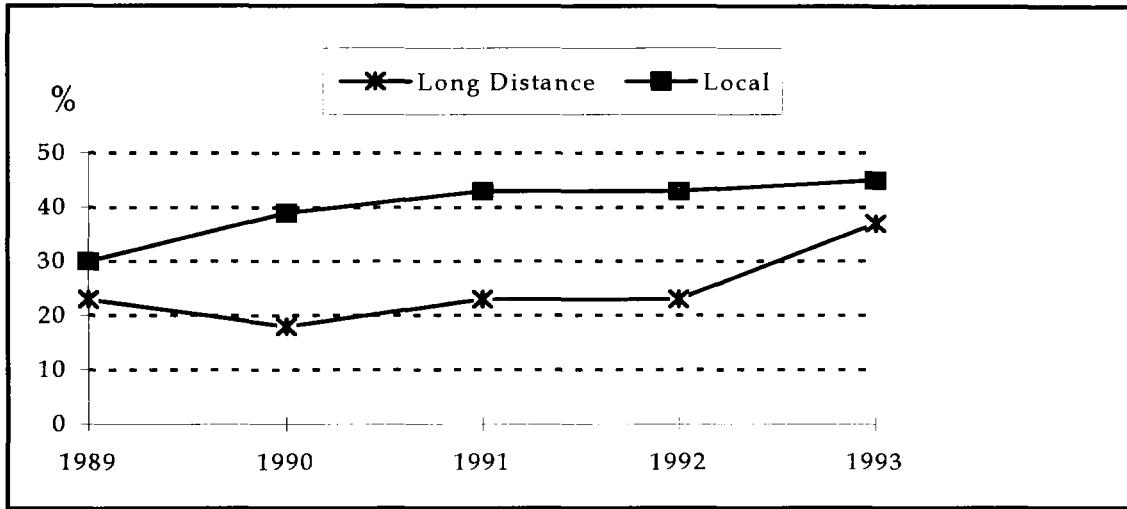
Source: TELKOM

Figure 2.4: Fault Rate in Asian Countries

Source: Asia Pacific Telecommunications Indicators, ITU (May 1993)

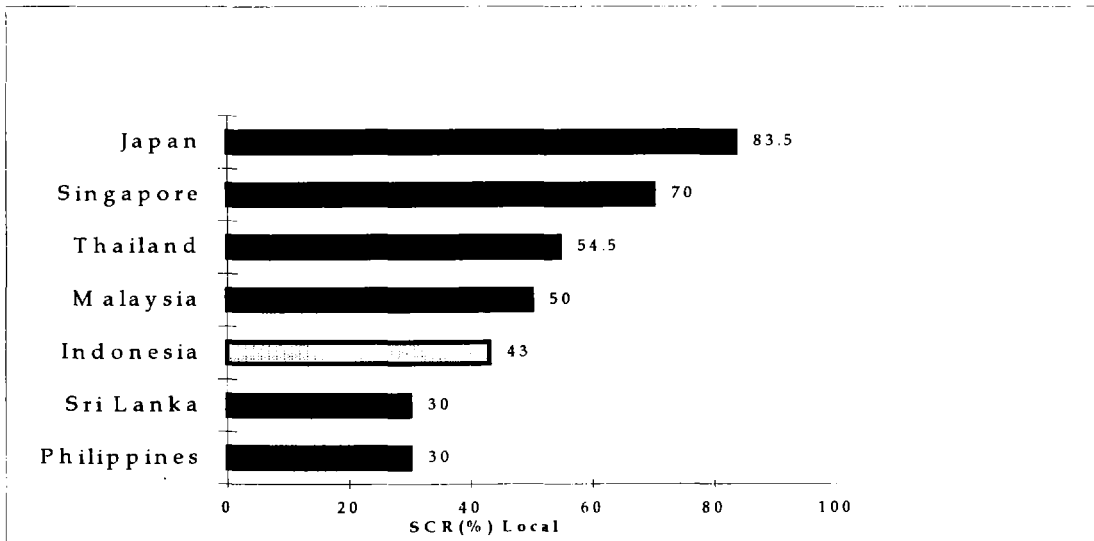
2.16 Figure 2.5 presents the successful call completion rates (SCR) which were on average 44 percent for automatically dialed local calls compared to Japan 83, Malaysia 50, Singapore 70 (Fig. 2.6) and 36 percent for long distance direct-dialed calls in Indonesia. The ongoing Third and Fourth Telecommunications Projects (Ln. 3182 and Ln. 3482) give priority to effective capacity utilization, rehabilitation of local networks and increasing traffic handling capacity of the system (Annex 9). In addition to the investment component, technical assistance provided under the Third and Fourth Telecommunications Projects is aimed at developing TELKOM's capacity to undertake on a continuous basis measurements, analysis and forecasting of traffic to provide reliable database for network management and optimization. The introduction of the Computerized Cable Administration System (CNAS) and the Integrated Management System (IMS) for network management under the above projects should substantially improve the quality and quantity of management information available to enhance maintenance planning. Further efficiencies are expected to accrue when TELKOM integrates these two systems under the proposed project.

Figure 2.5: Successful Call Completion (SCR): 1989-1993



Source: TELKOM

Figure 2.6: SCR in Asian Countries



Source: Asia Pacific Telecommunications Indicators, ITU (May 1993)

Customer Service

2.17 TELKOM is strengthening its customer service units to respond to complaints and resolve problems quickly. Training and technical assistance is also being provided by TELKOM to customer's

employees to improve relations. TELKOM is undertaking a variety of initiatives (para. 2.18) to continue to improve its service to its customers and to prepare for competition. TELKOM's approach, based on the lead taken by WITEL IV, is to establish Customer Service Groups (CSGs). CSG is aimed at meeting the specific needs of business customers and individual VIP customers. Thus, WITEL IV has a CSG for "blue chip" customers, who represent 100 businesses with very large monthly call volumes. The CSG staff have been grouped into specialized industry teams to better understand the needs of specific customers. The concepts of CSGs will be developed further and industry specialization of CSG staff is planned for major cities with the assistance of the Netherlands's PTT in Jakarta and Singapore Telecom in cities outside Jakarta.

2.18 TELKOM commenced in 1992 a benchmark survey of its customers to compare its service quality against Singapore Telecom. TELKOM plans to carry out this survey at two-year intervals. The 1992 survey gave a score of 68 percent for overall customer satisfaction and the plan is to raise the score to 90 percent by 1998. By comparison, Singapore Telecom had a customer satisfaction score of 98.5 percent.

2.19 TELKOM realizes the enormity of the challenge in raising sales and customer satisfaction levels simultaneously. The job requires the Services Directorate to work closely and cooperatively with the Development, Operations and Engineering Directorates as well as the WITELS in Indonesia. TELKOM, based on terms of reference cleared during appraisal, will hire consultants by December 31, 1995 to help manage this particular challenge and integrate all sales and customer service initiatives across its different directorates.

Mobile Radio Services

2.20 **Cellular.** Although Indonesia was one of the first developing countries to introduce cellular telephone service (in 1986), the growth in cellular customers has been slow compared with many other countries. Further, the price of cellular handsets in Indonesia is high, even compared with other Asian countries. Several factors have contributed to this situation: lack of coherent and consistent GOI policy regarding the introduction of the service; fundamentally unsound pricing and revenue settlement arrangements; absence of adequate competition; inadequate spectrum management; exclusive distribution of cellular phones; inappropriate interconnection arrangements; unreasonable technology constraints; and lack of appropriate development incentives. Details of the current situation regarding the mobile cellular operations in Indonesia are given in Annex 3.

2.21 In view of the disappointing performance of the cellular market segment, which holds considerable promise for the provision of cellular telecommunications service throughout Indonesia, the Bank, in response to the GOI's request, has engaged consultants under the Japan Grant Fund (JGF) to undertake a study of policy options to optimize the performance of the cellular segment. The final report, expected by end June 1995, will enable MTPT to formulate a plan for rapid improvement in the coverage and quality of service.

2.22 **Paging.** Radio paging services are operated by the private sector. In the relatively profitable areas such as Jakarta, Medan, Bandung and Surabaya, there is competition between several operators. Each operator has an independent revenue sharing arrangement with the network carrier, TELKOM. As of December 1994, a total of 27 companies provided paging services in 21 cities for about 73,000 pagers, rather low compared to Singapore's 652,000 and Thailand's 350,000. The GOI recently initiated a study to identify factors constraining development of this market segment. Based on the findings, measures will be introduced during the project to stimulate growth in this market segment.

2.23 In July 1993, PT SKYTELINDO, owned by PT INDOKOM PRAMANUSA (52 percent), a telecommunications subsidiary of the Kedaung Group, Singapore Telecom International Private, Ltd. (30 percent), and Mtel of the US (18 percent), launched its nationwide paging service. At present it covers Jakarta, Surabaya and Bandung. The company plans to expand its service coverage to 15 other cities within five years.

2.24 **Radio Trunking.** At present, there are three nationwide private mobile radio trunking service providers, using systems provided by Philips, Nokia, and Motorola. They received provisional licenses in 1992 for pilot projects (a test-run for a certain area). The official licenses for operation are expected to be issued by mid 1995 after MTPT completes its review of the operators' performance. Two of these operators are expected to soon receive approval for commercial operation.

New Services

2.25 TELKOM will implement an Intelligent Network (IN) architecture, and Integrated Services Digital Network (ISDN) during REPELITA VI. With the deployment of the Intelligent Network (IN), TELKOM will be able to offer a variety of telecommunications services including calling cards, virtual private networks, 800 services for telemarketing including a free phone number and 900 services like tele-voting and tele-polling. ISDN will provide a high speed network that allows simultaneous transmission of voice, data and video to a wide range of customers. These services require a telecommunications network that can send, exchange, transmit and receive signals at speeds significantly higher than that for ordinary telephone service which is 64 kbps (para 2.6). The proposed project will help TELKOM build information super highway networks that will support the needs of an information oriented society in the 21st century to provide a full range of telecommunications services at affordable prices. Incidentally, the provision of information superhighways will be an essential requirement in approving JOS operations.

2.26 **Marketing.** Selling and connecting three million lines under REPELITA VI plus the remaining one million unsold lines from REPELITA V presents a significant challenge for TELKOM over the next five years. TELKOM's projected marketing plan for the years 1995 to 1999 will be reviewed and agreed on during negotiations based on their marketing achievements for 1994. Technical assistance is provided under the proposed project to assist TELKOM to achieve the above targets, and TELKOM expects to achieve 80 percent of this target which, if achieved, will be a remarkable improvement compared to its past performance. Given the challenge to market and connect 1 million lines in 1995 and thereafter, it is crucial that TELKOM's management closely monitor their achievement in this area. TELKOM has initiated actions, as part of project preparation, to hire consultants to assist TELKOM in developing its marketing capabilities.

III. THE BENEFICIARY

Organization and Management

3.1 On September 24, 1991, the GOI changed the corporate status of PERUMTEL to a limited liability company, thereby reflecting the increased commercial mandate and autonomy of the company. At the same time its name changed to PT TELEKOMUNIKASI INDONESIA (TELKOM). TELKOM is managed by a Board of Executive Directors headed by a President-Director under the supervision of the Board of Commissioners. The directors are full-time employees appointed and accountable to the Minister of Finance. The President-Director has authority for all operations of TELKOM. In addition to the President-Director, the Board includes six other directors with functional responsibility, respectively, for engineering; development and logistics; services; operations; finance; and human resources. Operational responsibility devolves to 12 regions, and responsibility for major development projects to 4 project-managers. Also reporting to the Board are several staff units responsible for corporate planning and research and development, education and training, information and technology, and the corporate inspectorate, an internal audit-unit. TELKOM's organizational structure is shown in Annex 10. The management team is dynamic and forward looking and has implemented a number of reforms including improving staff communications, streamlining procurement systems and improving accounting and financial systems. Nevertheless, the challenge for TELKOM is how rapidly its performance can be raised to that of a world class telecommunications operator so that it can compete effectively with private sector operators. In order to meet this challenge, TELKOM, with the assistance of consultants financed under the Fourth Telecommunications Project, developed detailed restructuring plans to transform TELKOM from an engineering-led to a business-oriented company.

3.2 The Restructuring Plan expected to be completed shortly will result in: (a) a corporate office with some 800 staff (down from 3000); (b) seven regional operating divisions (which have been developed to align with the proposed JOS areas); (c) a national network division; and (d) several subsidiary support divisions including information systems, training and repair, which will be prepared for private participation. In addition, a number of non-core activities will be devolved and sold, and various related business activities will also be prepared for outside participation, as shown in Annex 11.

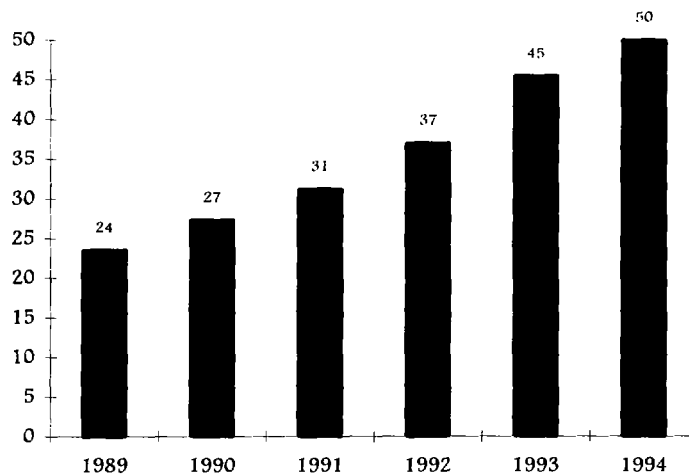
3.3 It is envisaged that in the future TELKOM will evolve into a relatively small holding company with major holdings in: (a) the national network company; (b) the regional operating companies; and (c) critical support companies, including information systems, billing, and property. All non-core businesses will have been sold to outside interests. Throughout this transition, advice and expertise will be provided as part of the proposed project.

Staffing

3.4 A summary of TELKOM's staff efficiency and composition is in Annex 12. There have been significant improvements in TELKOM's staffing efficiency in recent years, as shown in Figure 3.1. This has resulted in part from the growth in the number of main lines connected while holding the total number of staff virtually constant and from contracting out a number of non-core services such as local cable network design, its construction, maintenance, and janitorial services. TELKOM's staffing ratio of 20 staff per 1,000 telephone lines compares favorably with that of Malaysia (20), Singapore (14), and

Thailand (18). With the very substantial quantities of highly reliable digital equipment to be installed in the coming years, the overall staffing ratio is expected to be 8/1,000, by 1998, which would be comparable to that of the top class telecommunications operators.

**Figure 3.1: Staff Productivity
(Main Lines per Employee)**



3.5 There are also some imbalances in the current mix of TELKOM employees. For example, at the end of 1994, TELKOM's work force included 2,627 university graduates, that is 6.3 percent of total staff, relatively low for an entity employing highly sophisticated technology. This ratio would be about 10 to 15 percent in developed telecommunications entities. To improve its staffing efficiency and in order to address the staffing imbalance, TELKOM in 1991, started to develop and improve the educational level of its employees. More importantly since 1993, TELKOM has been developing two types of human resource planning models; namely, bottom up requirement planning model, and top down requirement planning. In the future, TELKOM will develop and implement performance standards and systems to improve human resource productivity, planning and control, and quality of staff.

Training

3.6 To address its training challenges, TELKOM has a separate department for training. This department known as PUSDIKLAT plays an important role in TELKOM's efforts to upgrade the skills of its technical and administrative staff and managers. There are twelve regional training centers (RTCs) with about 667 staff, including 175 instructors. A program to upgrading both the central training center (CTC) and RTCs, initiated with UNDP-ITU cooperation and supported by UNDP, is currently being implemented. Under this program, TELKOM will decentralize much of its technical, administrative, operational and supervision training to RTCs and run the CTC as a resource center. Due to the huge distances in Indonesia, distance learning techniques are also utilized. Computer-based training is in the later stages of development as a continuing process. On average, each employee received 2.8 days of job-related training compared to 6.5 days of Singapore Telecom. The ongoing projects provide adequate resources to raise the period of job-related training.

Billing and Collection

3.7 TELKOM's billing performance is satisfactory. Bills are issued monthly and within 10 days after the cut-off date. Billing is fully computerized and processing is done at regional billing centers. To facilitate the subscribers' payment at any payment point, TELKOM has developed an Integrated Service and Billing System (ISBS). ISBS is an on line system, which allows direct access to billing information and input of payment advice from all participating payment points, including the post office (PERUM POS DAN GIRO). ISBS has been implemented in Denpasar, Bandung, Solo, Ujung Pandang and Jakarta.

3.8 With the number of subscribers increasing rapidly, TELKOM has introduced phased billing in most WITELs and plans to implement it in all WITELs by the end of 1995. As the number of subscribers increase, TELKOM proposes to increase the number of phases. The CNAS software system which is being financed under the Third Telecommunications Project includes the requirement for a new billing system which will facilitate real time billing. In addition, the new system should provide detailed billing to improve TELKOM's service to customers and its knowledge of customer calling habits for marketing, planning and financial analysis.

3.9 Overall collection performance is satisfactory. The receivables in respect of private subscribers continues to be satisfactory and maintained at around the equivalent of one and half months of the annual billing. The receivables for GOI subscriber, which accounts for about 7 percent of total annual revenue, have been maintained at around two months' billing since 1992.

Accounting and Financial Management Systems

3.10 TELKOM's accounting system, introduced in early 1989, and the computerization of the general ledger have helped to reduce substantially the time required to prepare annual corporate accounts and audits which are now completed within two months of the end of the fiscal year. TELKOM has continued to improve its accounting policies and systems and has revised a number of accounting policies, such as depreciation, amortization, capitalization of costs and treatment of retained earnings, to be in line with US GAAP and new improved Indonesia accounting standards as part of its preparation to

access the capital markets. TELKOM is in the process of modifying its financial and accounting systems to implement these changes.

3.11 TELKOM recognizes the need to produce more accurate, detailed information on both costing and revenue in a timely manner for management decision-making and TELKOM's internal procedures for preparing budgets and monitoring actual performances through better coordination and participation by the various functional directorates and regional offices in the process, to enhance the budget's value as a management tool. Since 1989, TELKOM has implemented actions to improve its accounting practices, functions as well as coordination between its directorates and its regional offices in budget preparation, and monitoring and evaluation of performance. In addition, technical assistance is provided under the Fourth Telecommunications Project to review, recommend and implement the necessary policies, systems and procedures as well as the appropriate organizational setup to carry out the necessary financial accounting and management functions, with special emphasis in management, cost accounting and treasury functions. Based on the consultants' recommendations, TELKOM decided to restructure its financial functions at headquarters and the regional offices. The main objective of new management and organizational structure is to improve management planning and control through the focus of the organization on corporate goals. The consultants are finalizing the function descriptions for the new structure which is expected to be implemented during 1995. Any additional technical assistance required beyond the consulting assignment financed under the ongoing project will be financed through TELKOM's own funds.

Audit

3.12 TELKOM's accounts are being audited by the state auditors (BPKP) in accordance with procedures satisfactory to the Bank. The auditor's opinion with respect to TELKOM's accounts since 1989 accounts have been unqualified. As a result of joint efforts by TELKOM and BPKP, the time required for completing TELKOM's audits has been reduced significantly over the last five years. For 1994, the audited accounts were finalized within two months after the close of its fiscal year as compared to fourteen months for 1989 audited accounts. To prepare for access to the capital markets, TELKOM has employed international certified auditors to audit its past three years' financial accounts and will continue to employ international certified auditors to audit its annual financial accounts. During negotiations, it was agreed that commencing June 30, 1996 TELKOM would furnish to the Bank its unaudited and audited financial accounts within four and six months, respectively, of the close of the fiscal year.

Information Systems

3.13 TELKOM is expected to experience significant structural changes and a significant increase in customer lines by the end of REPELITA VI. The increase in the customer base, as well as the increasingly sophisticated enhancement to telecommunications services, will necessitate a more sophisticated information system than that existing today to effectively manage this growth. Indeed, as more competition is introduced, and as more business support system solutions are introduced, there is an urgent need for synchronizing business plans and its mechanisms to ensure data integrity, concurrency, availability, and security. TELKOM has prepared a comprehensive information plan under the ongoing project which is supported under the proposed project.

IV. THE PROJECT

Background

4.1 Over the last years, GOI has been actively pursuing efficiency improvements in the telecommunications sector through a series of policy measures covering successively corporatization and commercialization of TELKOM, new entry, partial privatization of INDOSAT and the planned partial privatization of TELKOM. Overall, these policy initiatives have been successful and performance of the sector has continued to improve (para. 1.11). The GOI, however, recognizes that further gains can be made through expanded private sector participation. The new regulations (para. 1.28) provide the enabling environment for greater and effective private sector participation in the telecommunications sector. Until now, the role of the private sector has been limited to construction of network facilities only (para. 1.28). The thrust of the proposed project, and the dialogue associated with this preparation, has been to involve the private sector in activities which have hitherto been the domain of the public sector.

Project Objectives

4.2 The main objectives of the proposed project are to assist GOI in the implementation of the long-term sector development program for its telecommunications sector aimed at enhancing its international competitiveness through: (a) the formulation and implementation of a sectoral legal and regulatory framework; and (b) modernization of Indonesia's telecommunications services and network.

Project Description

4.3 The proposed project to be implemented during 1995-1997 is a self contained, balanced and integrated package of high priority components to support: (a) GOI's reform agenda; and (b) TELKOM's 1994-1998 investment program. Specific components of the projects are outlined below. Details of the project components and the source of financing are given in Annex 13 and illustrated in Maps No. 26332 and 26333. The project includes the following components:

- (a) **Policy Component:** fully financed by the Bank, would provide policy support and capacity building including: (i) reviewing and developing as appropriate the telecommunications legal and regulatory environment to ensure effective entry of private investors and operators in the telecommunications sector; (ii) strengthening MTPT's capability to manage regulatory issues including monitoring and evaluating operators' performance in the emerging multi-operator environment, and training of MTPT staff; (iii) reviewing the management and allocation of radio frequency spectrum management to ensure efficient use of the spectrum and appropriate use of modern technology; and (iv) developing a plan for the provision of rural telephone services on a commercial basis. During negotiations, terms of references for the consultancy assignments were agreed and GOI agreed that the consultants will be appointed by June 30, 1996.

- (b) **Technical Assistance Component:** fully financed by TELKOM, would support (i) strengthening the project implementation, marketing customer services and managerial capacities of TELKOM through the provision of specialized marketing and managerial services; and (ii) improving TELKOM's managerial capabilities through the implementation of its ongoing restructuring program. The request for proposals for the consultancy assignments have been issued and TELKOM agreed that the consultants will be appointed by January 31, 1996.
- (c) **Investment Component:** partly financed by the Bank to be implemented over three years (1995-97), would support further improvements in quantity and quality of service and network modernization, including: (i) installation of local and inter-exchange networks based on the latest technology to utilize effectively an additional one million lines of switching capacity in Jakarta and Surabaya; (ii) installation of a second fiber optic backbone system between Jakarta and Surabaya; (iii) installation of submarine optical fiber cable transmission systems to upgrade transmission facilities to Kalimantan and Sulawesi; and (iv) enhancement of information systems to improve TELKOM's business processes.

The project complements and supports the JOS operations through which private investors and operators will install a minimum of two million additional telephone lines and operate both the new and existing network in the regions outside Jakarta and Surabaya under stringent performance requirements (para 1.17). As a result of these and other initiatives, Indonesia's telephone density will increase from about 1.26 in 1994 to 3.5 per 100 inhabitants at the end of REPELITA VI in 1999.

TELKOM'S Investment Program.

4.4 TELKOM's 1994-1998 investment program is estimated at Rp. 13,207 billion (US \$6,274 million equivalent) with a foreign component of Rp.6,270 billion (US \$2,979 million equivalent). In addition, private sector investments are estimated to be about US \$3.0 billion, of which US \$1.5 billion is outside Java and Sumatra thus, supporting the GOI's objective of achieving a more balanced inter-regional equity (para 1.17). The investment under the different components of the program and annual investment during FY1994-98 are given in Annex 14. The Bank reviewed the composition of the investment program and the methodology for determining it and was satisfied that the program was justified to meet growing demand and to ensure a balanced development of Indonesia's telecommunications sector. However, based on revised demand forecast (para.2.1), TELKOM's investments for 1998 and thereafter will need to be revised to meet the increased demand.

Project Cost

4.5 The total cost of the project is estimated at Rp.3,097 billion (US \$1,412.6 million equivalent), with a foreign component both direct and indirect of Rp.1,903 billion (US \$867.8 million equivalent). Project costs are summarized in Table 4.1.

4.6 The project cost estimate was prepared by TELKOM with the assistance of consultants. The estimates have been prepared based on price quotations recently obtained by TELKOM for similar projects in Indonesia and vendor inputs. Except for a value added tax of ten percent of the total cost, the cost estimates are net of duties and taxes since all imports under the project are duty free. Physical

contingencies are based on 5 percent for equipment, services and civil works. Price contingencies for foreign costs are based on projected increases of 2.2 percent p.a. in 1995, and each year thereafter. Price contingencies for local costs are based on projected increases of 5.0 percent in 1995 and each year thereafter.

Table 4.1: PROJECT COST

NO.	BY ITEMS	US\$ Million		
		LOCAL a/	FOREIGN	TOTAL
1.	Switching Equipment	93.8	239.9	333.7
2.	Outside Plant Network (OPN)	174.5	209.6	384.1
3.	Transmission	106.5	208.8	315.2
4.	Junction Network	24.4	67.9	92.3
5.	Advance Service Network	16.7	0.0	16.7
6.	Computer Support System	0.9	9.4	10.3
7.	Technical Assistance:			
	(i) Capacity Building			
	- MTPT	0.5	5.4	5.9
	- TELKOM	15.5	0.0	15.5
	(ii) Training:			
	- MTPT	0.2	1.9	2.1
	- TELKOM	0.5	5.6	6.1
	Total Base Cost	433.4	748.4	1,181.8
	Physical Contingency	21.7	37.4	59.1
	Price Contingency	37.4	10.4	47.8
	Total Project Cost	492.6	796.2	1,288.72
	Interest During Construction	52.2	71.6	123.8
TOTAL FINANCING REQUIRED		544.8	867.8	1,412.6

a\ US\$1. = Rp.2,193

Includes value added tax.

Project Financing and Terms

The foreign costs of the project will be financed on a parallel basis with the proposed Bank loan, by France, Germany (KfW), Japan (Exim Bank and OECF), and USA (Exim Bank), as detailed in Table 4.2.

Table 4.2: FINANCING PLAN

SOURCES OF FUND	US\$ Million			Percent of Total
	LOCAL	FOREIGN	TOTAL	
World Bank	0.0	325.0	325.0	23.0
France	0.0	62.0	62.0	4.4
Germany (KfW)	0.0	95.0	95.0	6.7
Japan Exim	8.0	33.0	41.0	2.9
US Exim	0.0	42.0	42.0	3.0
OECF	72.0	192.0	264.0	18.7
TELKOM a\	464.0	118.8	582.8	41.3
GOI	0.8	0.0	0.8	0.0
TOTAL	544.8	867.8	1,412.6	100.0

a\ Local Currency portion includes VAT (USD117.9 millions).

4.8 **Bank Financing.** TELKOM, following the Bank's advice, has decided to exploit emerging technologies such as fiber optic in the local loop so as to be able to deliver a wide range of information services and wide-band telecommunications services to modern business enterprises and residential end-users. GOI believes that the Bank's continued involvement in financing such large scale state of the art technology equipment is crucial, first for the preparation of the technical specifications, and second, for advice on the evaluation and selection process which will ensure that GOI gets the best technology at the lowest price. The proposed Bank loan will partly finance outside plant network to modernize customer access through optical fiber networks and fully finance technical assistance, including consultancy and training for MTPT. In addition, the Bank will finance the submarine optic cable transmission systems. A total of four contracts are proposed for Bank financing: (a) fiber optic customer access network; (b) submarine fiber optic cable systems for (i) Surabaya-Banjarmasin-Ujung Pandang; and (ii) Pangkalpinang-Pontianak; (c) SDH junction network; and (d) technical assistance for MTPT.

4.9 **On-Lending.** The proposed Bank loan of US\$325 will finance about 23 percent of the total financing requirements for the project. The proposed Bank loan would be made to the Republic of Indonesia at the Bank's standard variable interest rate for a 20 year term including five years of grace. GOI will on lend the proceeds of the Bank loan, except for US \$8.0 million for technical assistance to MTPT for sector management, to TELKOM under a subsidiary loan agreement (SLA). The SLA will be denominated in equivalent US dollars, and the onlending interest rate will be under the same terms as the Bank's loan plus 0.5 percent per annum for a 20-year term including five years grace period. The foreign exchange risk will be borne by TELKOM.

4.10 **Cofinancing.** The loan of US \$264.0 million (equivalent) from OECF Japan will finance regional telecommunications development in Jakarta and Surabaya. Funding from EXIM Bank Japan of US\$41.0 million (equivalent) will finance 213,000 line units of switching equipment. The loan of US \$95.0 million equivalent from KfW, already effective, will finance 341,000 line units of switching equipment and associated inter exchange optic network and remote area network. The US \$62.0 million loan from France, also effective, will finance the cost of (a) the backbone transmission systems in Java for the northern route (Jakarta-Surabaya); (b) rural area Phase 4. In addition, USA loan (US\$42.0 million from Exim Bank) already effective, will finance 206,000 line units of switching equipment and associated facilities in Jakarta and Surabaya.

Procurement

4.11 **Goods and Works.** The procurement arrangements are summarized in Table 4.3. All goods and works to be funded under the Bank loan will be procured by international competitive bidding (ICB) in accordance with "Guidelines for Procurement under IBRD Loans and IDA Credits" published by the Bank in January 1995. The use of Bank's standard bidding documents for goods and works will be mandatory with such modifications as the Bank may agree to be necessary for the purposes of the project.

4.12 **Technical Assistance and Consultancy.** Selection of consultants for all assignments will be made on a competitive basis from a short list of firms or experts for each assignment agreed on by the Bank and under terms of reference satisfactory to the Bank following the Bank Guidelines for the "Guidelines for the Use of Consultants by World Bank Borrowers and by the World Bank as Executing Agency" published by the Bank in August 1981.

4.13 A total of three contracts is proposed for Bank financing and the schedule of procurement actions is in Annex 15. In the procurement of equipment under ICB, domestic manufacturers will be eligible for a preference in bid evaluation of either 15 percent or the import duty whichever is lower. All bidding packages for training over \$100,000 equivalent, for consulting firms over \$100,000 equivalent and individual consultants exceeding \$50,000 equivalent financed by the Bank would be subject to Bank's prior review. All Bank-financed contracts for goods and works will be subject to prior review, which will cover 100 percent of the contract value. Procurement of goods and services financed by co-financiers will be in accordance with co-financiers' procurement guidelines. All major goods and services to be procured with TELKOM's own internal resources will be through local competitive bidding following the GOI regulations Keppres 16.

4.14 **Advance Procurement Action.** To ensure timely project implementation, TELKOM has initiated advance procurement actions: (a) announced the general procurement notice for the proposed project in the November 1994 Development Business; and (b) selected in August 1994 consultants for engineering designs and construction management of the proposed project. TELKOM furnished to the Bank the following bid documents prepared in accordance with Bank standard bidding documents for the two major components: (a) fiber optic customer access network, and (b) fiber optic submarine cable systems for (i) Surabaya - Banjarmasin - Ujung Pandang; and (ii) Pangkalpinang - Pontianak. The Bank has reviewed and cleared the technical bidding documents.

Table 4.3: PROCUREMENT ARRANGEMENTS

DESCRIPTION	US\$ Million			
	ICB	Other b\	NBF c\	Total a\
Switching Equipment	-	-	361.8	361.8
Outside Plant Network	387.0 (244.0)	-	134.2	521.2 (244.0)
Telecommunications Equipment & Materials	99.4 (73.0)	-	273.7	373.1 (73.0)
Technical Assistance		8.8 (8.0)	23.9	32.7 (8.0)
TOTAL	486.4 (317.0)	8.8 (8.0)	793.6	1,288.8 (325.0)

- a\ Includes contingencies. Numbers in parentheses represents the amounts to be financed by the proposed Bank loan.
- b\ For consultants, in accordance with Bank guidelines on the use of consultants.
- c\ (NBF) Non-Bank financed items following local and co-financiers procedures.

Disbursement

4.15 The proposed Bank loan would be disbursed against eligible contracts (Table 4.4) for: (1) goods, works and services for external line plant; (2) telecommunications materials, submarine cable systems, and software (excluding switching equipment); (3) consultants' services for MTPT; and (4) training for MTPT. The Bank loan will finance 100 percent of the foreign cost for items (1 & 2) and 100 percent of the total cost for consultancy (3) and 100 percent of the cost for training (4). No disbursements will be made for expenditure prior to the loan signing. Any contracts for goods and works; training above \$100,000 equivalent; consulting firms above \$100,000; and individual consultants above \$50,000, full documentation would be required. Disbursements for contracts below this limit would be on the basis of Statement of Expenditures (SOEs). Disbursement (Annex 16) under this loan is expected to be faster than the average Bank profile in Indonesia because of the advance procurement activity initiated for the three major components of the project. Although physical construction of the project would be completed by end 1998, the implementation of all aspects would be completed by December 31, 2000. The closing date of the Bank loan will be June 30, 2001.

Table 4.4: Disbursement of Proposed Loan

CATEGORY	Amount of the Loan Allocated (expressed in US\$ Equivalent)	Percent of Expenditure to be Financed
(1) Goods, works and services for external line plant a\	237.0	100% of foreign expenditures
(2) Telecommunications materials, submarine cable systems, and software (excluding switching equipment)	70.0	100% of foreign expenditures
(3) Consultants' services for MTPT	5.0	100%
(4) Training for MTPT	2.0	100%
(5) Unallocated b\	11.0	
TOTAL	325.0	

- a) The term "external line plant" means local telecommunications telephone network, pulse code modulation cable including the supply, delivery, installation and commissioning and supervision of optical fiber cables, transmission equipment (inclusive of microwave equipment), customer access networks and associated infrastructure.
- b) Amount includes physical and price contingencies.

4.16 **Special Account.** In order to facilitate disbursements, a Special Account for MTPT in an amount of US\$500,000 will be established. This amount will be deposited in Bank Indonesia on terms and conditions satisfactory to the Bank. This Special Account will be held in the name of the Director General of Budget, Ministry of Finance, following established procedures. The Special Account would be used for consultants and training for MTPT. Replenishment to the Special Account will be made on a monthly basis, or when 20 percent of the initial deposit has been used, whichever occurs first. TELKOM indicated that while it does not require a special account, it has agreed to ensure that withdrawal applications, prior to submission to the Bank, will be aggregated in amounts of US \$1,000,000 equivalent or more using direct payment or reimbursement procedures. These procedures were discussed and agreed on during negotiations.

4.17 **Site Acquisition.** To ensure smooth and timely implementation of the project, TELKOM has completed acquisition of all sites for housing network facilities and rights of way for cable routes. There are no resettlement issues under this project.

Implementation

4.18 To ensure effective project management, track emerging issues and address them in a timely way, TELKOM has established a project implementation unit (PROTEL V) headed by a Project Director, with overall responsibility for project implementation, reporting to the Director of Development. Appointment of the unit head and key staff members has already been made. The PROTEL V has been given adequate financial and administrative autonomy to enable it to discharge its responsibilities effectively, have its own accounting, procurement, transport, land acquisition, administrative and technical sections, and keep separate and distinct project accounts for the Bank project as a whole as well as its individual components. The critical path method will be used to coordinate implementation of the project in order to minimize the level of non-performing investment. Technical assistance financed by TELKOM is provided to assist PROTEL V in project implementation and supervision of the project components. TELKOM's has agreed to request proposals from consultants prior to negotiations. Time bound summary implementation plan is in Annex 17. During negotiations, assurances were obtained from GOI and TELKOM to ensure:

- (a) commencing on November 30, 1995 and each year thereafter, GOI and TELKOM will review with the Bank: (i) GOI's telecommunications sector development program including the role of the private sector in accordance with the Policy Letter, (ii) evaluation of TELKOM's performance in accordance with performance indicators, (iii) assessment of business environment for private participation and progress in developing the legal and regulatory framework, and (iv) review of TELKOM's investment program to ensure consistency with GOI's sector development program and the Policy Letter to achieve a balanced development of the regions and ensure implementation of TELKOM's plans to increase self-financing from its operations; and
- (b) efficient project implementation, TELKOM will maintain the Project Implementation Unit (PROTEL V) for the Telecommunications Sector Modernization Project headed by a qualified and experienced officer, and assigned, at all times, with such power, responsibilities, funds, staffing facilities and other resources as shall be required to undertake its responsibilities in carrying out the project.

4.19 **Environment and Health Aspects.** The use of environmentally friendly approaches will be adopted to install conduits without surface excavation. Indeed, the net effect of the project is expected to be positive on both environmental impact and health impact since it will result in a substitution of environmentally benign communications for environmentally damaging transportation. In addition, it will improve marginally the delivery of health services through better communications between health units and with the population. However, given the volume of civil works related to the installing of underground cables, there is likely to be some disruption to vehicular traffic and pedestrians. This will be minimized by (a) planning and phasing of construction works; and (b) including in construction contracts, clauses which require contractors to maintain vehicular and pedestrian flows. The use of environmentally friendly approaches will be adopted to install conduits without surface excavation. This will minimize vehicular and pedestrian traffic disruption while laying cables for local networks. The long distance fiber optic cables will be buried mostly along existing roads and river crossings, so no disruption of virgin land is expected. Laying of submarine cable is not expected to cause any environmental problems. Therefore, the project has been given a 'B' environmental rating. No resettlement issues are expected. BAPEDAL by its letter dated August 25, 1994 has issued the environmental clearance for the proposed project.

Performance Monitoring and Supervision.

4.20 **Performance Indicators.** Performance indicators to monitor TELKOM's implementation of the physical components of the investment program, the quality of service and productivity are given in Annex 7. During negotiations, the proposed performance targets for the years 1995 and 1996 were discussed and agreed with GOI and TELKOM. Assurances were also obtained from GOI and TELKOM that (a) the indicative targets for the years 1997, 1998 and 1999 will be reviewed and specific targets for each year agreed with the Bank by November 15 of the preceding year; and (b) within six months of the end of each of TELKOM's fiscal year until the completion of the Project, prepare and submit to the Bank, for its review, a progress implementation report, indicating the actions taken by TELKOM to meet such indicators..

4.21 **Performance Reporting.** PROTEL V will be required to prepare and submit a quarterly report in an agreed format to the Bank on the status of the project and compare the actual performance against the agreed on indicators. This report will be the main instrument for monitoring project accomplishments and will include the proposed pipeline of sub-projects, and implementation status of contracted sub-projects. The PROTEL V will maintain separate project accounts and technical audits in a form satisfactory to the Bank for annual audits. These accounts will be audited annually by an independent auditor acceptable to the Bank and will include opinions on all expenditures. The PROTEL V will submit the audited accounts and technical audits to the Bank no later than six months after the close of each fiscal year. Within six months of the closing of the proposed loan, TELKOM will prepare and furnish to the Bank a detailed Implementation Completion Report.

4.22 **Supervision Plan.** Supervision of this project will focus upon a number of sector optimization and institutional development activities. These measures will include: (a) continuing the ongoing dialogue with GOI to implement appropriate sector modernization and optimization to improve sector performance and human resource development; (b) initiate discussion on efficient usage of telephones through tariff rebalancing; (c) improving access to telephone service through increased use of public pay phones and telecommunications service retail shops; (d) improving emphasis on servicing corporate customers through strengthened Customer Service Groups. Based on past experience, front-end loading of supervision resources, particularly during the first two years of project implementation, is necessary to resolve basic physical implementation issues. Two mission will be needed each year as adequate supervision of this project. The total estimated staff inputs are: (a) telecommunications regulation and policy specialist; (b) telecommunications engineer; (c) financial analyst; (d) organization and human resource specialist; (e) telecommunications lawyer; and (f) an MIS expert. A total of 90 staff weeks effort in the field will be required for effective supervision of this project and another 90 staff weeks will be required at Headquarters. The Bank's supervision plan is in Annex 16.

V. FINANCIAL AND ECONOMIC ANALYSIS

A. Financial Analysis

5.1 **TELKOM's Historical Financial Performance:** TELKOM's audited financial statements for FY90-94 are provided in Annex 19. Key historical financial performance indicators are summarized in Table 5.1. TELKOM's historical financial performance over the FY90-94 period remained satisfactory.

Table 5.1: Key Historical Financial Performance Indicators

Fiscal Year Ending December 31	1990	1991 a/	1992	1993	1994
Profitability: (Rp. Billion)					
Operating Revenue	1,293.0	1,856.0	2,281.7	2,919.6	3,696.4
Less: Operating Expenses b/	1,129.5	1,483.0	1,893.2	2,395.6	2,955.6
Net Operating Income	163.6	373.0	388.5	524.0	740.8
Net Profit	129.8	186.5	195.0	284.7	418.1
Financial Ratios:					
EBITDA/ Revenue c/	54%	60%	61%	63%	62%
Return on Average Equity d/	9%	10%	9%	12%	16%
Net Internal Cash Generation percent of Av. Capital Investment	24%	37%	56%	68%	58%
Debt Service Coverage	2.1	2.5	3.9	5.0	4.3
Current Ratio	1.5	1.7	1.5	1.5	1.5
Debt Equity Ratio	46:54	44:56	46:54	50:50	53:47

a/ PERUMTEL was converted to TELKOM on September 23, 1991.

b/ Depreciation method used is double declining.

c/ EBITDA = earnings before interest payment, taxes, depreciation and amortization.

d/ The rate of return would be higher if straight line depreciation method is used.

5.2 During 1990 to 1994 period, the network grew by over 20 percent p.a.; the call completion rate for long distance improved from 19 percent to 36 percent; domestic traffic grew by about 25 percent p.a.; and labor productivity improved from 20 to 50 lines per employee. These improved performance have enabled TELKOM to maintain satisfactory financial performance despite the low utilization of its installed capacity (para 2.4). During the same period, profit increased from Rp. 130 billion to Rp. 418 billion; net internal cash generation from around 24 percent of average capital investment to 58 percent; debt service coverage from 2.1 to 4.3; and return on average equity improved from 8 percent to 16 percent. Accelerated depreciation method used by TELKOM underestimate its financial performance as operating ratio tends to be higher and the rate of return lower when compared with other telecoms operators which use straight line depreciation. Earnings before interest, taxes, depreciation and amortization as a percentage of revenue (EBITDA) is a more appropriate measure of performance to compare with other telecoms operators because it eliminates differences which arise due to differences in depreciation policies, capital structure, interest rates and taxation and is thus used as a comparative measure within the investment community. TELKOM's EBITDA/ revenue during the period remain 60 percent, which is better than most telecoms operating companies and is comparable with Telekom Malaysia's 62 percent and Singapore Telecom's 57 percent for 1993.

5.3 **TELKOM's Financial Position:** TELKOM's financial and liquidity positions remained sound during the 1990-94 period. TELKOM's financial position as shown by its audited balance sheet as of December 31, 1994 is summarized in Table 5.2. TELKOM's financial position is sound with a debt equity ratio of 53:47 and liquidity is strong with a current ratio of 1.5.

**Table 5.2: Summary of TELKOM's Audited Balance Sheet
(as of December 31, 1994)**

ASSETS	Rp. Billion
Cash and Short Term Investments	851.5
Other Current Assets	<u>713.7</u>
Total Current Assets	1,737.8
Net Fixed Assets	4,415.2
Work in Progress	925.5
Other Assets	<u>642.9</u>
Total Assets	7,721.4
LIABILITIES	
Current Liabilities	1,181.5
Other Liabilities	182.4
Long-term Debt	3,367.8
Equity	<u>2,989.7</u>
Total Liabilities and Equity	7,721.4
Current Ratio	1.5
Debt/Equity Ratio	53:47

5.4 TELKOM's Projected Financial Performance: TELKOM's estimated financial performance based on TELKOM's approved budget for 1995 and projections through 1999 are summarized in Table 5.3. TELKOM's financial performance is projected on the basis of assumptions shown in Annex 20. From 1996, private sector through JOS agreements will be responsible for investment of the new network and management of the existing and new network in five out of seven operating regions. The annual revenue contribution by the JOS to TELKOM for managing the existing network and the initial investor payment are estimated based on the March 21, 1995 bid opening results. In addition, the JOS investors will contribute a share of the distributable revenue (i.e. gross revenue net of cash operating cost of the total network and annual guaranteed revenue contribution) to TELKOM. In line with the objectives of the GOI to ensure that the benefits of efficiency gain will be equitably shared between customers and investors (para. 1.23), it is assumed that call and installation charges are reduced annually by 5 percent and 25 percent, respectively, commencing from 1997. Detailed financial performance indicators and financial projections are provided in Annex 7 and Annex 21, respectively.

Table 5.3: Key Projected Financial Performance Indicators

Fiscal Year Ending December 31	1995 Budget	1996	1997	1998	1999
		----- Forecast -----			
Profitability: (Rp. Billion)					
Gross Operating Revenue a/	4,606.4	4,917.5	5,418.5	6,046.1	6,636.5
Less: Operating Expenses b/	3,654.2	3,174.2	3,438.2	3,654.9	3,934.1
Net Operating Income	952.2	1,743.4	1,980.2	2,391.3	2,702.4
Net Profit c/	472.3	1,068.6	1,023.2	1,273.7	1,396.7
Financial Ratios:					
EBITDA/ Rev. (TELKOM Network) d/	61%	64%	62%	61%	59%
Return on Average Equity e/	15%	27%	22%	24%	23%
Net Internal Cash Generation					
as % Average Capital Investments	55%	83%	88%	95%	90%
Debt Service Coverage	4.7	5.7	4.2	3.4	3.4
Current Ratio	1.0	1.1	1.0	1.1	1.0
Debt /(Debt + Equity)	52%	50%	48%	42%	37%

- a/ Gross operating revenue from 1996 onwards includes minimum TELKOM revenue from TELKOM'S existing network managed by JOS and revenue share paid by JOS based on JOS Agreements.
- b/ Operating expenses include depreciation for TELKOM's existing network managed by JOS but do not include personnel expenses for employees of JOS based on JOS Agreements.
- c/ Net profit includes initial investor payment on an after-tax basis.
- d/ EBITDA = earnings before interest payment, taxes, depreciation and amortisation. Revenue from TELKOM network includes the minimum revenue from TELKOM's network managed by JOS.
- e/ The rate of return would be higher if straight line depreciation method is used.

5.5 TELKOM's performance is expected to improve because of the overall productivity improvements due to the involvement of foreign operators in the JOS scheme beginning in 1996 and TELKOM's exclusive focus on Jakarta and Surabaya regions and long distance. As shown in Table 5.3, TELKOM's net profit is expected to increase from Rp. 472 billion in 1995 to Rp. 1,397 billion by 1999. Return on average equity is expected to improve from 15 percent for 1995 to 23 percent for 1999. The ratio of net internal cash generation to average capital investment is projected to increase from 55 percent to around 90 percent during the projection period. During negotiations, it was agreed with TELKOM that it will (a) not incur any additional debt unless a reasonable forecast of its net revenue after expenditures for each fiscal year during the term of the debt to be incurred shall be at least 1.5 times the projected debt service requirements; and (b) take all necessary measures to achieve for each of its fiscal years, funds from internal sources after debt service, working capital needs, and dividend payments and contributions equivalent to not less than 50% of its annual average of TELKOM's capital expenditures incurred, or expected to be incurred, for that year and the following fiscal year.

5.6 During the projection period, TELKOM's financial position is expected to remain sound with the debt equity ratio reaching better than the GOI authorized limit of 60:40. TELKOM's debt service coverage ratio would be in excess of 3.0 throughout the projection period. TELKOM's current ratio is expected to be above 1.0 throughout the projection period and to remain reasonable.

B. Economic Analysis

5.7 **Least Cost Solution:** TELKOM's investment program (para. 4.4) is the least-cost solution for providing planned service levels within the constraints imposed by the existing configuration and technology of the telecommunications network. Similarly, the JOS investment program will be required to confirm under the JOS construction agreement that it is the least cost-solution for providing planned services. The timing and dimensioning of various elements of investment in the system as well as design and composition of alternative network configurations are the results of careful analyses made by TELKOM in close cooperation with consultants financed under the Bank's ongoing projects. These techno-economic analyses are based on internationally recognized engineering practices.

5.8 **Project Benefits:** The proposed project will support the implementation of an ongoing reform agenda with profound effect on market structure, service coverage and regulatory environment, all aimed at bringing the performance of the Indonesian telecommunications sector to international competitive levels. The licensing of five consortia, each tied to a world-class telecommunications operator, to provide local telephone services in five regions of Indonesia will generate dynamic effects towards increasing competition in various market segments and developing an effective regulatory environment. The award of these licenses to the private sector through a transparent and competitive bidding process, the establishment of clearly defined performance targets for service quality throughout the country and the establishment of effective performance monitoring and enforcement mechanisms not only will contribute to the development of high quality low cost telecommunication systems throughout Indonesia, but also establish a framework approach as precedent for emulation in other Indonesian infrastructure sectors. Likewise, other elements of the reform agenda, i.e. the review of the Telecommunications Law, planned partial privatization of TELKOM, and the development of pilot projects for improved delivery of rural telephone services, will each contribute to improved sector performance. Taken together, these various elements of reform will lead to a substantially increased role for the private sector, a more competitive TELKOM and the evolution of a multi-operator environment.

5.9 **Rate of Return:** Based on the assumptions summarized in Annex 20, the economic rate of return (ERR) is estimated at 33 percent (see Annex 22). The ERR is based on the financial benefits and costs directly associated with the proposed project, excluding corporate taxes, that is the addition of one million lines of capacity during the project period (1995-97) in Jakarta and Surabaya regions. The capital cost is adjusted by excluding the value added tax of 10 percent levied and revenue is adjusted by including the value added tax of 10 percent. Although the implementation of the physical component does not present any significant risks, the sensitivity of ERR estimate with respect to the effects of the following scenarios were considered:

- (a) a delay of 12 months in connection of new subscribers resulting in a delayed revenue stream of 12 months would result in a fall in ERR to about 20 percent;
- (b) an increase in capital cost by 10 percent would result in a fall in ERR to 28 percent;
and
- (c) combining (a) and (b) would result in a fall of ERR to 18 percent.

Even under the most improbable scenario, (c), the project would be acceptable. Furthermore, each of these estimates underestimates the true ERR because they do not include: (a) any improvements in the existing network performance due to the project; (b) estimates of consumer surplus; and (c) the major productivity and quality improvements expected to follow from the JOS initiative.

5.10 **Project Risks:** Based on the past successful experience with Bank projects, the implementation of the physical components by TELKOM and achievement of the benefits associated with it essentially does not present any significant risks. However, there are risks in the implementation of the reform program in respect of: (i) transparency of selection and award process of the JOS; and (ii) incentives for efficiency improvements, achievement of performance targets and sharing benefits with customers. The quality of the requests for proposals (RFP), issued to 12 pre-qualified consortia, and the process to respond to bidders' questions and opening of bids (on March 21, 1995) in the presence of representatives of all bidders, have demonstrated MTPT's commitment to a transparent selection and award process. Similarly, the GOI has signaled in the clarification to the RFP that the GOI's overriding objective in proceeding with the JOS is to bring the provision of telecommunications services in all parts of Indonesia up to internationally competitive levels in terms of range of services, availability, quality, and price. Thus, the GOI has linked explicitly the justification of reform to performance improvements and customer benefits. Specifically, in reviewing tariff proposals from JOS operators, the GOI will eschew a "cost-plus" approach by using the highest efficiency performance in the sector in Indonesia and in other competitor countries in the region as benchmarks.

VI. AGREEMENTS REACHED AND RECOMMENDATION

Agreements Reached

6.1 During negotiations, agreements were reached with GOI and TELKOM on the following:

A. GOI

- (a) by not later than January 31, 1996 shall cause TELKOM to finalize and sign the JOS contracts, paying due regard to the Bank's comments on the draft contractual terms submitted to the Bank. Thereafter, furnish to the Bank copies of signed contracts (para 1.18 (i));
- (b) by not later than June 30, 1996, shall select and appoint qualified consultants to assist DGPT to monitor and evaluate the technical and financial performance of TELKOM and the JOS operations under the JOS contracts and furnish to the Bank consultants' report not later than June 30 of each year commencing June 30, 1997 (para 1.18 (iii));
- (c) GOI shall, prior to carrying out the full or partial divestiture of TELKOM or the sale of TELKOM shares in major joint venture companies providing basic telecommunications services: (i) afford the Bank a reasonable opportunity to exchange views with the GOI and TELKOM on such proposed divestiture or sale; and (ii) thereafter, carry out said divestiture or sale, paying due regard to the Bank's comments and recommendations, if any (para 1.20);
- (d) shall exchange views with the Bank prior to adopting tariff revisions for basic telecommunications services (para 1.23);
- (e) shall on-lend the Bank loan under the same terms as the Bank loan plus 0.5 percent per annum and the SLA shall be denominated in equivalent US dollars (para. 4.9); and
- (f) commencing on November 30, 1995 and each year thereafter, GOI and TELKOM shall review with the Bank: (i) GOI's telecommunications sector development program including the role of the private sector in accordance with the Policy Letter, (ii) evaluation of TELKOM's performance in accordance with performance indicators, (iii) assessment of business environment for private participation and progress in developing the legal and regulatory framework, and (iv) review of TELKOM's investment program to ensure consistency with GOI's sector development program and the Policy Letter to achieve a balanced development of the regions and ensure implementation of TELKOM's plans to increase self-financing from its operations (para 4.18 (a)).

B. **TELKOM**

- (a) shall, not later than January 31, 1996, finalize and sign the JOS contracts, paying due regard to the Bank's comments on the draft contractual terms submitted to the Bank for its review (para 1.18(ii));
- (b) commencing June 30, 1996 shall furnish to the Bank audited annual financial accounts, within six months of the close of its fiscal year (para. 3.12).
- (c) shall maintain the Project Implementation Unit for the Telecommunications Sector Modernization Project headed by a qualified and experienced officer, and assigned, at all times, with such power, responsibilities, funds, staffing facilities and other resources as shall be required to undertake its responsibilities in carrying out the project (para. 4.18 (b));
- (d) shall take all measures to meet the physical and financial performance indicators agreed at negotiations for 1995 and 1996, and will report to the GOI and the Bank no later than six months after close of each fiscal year. Every year, before November 15, TELKOM will furnish to the Bank a revised set of performance targets for the next two years (para. 4.20); and
- (e) shall (i) not incur any additional debt unless a reasonable forecast of its net revenue after expenditures for each fiscal year during the term of the debt to be incurred shall be at least 1.5 times the projected debt service requirements; and (ii) take all necessary measures to achieve for each of its fiscal years, funds from internal sources after debt service, working capital needs, and dividend payments and contributions equivalent to not less than 50% of its annual average of TELKOM's capital expenditures incurred, or expected to be incurred, for that year and the following fiscal year (para 5.5).

Conditions of Loan Effectiveness

6.2 Conditions of loan effectiveness is the signing of the subsidiary loan agreement, satisfactory to the Bank between GOI and TELKOM (para.4.9).

Recommendation

6.3 With the above agreements, the proposed project is suitable for a loan of \$325 million to the Republic of Indonesia for a period of 20 years, including a 5-year grace period, at the Bank's standard variable interest rate.

ANNEXES

INDONESIA**Basic Telecommunications Sector Statistics**

- Table A.** Data of Switching Capacity, Subscribers and Public Telephone
- Table B.** Regional Data of Switching Capacity, Subscribers and Public Telephone (each WITEL)
- Table C.** Share of Faults in Outside Plant and Productivity
- Table D.** Speed of Service Restoration
- Table E.** OPMC Expansion Plan
- Table F.** Satellite Facility
- Table G.** VSAT Service Providers
- Table H.** SCR National
- Table I.** Profile of Subscribers in each WITEL by Pulses per Line per Month
- Table J.** Teledensity and GDP/Capita in 1992

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

DATA SWITCHING CAPACITY, SUBSCRIBER'S AND PUBLIC TELEPHONE

TABLE A.

DEC, 1994

WITEL	SWITCHING CAPACITY						SUBSCRIBER'S			PUBLIC TELEPHONE				Population	Telephone	Public
	AUTOMATIC		MANUAL		TOTAL		Auto	Manual	Total	Card	Coin	Wartel	Total	('000)	%	100 x %
	Tel Off	Term	Tel Off	Term	Tel Off	Term										
	(1)	(2)	(3)	(4)	(1)+(3)	(2)+(4)	(5)	(6)	(5)+(6)	(7)	(8)	(9)	(7+8+9)	(10)	(5+6)/(10)	(7+8+9)/(10)
I	83	250,403	15	2,889	98	251,292	158,470	2,228	160,698	713	2,568	330	1,611	14,897.0	1.08	2.42
II	62	157,681	2	250	64	157,931	100,993	168	101,161	792	2,370	470	1,612	8,066.6	1.25	4.50
III	64	186,525	5	1,100	69	187,625	125,904	779	126,683	983	2,070	390	3,443	17,398.0	0.73	1.98
IV	137	1,615,074	0	0	137	1,615,074	876,132	0	876,132	6,838	19,812	1,435	28,085	9,021.4	9.71	31.13
V	116	414,174	3	160	119	414,514	305,638	134	305,772	2,427	4,829	1,225	8,481	38,176.2	0.80	2.22
VI	107	303,444	5	1,548	112	304,992	218,088	2,185	220,273	2,020	4,019	1,235	7,274	32,955.7	0.67	2.21
VII	131	517,653	5	590	136	518,243	329,064	516	329,580	1,754	6,057	1,490	10,101	34,255.8	0.96	2.95
VIII	60	114,750	8	1,300	68	116,050	87,544	1,054	88,598	1,098	2,133	455	3,886	10,953.0	0.81	3.55
IX	56	109,840	3	470	59	110,310	86,234	405	86,639	567	1,759	435	2,761	10,220.9	0.85	2.70
X	58	154,268	2	300	60	154,568	107,320	97	107,417	1,194	2,304	680	4,178	13,612.9	0.79	3.06
XI	16	25,052	0	0	16	25,052	17,582	0	17,582	122	485	110	717	2,051.7	0.86	3.59
XII	22	28,907	0	0	22	28,907	22,987	0	22,987	257	563	185	1,005	1,862.6	1.23	5.40
TOTAL	912	3,877,971	48	8,607	960	3,886,578	2,435,956	7,566	2,443,522	18,765	49,969	8,460	77,194	193,485.7	1.26	3.99

Notes : Subscribers including TELKOM office facilities

Lines in Service = Subscribers + Public Telephone
(Connected Lines) (2,443,522 + 77,194 = 2,520,716)

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

DATA OF SWITCHING CAPACITY, SUBSCRIBER'S AND PUBLIC TELEPHONE
1980 UP TO 1994

TABLE B.

Position : December , 1994

Year	Automatic		Manual		Subscriber's		Public Telephone			Pop '000	Total No. of Tel Office	Total No. of Capacity	Total No. of Subscribers	Public Tel	Tel Density (%)	Public Tel Density (%)
	Office	Capacity	Office	Capacity	Auto	Manual	Coin	Card	Wartel							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1980	137	626,460	157	73,762	319,303	50,540	0	0	0	147,490	294	599,222	369,643	0	0.251	0.00
1981	156	548,520	444	79,054	375,424	51,761	0	0	0	151,315	600	628,574	427,185	0	0.262	0.00
1982	163	555,438	603	90,019	420,518	54,941	1,990	0	0	154,662	666	645,457	475,459	1,990	0.307	0.13
1983	163	576,797	603	89,338	444,463	58,790	2,363	0	0	158,083	668	668,133	503,253	2,363	0.318	0.15
1984	175	601,390	608	98,428	473,738	62,366	3,171	0	0	161,580	683	699,818	536,102	3,171	0.332	0.20
1985	182	674,488	611	104,890	531,034	71,322	3,739	0	0	164,630	693	779,378	602,358	3,739	0.368	0.23
1986	195	728,000	609	110,655	580,457	77,887	4,108	0	0	168,348	704	838,555	658,344	4,108	0.391	0.24
1987	211	794,976	603	117,046	649,964	87,624	4,638	0	0	172,010	714	912,022	737,588	4,638	0.429	0.27
1988	223	873,913	496	121,230	708,434	94,853	5,724	12	0	175,589	719	995,143	803,287	5,738	0.457	0.33
1989	285	988,233	480	118,952	759,297	91,594	6,653	95	640	179,138	745	1,105,185	850,891	7,388	0.475	0.41
1990	367	1,299,899	444	98,903	938,109	81,543	12,395	1,123	2,035	179,322	811	1,398,802	1,019,652	15,553	0.569	0.87
1991	538	1,514,760	295	49,691	1,209,123	30,038	21,679	2,884	4,000	182,930	831	1,564,451	1,239,161	28,563	0.677	1.56
1992	681	1,959,815	182	25,793	1,485,273	45,674	32,620	6,039	5,055	186,626	863	1,985,608	1,530,947	43,714	0.820	2.34
1993	839	2,896,566	108	18,499	1,837,618	15,051	41,674	7,882	4,268	189,135	947	2,915,065	1,852,569	53,824	0.978	2.85
1994	912	3,877,971	48	8,607	2,435,956	7,668	49,969	18,765	6,460	193,488	960	3,886,578	2,443,822	77,194	1.263	3.89

Remarks : Subscribers = Connecting Main Line + Office Telephone Facilities

Sources of Data :

* 1980 to 1990 by DITYAN and DITYASA

** 1991 to 1993 , Flow of Teleph. Facilities (" Rumus Arus"), Sept. 11, 1994, DITKUG

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATION SECTOR MODERNIZATION PROJECT

FAULTS IN OUTSIDE PLANT

TABLE C.

Position : December 1993

STO	Fault Rate/100 subscribers (0)	Share of fault in Outside Plant				Working efficiency faults repaired per man per day
		Underground	Overhead/Deep	Indoor	Total	
		rate	rate			
JKT-Timur	2.33	18.07	49.18	32.75	100.00	1.00
JKT-Selatan	3.75	44.75	31.37	23.88	100.00	1.10
JKT-Utara	1.41	48.38	23.56	28.06	100.00	1.44
JKT-Pusat	2.01	41.06	32.22	26.72	100.00	1.52
JKT-Barat	1.16	13.18	63.77	23.05	100.00	1.16
Average (JKT)	2.13	33.09	40.02	26.89	100.00	1.29
Bandung-OPMC	2.65	9.39	41.72	48.90	100.00	2.40
Medan	3.59	27.23	34.19	38.58	100.00	0.70
SBY-Utara	2.46	16.31	36.91	46.78	100.00	1.20
SBY-Selatan						2.30
Ujung Pandang	3.23	4.54	29.98	65.48	100.00	0.60
Semarang	2.57	22.04	39.45	38.51	100.00	0.90
Denpasar	1.61	11.98	38.52	49.50	100.00	0.90
Palembang	3.84	24.72	26.87	48.41	100.00	1.00
Average	2.85	16.60	35.38	48.82	100.00	1.43
Banda Aceh	2.22	10.28	36.64	53.08	100.00	0.48
Louksumawe	2.39	15.17	22.77	62.06	100.00	0.42
Padang	2.21	18.56	27.33	54.11	100.00	0.63
Pakanbaru	3.17	19.84	39.06	41.10	100.00	0.86
P. Siantar	2.61	22.66	31.29	46.05	100.00	0.50
Jambi	2.13	4.94	32.17	62.89	100.00	0.56
Bandar Lampung	2.59	18.27	51.28	30.45	100.00	0.73
Yogyakarta	3.48	10.16	43.76	46.08	100.00	0.64
Solo	3.27	12.64	60.08	27.28	100.00	0.82
Malang	3.50	19.67	37.87	42.46	100.00	1.17
Banjarmasin	3.30	15.16	35.51	49.33	100.00	0.75
Mataram	1.52	7.79	53.32	38.69	100.00	0.60
Pontianak	3.36	11.81	51.15	37.04	100.00	1.34
Samarinda	2.39	16.89	24.80	58.31	100.00	0.78
Manado	1.95	5.77	60.32	33.91	100.00	0.60
Ambon	1.66	13.74	23.71	62.55	100.00	0.90
Jayapura	2.64	23.04	46.10	30.86	100.00	0.45
Average	2.55	14.49	39.96	45.54	100.00	0.68

file : share.wk4

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATION SECTOR MODERNIZATION PROJECT

SPEED OF SERVICE RESTORATION

TABLE D.

Position : December 1993

	within a day	between 2 and 3 days	between 4 and 7 days	over 7 days
JKT-Utara				
Kota-1	45.53	19.02	32.22	2.23
Kota-2	12.73	10.42	33.23	43.62
Tj. Priok	52.11	7.62	32.15	8.12
Ancol	23.41	43.58	8.88	24.13
Pluit	17.84	14.83	32.1	35.23
Average	30.52	19.09	27.72	22.67
JKT-Pusat	83.62	14.94	1.44	0
Average (JKT)	39.38	18.4	23.34	18.88
Bandung - OPMC	78.5	20.49	0.86	0.15
Medan	33.28	40.8	20.76	5.16
Sby-Utara	61.51	34.79	36.16	0.54
Sby-Selatan				
Ujung Pandang	27.7	52.55	15.71	4.04
Semarang	73.52	21.17	4.58	0.73
Denpasar	80.47	18.2	1.18	0.15
Palembang	81.7	17.36	0.94	0
Average (six cities) *)	62.38	29.34	6.74	1.54

file :speed.xls

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT
OUTSIDE PLANT MAINTENANCE CENTER EXPANSION PLAN

TABLE E.

December 1993

Island	WYTEL	Location	Regional Capital	No. of subscribers		Fault/ (100 subscribers/month)	Multi-exchange area	Proposed	REMARKS	
				1993	1994					
Sumatra	I	Medan	0	58,822	110,000	4.50	1	1		
		Banda Aceh	0	7,956	13,671	3.10	1	1		
		Lhoksumawe	0	4,418	5,302	10.50	1	1		
		P. Siantar	0	14,268	17,122	2.10	1	1		
	II	Padang	0	18,707	3,387	2.20	1	1		
		Pekanbaru	0	15,232	18,102	2.90	1	1		
	III	Palembang	0	24,720	29,664	1.30	1	1		
		Jambi	0	11,246	17,814	2.26	1	1		
		Bandar Lampung	0	26,308	35,000	2.96	1			
	Java	IV	JKT - Timur	0	129,718	179,500	1.70	1		
			JKT - Selatan	0	96,870	183,500	2.80	1		
			JKT - Utara	0	137,217	195,400	3.80	1		
JKT - Pusat			0	112,749	128,400	2.20	1			
V		JKT - Barat	0	127,804	190,400	2.80	1			
		Tangerang	0	7,378	20,334	2.60			Add Ph I	
		Bekasi	0	7,963	17,093	1.90			Add Ph I	
		Depok	-	3,102	11,377	2.80		1		
VI	Bandung	0	100,261	120,314	2.00	1				
	Bogor	0	24,214	31,943	2.80		1			
	Cikampek	0	1,776	3,376	2.20			Add Ph I		
VII	Semarang	0	55,103	68,124	2.20	1				
	Yogyakarta	0	20,263	24,316	2.40	1	1			
	Solo	0	20,951	25,142	2.30	1	1			
VIII	SBY - Utara *)	0	117,838	179,108	1.30	1		*) No. of subscribers for both locations		
	SBY - Selatan *)	0	29,085	34,902	2.40	1	1			
Nusa Tenggara		Denpasar	0	35,138	42,166	1.30	1			
Kalimantan	IX	Banjarmasin	0	19,902	23,882	4.30	1	1		
		Saltapapan		9,968	19,960	2.50	1	1		
Sulawesi	X	Ujung Pandang	0	30,426	40,000	1.70	1			
		Manado	0	15,457	17,653	2.14		1		
Melaku	XI									
Irian Jaya	XII									
Total				11,284,562	11,784,952	2.73	24	15		

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

SATELLITE FACILITY

TABLE F.

As of December 1993

Satellite	CUSTOMERS	Number of Transponders
Palapa - B2P	PT. TELKOM	2.00
	Indonesia Other	3.50
	Macau	1.00
	Malaysia	2.50
	New Zealand	1.00
	Papua New Guinea	1.00
	Philippines	3.00
	Thailand	6.75
	Vietnam	0.25
	USA	2.00
	Australia	1.00
	Free or Backup	0.00
Palapa - B2R	PT. TELKOM	19.00
	Indonesia Other	5.00
	Free or Backup	0.00
Palapa - B4	PT. TELKOM	8.25
	Indonesia Other	3.25
	Malaysia	2.00
	Philippines	4.00
	Thailand	5.00
	PNG	1.00
	Cambodia	0.50
	Free or Backup	0.00

sat.fac.wk4

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

VERY SMALL APERTURE TERMINAL (VSAT)

TABLE G.

December 1993

NO.	USER	COUNTRY	XPDR USED	SATELLITE	NO. XPDR
1	TELEPHONE ORGANIZATION OF THAILAND	THAILAND	1, 50	PALAPA B2P	1H, 4H
2	SGCS	INDONESIA	1	PALAPA B2R	2V
3	PT. DWI MITRA LINTAS WISATA	INDONESIA	0,25	PALAPA B2R	4V
4	PT. CITRA SARI MAKMUR	INDONESIA	0,5	PALAPA B2R	4V
5	PT. LINTAS ARTA	INDONESIA	0,25	PALAPA B2R	4V
6	ICC	PHILIPINES	0,75	PALAPA B4	5H
7	LIBERTY	PHILIPINES	0,25	PALAPA B4	2V
8	CLAVESILLIA	PHILIPINES	0,5	PALAPA B4	4V
9	PLDT	PHILIPINES	1	PALAPA B4	10V
10	SAMART TELCOMS	THAILAND	2	PALAPA B4	11V, 12V
11	SAMART TELCOMS (SAMART-3)	THAILAND	1		TBD

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECTSUCCESSFUL CALL RATIO NATIONAL PER WITEL
December 1993

TABLE H.

December 1993

No.	WITEL & KOTA	LOCAL (%)	LONG DISTANCE (%)
1	MEDAN	36.29	31.03
2	JAKARTA	32.22	27.48
3	BANDUNG	34.48	31.95
4	SEMARANG	48.53	39.49
5	SURABAYA	39.79	34.57
6	DENPASAR	37.76	33.64
7	UJUNG PANDANG	36.10	33.87
	NATIONAL SCR	43.70	36.52

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

PROFILE OF SUBSCRIBER LINES (%) IN EACH WITEL BY PULSES PER LINE PER MONTH

TABLE I.

December 1993

NO.	NO. OF PULSES PER LINE PER MONTH	WITEL												NATIONAL
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
1.	X > 4,000	6.23	5.70	3.66	5.45	8.94	3.57	5.71	5.29	6.81	3.91	6.30	5.67	5.74
2.	4,000 > X > 1,600	10.46	6.20	7.07	3.92	12.39	7.80	9.60	8.91	9.34	7.20	6.48	6.85	7.11
3.	1,600 > X > 800	13.65	14.15	10.20	17.12	11.87	11.87	12.72	10.50	11.55	10.57	13.43	15.17	14.14
4.	800 > X > 200	4.33	32.68	33.29	17.03	35.65	36.02	33.39	29.48	31.09	28.82	29.28	32.16	25.24
5.	X < 200	65.33	41.27	45.78	56.48	31.15	40.74	38.52	45.82	41.21	49.50	45.51	40.15	47.77
	TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100	100

REMARKS :

X = No. of Pulses
No. of Line Unit

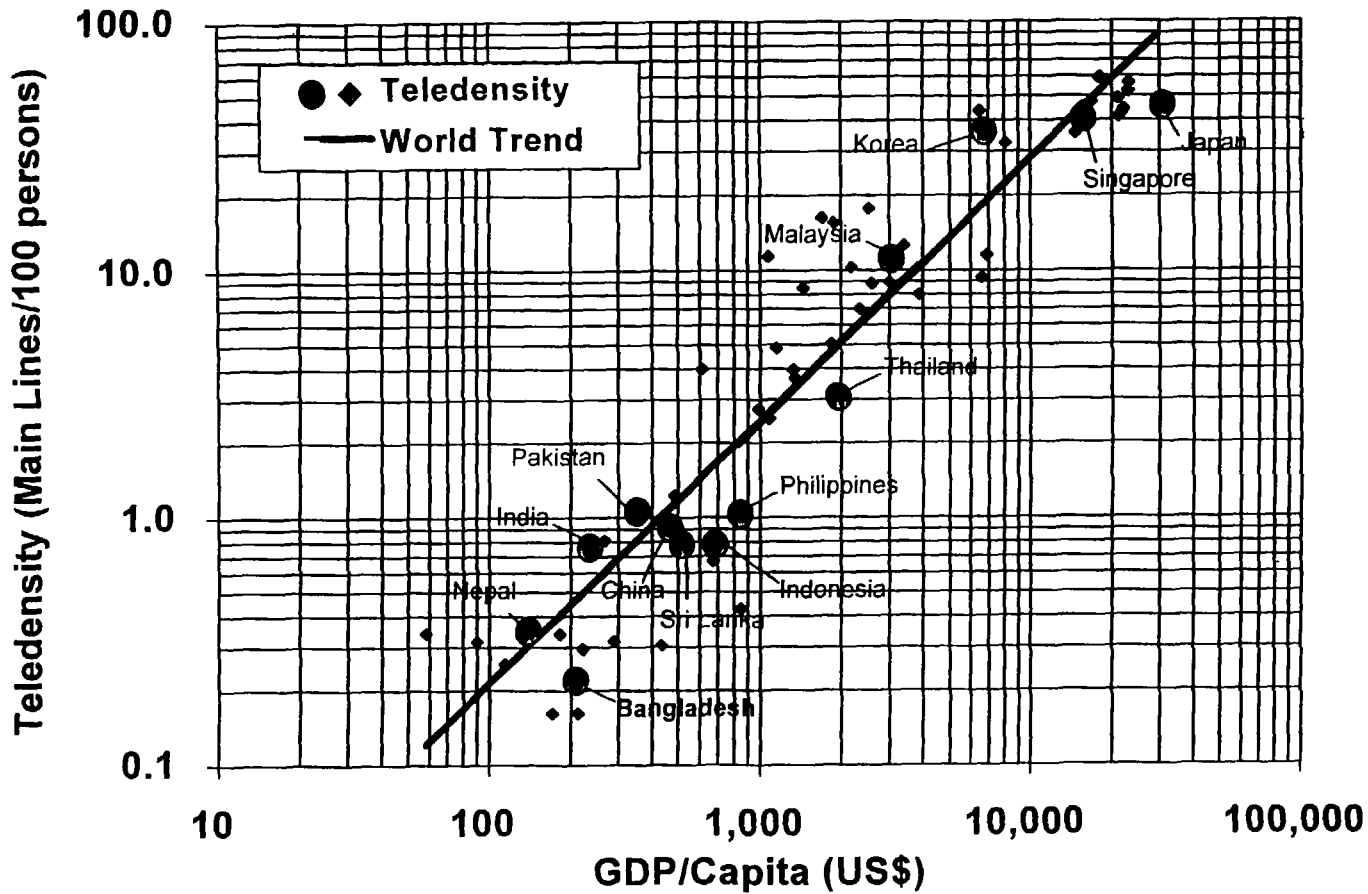
prof-el.xls

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT
TELEDENSITY AND GDP/CAPITA IN 1992

TABLE J.

December 1993

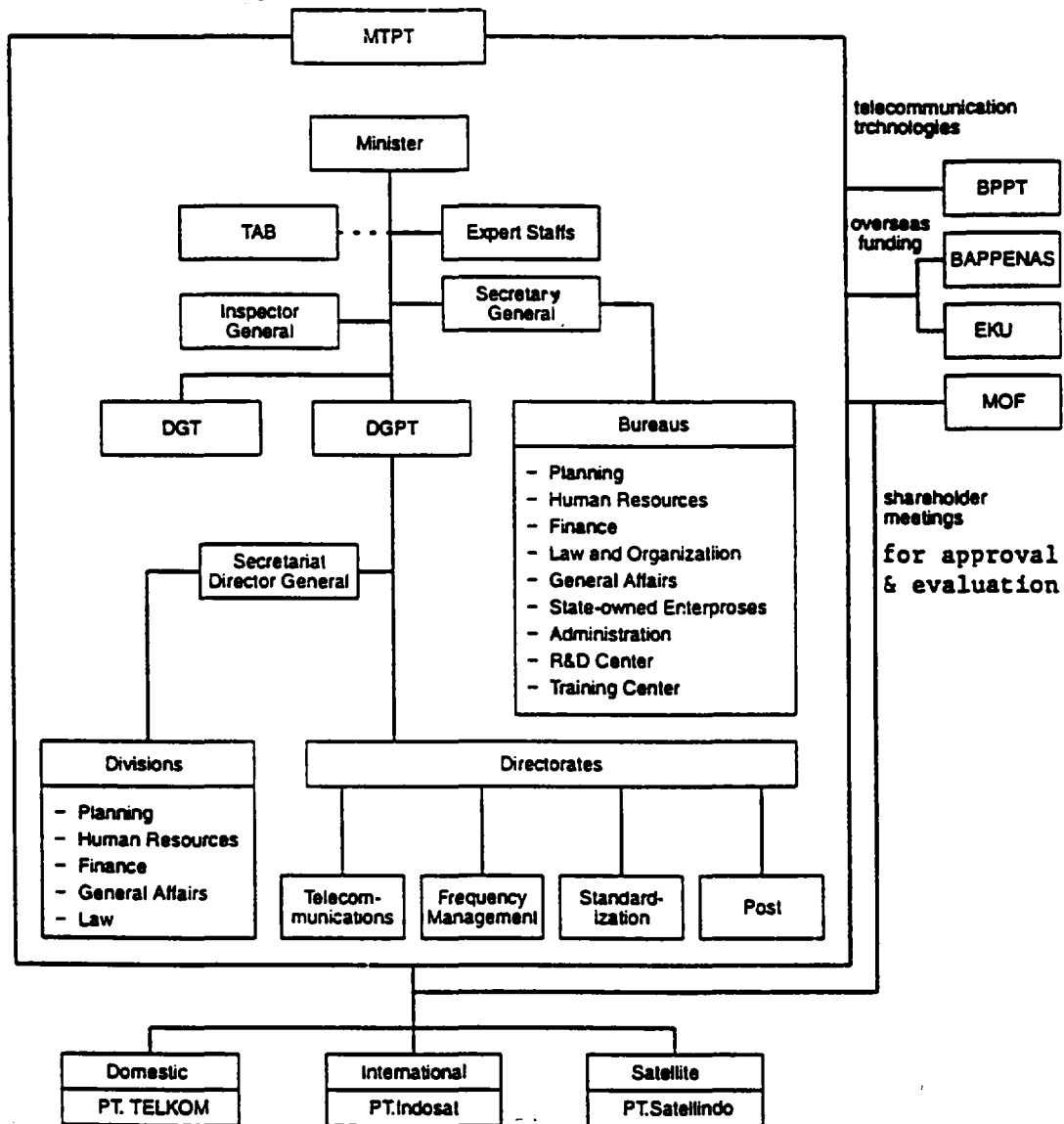
Teledensity and GDP/Capita in 1992



INDONESIA

TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

MINISTRY OF TOURISM, POSTS AND TELECOMMUNICATIONS



- BAPPENAS : National Development Planning Agency
- BPPT : Agency for Technology Assessment and Application
- DGPT : Directorate General of Posts and Telecommunications
- DGT : Directorate General of Tourism
- EKUI : Coordinating Ministry for Economy, and Infrastructure
- MOF : Ministry of Finance
- MTPT : Ministry of Tourism, Posts and Telecommunications
- TAB : Telecommunication Advisory Board

EKWS0585F

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

STRUCTURE OF THE CELLULAR SEGMENT IN 1994

	Technology	Operators/Year Commenced	Service Area	Capacity Today (Planned)	Number of Subscribers	Arrangement
Cellular	GSM	PT. Satelindo (1994)	National	Phase I. Jakarta & Bandung (10,000) Phase II. Surabaya, East Java (55,000)	10,000	Joint venture
		PT Telkomsel (1995)	National-with roaming to eight countries agreed	Plans coverage of 27 cities & surroundings by 1999	Not in operation yet	Joint venture
	AMPSA	PT Elektrindo Nusantara 1991 (new name to be finalized)	Jakarta, Bandung, Bandar Aceh, Medan, Ujung Pandang, Manado, Bitung)	25,000	32,000	Converted revenue sharing to joint ventrue
		PT Centralindo Panca Sakti (CPS) 1991	Surabaya, Malang, Semarang, Yogyakarta, Solo, Pekalongan	6,000	5,840	Revenue sharing
		Telekomindo	Denpasar, Palembang, Batam, Pakan Baru, Bengkulu, Jambi, Bandar Lampung, Balikpapan, Samarinda, Ambon, Jayapura, Banjarmasin			Revenue sharing
	NMT 470 (STKB-C)	PT Rajasa Hazanah Perkasa (May 1986)	Jakarta, Bandung, Bogor, Punchak, Ganjur (West Java only)	30,000 (existing) 30,000 (to be installed)	26,000	Revenue sharing

INDONESIA**PT. TELEKOMUNIKASINDONESIA (PT TELKOM)****TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT****Summary of TELKOM's Tariff**

January 1994

A. Connection Charges

New			
Classification	Business	Housing Rp/month	Social
I	900,000	700,000	560,000
II	500,000	400,000	320,000
III	400,000	300,000	240,000
IV	300,000	200,000	160,000
V	200,000	100,000	80,000

B. Monthly Rental

New			
Classification	Business Rp/month	Housing	Social
I	31,000	20,500	15,500
II	26,000	18,000	13,000
III	26,000	18,000	13,000
IV	21,000	13,000	10,500
V	21,000	13,000	10,500
	Free of charge for 100 pulses	Free of charge for 50 pulses	Free of charge for 50 pulses

C. Call Charges

- (i) Local pulse of 3 minutes - Rp 110
(ii) Long Distance per pulse by distance band

Zone	Distance (km)	Seconds/pulse
I	> 30-200	7
II	> 200-500	5
III	> 500	4

- * Tariff structure has changed to (i) introduce off-peak discounts; and (ii) reduce the number of distance bands (zones) from five to three.

- (iii) Long-distance: Peak/Off-Peak Charges

Long Distance Calls (Monday up to Saturday)

Zone	Distance (km)	Tariff per minute (Rp)				
		21.00 - 06.00	06.00 - 09.00	09.00-15.00	15.00 - 18.00	18.00 - 21.00
I	> 30 - 200+	237,50	950	1.187,50	950	475
II	> 200 - 500	330	1320	1.650	1320	660
III	> 500	412,50	1650	2.062,50	1650	825

Long Distance Calls (Holiday)

Zone	Distance (km)	Tariff Per Minute (Rp)		
		21.00 - 06.00	06.00 - 21.00	21.00 - 24.00
I	> 30 - 200	237,50	475	237,50
II	> 200 - 500	330	660	330
III	> 500	412,50	825	412,50



MINISTER
OF TOURISM, POSTS AND
TELECOMMUNICATIONS

No. : PB.103/4/15/MPPT
Ref. : **Indonesia Telecommunications Modernization Project**
(Policy Letter)
Date : Jakarta, April 13 1995

Mr. Vice President
East Asia & Pacific Region
The World Bank
Washington DC

Dear Sir,

I am writing to you, in the context of the processing by The World Bank of The Indonesia Telecommunications Modernization Project, to provide the Bank with the government's strategy for the development of the telecommunications sector in Indonesia.

Background

Indonesia's basic goals for the development of the telecommunications sector are based on the 1945 Constitution of the Republic of Indonesia and Law No. 3 of 1989, and are described in the Outlines of State Policy (Garis-garis Besar Haluan Negara or GBHN) promulgated by the People's Consultative Assembly in March 1993 to guide the formulation of the Sixth Medium Term (Five Year) Development Plan (Repelita VI). The GBHN highlights the importance of rapidly developing an efficient telecommunications sector to meet the needs of the Indonesian economy.

The Government of Indonesia recognizes that telecommunications networks (like other public infrastructures) have very important effects on the productivity and competitiveness of the national economy. They therefore make a vital contribution not only to export competitiveness in the increasingly globalized market economy, but also to the success of national development. As economic activities in almost all sectors become increasingly information intensive, adequate, reliable and efficient telecommunications networks and services become critical to the ability of firms to conduct business and compete in the global economy. In Indonesia, telecommunications is now becoming an integral part of financial services, commodities market, media, transportation and tourism, and provides vital links among manufacturers, wholesalers and customers. Telecommunications constitute the core of, and provide the infrastructure for, the information economy as a whole. Therefore, the government is committed to addressing sector constraints to ensure that inadequate access to modern communications will not impede the participation of Indonesia in the global economy.

Given the importance of telecommunications for the competitiveness and performance of the Indonesian economy as a whole, the telecommunications sector has been an important priority for the government in recent years. Partly on the basis of the important assistance from and collaboration with the Bank, TELKOM achieved impressive performance improvement over the period 1988 - 1994. The rate of network growth increased from 8% p.a to over 20% p.a.; labor productivity improved by 125% from 20 to 48 lines per employee; annual investment increased by 200% from about \$ 340 million to over \$ 1 billion, with TELKOM currently self-financing over 50% of investment; and TELKOM was recently able to have the audit of its account completed within 2 months compared with over 14 months in 1988.

Although telephone service penetration rates in Indonesia doubled over the period 1988 - 1994, from 0.5 to 1.4 telephone lines per 100 persons, they are nevertheless the lowest of the ASEAN countries, with Singapore at 42 lines per 100 persons, Malaysia 12, Thailand 3, and Philippines 2. Furthermore, TELKOM's quality of service remains poor, with low call completion rates of approximately 50 % for local calls and 35 % for national long distance-calls, and staffing levels remain high. Additionally, the call completion rates for and market development of cellular telephone services have been unsatisfactory. Thus, in spite of the impressive improvements in TELKOM's performance outlined above, very significant progress, in terms of network expansion, quality of service, and productivity, still need to be achieved. An on-going reform agenda is therefore required.

Government Objectives and Strategy

The overall government objective for the telecommunications sector is to support the international competitiveness of the Indonesian economy as a whole by bringing the provision of telecommunications services in all parts of Indonesia up to internationally competitive levels in terms of availability, range, quality and pricing. The specific government goals for the telecommunications sector during REPELITA VI (1994 - 1999) are to substantially reduce or eliminate unmet demand for services by constructing a minimum of 5 million additional lines, greatly improve access to services in rural areas, bring TELKOM's operations up to world-class standards, and rapidly improve the performance of the cellular mobile telephone market segment.

As a result of government initiatives that have already been taken, the sector is going through a period of very substantial change from one of almost total state monopoly of basic services to one characterized by an emerging competitive, multi-operator environment, substantial private investment and dramatic improvements in TELKOM's performance. Key sector reform initiatives have included :

- (a) Conversion in 1991 of TELKOM's status from a "perum" state corporation to a limited liability "PT" company and implementation of an on-going program of commercialization and performance improvement;
- (b) Proclamation in 1993 of a decree that significantly expanded the scope for private participation in the provision of basic services, including joint ventures and joint operations between TELKOM or INDOSAT and the private sector;

- (c) Authorizing in 1993 PT. SATELINDO, a majority privately-owned joint venture with TELKOM and PT. INDOSAT, to provide satellite, national GSM cellular telephone and international telecommunications services. SATELINDO commenced service in November 1994;
- (d) Authorizing in 1993 PT. RATELINDO, also a majority privately-owned joint venture with TELKOM, to provide basic local telephone services in Jakarta and Bandung using wireless technology. With significant investment from the Netherlands PTT, good progress is being made on plans to install over 250,000 lines--probably the largest wireless local telephone service project in Asia. RATELINDO is expected to commence service provision by mid-1995;
- (e) The partial privatization of PT. INDOSAT in October 1994 through a very successful, well-planned and professionally managed initial public offering. As a result, 35% of INDOSAT is now owned by private investors.

The provision of telecommunications terminal equipment and value added services has also been fully privatized along with the provision of public card phones and paging radio services. TELKOM has entered into several other joint ventures with the private sector for the provision of cellular and VSAT satellite networks for private use.

In addition to these measures, the government is currently implementing a vigorous reform agenda to further improve the performance of the sector. This involves an influx of private capital investment linked to foreign operator expertise through large-scale Joint Operation Schemes with TELKOM, increased competition, organizational restructuring of TELKOM, planned partial privatization of TELKOM through an issue of shares to the public, and a review of the telecommunications legal environment. More specifically, the government is taking the following initiatives :

- (a) Joint Operation Schemes. The government is moving quickly to establish large scale " Build-Joint Operate-Transfer" schemes. These schemes involve the construction during REPELITA VI of approximately two million additional lines (with a capital cost of approximately US \$2 billion) by private consortia that include first-class foreign operators, and subsequent operation of local network facilities in five out of TELKOM's seven operating regions by the new joint operation management. Requests for proposals to the twelve pre-qualified consortia were issued in November 1994. The selection of the winning bidders from this competitive process is targeted for May 1995 or earlier;
- (b) Reorganization of TELKOM. A comprehensive reorganization of TELKOM is being undertaken. This involves reducing the number of TELKOM's operating divisions from twelve to seven, establishing a separate national network division, establishing a much smaller corporate office, and reorganizing TELKOM's non-core activities;
- (c) Initial Public Offering. Following the lead of INDOSAT, TELKOM will have its own initial public offering of shares within one to two years. This partial privatization will have the important effect of strengthening the commercial environment and discipline for management;

- (d) Cellular Competition. In addition to the licences issued to SATELINDO and RATELINDO in 1993, the government recently (in 1994) authorized a second national GSM cellular system to be operated by PT. Telkomsel, a joint venture between PT. TELKOM and PT. INDOSAT. Operations have started in Batam and Medan and now are being expanded to other regions. The award of a second national GSM cellular licence is expected to lead to a rapid improvement in the coverage and quality of cellular service;
- (e) Review of the Legal Environment. MTPT has already initiated a preliminary study for a review of the laws and regulations that govern the sector in order to assess what changes should be made to accommodate and support the emerging competitive, multi-operator environment. Additional reviews and development of proposals for a completely revised and modernized law will be undertaken as part of the Telecommunications Modernization Project with the support of the Bank.

The JOS initiative referred to in (a) above has several important features:

- * The JOS have been structured to operate in five separate territories, which are expected to be awarded to five separate investor groups each with an experienced foreign telecommunications operator as a key member;
- * The JOS packages are to be awarded after a careful pre-qualification process on the basis of competitive bidding based on highly professional requests for proposals documentation. This process will ensure all bidder groups include highly qualified foreign operators and have demonstrated capabilities to finance the package that they bid on;
- * The government has structured the pre-qualification process to expand the investor groups significantly beyond the small number of interested parties who previously invested in the sector;
- * The private consortia who are awarded the JOS projects will be responsible for the construction of the new lines and the subsequent operation of both new and existing facilities;
- * Unlike the earlier revenue sharing arrangements for local network facilities, under the JOS project the private investor groups will be accountable for the achievement of demanding operational performance targets and will be responsible for the appointment of the senior management team for the JOS unit;
- * The JOS will run for longer periods than earlier revenue sharing arrangements; they are expected to run from 13 to 17 years;
- * Neither the government nor TELKOM will provide any financial guarantees to the investor groups or their financiers;
- * The exclusivity provisions of the JOS contract will be carefully limited to the JOS construction period (i.e. until 1999) and only for wireline and not for wireless services, thereby leaving the government the discretion to expand the scope of competition in the sector as it sees fit from time to time.

The government also recognizes that appropriate tariffs are a key element of maintaining an environment in the sector that is attractive for investors, provides incentives for efficiency, and protects the interests of customers, thereby contributing to the international competitiveness of the Indonesian economy. Therefore, the government will review TELKOM's tariff as necessary every three years. The factors that will be taken into account on a uniform national basis in reviewing and authorizing tariff adjustments will include:

- (a) The principle that tariff adjustment should be cost-oriented in terms of the highest efficiency performance in comparable countries;
- (b) The avoidance of undue negative impact on the performance of TELKOM and JOS units;
- (c) Increases or decreases required to reflect the impact of changes of more than 10% in the value between the Rupiah and the US dollar;
- (d) The requirement for telecommunications operators in Indonesia to attract capital for future construction and expansion; and
- (e) Promoting affordability of telecommunications services for Indonesian consumers.

The magnitude of the transition that is underway in the Indonesian telecommunications sector is indicated by the fact that about 50 % of new investment in an aggressive investment plan for the sector will be private investment. Furthermore, by the end of REPELITA VI, Indonesia may have one of the most competitive telecommunications sectors in Asia, with some competition in all important market segments: terminals, basic local service (in particular through competitive fixed wireless networks), pay phones, long-distance service, leased lines, VSAT private networks, international services and value-added services.

I trust the above explanation indicates the wide scope of the fundamental changes the Government has initiated in the Indonesian telecommunications sector and underlines our commitment to modernizing the sector in line with current government policies.

Sincerely,
Minister of Tourism, Posts and Telecommunications



JOOP AVE

INDONESIA**PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT****JOINT OPERATIONS SCHEMES (JOS)**

- 1. Summary of the Joint Operations Schemes**
- 2. Legal Framework of the Joint Operations Schemes**
- 3. Investors Status Requirements**
- 4. Guarantees**
- 5. Scope of the Joint Operations Schemes**
- 6. Interconnection**
- 7. Integration of Existing and New Installations**
- 8. Schedule for Implementing the Joint Operations Schemes**

INDONESIA**JOINT OPERATION SCHEMES (JOS)****1. Summary of the Joint Operation Schemes**

The Joint Operations Schemes are cooperative ventures between TELKOM and Investors. Investors are JVCs composed of private sector Indonesian entities such as companies, small businesses and cooperatives as well as foreign entities such as experienced public telecommunications operators. The main elements of the JOSs are as follows:

- a) The Investor will be responsible for the financing and construction on a turnkey basis of the New Installation necessary to provide a prescribed minimum number of Access Line Units within the JOS Territory. The New Installation will be integrated with the Existing Installation to form a single integrated JOS System within each Territory. These integrated systems will be operated by JOS Units in each Territory during the applicable JOS Periods.
- b) JOS Units will operate for, on behalf of and in the name of TELKOM. Each of the five JOS Units will operate as a TELKOM Regional Division. The JOS Unit will be staffed by existing TELKOM employees in each Territory supplemented by additional staff hired by the JOS management and management and expert personnel placed by the Investor.
- c) TELKOM will be responsible for the monitoring and supervision of overall JOS Operations to ensure that the objectives of the JOS are achieved. TELKOM will appoint a non-executive Chairman for each JOS Unit to assist in performing TELKOM's functions in this regard. All other management functions will be delegated by TELKOM to the Investor who will appoint, supervise and be responsible for the performance of the senior JOS management.
- d) The Investor will be held accountable for the achievement of specific operational performance targets relating to the expansion and quality of telecommunications services as well as the achievement of financial performance targets. Financial sanctions will be established to ensure that both operational and financial performance targets are met. In addition, financial and other penalties will be established to ensure compliance with construction schedules, successful completion of acceptance tests for facilities, and other obligations of Investors related to the successful implementation of the JOS.
- e) The Investor will be responsible for the appointment of the senior management team of the JOS Unit, including the General Manager, the top three levels of management and the Kandatel managers. The Investor will seek TELKOM's approval before such candidates are appointed. If TELKOM fails to approve

senior management candidates proposed by the Investor, the Investor shall reconsider the candidate. If the Investor then wishes to proceed with the appointment of the candidate, the Investor shall consult with TELKOM at the JOS Consultation Forum (see below). After such consultation, the Investor may withdraw the proposed candidate, or, after 30 days, proceed with the appointment. The Investor will also have the responsibility for identifying and recruiting key expert staff and consultants required for the JOS Unit.

- f) The Investor will exercise its best efforts to ensure that an Indonesian national is appointed General Manager of the JOS. If the General Manager is an existing TELKOM employee, he or she shall resign from TELKOM upon assuming the position of General Manager. The Investor shall endeavor to hire Indonesian nationals for other management positions wherever reasonably possible. The majority of senior management positions shall, at all times during the JOS, be filled by Indonesian nationals.
- g) A Committee known as the JOS Consultation Forum will be established for each JOS. The Forum will be composed of an equal number of representatives of TELKOM and the Investor, plus a Chairman appointed by the Minister. The purpose of the Forum will be consultation and coordination between the Investor and TELKOM on all matters relating to the JOS.
- h) Disputes between TELKOM and the Investor that cannot be resolved at the JOS Consultation Forum will be dealt with as follows:
 - i) major regulatory and policy issues relating to the fundamental nature of the JOS will be referred to the Minister, who may settle them or refer them to arbitration; and
 - ii) all other issues, including technical and commercial issues shall be settled by arbitration. Such issues shall initially be referred to the Indonesian National Arbitration Board (BANI); however a party dissatisfied by the award of first instance may refer the matter for final settlement by arbitration to the International Centre for Settlement of Investment Disputes (ICSID), unless the matter falls outside the jurisdiction of ICSID in which case it shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce at Paris.
- i) The JOS Unit will pay Minimum TELKOM Revenues to TELKOM on a monthly basis. These payments will be made in addition to and before the calculation of the Distributable JOS Revenues. The Minimum TELKOM Revenues will be paid to TELKOM to compensate it for the financial benefits that TELKOM would have received from its Existing Installation in a Territory if a JOS had not been entered into. Bidders are requested to propose the amount of Minimum TELKOM Revenues they would pay to meet this objective. The JOS Agreement will determine the amount of Minimum TELKOM Revenues to

be paid and will require the Investor to guarantee payment by the JOS Unit of that amount.

- j) To recover its investment in the construction of the New Installation and the upgrading of the Existing Installation (including its return on that investment), the Investor will share with TELKOM the Distributable JOS Revenues generated by services offered on both the New and Existing Installations.
- k) Upon entering into the JOS Agreement, an Investor will be required to pay TELKOM an Initial Investor Payment.
- l) In evaluating the Proposals for each Territory, the Evaluation Team will first review each Proposal to ensure compliance with the technical and other conditions specified in this RFP. Provided it complies with the requirements of the RFP, the Evaluation Team will recommend that, for each JOS, the Government should select the Bidder whose proposal offers the highest aggregate financial benefits to TELKOM based on the following three factors:
 - i) the highest amount of Minimum TELKOM Revenues;
 - ii) the highest percentage share of Distributable JOS Revenues for TELKOM, and
 - iii) highest Initial Investor Payment.

Subject to Government approval, the Evaluation Team intends to commence negotiations with the highest Bidder for each JOS Territory (in terms of these three variables) to establish definitive JOS Agreements.

- m) There will be a Preparation Period between the signing of the JOS Agreements and the commencement of the JOS Period, which is scheduled for January 1, 1996. During the Preparation Period the Investor will mobilize its resources, commence construction and otherwise prepare for the implementation of the JOS. TELKOM will continue to operate the Existing Installation during the Preparation Period. Revenue sharing and the transfer of management responsibilities to the Investor will commence at the beginning of the JOS Period.
- n) During the JOS Period, the Investor will remain owner of the portions of the New Installation that it has constructed. At the end of the JOS Period, the ownership of the New Installation will be transferred to TELKOM. Unless otherwise agreed in writing, TELKOM will take over all aspects of the operations of the JOS System at that time.
- o) At the time of transfer, the Investor will not receive compensation for that part of the New Installation which was constructed within the Construction Period.

- p) Either TELKOM or the Investor may propose additional New Installation construction projects during or after the Construction Period. The Investor will have a first right of negotiation to implement such additional projects. If such additional projects are implemented, the Investor will receive compensation for the value of such additional New Installation at the end of the JOS Period. The amount of compensation will be based on the Net Present Value of the Investor's projected revenue share attributable to such New Installation during the remainder of the Payback Period approved by the Minister at the time additional New Installation construction projects were approved. This compensation is intended to provide an incentive for the Investor to continue to expand the JOS System to meet demand throughout the JOS Period. A similar compensation arrangement will apply if TELKOM exercises its early buy-out option during the last one-third of the JOS Period.

2. Legal Framework of the Joint Operation Schemes

The JOSs will be established in accordance with the laws of the Republic of Indonesia, and particularly, Telecommunications Law Number 3 of 1989, which governs the provision of telecommunications services in the Republic of Indonesia; the 1993 Government Regulation on the Operation of Telecommunications (No. PP 8/93); and the 1993 Ministerial Decree (No. KM.39/KS.002/MPPT93) on Corporation in the Implementation of Basic Telecommunications Services.

The Indonesian legal framework authorizes TELKOM, in its capacity as the national telecommunications operator, to implement cooperative operation agreements with the private sector in relation to the provision of telecommunications services. The JOSs to be established pursuant to this RFP are the Government's selected mode of cooperative operation. Accordingly, in each of the five JOS Territories, the Minister intends to grant a license to an Investor pursuant to Article 5 of PP 8/93 and Article 28 of KM 39/93 to enter into a JOS with TELKOM.

3. Investor Status Requirements

The Investor shall be an Indonesian national Joint Venture Company ("JVC") established under the laws of the Republic of Indonesia. At least one member of the JVC shall be a highly experienced public telecommunications operator (PTO). At least one PTO must hold a significant equity interest in the Investor and take the leading role in providing the management and operational expertise for the JOS Project.

During the JOS Period the composition of the participants in the Investor shall not be changed, nor shall their percentage levels of equity participation in the Investor be changed, except with the prior written approval of the Minister. In order to provide continuity and accountability for the achievement of the Repelita VI JOS objectives, approval will not be granted for a significant reduction in the participation of the PTO(s) in the Investor, save in exceptional circumstances.

During the JOS Period the Investor shall maintain a debt to equity ratio such that the equity portion of its total financing is at no times less than 40%. Investors must comply with the requirements of KEPPRES 39/1991 relating to the approval of offshore loans.

4. Guarantees

Neither the Government nor TELKOM will provide any financial guarantees to the Investor, its lenders or other financial backers in relation to the JOS or the Investor's investment under the JOS Agreement. The public telecommunications operators participating in the Investor will be required to guarantee the performance of the Investor under the JOS Agreement.

5. Scope of the Joint Operation Schemes

The purpose of the JOS in each Territory will be to perform all activities required to expand, upgrade and operate the JOS System in the Territory in a manner comparable to world class telecommunications systems. Responsibility for the planning, design and construction of the New Installation and the upgrading of the Existing Installation will rest with the Investor.

The JOS System in each Territory is to be operated on behalf of and in the name of TELKOM. TELKOM shall be responsible for monitoring and supervision of the JOS Unit to ensure that the objectives of the JOS are achieved. TELKOM will delegate to the Investor responsibility for the management of the JOS Unit, which shall be responsible for the operation of the integrated JOS System. JOS Units are to make the maximum use of available domestic resources, human and material resources in accordance with Government policy. Over time, the JOS Unit shall replace expatriate employees and consultants with qualified Indonesian nationals.

6. Interconnection

The JOS System shall interconnect with the facilities of TELKOM long distance network at the secondary centre (S.C.) exchanges, which shall continue to be operated by TELKOM. Traffic shall be exchanged between the JOS System, TELKOM's System and other JOS Systems on a Sender Keep All (SKA) basis. Under the SKA arrangements, the JOS Unit shall keep all revenues for traffic that originates in the JOS, except for the amount due to the international service providers, Indosat and Satelindo based on prevailing interconnection tariffs. In return the JOS Unit will receive settlement payments from the international service providers in accordance with prevailing tariffs for international calls terminating in the JOS Territory. The JOS Unit will terminate all traffic received from TELKOM or other JOS Units without compensation.

7. Integration of Existing and New Installations

The Investor will be required to construct the New Installation and to exercise its responsibilities in the operation of the JOS System so that the New Installation will operate in an integrated manner. Wherever it is practical and cost-effective, the Investor should use and upgrade existing facilities, rather than construct new facilities. However, this obligation shall not relieve the Investor of its obligations to construct the specified minimum number of new Access Line Units. The performance of the JOS System will be measured in accordance with specified performance indicators, this RFP.

Proposals from Investors should take into account the need to upgrade, and if necessary replace, financial, operational and management information systems in order to improve the efficiency of the JOS System. The Investor shall coordinate with TELKOM to ensure that upgraded and new systems are compatible with TELKOM's requirements. All systems that are upgraded or replaced must utilize fully tested and stable technology. The Investor shall ensure that full documentation is provided to the JOS Unit for each system including, wherever possible, source code listings for computer software.

The Investor shall ensure that, wherever possible, payments related to licenses for computer software or other technology employed in the JOS do not extend beyond the JOS Period. Any license that will impose financial obligations on TELKOM or another person following the JOS Period must be submitted to TELKOM for review and approval prior to the Investor entering into it. Licenses that are to be entered into in the name of TELKOM must in all cases be furnished to TELKOM in advance for TELKOM's review and approval. Licenses entered into in the name of the Investor must be fully assignable to TELKOM without charge at or before the end of the JOS Period. Promptly after a license is entered into the Investor shall supply a copy of the license to TELKOM.

8. Schedule for Implementing the Joint Operation Schemes

September '94	Prequalification process is completed. Twelve consortia, with each including at least one experienced public telecommunications operator, are qualified to participate in the next stage of the selection process.
November '94	Request for Proposals to participate in the Joint Operation Schemes are issued.
February 6, '95	First bidders' conference
February 25, '95	Second bidders' conference
March 21, '95	Public bid opening
April '95	Selection of highest bidders for negotiations
May / June '95	Negotiations with selected bidders
July/ August '95	Contract finalization
Jan. 1 '96	Joint operation schemes commence operations.

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

PERFORMANCE INDICATORS

Fiscal Year Ending December 31	1995	1996	1997	1998	1999
	-Budget-		Forecast		
Exchange Capacity ('000)					
Total Telkom Capacity	5,064	3,718	4,214	4,714	5,214
Total Capacity (JOS)	-	2,315	3,122	4,020	4,020
Total Exchange Capacity	5,064	6,034	7,336	8,734	9,234
Additional Connected Lines ('000)					
Telkom	879	500	625	700	700
JOS	-	-	250	1,000	650
Connected Main Lines(CML) ('000)					
Telkom	3365	2,158	2,783	3,483	4,183
JOS	0	1,707	1,957	2,957	3,607
Other Services ('000)					
Payphone	125	135	155	186	219
Wartel	10	12	15	19	24
Total Connected Lines	3,505	4,012	4,909	6,645	8,033
Quality of Services					
Number of faults per 100 subs per month	2.0	1.5	1.0	1.0	0.5
Successful Call Completion Rate (average)					
Local	60%	75%	80%	90%	90%
National Long Distance (%)	39%	70%	75%	80%	80%
Staff Productivity					
Telkom : Employees per 1,000 CML	13	12	10	8	7
Revenues: (TELKOM Managed Network)					
Telephone Rev./Av Main Line Current	1,596	1,836	1,636	1,450	1,299
Costs:					
Cash Op Cost/Av Main Line Current	660	740	684	638	618
Staff Cost/Av Main Line Current	362	368	335	306	298
Financial Indicators					
EBITDA/Revenue (TELKOM)	61%	64%	62%	61%	59%
EBIT / Av. Net Fixed Asset in Operations	20%	32%	31%	36%	38%
Rate of Return on Equity	15%	27%	22%	24%	23%
Net IGC/Avg 2 year Investments	55%	83%	88%	95%	90%
Debt Service Coverage	4.7	5.7	4.2	3.4	3.4
Current Ratio	1.0	1.1	1.0	1.1	1.0
Debt/(Debt+Equity)	52%	50%	48%	42%	37%

INDONESIA

PT. TELEKOMUNIKASI INDONESIA

TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

NETWORK EXPANSION PLAN

EXCHANGE CAPACITY

	1995	1996	1997	1998	1999
NON KSO AREA					
DIVISI 2	1779694	2366694	2717194	2906394	3419794
DIVISI 5	672761	773761	773761	773761	927461
SUB TOTAL	2452455	3140455	3490955	3680155	4347255
KSO AREA (existing & new)					
DIVISI 1	655812	727812	913812	1122812	1281518
DIVISI 3	515975	585975	785975	1015975	1205575
DIVISI 4	338966	395966	584966	738966	738966
DIVISI 6	146265	181565	276865	383265	456265
DIVISI 7	411027	472027	628027	807027	952165
SUB TOTAL	2068045	2363345	3169845	4068045	4634489
	4520500	5503800	6660800	7748200	8981744
KSO AREA (existing)					
DIVISI 1	655812	655812	655812	655812	814518
DIVISI 3	515975	515975	515975	515975	705575
DIVISI 4	338966	338966	338966	338966	338966
DIVISI 6	146265	146265	146265	146265	218265
DIVISI 7	411027	411027	411027	411027	556165
SUB TOTAL	411027	2068045	2068045	2068045	2634489
KSO AREA (new)					
DIVISI 1	0	72000	258000	467000	467000
DIVISI 3	0	70000	270000	500000	500000
DIVISI 4	0	57000	228000	400000	400000
DIVISI 6	0	35300	130600	237000	237000
DIVISI 7	0	61000	217000	396000	396000
SUB TOTAL	0	295300	1101600	2000000	2000000

CONNECTED MAIN LINES

NON KSO AREA					
DIVISI 2	0	2,011,690	2,445,475	2,761,074	3,248,804
DIVISI 5	0	657,697	696,385	735,073	881,088
SUB TOTAL	0	2,669,387	3,141,860	3,496,147	4,129,892
KSO AREA (existing & new)					
DIVISI 1	0	818,640	822,431	1,068,871	1,217,442
DIVISI 3	0	498,079	707,378	965,176	1,145,296
DIVISI 4	0	338,571	508,469	702,018	702,018
DIVISI 6	0	154,330	249,179	364,102	433,452
DIVISI 7	0	401,223	565,224	768,676	904,557
SUB TOTAL	0	2,008,843	2,852,681	3,864,643	4,402,765

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATINS SECTOR MODERNIZATION PROJECT
NETWORK EXPANSION PLAN

SUBSCRIBERS

NON KSO AREA				
DIVISI 2	1,917,022	2,336,787	2,644,819	3,112,013
DIVISI 5	626,746	665,434	704,123	843,990
SUB TOTAL	2,543,769	3,002,221	3,348,941	3,956,002
KSO AREA (existing & new)				
DIVISI 1	589,528	785,878	1,021,759	1,166,181
DIVISI 3	474,640	675,939	924,537	1,097,073
DIVISI 4	320,732	485,871	672,459	672,459
DIVISI 6	147,068	238,104	348,771	415,201
DIVISI 7	382,342	540,103	734,395	866,470
SUB TOTAL	1,914,309	2,725,895	3,701,921	4,217,385

PAYPHONE & WARTEL

NON KSO AREA				
DIVISI 2	71,001	81,516	87,192	102,594
DIVISI 5	23,213	23,213	23,213	27,824
SUB TOTAL	94,214	104,729	110,405	130,418
KSO AREA (existing & new)				
DIVISI 1	21,834	27,414	33,684	38,446
DIVISI 3	17,579	23,579	30,479	36,167
DIVISI 4	11,879	16,949	22,169	22,169
DIVISI 6	5,447	8,306	11,498	13,688
DIVISI 7	14,161	18,841	24,211	28,565
SUB TOTAL	70,900	95,089	122,041	139,035

FACILITIES

NON KSO AREA				
DIVISI 2	23,667	27,172	29,064	34,198
DIVISI 5	7,738	7,738	7,738	9,275
SUB TOTAL	31,405	34,910	36,802	43,473
KSO AREA (existing & new)				
DIVISI 1	7,278	9,138	11,228	12,815
DIVISI 3	5,860	7,860	10,160	12,056
DIVISI 4	3,960	5,650	7,390	7,390
DIVISI 6	1,816	2,769	3,833	4,563
DIVISI 7	4,720	6,280	8,070	9,522
SUB TOTAL	23,633	31,696	40,680	46,345

INDONESIA

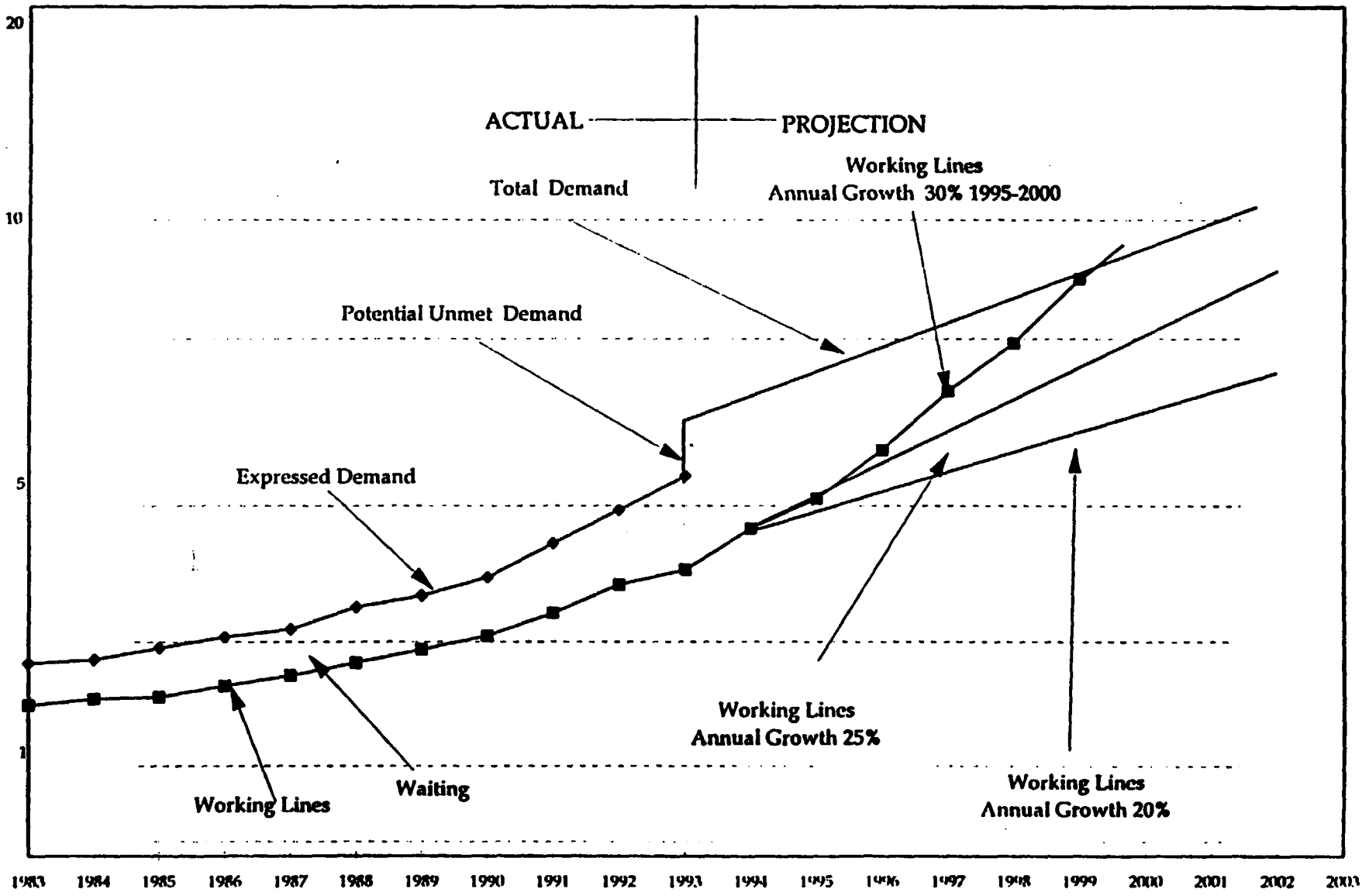
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

KSO PERFORMANCE INDICATORS

Performance Indicator	Performance Targets			
	Year	1	2	3
1 Faults per 100 lines per month		2	2	1
2 Percentage of faults cleared by the next working day		40	45	50
3 Percentage of faults cleared by third working day		80	85	90
4 Successful call ratio (percentage)				
(a). Local		75	80	90
(b). Long Distance		70	75	87
(c). International		65	75	85
5 Percentage of busy hour calls receiving dial tone within 3 seconds		90	90	95
6 Mean new service provisioning time (days)				
(a). Urban		-	-	14
(b). Rural		-	-	14
(c). Private Line (urban)		40	30	20
7 Percentage of calls for an operator answered in less than 15 seconds		80	85	90
8 Percentage of accounts issued without later adjustment		90	90	95

PT. TELKOMUNIKASI Indonesia
Telecommunications Sector Modernization projects
Telephone Lines Demand and Supply

74

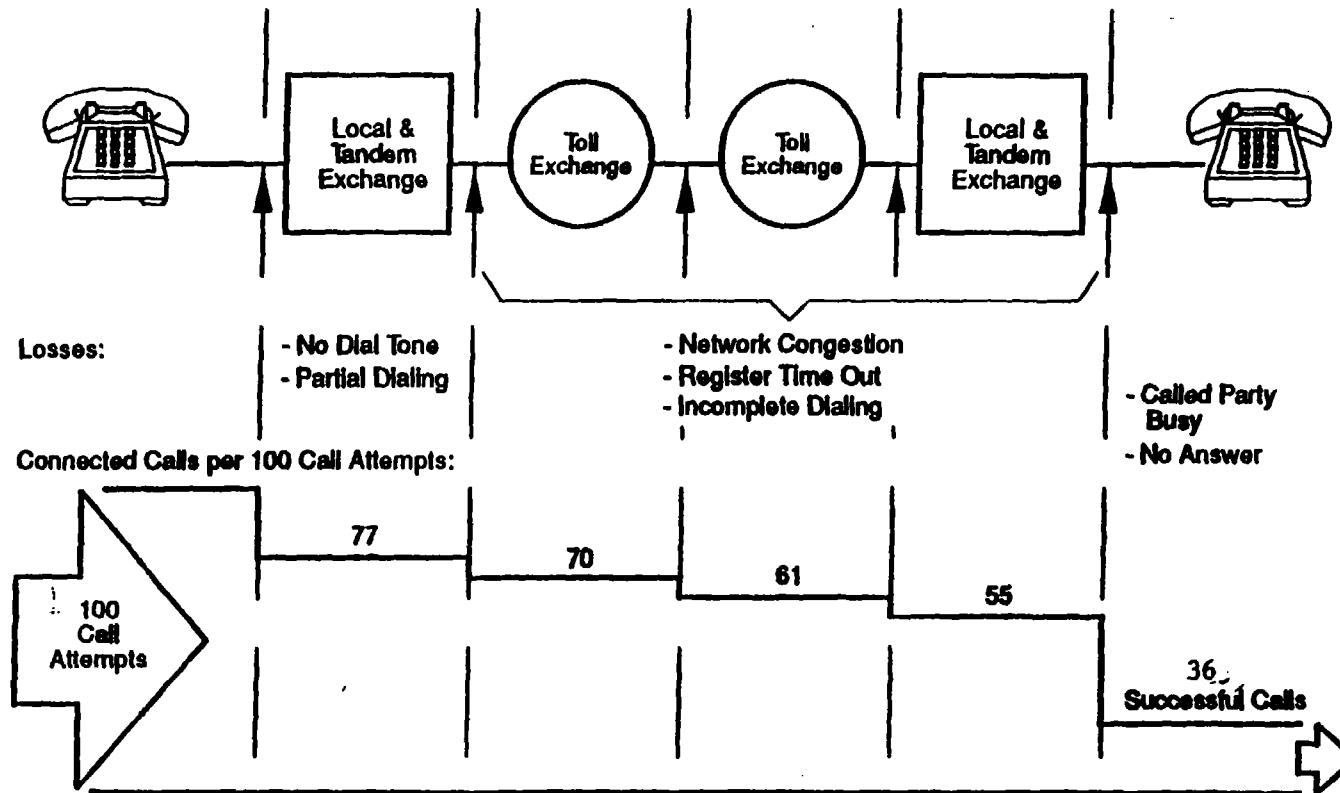


**INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECTS**

Telephone Service - Issues

MARKETING	LOW SCR (LOCAL)	LOW SCR LONG DISTANCE	NETWORK MANAGEMENT PROBLEM	HIGH FAULT RATES	TIME TO REPAIR
SHORT OF CABLES AND LINE PLANT MATERIALS	HIGH TRAFFIC PER DEL	UNDERSIZED TRUNK SWITCHING CENTERS	COMPLEXITY OF NETWORK	% IN LOC.NETWORK -INADEQUATE INSTAL- LATION PERFORMANCE -INADEQUATE INSTAL- LATION REGULATIONS -LACK PREVENTIVE MAINTENANCE	LACK OF SPARE INADEQUATE MA- TERIALS & TOOLS INSUFFICIENT TRAINING
LACK OF MARKETING STRATEGY	UNDERSIZED EXCH. AND JUNCTIONS	UNDERSIZED AC- CESS CIRCUITS AND TRUNKS	INADEQUATE IN- VESTMENT & FI- NANCE PLAN.	% TERMINAL EQPT. -LACK OF SPARES -INADEQUATE INS- TALLATION	INSUFFICIENT STOCK LEVEL
INSUFFICIENT LO- CAL NETWORK PLANNING	AGE OF EMD EXCH. ABSENCE OF SYST. TRAFFIC MEASURE- MENTS & ANALYSIS	ABSENCE OF TRAF- FIC MEASUREMENT & ANALYSIS	LACK OF MANA- GEMENT	%EXCHANGE -AGE EMD -LACK OF SPARES	INADEQUATE TRAN- SPORT & TOOLS
INSUFFICIENT PRO- JECT COORDINATION (INTEGRATED APPROACH)	INADEQUATE LOCAL TRAFFIC FORECAST	INADEQUATE STD TRAFFIC FORE- CASTING		MAN MAD ERROR	LACK OF SKILLED PERSONNEL
	HIGH FAULT RATE OF JUNCTIONS	HIGH OUTAGE DURA- TION OF TRUNKS		FORCE MAJORE	INSUFFICIENT TRAINING
	HIGH OUTAGE DURA- TION OF JUNCTIONS				INPUT

INDONESIA
TELECOMMUNICATIONS SECTOR MODERNEZATION PROJECT
CALL LOSS STRUCTURE IN INDONESIA FOR DIRECT DIALED LONG DISTANCE CALLS



**INDONESIA
FOURTH TELECOMMUNICATIONS PROJECT
TELEPHONE SERVICE IMPROVEMENTS**

INCREASE DELS

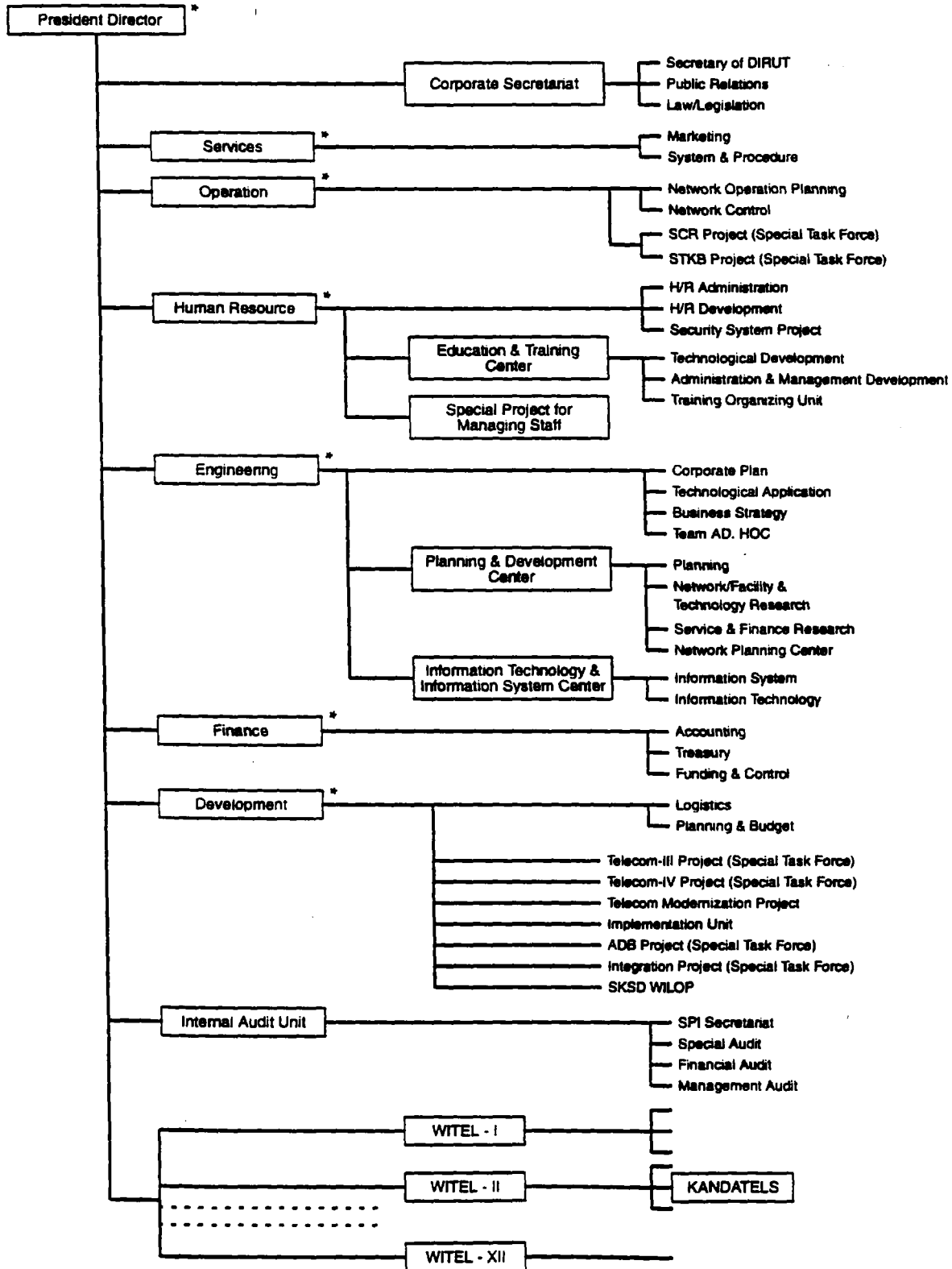
IMPROVE NETWORK PLANNING

IMPROVE QUALITY OF SERVICE

IMPROVE OPERATION AND MAINTENANCE (O&M)

Identify capacity shortage in subscriber cable networks	Perform traffic measurements	Analyze real reasons for low call completion rates	Analyze shortcomings of O&M
Design subscriber cable networks	Perform demand and traffic forecasting	Perform a traffic analysis of STD and IDD traffic	Improve O&M concepts of switching, outside plant and transmission
Determine an urgent program for cable network extensions or alternative technology	Perform a complete Jakarta local forecast.	Perform a traffic analysis of STD and IDD network	Introduce improve O&M concept
Organize usage of existing switching capacity	Network Development planning including digitalization	Replace EMD exchanges starting with Jakarta	Improve staff training
	Define individual project in local network in Jakarta and in STD network in a coordinated approach to real demand.	Define and urgent rehabilitation program	Improve spare part availability and quality
		Reduce network failures and bottlenecks as soon as possible	Establish spare part stock
			Establish network management and monitoring service

INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT
TELKOM ORGANIZATIONAL CHART
 (as of December 31, 1994)

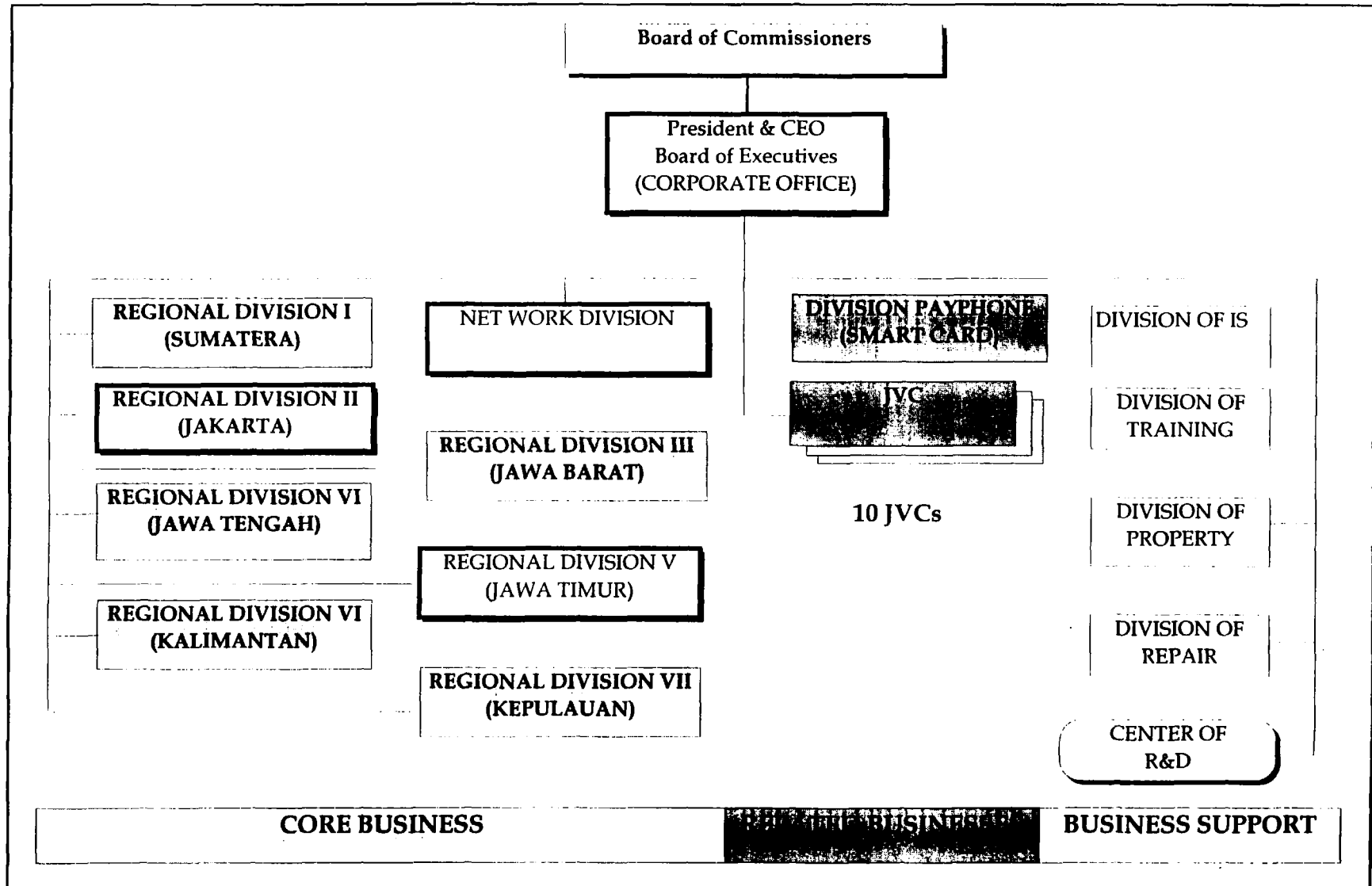


* Board of Directors

INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

TELKOM RESTRUCTURING PLAN



INDONESIA

PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

TELKOM Staff Composition, Productivity and Education

Employees by Category, 1985 - 1993

A. TELKOM Staff Composition, Productivity and Education

Position: December 1993

Category	1985	1986	1987	1988	1989	1990	1991	1992	1993
Management and Administration	8,963	9,718	10,055	10,013	9,912	9,790	9,707	9,610	9,572
Engineers	796	897	891	954	1,033	1,112	1,729	2,585	2,843
Technicians	15,249	16,674	17,585	17,487	17,118	16,749	16,428	16,061	15,695
Operation	6,833	7,143	7,438	7,379	7,321	7,237	7,193	7,061	6,965
Other	4,370	4,588	4,924	4,457	4,398	4,556	4,463	4,063	3,973
Total	36,211	39,020	40,893	40,290	39,782	34,444	39,520	39,380	39,048

Ratio Staff to Working Lines, 1985 - 1998

Position: December 1993

Year	Number of Employees	Subscribers (CML + Off)	Employees 1000 Subsc.
1985	36,211	606,095	60
1986	39,020	662,450	59
1987	40,893	742,224	55
1988	40,290	809,023	50
1989	39,782	857,767	46
1990	39,444	1,036,576	38
1991	39,520	1,271,274	31
1992	39,380	1,542,595	26
1993	39,048	1,963,667	20
1994	44,464 *	2,711,010	16
1995	44,078 *	3,503,271	13
1996	45,642 *	4,012,000	12
1997	47,482 *	4,784,000	10
1998	48,006 *	6,320,000	8

* Source: Human Resources Directorate

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATION SECTOR MODERNIZATION PROJECTS

Employees by Education (December 1993)

EDUCATION	No. of Employees	%
University	2,647	6.78
Academy	2,481	6.35
Senior High School	22,532	57.70
Junior High School	6,813	17.45
Elementary School	4,575	11.72
Total	39,048	100

educat.wk4

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

The Number of Subscribers and Employees

COUNTRY	NUMBER OF SUBSCRIBER	NUMBER OF EMPLOYEES	SUBSCRIBERS/ EMPLOYEE	EMPLOYEES/ 1,000 SUBSCRIBERS
SINGAPORE	1,085,679	7,457	145.6	6.9
MALAYSIA	1,816,860	28,797	63.1	15.8
THAILAND	155,316	2,484	62.5	16.0
PHILIPPINES	648,309	20,887	31.0	32.2
BRUNEI	39,092	927	42.2	23.7
INDONESIA *)	1,271,274	39,520	32.2	31.1
PAKISTAN	1,116,113	54,084	20.6	48.5
INDIA	5,074,734	339,814	14.9	67.0
SAUDI ARABIA	1,466,311	20,454	71.7	13.9
HONG KONG	2,598,397	13,002	199.8	5.0
KOREA (REPUBLIK)	14,831,659	58,886	251.9	4.0
JAPAN	55,888,000	266,053	210.1	4.8
AUSTRALIA	8,046,029	79,219	101.6	9.8
FRANCE **)	29,080,190	156,200	186.2	5.4
GERMANY (F.R) '90	29,980,000	212,205	141.3	7.1
CANADA	15,807,984	-	-	-
UNITED KINGDOM	25,595,000	210,500	121.6	8.2

Source : ITU, " Yearbook of Common Carrier Telecommunication Statistics (20th Edition)

Note : Data with no mark is as of 1991 year

value of GERMANY is as of 1990 year

*) Value of INDONESIA is Data of PT.TELKOM

***) Value of FRANCE is only Metropolitan Area

KOREA TELECOM PRODUCTIVITY IMPROVEMENT

	1991	1993
Total Staff	56827	59907
Customer lines/employee	256	278
Digital Switching	92%	95%

SINGAPORE TELECOM PRODUCTIVITY

	1991	1992/1993
Total Staff	9800	10586
Customer lines/employee	112	107
Digital Switching	71%	77%

MALAYSIA TELEKOM PRODUCTIVITY IMPROVEMENT

	1991	1993
Total Staff	28797	30186
Customer lines/employee	63	81
Digital Switching	78%	85%

kor-tel.WK4

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
ESTIMATION OF HUMAN RESOURCES
UP TO 1998

LOCATION (WITEL)	1993 (POSITION DEC. 31, 1993)	1994 (EST. OF REALIZATION)	1995	1996	1997	1998
JOS (KSO)	22,547	25,438	25,520	25,206	25,942	25,912
TELKOM	16,501	19,026	18,558	20,436	21,540	22,094
TOTAL NATIONAL	39,048	44,464	44,078	45,642	47,482	48,006

estimHR.WK4

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT
PROJECT COMPONENTS

1. WORLD BANK FINANCE

SOURCE OF FUND	BID PACKAGE (Contractor)	DESCRIPTION OF PROJECT
IBRD	OPN CUSTOMER ACCESS NETWORK - FO	Access Network 202,000 lu, fiber optic system, Jakarta and Surabaya
	JUNCTION NETWORK Synchronous Digital Hierarchy Overlay (SDH)	- Installation SDH overlay between 6 Tandem Exchanges in Jakarta - SDH equipment for 13,600 X 2 Mbps system
	SUBMARINE CABLE SYSTEM Surabaya-Ujungpandang-Banjarmasin (SMC-SUB)	Field survey and design Procurement, delivery, installation, equipment , testing and Commissioning
	SUBMARINE CABLE SYSTEM Pangkalpinang-Pontianak (SMC-PP)	Field survey and design Procurement, delivery, installation, equipment , testing and Commissioning
	Technical Assistance a. Sector Development : MTPT b. Training : MTPT	Institution Building Capacity Building

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

2. KFW FINANCE

SOURCE OF FUND	BID PACKAGE (Contractor)	DISCRIPTION OF PROJECT
KFW FINANCE	STDI-1 Phase VII B (EWS/SIEMENS)	Exchange : 21,010 LU in Witel IV and 7,524 in Witel VII
	STDI-1 Phase VIII	Exchange : 211,560 LU in Witel IV and 101,102 in Witel VII
	REMOTE AREA IV	2 locations in WITEL IV and Witel VII

3. JAPAN EXIM, US EXIM FINANCE

SOURCE OF FUND	BID PACKAGE (Contractor)	DISCRIPTION OF PROJECT
JAPAN EXIM	STDI-2 Nusa Phase-II	Exchange : - Witel IV = 183,000 LU - Witel VII = 30,000 LU
US EXIM	STDI-2 Citra Phase-II	Exchange : - Witel IV = 191,000 LU - Witel VII = 15,000 LU

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

4. FRANCE FINANCE

SOURCE OF FUND	BID PACKAGE (Contractor)	DISCRIPTION OF PROJECT
FRANCE	1). RURAL PHASE-IV	4 Systems for 23 sites/locations in Witel IV and 4 systems for 12 sites/locations in Witel VII
	2). Northern Route Fiber Optic	Fiber Optic Jakarta - Surabaya using SDH system as a second back-bone and standby system.

file : France.WK4

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

5. OECF FINANCE

SOURCE OF FUND	BID PACKAGE (Contractor)	DESCRIPTION OF PROJECT
OECF	Gerbang Kertosusila (GKS)	Switching Equipment 78,000 LU Local Cable Network 66,500 pairs. Radio Transmission and Rural Fiber Optic Junction
	Expanded Jakarta Area (EJA)	Switching Equipment 178,000 LU Local Cable Network 98,500 pairs. Inner Link Fiber Optic Junction Building
	OPMC - II	2 locations, Building included in Witel IV and Witel VII

6. TELKOM

SOURCE OF FUND	BID PACKAGE (Contractor)	DESCRIPTION OF PROJECT
TELKOM	1) Expansion Submarine Cable Surabaya - Banjarmasin	Second bearer and expansion multiplex capacity
	2) Expansion Digital Microwave Multiplex Cross Sumatra	Expansion the multiplex capacity
	3) Ujungpandang - Pagal Digital Microwave	Five sites microwave stations.
	4) IN / ISDN	Utilization of modern technology
	5) COMPUTER	Network System Integration
	6) PROTAP	Exchange 4,000 lu in Witel IV and 18,017 lu in Witel VII
	7) TECHNICAL ASSISTANCE Project Implementation Support a. Consultancy b. Training	Support and Assist TSMP Implementation Unit Increase Skill and Knowledge

INDONESIA
PT. TELEKOMUNIKASI INDONESIA (TELKOM)
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT
INVESTMENT PROGRAM
1994-1998

NO	PROJECT	LOCAL	FOREIGN	TOTAL	LOCAL	FOREIGN	TOTAL
		(Rp. Billion)			(USD Million)		
I	ONGOING PROGRAM						
	A. Telecom III Project	89.08	177.04	266.12	40.62	80.73	121.35
	B. Telecom IV Project	640.25	280.70	920.95	291.95	128.00	419.95
	C. Other Ongoing Project	4,447.14	2,328.15	6,775.30	2,027.88	1,061.63	3,089.51
	Total Cost Ongoing Program	5,176.47	2,785.90	7,962.37	2,360.45	1,270.36	3,630.81
II	TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT						
	1. SWITCHING EXCHANGE	205.66	526.03	731.70	93.78	239.87	333.65
	2. OUTSIDE PLANT NETWORK (OPN)	382.64	459.66	842.29	174.48	209.60	384.08
	3. TRANSMISSION	233.47	457.80	691.27	106.46	208.76	315.22
	4. JUNCTION NETWORK	53.51	148.81	202.33	24.40	67.86	92.26
	5. ADVANCED SERVICE NETWORK	36.67	0.00	36.67	16.72	0.00	16.72
	6. COMPUTER SUPPORT SYSTEM	1.93	20.57	22.50	0.88	9.38	10.26
	7. Technical Assistance						
	(i) Capacity Building						
	- MTPT	1.11	11.85	12.96	0.51	5.41	5.91
	- TELKOM	12.15	0.00	12.15	5.54	0.00	5.54
	(ii) Training						
	- MTPT	0.39	4.12	4.51	0.18	1.88	2.06
	- TELKOM	1.16	12.37	13.53	0.53	5.64	6.17
(iii) Project Implement. Support	21.87	0.00	21.87	9.97	0.00	9.97	
	Total Base Cost	950.56	1,641.22	2,591.78	433.45	748.39	1,181.84
	Physical Contingency	47.53	82.06	129.59	21.67	37.42	59.09
	Price Contingency	82.11	22.70	104.80	37.44	10.35	47.79
	TOTAL PROJECT COST TSMP	1,080.19	1,745.98	2,826.17	492.56	796.16	1,288.72
III	FUTURE PROGRAM	970.49	2,000.30	2,970.79	442.54	912.13	1,354.67
	TOTAL PROGRAM COST	7,227.15	6,532.18	13,759.33	3,295.55	2,978.65	6,274.20

INDONESIA
PT. TELEKOMUNIKASI INDONESIA
TELECOMMUNICATIONS SECTOR
INVESTMENT PROGRAM
1994-1998
(USD MILLION)

NO	PROJECT	1994			1995			1996			1997			1998			GRAND TOTAL		
		LC	FC	TOTAL	LC	FC	TOTAL	LC	FC	TOTAL	LC	FC	TOTAL	LC	FC	TOTAL	LC	FC	TOTAL
I	ONGOING PROGRAM																		
	A. Telecom III Project	24.37	48.44	72.81	16.25	32.29	48.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.62	80.73	121.35
	B. Telecom IV Project	72.99	32.00	104.99	87.59	38.40	125.99	72.99	32.00	104.99	58.38	25.60	83.98	0.00	0.00	0.00	291.95	128.00	419.95
	C. Other Ongoing Projects	446.26	435.35	881.61	527.36	408.34	935.70	659.77	188.27	848.04	297.33	29.67	327.00	97.16	0.00	97.16	2,027.88	1,061.63	3,089.51
	Total Cost Ongoing Program	543.62	515.79	1,059.41	631.20	479.03	1,110.23	732.76	220.27	953.03	355.71	55.27	410.98	97.16	0.00	97.16	2,360.45	1,270.36	3,630.81
II	TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT 1/																		
	1. SWITCHING EXCHANGE - Expansion	35.17	40.83	76.00	41.56	117.38	158.95	29.84	96.97	126.81	0.00	0.00	0.00	0.00	0.00	0.00	106.57	255.18	361.75
	2. OUTSIDE PLANT NETWORK (OPN) - Expansion	0.00	0.00	0.00	47.59	46.83	94.41	89.22	93.65	182.88	61.47	82.50	143.97	0.00	0.00	0.00	198.28	222.98	421.26
	3. TRANSMISSION - Expansion	6.05	19.99	26.04	48.39	84.39	132.78	59.28	97.72	157.00	7.26	19.99	27.25	0.00	0.00	0.00	120.98	222.08	343.06
	4. JUNCTION NETWORK : - Expansion	0.00	0.00	0.00	8.87	24.54	33.42	11.09	28.88	39.97	7.76	18.77	26.53	0.00	0.00	0.00	27.73	72.19	99.92
	5. ADVANCED SUPPORT SYSTEM	0.00	0.00	0.00	6.84	0.00	6.84	10.64	0.00	10.64	1.52	0.00	1.52	0.00	0.00	0.00	19.00	0.00	19.00
	6. COMPUTER SUPPORT SYSTEM	0.00	0.00	0.00	0.20	2.00	2.20	0.75	7.49	8.23	0.05	0.50	0.55	0.00	0.00	0.00	1.00	9.98	10.98
	7. TECHNICAL ASSISTANCE																		
	(i) Capacity Building																		
	- MTPT	0.00	0.00	0.00	0.07	0.75	0.82	0.12	1.15	1.27	0.17	1.73	1.90	0.21	2.13	2.34	0.58	5.75	6.33
	- TELKOM	0.00	0.00	0.00	0.82	0.00	0.82	1.26	0.00	1.26	1.89	0.00	1.89	2.33	0.00	2.33	6.30	0.00	6.30
	(ii) Training																		
	- MTPT	0.00	0.00	0.00	0.03	0.26	0.29	0.04	0.40	0.44	0.06	0.60	0.66	0.07	0.74	0.81	0.20	2.00	2.20
	- TELKOM	0.00	0.00	0.00	0.08	0.78	0.86	0.12	1.20	1.32	0.18	1.80	1.98	0.22	2.22	2.44	0.60	6.00	6.60
	(iii) Project Implement. Support	0.00	0.00	0.00	4.53	0.00	4.53	3.97	0.00	3.97	2.83	0.00	2.83	0.00	0.00	0.00	11.33	0.00	11.33
	TOTAL PROJECT COST TSMP	41.22	60.82	102.03	158.98	276.93	435.91	206.32	327.45	533.77	83.19	125.88	209.08	2.84	5.09	7.93	492.56	796.16	1,288.72
III	FUTURE PROGRAM	0.91	9.14	10.05	5.34	41.01	46.35	10.58	85.26	95.84	80.01	345.19	433.20	337.70	431.53	769.23	442.54	912.13	1,354.67
	TOTAL PROGRAM COST	585.75	585.75	1,171.49	795.52	796.97	1,592.49	949.66	632.98	1,582.64	526.91	526.34	1,053.26	437.70	436.62	874.32	3,295.55	2,978.65	6,274.20

1/ Contract for all co-financed items are signed. Cost estimates for World Bank financed items includes physical & price contingencies.

INDONESIA - TELECOMMUNICATION SECTOR MODERNIZATION PROJECT PT. TELEKOMUNIKASI INDONESIA PROCUREMENT PACKAGES AND SCHEDULE																					
ID	Task Name	Source of F.	REMARKS	1992				1993				1994				1995				1996	
				Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	
1	1 STD1-1 PHASE VII B	KfW																			
2	1.1 a. Bidding																				
3	1.2 b. Evaluation																				
4	1.3 c. Approval																				
5	1.4 d. Contract Discussion		March 1993																		
6	1.5 e. EDC		Sept. 10, 1993																		
7	2 STD1-1 PHASE VIII	KfW																			
8	2.1 a. Bidding																				
9	2.2 b. Evaluation																				
10	2.3 c. Approval																				
11	2.4 d. Contract Discussion		Oct. 29, 1993																		
12	2.5 e. EDC		Mar 29, 1994																		
13	3 STD1-2 NUSA PHASE II	JAPAN/EXIM																			
14	3.1 a. Bidding																				
15	3.2 b. Evaluation																				
16	3.3 c. Approval																				
17	3.4 d. Contract Discussion		Apr. 14, 1994																		
18	3.5 e. EDC		Aug. 25, 1994																		
19	4 STD1-2 CITRA PHASE II	US/EXIM																			
20	4.1 a. Bidding																				
21	4.2 b. Evaluation																				
22	4.3 c. Approval																				
23	4.4 d. Contract Discussion		Aug. 9, 1994																		
24	4.5 e. EDC		Nov. 16, 1994																		

Task		Baseline Milestone		Baseline Summary	
Progress		Summary		Rolled Up Baseline	
Baseline		Rolled Up Task		Rolled Up Baseline Milestone	
Milestone		Rolled Up Milestone		Rolled Up Progress	

INDONESIA - TELECOMMUNICATION SECTOR MODERNIZATION PROJECT PT. TELEKOMUNIKASI INDONESIA PROCUREMENT PACKAGES AND SCHEDULE																						
ID	Task Name	Source of F.	REMARKS	1992				1993				1994				1995				1996		1
				Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2		
73	13 GERBANG KERTASUSILA (GKS)	OECF																				
74	13.1 a. Bidding																					
75	13.2 b. Evaluation																					
76	13.3 c. Approval																					
77	13.4 d. Contract Discussion																					
78	13.5 e. EDC																					
79	14 EXPANDED JAKARTA AREA	OECF																				
80	14.1 a. Bidding																					
81	14.2 b. Evaluation																					
82	14.3 c. Approval																					
83	14.4 d. Contract Discussion																					
84	14.5 e. EDC																					
85	15 SBY-UP-BJM & PKP-PTK SUBMARINE CABLE	IBRD																				
86	15.1 a. Bidding																					
87	15.2 b. Evaluation																					
88	15.3 c. Approval																					
89	15.4 d. Contract Discussion																					
90	15.5 e. EDC																					
91	16 OUTSIDE PLANT MAINTENANCE CENTER(OPMC)PH-	OECF																				
92	16.1 a. Bidding																					
93	16.2 b. Evaluation																					
94	16.3 c. Approval																					
95	16.4 d. Contract Discussion																					
96	16.5 e. EDC																					

Task		Baseline Milestone		Baseline Summary	
Progress		Summary		Rolled Up Baseline	
Baseline		Rolled Up Task		Rolled Up Baseline Milestone	
Milestone		Rolled Up Milestone		Rolled Up Progress	

INDONESIA - TELECOMMUNICATION SECTOR MODERNIZATION PROJECT PT. TELEKOMUNIKASI INDONESIA PROCUREMENT PACKAGES AND SCHEDULE																						
ID	Task Name	Source of F.	REMARKS	1992		1993				1994				1995				1996				1
				Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2		
97	17 COMPUTERIZED SUPPORT SYSTEM NETWORK INTE:	TELKOM																				
98	17.1 a. Bidding																					
99	17.2 b. Evaluation																					
100	17.3 c. Approval																					
101	17.4 d. Contract Discussion																					
102	17.5 e. EDC																					
103	18 CONSTRUCTION SUPERVISION	TELKOM																				
104	18.1 a. Bidding																					
105	18.2 b. Evaluation																					
106	18.3 c. Approval																					
107	18.4 d. Contract Discussion																					
108	18.5 e. EDC																					
109	19 RESTRUCTURIZATION CONSULTANT	TELKOM																				
110	19.1 a. Bidding																					
111	19.2 b. Evaluation																					
112	19.3 c. Approval																					
113	19.4 d. Contract Discussion																					
114	19.5 e. EDC																					

Task		Baseline Milestone		Baseline Summary	
Progress		Summary		Rolled Up Baseline	
Baseline		Rolled Up Task		Rolled Up Baseline Milestone	
Milestone		Rolled Up Milestone		Rolled Up Progress	

INDONESIA**TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT****Disbursement Schedule
(US\$ Million)**

Bank FY	Semester		Disbursement		Cumulative %	Asia Telecom. Sector Profile %
	No.	Ending	Semester	Cumulative		
1996	I	Dec. 31, 1995	0.0	0.0	0.0	0
	II	June 30, 1996	15.0	15.0	4.3	10
1997	I	Dec. 31, 1996	30.0	45.0	13.0	14
	II	June 30, 1997	30.0	75.0	23.0	30
1998	I	Dec. 31, 1997	30.0	105.0	32.5	42
	II	June 30, 1998	45.0	150.0	46.5	54
1999	I	Dec. 31, 1998	50.0	200.0	61.5	62
	II	June 30, 1999	50.0	250.0	76.5	74
2000	I	Dec. 31, 1999	30.0	280.0	86.5	82
	II	June 30, 2000	45.0	325.0	100	86
2001	I	Dec. 31, 2000	0.0	325.0	100	98
	II	June 30, 2001	0.0	325.0	100	100

INDONESIA

TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

Bank Supervision Plan

Date/ Project year/ Duration	Activity - Major Focus	Skills Needed	Staff weeks required
11/1995 PY1 2 wks	Project Management and Coordination, review TELKOM's corporate plan, 1996 budget proposals and blue book proposals, consultant appointment and overseas fellowship program	TM; EC; FA	2 weeks
04/1996 PY2 2 wks	Review JOS arrangements, procurement arrangements, monitoring TELKOM's restructuring plan, review of law reform activities, review of framework for private sector participation.	TM; EC; FA, TL	3 weeks
11/1996 PY3 3 weeks	Review TELKOM's corporate plan, 1997 budget and Blue book proposals, monitor JOS implementation and TELKOM plans and timing for IPO	TM; EC; FA	3 weeks
04/1997 PY3 2 wks	Review TELKOM's marketing activities, Intelligent-Network rollout plan, monitoring divestiture of TELKOM's Shares in its JVCs	EC; TM; FA	3 weeks
11/1997 PY3 2 wks	Review and comment on TELKOM's corporate plan, 1998 budget and Blue book proposals. Monitor and discuss effective use of funds generated through IPO and divestiture arrangements. Review consultant's report on TELKOM and JOS operator's performance.	TM; EC	2 weeks
04/1998 PY4 2 wks	Review and comment on WARTEL and pay phone provision plans expansion, monitoring JOS schemes, performance indicators, monitor and discuss new technology implementations.	TM; TL EC; FA	3 weeks
11/1998 PY4 2 wks	Review TELKOM's corporate plan, 1999 budget and Blue book proposals, monitoring and discussing JOS schemes, reviewing law reform status. Discuss TELKOM and JOS performance.	TM; EC; FA	2 weeks
04/1999 PY5 2 wks	Reviewing cellular market restructuring plans, spectrum management and standards setting, consultant's progress reporting and site visit to Sumatra.	TM; EC; FA	2 weeks
11/1999 PY5 2 WKS	Reviewing and commenting on TELKOM's corporate plan, 2000 budget and Blue book proposals, site visits to Bandung and Surabaya. Discuss TELKOM and JOS performance.	TM; EC; FA	2 weeks
04/2000 PY6 2 wks	Overall review of sector performance and competition, discussing plans for a workshop with the major stakeholders in the sector	TM; EC; FA	2 weeks
11/2000 PY6 2 wks	Participation in the workshop on issues and options to promote competition in the sector, reviewing TELKOM's corporate plan, 2001 budget and Blue book proposals. Discuss TELKOM and JOS performance.	TM; EC; FA	2 weeks
04/2001 PY7 2 wks	Site visits to JOS territories, sector review, consultant's final reports and review of lessons learned	TM; EC; FA	2 weeks
11/2001 PY7 2 wks	Discussing implementation completion report preparation, review status of bank loan, utilization and overall technical and financial review	TM; EC; FA	2 weeks
04/2002 PY8 2 wks	Project completion mission	TM; EC; FA	2 weeks

TM - Task Manager; EC - Economist; FA - Financial Analyst; TL - Telecom Lawyer.

INDONESIA
PT. TELEKOMUNIKASI INDONESIA (TELKOM)
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

Historical Income Statements
(Current Rp. Billions)

Fiscal Year Ending December 31	1990	1991	1992	1993	1994
Operating Revenue:					
Telephone	1,149.1	1,647.1	2,034.7	2,607.5	3,102.2
Telex	70.5	82.8	80.5	71.4	62.4
Telegram	14.7	19.0	19.5	19.5	17.6
Other Services	58.7	107.1	130.1	192.1	223.8
RSA	0	0	16.82	29.1	66.7
Total Revenue	1,293.0	1,856.0	2,281.7	2,919.6	3,696.4
Operating Expenses:					
Personnel	384.1	456.4	555.0	668.0	921.1
General & Administration	144.3	202.4	250.2	300.6	352.9
Repair & Maintenance	62.7	76.0	90.2	102.6	137.0
Depreciation	409.5	682.4	823.9	1,041.4	1,243.4
Amortization	115.3	37.6	163.9	271.8	263.1
Provisions	13.6	28.3	9.9	11.2	38.1
Others	0.0	0.0	0.0	0.0	0.0
Total Expenses	1,129.5	1,483.0	1,893.2	2,395.6	2,955.6
Net Operating Income	163.6	373.0	388.5	524.0	740.8
Interest-LTD	77.1	179.4	145.0	151.4	158.5
Net Non-Operating Income	107.6	75.6	80.1	78.6	107.4
Extra Ordinary Gain (Loss)	1.7	0.0	0.0	7.5	0.0
Pre-tax Income	195.7	269.2	323.5	458.8	689.7
Income Tax	65.9	82.6	128.5	174.0	271.6
Net Income	129.8	186.5	195.0	284.7	418.1

100
INDONESIA
PT TELEKOMUNIKASI INDONESIA (TELKOM)
TELECOMMUNICATIONS MODERNIZATION PROJECT

Historical Balance Sheets
(Current Rp. Billions)

Annex 19
Page 2 of 2

Fiscal Year Ending December 31	1990	1991	1992	1993	1994
Current Assets					
Cash & Banks	89.6	100.0	121.7	166.5	236.9
Short Term Investment	340.3	439.6	559.5	624.3	614.7
Accounts Receivable	160.2	110.5	120.3	152.4	210.4
Other Receivables	3.7	5.6	6.1	3.8	34.6
Inventories	104.0	167.8	173.2	206.5	229.0
Advance Payments	368.9	401.2	410.9	331.5	412.2
Total Current Assets	1,066.6	1,224.7	1,391.7	1,484.9	1,737.8
Gross Fixed Assets	3,568.5	2,412.1	3,852.7	5,703.9	7,743.1
Less Accumulated Depreciation	2,044.7	206.6	1,030.6	2,068.7	3,327.9
Net Fixed Assets	1,523.8	2,205.5	2,822.1	3,635.2	4,415.2
Construction in Progress	745.8	852.4	961.4	1,108.8	925.5
Long Term Investment				37.5	66.5
Deferred Charges	500.9	437.4	577.4	553.5	576.4
TOTAL ASSETS	3,837.2	4,720.0	5,752.6	6,819.9	7,721.4
Current Liabilities					
Accounts Payables	271.4	383.0	391.7	354.2	400.6
Other Payables	182.6	138.2	324.0	279.3	374.1
Current Portion LT debt	253.1	206.8	212.2	344.0	406.8
Total Current Liabilities	707.1	728.0	928.0	977.5	1,181.5
Long term Debt	1,366.2	1,645.3	1,987.4	2,705.1	3,367.8
Deferred Income(Install. Charge)	65.1	38.0	78.6	120.1	165.2
Other Long Term Liabilities	83.0	175.8	399.0	284.1	17.2
Total Liabilities	2,221.3	2,587.2	3,393.0	4,086.8	4,731.7
Equity					
Government Equity	1,310.2	2,002.9	2,063.7	2,217.9	2,221.5
Reserves & Retained Earnings	305.7	129.8	295.7	515.2	768.2
Total Equity	1,615.9	2,132.7	2,359.4	2,733.1	2,989.7
TOTAL LIABILITIES & EQUITY	3,837.2	4,720.0	5,752.5	6,819.9	7,721.4

INDONESIA**PT. TELEKOMUNIKASI INDONESIA (TELKOM)****TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT****Assumptions Used for Financial Projections****Price Levels and Tariffs**

1. **Prices:** The foreign and domestic inflation rates of 2.2% and 5.0% p.a., respectively, are assumed for the projection period. The exchange rate of Rp. 2,193 to the US dollar is used.
2. **Tariffs:** Tariffs schedules as shown in Annex 4 are used through 1996. From 1997 onward call and installation charges are assumed to decline annually by 5% and 25%, respectively.
3. **Future Facilities.** The number of connection for telephone, staffing, quality of service and other productivity improvements for the projection period are shown in Annex 7 (Agreed Performance Indicators).

Income Statements

4. **Operating Revenues.** The operating revenue is generated from network managed by TELKOM and the network that is expected to be managed by the Joint Operations Scheme (JOS) Division in the five areas starting in 1996. The contribution of revenue from the JOS Divisions to TELKOM consists of (i) initial investor payment, (ii) minimum revenue contribution by the JOS to TELKOM to manage TELKOM's existing network; and (iii) revenue sharing arrangement of the distributable revenue (which is the gross revenue minus cash operating cost of the total network and minimum guaranteed revenue to TELKOM for managing its existing network). Initial investor payment and minimum TELKOM revenue are based on the results of the bidding held on March 21, 1995. As for revenue share, it is assumed that TELKOM will receive an average 20% of the distributable revenue. The operating revenue for each of the services are calculated as follows:
 - (i) Telephone and Telex - Traffic revenues are calculated by multiplying the total traffic (pulses or minutes) by the price per pulse or minute for local, long distance and international calls. Traffic of domestic automatic per line is assumed to decline at an annual rate of 5%. For international revenue projection, the revenue sharing with INDOSAT is assumed at 25%, starting January 1995 (to TELKOM) throughout the projection period. The

rental revenue is calculated on the basis of existing lines and additional lines installed during each year. The installation revenue charge for each year is calculated on new lines installed during the year with 50% shown as revenue for the year and the remainder as revenue for the following year.

- (ii) Existing Revenue Sharing Arrangement (RSA): The share of TELKOM's revenue from RSA is assumed at 30% of the pulse revenue.

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

- (I) Personnel cost is calculated as the average number of employees times average salary, including benefits, 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 10% p.a. in real terms due to the effects of salary increases as well as the change in staff profile with a higher percentage of more qualified staff.
- (ii) General and administrative cost per staff is assumed to grow by 10% annually.
- (iii) Repair and maintenance cost is calculated as the average number of main lines times repair and maintenance (R&M) per average main line. R&M per main line and is assumed to increase by 5% per annum in real terms.
- (iv) Provision for doubtful debt is a percentage of billed revenues and is projected at 5% of outstanding accounts receivable.
- (v) Other expenses are estimated at 2.5% of revenue.
- (vi) Depreciation is on a double declining method. It is assumed depreciation rate will decline gradually to 22% during the projection period.

Balance Sheet Items

6. Gross Fixed Assets reflect the investment program in Annex 14 and transfers from work-in-progress.

7. Accounts Receivable is measured as the number days of total operating revenue. It is assumed to remain at 20 days of TELKOM's billing during the projection period.

8. Inventories are estimated as a percentage on gross fixed assets in service and are projected to reduce to 5.0% of gross assets by 1996. Provision for inventory is assumed at 3.0% of inventory.

9. Other Receivable are assumed to remain at 1.0% of operating revenue.
10. Accounts Payable is assumed at 15.0% of capital investment.
11. Advanced Payments are assumed to remain at 20% of capital investment.
12. Other Payables are assumed at 25% of cash operating cost.
13. Long-term debt are based on the TELKOM's financing committed under the on-going program and project financing plan. The terms of foreign borrowings are assumed to be 20 years including 5 years' grace, at average rates of 13.5 percent per annum. TELKOM's finances all local costs. It is also assumed that government loans will be repaid in advance from 1997 to maintain sound liquidity position.
14. Appropriation of Net Profit Dividend payment, bonus to employees, other contribution are assumed to remain at 45%, 20% and 5%, respectively. TELKOM retains 52% of its profits.
15. Duties and taxes: TELKOM is subject to a 10% value added tax (VAT) and to 35% corporate income tax.

INDONESIA
PT TELEKOMUNIKASI INDONESIA (TELKOM)
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

Projected Income Statements
(Current Rp. Billions)

Fiscal Year Ending December 31	1995 -Budget-	1996	1997 Forecast	1998	1999
Operating Revenue:					
Telephone	4,244.6	2,947.3	3,438.2	4,007.1	4,499.4
Telex	63.0	30.6	24.9	20.1	17.0
Telegram	15.9	11.1	11.7	12.2	13.6
Other Services	191.3	218.0	246.4	265.9	287.8
RSA	91.6	138.0	124.8	112.9	102.1
JOS		1,572.5	1,572.5	1,572.5	1,572.5
Total Revenue form TELKOM's Network	4,606.4	4,917.5	5,418.5	5,990.6	6,492.3
JOS Revenue Sharing (New Network)		0.0	0.0	55.5	144.2
Gross Revenue	4,606.4	4,917.5	5,418.5	6,046.1	6,636.5
Operating Expenses:					
Salaries and Wages	962.1	590.1	703.4	845.4	1,030.4
General & Administration	549.5	344.9	411.1	494.1	602.2
Repair & Maintenance	196.2	130.3	187.6	271.4	374.2
Depreciation	1,658.5	1,629.0	1,692.3	1,600.4	1,527.4
Amortization	217.8	325.7	283.0	258.1	229.0
Provisions	22.1	31.3	25.5	34.3	38.2
Other Expenses	48.0	122.9	135.5	151.2	132.7
Total Expenses	3,654.2	3,174.2	3,438.2	3,654.9	3,934.1
Operating Income	952.2	1,743.4	1,980.2	2,391.3	2,702.4
Interest-LTD	292.3	332.3	439.7	457.5	574.5
Non-operating Revenue	66.7	30.0	33.6	25.8	20.9
Initial Investors Payment (JOS)		202.9			
Pre-tax Income	726.6	1,644.0	1,574.1	1,959.5	2,148.8
Income Tax	254.3	575.4	550.9	685.8	752.1
Net Income	472.3	1,068.6	1,023.2	1,273.7	1,396.7

INDONESIA
PT TELEKOMUNIKASI INDONESIA (TELKOM)
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

Projected Balance Sheets
(Current Rp. Billions)

Fiscal Year Ending December 31	1995	1996	1997	1998	1999
	-Budget-	Forecast			
Current Assets:					
Cash	180.6	227.0	180.6	176.0	193.3
Short Term Investment	65.4	373.0	491.8	339.3	223.9
Accounts Receivable	232.4	247.0	285.4	317.9	348.7
Other Receivables	2.1	49.2	54.2	60.5	66.4
Inventories	235.0	322.3	438.8	572.9	636.1
Prepayment	327.0	434.4	461.9	477.2	465.0
Total Current Assets	1,042.5	1,652.8	1,912.6	1,943.8	1,933.4
Gross Fixed Assets	10,862.7	13,214.5	15,066.3	16,940.9	18,809.7
Less Accumulated Depreciation	5,076.8	6,705.8	8,398.0	9,998.4	11,525.8
Net Fixed Assets	5,785.9	6,508.7	6,668.3	6,942.5	7,284.0
Work in Progress	1,165.1	2,372.7	2,638.9	2,774.2	2,753.0
Long Term Investment	80.2	100.2	120.2	140.2	160.2
Net Deferred Charges	422.7	566.0	516.3	458.0	416.2
TOTAL ASSETS	8,496.4	11,200.3	11,856.3	12,258.7	12,546.8
Current Liabilities:					
Accounts Payables	434.5	347.5	346.4	286.3	279.0
Other Payables	335.8	773.0	904.7	973.3	1,042.0
Current Portion LT Debt	292.0	403.0	636.9	564.7	526.5
Total Current Liabilities	1,062.3	1,523.5	1,888.1	1,824.3	1,847.5
Long Term Debt	3,572.6	4,560.0	4,573.0	4,196.8	3,793.2
Deferred Income	243.8	137.5	128.9	108.3	81.2
Other Long-term Liabilities	374.2	377.9	381.7	385.5	389.4
Total Liabilities	5,252.9	6,599.0	6,971.7	6,514.9	6,111.3
Equity:					
Government Paid-in-Capital	2,217.9	2,217.9	2,217.9	2,217.9	2,217.9
Reserves	553.3	1,314.9	1,643.5	2,252.1	2,820.9
Retained Earnings	472.3	1,068.6	1,023.2	1,273.7	1,396.7
Total Equity	3,243.5	4,601.4	4,884.6	5,743.7	6,435.5
TOTAL LIABILITIES & EQUITY	8496.4	11,200.3	11,856.3	12,258.7	12,546.8

INDONESIA
PT TELEKOMUNIKASI INDONESIA (TELKOM)
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

Projected Sources and Uses of Funds
(Current Rp. Billions)

Fiscal Year Ending December 31	1995 -Budget-	1996	1997 Forecast	1998	1999
Sources:					
Net Income	472.3	1,068.6	1,023.2	1,273.7	1,396.7
Depreciation	1,658.5	1,629.0	1,692.3	1,600.4	1,527.4
Amortization	217.8	325.7	283.0	258.1	229.0
Interest	292.3	332.3	439.7	457.5	574.5
Deferred Install. Charges (Net)	260.1	176.8	137.5	128.9	108.3
Internal Cash Generation	2,901.0	3,532.4	3,575.6	3,718.6	3,835.8
Total Transfers	224.7	307.0	694.6	665.1	827.9
Debt Service					
Interest	292.7	332.3	439.7	457.5	574.5
Principal	326.2	292.0	403.0	636.9	564.7
Total Debt Service	618.9	624.3	842.7	1,094.4	1,139.2
Net Internal Cash Generation	2,057.4	2,601.1	2,038.3	1,959.2	1,868.7
Other Long Term Liabilities	335.0	3.7	3.8	3.8	3.9
Loans	813.8	1,390.4	649.9	188.5	122.9
TOTAL SOURCES	3,206.2	3,995.2	2,692.0	2,151.5	1,995.5
Applications:					
Total Capital Investment	3,496.8	3,474.8	2,309.6	1,908.9	1,860.0
Change in Working Capital	-557.9	260.1	129.2	22.7	-57.7
Deferred Charges (IDC)	235.8	240.3	233.3	199.9	173.2
Long Term Investments	31.5	20.0	20.0	20.0	20.0
TOTAL APPLICATIONS	3,206.2	3,995.2	2,692.0	2,151.5	1,995.5

INDONESIA
PT. TELEKOMUNIKASI INDONESIA (TELKOM)
TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT

Return on Investments

Assumptions

The assumptions made in deriving the benefit and costs streams used to calculate the financial and economic rates of return on investments are outlined below.

Capital Cost

TELKOM's investment program over the period 1994-1998 has been categorized as investments under (i) ongoing works, (ii) investments included in the Telecommunications Sector Modernization Project and (iii) future works. Investments under the TSM Project would also benefit the existing as well as new network to be installed under the on-going program. However, in calculating the return on investments for the proposed project, the cost and benefits directly associated with the proposed project, that is the connected new subscribers related to the one million lines of capacity to be added under the proposed project during the 1995-97 period, have been included. The capital cost of the project is adjusted by excluding the value added tax of 10% levied to net out transfer payments.

Other Costs and Benefit Streams

Incremental operating costs stream are specified as the expected operating costs for the new lines to be connected under the proposed project. Thus the operating cost is estimated on the average operating cost per line (excluding depreciation, amortization and corporate taxes) based on the financial projections (Annex 21).

Similarly, the incremental revenues are specified as expected revenue from the new lines to be connected under the proposed project. The revenue in each year is estimated based on the average revenue per line based on the financial projections (Annex 21). The revenue is adjusted by including the value added tax of 10%.

Time Horizon

The time horizon for the project cost and benefit streams extends from 1995 to 2010. At the end of this period it is estimated that on average all equipment provided under the project would have completed its useful life. From 1999 onward all costs and benefits related to the proposed project are expected to remain constant in nominal terms.

Rate of Return

The cost and benefit streams for estimating the economic rate of return (ERR) are shown in Table 21.1. The cost and benefit streams have not been shadow priced since the procurement of most items are on competitive basis, skilled labor is mainly used and Indonesia has an open foreign exchange market. The net benefit stream was deflated to reflect constant 1994 prices.

Based on these assumptions, the economic rate of return is estimated at 33%. Although the implementation of the physical component does not present any significant risks, the sensitivity of ERR estimate with respect to the effects of the following scenarios were considered:

	ERR (%)
(a) a delay of 12 months in connection of new subscribers resulting in a delay in revenue of 12 months;	20
(b) 10% increase in capital cost;	28
(c) combining (a) and (b)	18

Even under the most improbable scenario, (c), the project would be acceptable. Furthermore, each of these estimates underestimates the true ERR because they do not include: (a) any improvements in the existing network performance due to the project; (b) estimates of consumer surplus; and (c) the major productivity and quality improvements expected to follow from the JOS initiative. In addition to quantitative factors, the project contributes indirectly to poverty alleviation through general economic and social development linked to both the important productivity improvements and access to markets and market information that arise from access to telecommunications. The project also contains important measures to improve access to the public telephone system by the less well off. In particular, the project accelerates the expansion in the number of public pay-phones towards a target of 3 % of total lines; supports the JOS initiative which requires investors to allocate a significant part of total investments in less economically attractive areas; and includes two rural pilot projects to develop and test approaches to dramatically improve the affordability and viability of telephone service in rural areas.

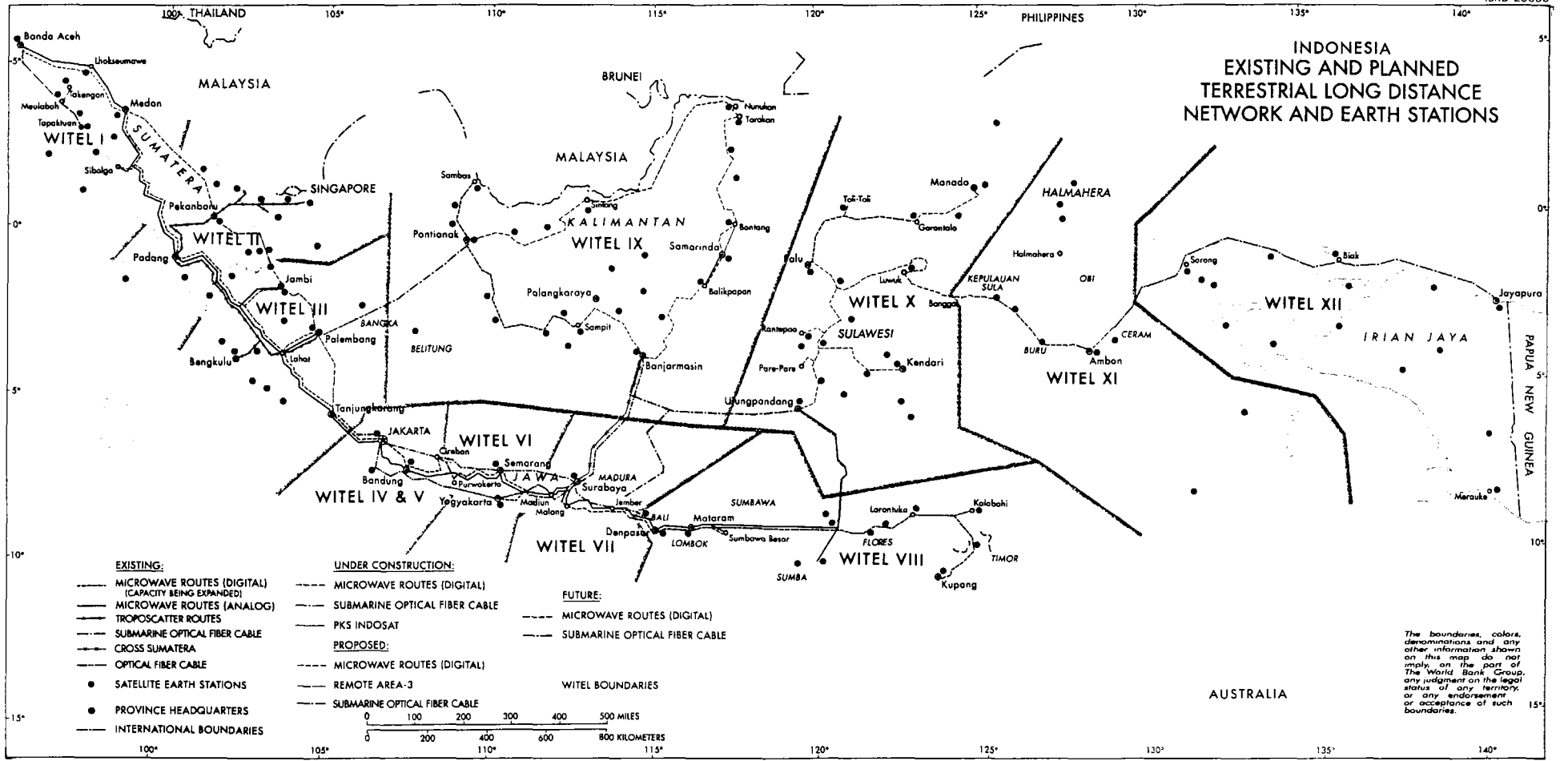
TABLE 21.1: CALCULATION OF ECONOMIC RATE OF RETURN

Fiscal Year Ending December 31	1994 -Est.-	1995	1996	1997	1998	1999
		Forecast				
Deflator to Rupiah of December 1994	1.0	1.1	1.1	1.2	1.2	1.3
Project Capital Expenditure	223.8	960.4	1,174.6	458.4	9.8	0.0
VAT on Capital Expenditure	22.4	96.0	117.5	45.8	1.0	0.0
Exchange Capacity		200.0	800.0			
Number of Main Lined Connected		20.0	440.0	340.0		
		1,732.5	2,083.8	1,830.5	1,598.7	1,420.4
		660.4	740.2	684.2	637.6	617.7
Total Lines in Service		20.0	460.0	800.0	800.0	800.0
Capital Expenditure Net of VAT	201.4	864.4	1,057.2	412.6	8.8	0.0
Operating Cost		13.2	340.5	547.3	510.1	494.2
Revenue (Including VAT of 10%)		38.1	1,054.4	1,610.8	1,406.8	1,250.0
Benefit and Cost Streams in Constant Terms:						
Revenue	0.0	36.3	956.4	1,391.5	1,157.4	979.4
Capital Expenditure	201.4	823.2	958.9	356.4	7.3	0.0
Operating Cost	0.0	12.6	308.8	472.8	419.6	387.2
Net Benefit	(201.4)	(799.5)	(311.3)	562.3	730.5	592.2
ECONOMIC RATE OF RETURN						
		33%				

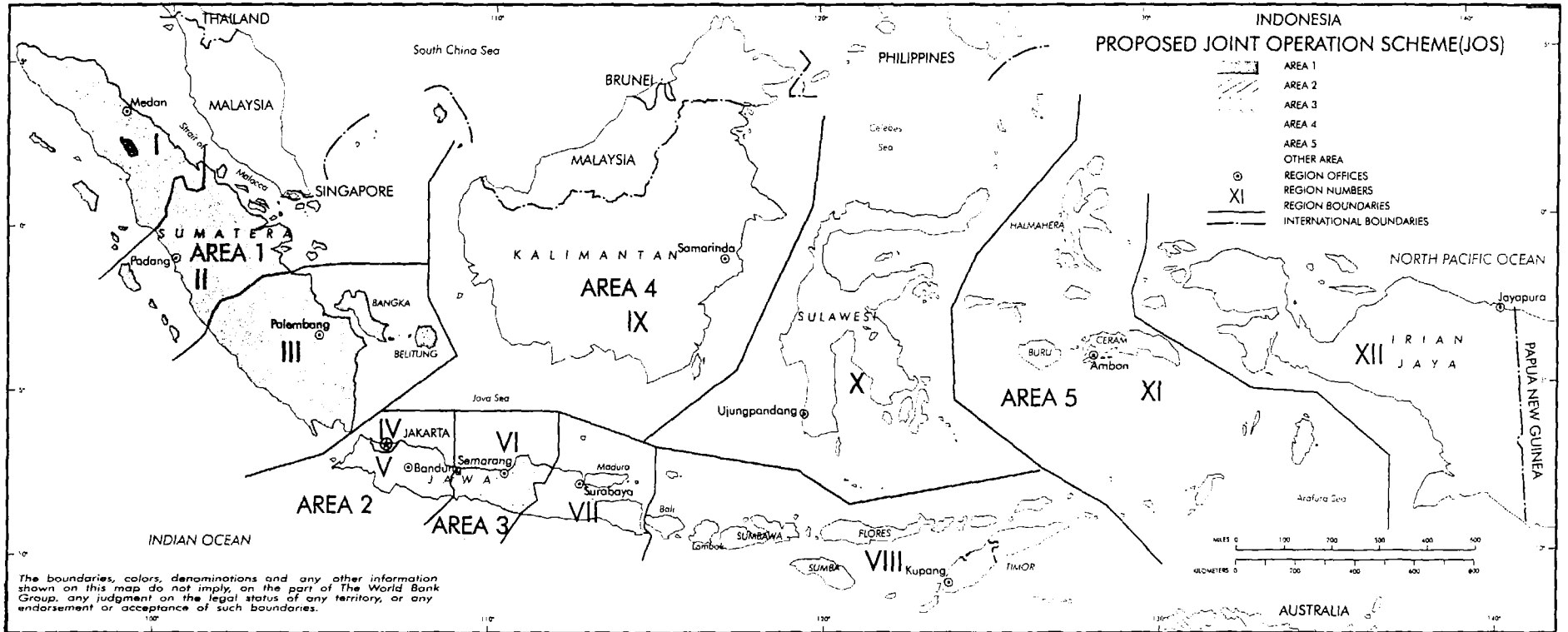
INDONESIA**PT. TELEKOMUNIKASI INDONESIA (TELKOM)****TELECOMMUNICATIONS SECTOR MODERNIZATION PROJECT****Selected Documents and Data Available in Project File**

- 1. Demand Forecast (1980 - 2000)**
- 2. Telecommunications Network Development Plan for REPELITA VI**
- 3. Bid Document for Optic Submarine Cable**
 - Pontianak - Pankalpinang**
 - Surabaya - Ujung Pandang - Banjarmasin**
- 4. Bid document for Optic Customer Access Network**
- 5. Review of the Cellular Sector in Indonesia**
- 6. Tariff Review Study Report**
- 7. Request for proposals for Joint Operations Scheme**
- 8. Draft Construction Agreement for Joint Operations Scheme**
- 9. Draft Agreement for Joint Operations Scheme**

INDONESIA EXISTING AND PLANNED TERRESTRIAL LONG DISTANCE NETWORK AND EARTH STATIONS



The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.



The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

IMAGING

Report No: 13874 IND
Type: SAR