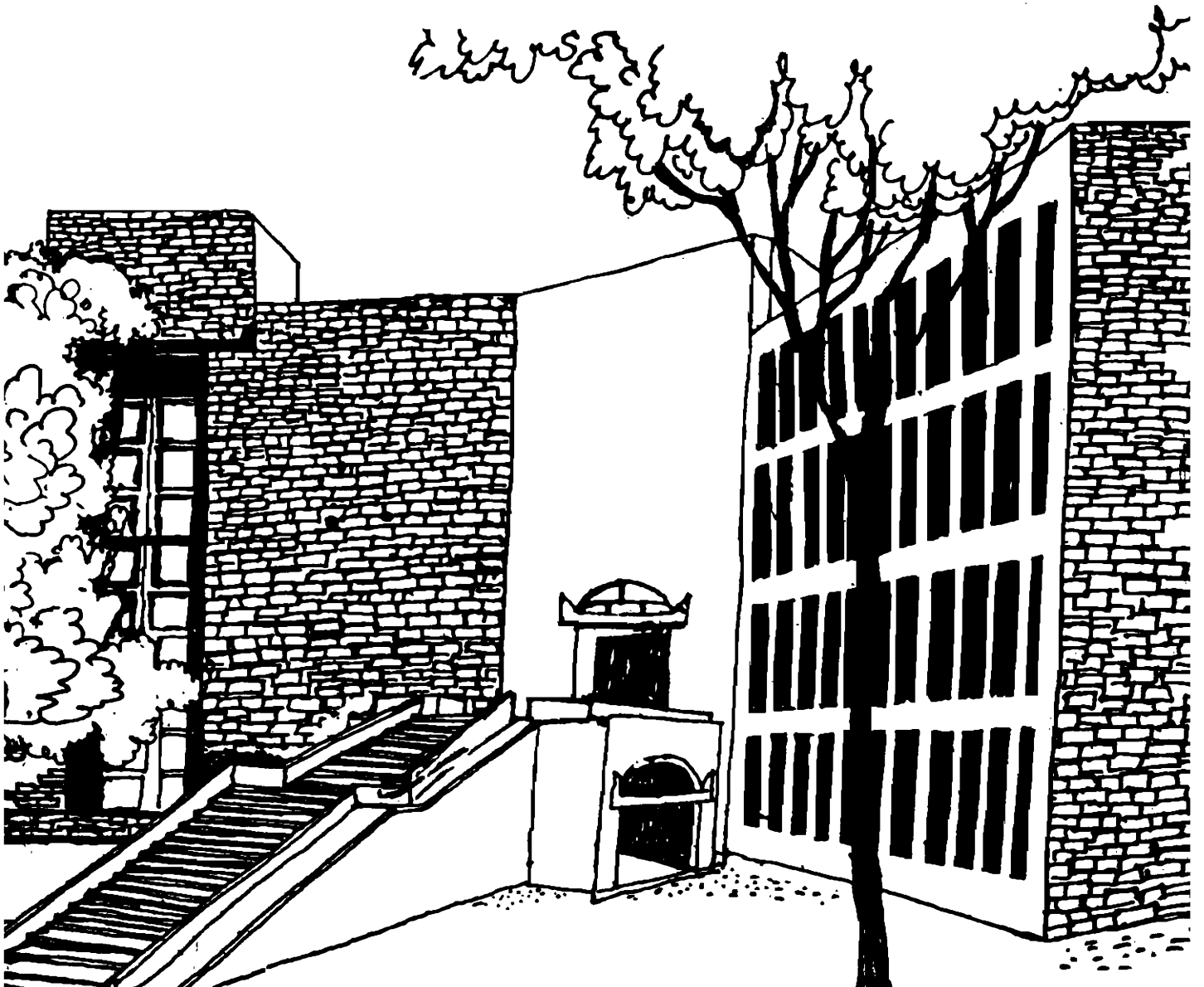




Working Paper



**REVIEW OF THE INDONESIAN
TELECOM POLICY CHANGES**

By

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Abstract

Indonesia experienced economic growth rates of 5.5 to 7.0 per cent per year since the late eighties and early ninties, resulting in greater demand for telecom services. But, like many other developing countries, Indonesia had a low level of telecom infrastructure development. Consequently, the government introduced a number of policy reforms aimed at making the sector more responsive to the business needs.

These policy changes have resulted in deregulation and the beginning of private participation. This paper sketches the state of the Indonesian telecom sector and outlines the policy changes that have taken place since 1989 and highlights issues in management of telecom policy reforms.

Review of the Indonesian Telecom Policy Changes

Indonesia is the world's largest archipelagic state comprising 5 major and more than 13,500 smaller islands spread across 5000 km east to west and 2000 km north to south.

Indonesia with a population of more than 180 million had a telephone density of 0.7% (0.7 telephone per 100) in the early nineties. With economic growth of 5.5% - 7% per year in the late eighties and nineties and the consequent greater business opportunities, demand for telecom services increased. In order to make the telecom sector more responsive to the needs of the economy, the government has introduced a number of policy changes since 1989.

These policy changes have resulted in deregulation and the beginning of private participation. A review of these changes raises issues in the management of privatization and deregulation. This paper sketches the state of the Indonesian telecom sector and outlines the policy changes that have taken place since 1989 and highlights the issues in management of policy reforms.

Indonesian Telecommunication Sector¹

The spread of telecommunication network across the country is very limited. The geographical spread of the country exacerbate the problem of provision of network. The network provides access to state and district capitals and a few sub-districts and villages. Only 50% of the 4,600 sub-district capitals and 25% of the 65,000 villages have a phone. At the sub-district level, only 28% are connected to a digital exchange. Even though metropolitan cities have a higher telephone density long waiting lists, and poor quality telecom service is a common phenomena. In this scenario, the government has set forth a target of provision of at least a phone to every village by 1999.

Availability of finance for rapid development is a key issue. Indonesia required three to four billion US dollars for the fifth five year plan (1983/84 - 1988/89) and requires another eight to ten billion for the sixth five year plan (1988/89 - 1993/94). Resources of state owned telecom companies are sufficient to finance only 20% - 25% of the required investment.

Constraints to development also arise due to dearth of trained manpower to manage the expansion and understand the emerging technologies.

Organizational Structure

The Minister, Tourism, Post and Telecommunication is responsible for management of telecom sector. The minister is aided by a Secretary General and an Inspector General. The Director General, Tourism and Director General, Posts and Telecommunication report to the Secretary General. This organizational structure is a consequence of ministerial decree.

The Directorate General of Posts and Telecom is responsible for policy definition and implementation. It is also responsible for frequency allocation. It has the following four units.

- a) Posts and Giro Services
- b) Telecommunications

1 Figures quoted in this paper have been taken from Annual Report Par, Pos and Tel, 1992, Ministry Pariwisata, Pos dan Telekomunikasi.

- c) Frequency Management
- d) Posts and Telecommunication Standards

The regulatory framework is under the Secretary General. PT Telekom is the wholly state owned telecom body responsible for provision of domestic telecom services. PT Indosat, another wholly state-owned body manages international telecom services. Exhibit 1 provides a schematic overview of the telecom sector structure. PT INTI is the state owned telecom equipment manufacturer under the Ministry of Industry.

Technology

Indonesia has a well established manufacturing base for manual and semi automated assembly, ranging from imported piece parts to totally 100 percent locally manufactured parts. The state owned manufacturing enterprise, PT INTI was set up in 1974 after the successful completion of an eight year old project -- Telecommunication Industrial Project between PT Telekom and Siemens AG of Germany. PT INTI, acquired capability to manufacture a variety of products ranging from digital telephone switching equipment, digital PABX, public payphones, multiplex transmission equipment, small satellite earth station, marine radio equipment, to mobile telephone equipment. It has worked out a number of technology transfer agreements with a variety of equipment manufacturers such as Siemens AG of Germany, Japan Radio Corporation, BTM of Belgium, NEC of Japan, and Motorola of USA. Despite the strong presence of multinationals, especially in the switching segment, the government has a well articulated policy on indigenisation. The government aims to bring down the foreign component from an estimated 50% to 20% in the switching segment by 1994.

Switching Exchanges

Until 1991, PT INTI in a joint venture with Siemens was the sole manufacturer of digital automatic switching exchanges. Total capacity of manufacture was 3,50,000 line units per annum. This was the first phase of the Indonesian Digitalizing project. The number of automatic exchanges had grown from 367 in 1990 to 708 in 1992. The number of manual exchanges had come down from 444 in 1990 to 124 in 1992.

Exchanges for the second phase of the project are planned to be manufactured by AT & T in collaboration with PT Citra Telekomunikasi working with PT Electrindo Nusantara, a company belonging to a large industrial conglomerate. This phase plans for production and installation of upto 700,000 line units in around 150 locations. This phase is planned to be implemented using revenue sharing mechanism and a total investment of US \$1.4 billion. AT&T now plans to manufacture ESS-5 PRX digital switches in a manufacturing unit at Jakarta.

Transmission Network

Transmission network has a number of technologies such as cables, fibre optic, and satellite. There are currently about 10 manufacturers of telephone cables, with an annual capacity of 7 million km of single core cable per year which is half the requirement for the telecom sector upto the year 2000. Indonesia possesses its own satellite system and uses it extensively for telecommunication purposes.

VSAT networks capable of being interfaced to digital exchanges are operational with the assistance of private companies. Exhibit 2 gives the data on growth of telecommunication sector since 1988.

Telecom Services

Cellular

PT Telekom has chosen Motorola's Advanced Telephone Mobile System (AMPS) analog technology for the national cellular system. The selection was based on available frequency considerations. Motorola plans to upgrade the existing system by nearly tripling its capacity in the near future. In addition, other ASIAN countries also have AMPS technology thereby giving interconnectivity to Indonesia.

Phase I of this system has about 25,000 subscribers and provides connections in Jakarta, Surabaya, Bandung and Malang. In the second phase, 20000 more connections in seven other cities are expected to be provided. There are two other systems each based on a different technology, with smaller subscriber base, competing with each other.

Radio Paging

There are nearly 30 independent radio paging providers. There are now plans to introduce national and regional paging services, probably with private participation.

Changes In Policy

Since 1989, the government accelerated the introduction of reforms in telecom sector with the objective of increasing telecom access.

Telecom services in Indonesia were under the purview of Ministry of Transportation and Telecommunication until 1964. In 1964, telecom services were brought under the Ministry of Tourism, Posts and Telecommunication. In 1965, posts and telecommunication function was separated by forming two wholly owned government companies - PN Telekomunikasi and PN Pos dan Giro. In 1970, a telecom company, Perusahaan Umum Telekomunikasi (Perumtel) was formed. Perumtel, the state owned telecommunication body was both the regulator and operator for domestic services. International services were provided by a private company, International Telephone and Telegraph. In 1980, this company became a wholly owned Indonesian company. Thus the entire range of telecom products and services were provided under the government framework.

In 1991, the telecom sector was restructured. The status of the state telecom body, Perumtel, was changed from a state owned company to two fully commercial, state owned limited liability companies -- PT Telekom, whose major function was to provide domestic telecom services and PT Indosat as provider of international services. This restructuring was intended to separate the functions of regulation from operations. Exhibit 3 gives the organizational structure of PT Telekom and PT Indosat. Exhibit 4 provides data on financial performance of these two organizations.

Further, legislation (Law no 3,1989) was enacted whereby private participation in basic telecom services and competition in the non-basic segment was allowed for the first time. The government decided to use it's own resources for expansion in the rural areas, allowing the private sector to invest in the commercial areas. For basic infrastructure expansion, private enterprises were expected to cooperate with the state owned companies, PT Telekom and PT Indosat. A number of mechanisms such as revenue sharing, build, operate and own, compensation etc. have been worked out to enable companies to invest in the sector. It needs to be emphasized that these changes had been introduced

performance. But most of these reports are not consolidated and do not compare performances across companies. Consolidation across companies could be used to provide feedback and thus ensure consistent quality of service.

As a consequence of the more demanding business environment, the staff in DDG's office has to be more responsive to changes in the business and global environment. Senior decision makers feel that their staff needs to upgrade its skills in order to interact more in the international forum. Lack of widespread knowledge of English and dearth of people with technical knowledge are seen as major impediments in this area.

Competition

Indonesian government has allowed competition in the non-basic segment of telecommunication services such as cellular, paging, VSAT segments.

Telecom Services

Competition in the cellular and paging segment has brought about a rapid expansion of services. For example, the number of subscribers for cellular telephone increased from 4336 in 1991 to 17085 in 1992. In addition, the service is available from a larger number of cities. This is despite the relatively high installation costs, largely due to the non-availability of indigenous hand-sets. Provision of competition has ensured expansion of services by almost all providers.

VSAT

VSAT services were originally to be provided by PT Telekom. Due to financial constraints, it allowed a private company to provide these services on a revenue sharing basis. Additionally, another company was allowed to set up its own VSAT network, since PT Telekom could not provide the required services on time. In the meantime, a third company, Lintas Arta, funded by PT Telekom, consortium of Indonesian banks, PT Indosat and the apex government planning body has been allowed to set up VSAT network to provide services initially to the banking sector. However, based on its experience in this segment, it may be allowed to expand the scope of its services. Other companies may also then seek permission to provide these services.

International Services

Besides Indosat, another company has already been identified for providing international services. It will become operational from 1994.

Paging Services

There are around 30 companies engaged in the provision of paging services, on a revenue sharing basis with PT Telekom. PT Telekom itself offers no paging service. The revenue sharing basis (15% of the revenue) was formulated when PT Telekom was a monopoly. The government now plans to review this arrangement.

Business Reorientation, Marketing and Customer Services

As a result of introduction of competition, there has been a greater focus within PT Telekom and PT Indosat to provide customer orientation. PT Indosat has created three new departments of Marketing, New Services and Business Development to reflect its greater responsive to the market. Due to the

in a context where the telephone density was very low. In addition, there were financial and other constraints to development.

Revenue Sharing

Under the revenue sharing mechanism, the investor invests in the infrastructure and is made a partner in sharing the revenue that is generated. The period of revenue sharing is worked out on the basis of expected revenues in the specified areas. The government used this strategy for laying down line units. In the first phase of line unit development, 99,000 line units were laid in Jakarta by a consortium of five private companies. The companies get full revenue from the installation charges and 60% of the revenue from pulses for a period of nine years. The investors income is set at a maximum ceiling, which if exceeded, will result in shortening the revenue sharing period. Any losses would have to be borne by the investor. In the second phase, another group of companies, including an employees cooperative, with consultation support from France Telecom and funding from lead bank, Credit Lyonnais will share the installation charges and 70% of the time pulse revenue. The period of sharing has been specified as 11.5 years.

Build Operate and Own

Under this Build Operate and Own mechanism, the private operator builds, owns and manages the service. The argument for supporting this mechanism is that the eventual ownership of telecom service will lead to a longer term perspective while investing. This could eventually translate to better quality of service and possibly lower tariffs as the investor may be willing to spread the recovery over a longer time frame.

Consequences of Policy Changes

Regulatory Framework

Since 1989, The Director General's Office has been functioning as a regulatory body. Creation of this body was subsequent to the announcement of deregulation, introduction of competition and private participation. Consequently, this organization has had little time to develop and implement regulatory guidelines.

Since separation of PT Telekom was done prior to establishment of a regulatory framework, DDG, Standards does not have its own laboratory for testing equipment. Most of this work is undertaken by PT Telekom. In reality, standards chosen by PT Telekom become the de-facto standards; although, care is taken by PT Telekom to generally choose ITU and CCITT recommended standards.

Regulatory guidelines specifying the kind of collaboration between companies and PT Telekom and mechanisms for revenue sharing are very sketchy. Permission to various companies to offer telecom services is considered on a case-by-case merit. Regulation that would allow fixing tariffs, technical standards, and monitoring quality of service is also not available. There is no consumer body or legal body to resolve conflicts regarding quality of services.

The problem being faced by DDG, Standards is specification of standards for new emerging services such as value added services and designing monitoring systems for quality of services. Even when quality monitoring systems are designed, one of the managerial problems is to get the bureaucracy and customers to accept them. There have been some attempts in the past at devising quality monitoring systems. For example, it is mandatory for each service provider to submit a monthly report on

thrust on expanding business in the foreign markets, PT Indosat has been able to successfully tap some business opportunities in other countries.

In order to be more responsive to the market, PT Indosat expanded the scope of its Liaison Officers Programme and introduced Focus Group Sessions with major customers. For instance, before launching a new service, PT Indosat holds Focus Group meetings with the target segment group and seeks out the views and feedback on how the service may best be packaged.

Besides streamlining internal organizational processes for improved efficiency both PT Telekom and PT Indosat attempt to provide better service through technological improvements. For example, introduction of digital exchanges by PT Telekom has helped it to improve its Call Success Ratios.

Internal Reorganization

The formation of PT Indosat and PT Telekom as business entities, led them to examine options for internal reorganizations in order to respond to the environment. PT Indosat created three new divisions in an attempt to become more market-oriented. The R&D division of Indosat has been directly put under the President, Indosat, to provide greater focus to its functions. Each of the existing divisions within PT Indosat is going to be reorganized into a SBU. The Computer Division has been put under VP, Administration and Personnel. It appears that this may not allow the necessary thrust that information technology could have in providing competitive advantage to the organization. For example, organizations such as Telekom, Malaysia have effectively used a Computer Assisted Services System to respond to the competition. VP, Computer Systems could be a new position, providing for greater top management control of this function.

Human Resource Development

Major organizational changes that has come about since the restructuring is greater emphasis on human resource development. In PT Telekom's assessment, there is a need to focus on more technical skill development and general knowledge and skill upgradation within the organization. Consequently, the training school has not only increased the number of training sessions, it has incorporated more technical courses. PT Telekom has been able to establish linkages with universities and training establishments in USA and Australia whereby their faculty can teach in PT Telekom's training center. At PT Indosat, besides specialized training, employees are sponsored to work in other private companies. This enables them to have a wider exposure.

Other mechanisms for upgrading quality of human resources has been by changing the recruitment criteria. More emphasis is now placed on increasing the number of graduate level entrants. Out of 1113 projected university graduates in 1993, PT Telekom hopes to attract at least half.

However, both PT Telekom and PT Indosat are still grappling with the problem of attempting to increase employee productivity and developing productivity measures.

Streamlining Internal Operations

PT Indosat and PT Telekom have computerized many of their internal operations in order to streamline and improve efficiency. However, there is a feeling that a more thorough analysis of the underlying procedures would have resulted in greater benefits. At this stage, there are hardly any cross functional systems or systems to support customer service such as order tracking system or customer databases that would allow management to design specialized marketing strategies based on customer profiles.

As a result of corporation both PT Indosat and PT Telekom have adopted commercial accounting practices. For example, both have attempted to resolve the issue of interconnection charges of PT Indosat's customers to the domestic network managed by PT Telekom. Accounting for customer revenue for both PT Indosat and PT Telekom was being processed by PT Telekom, since international call charges to the customer were not broken into the international and domestic component. PT Indosat paid 35% of the revenue to PT Telekom as processing charges. Soon both organizations will have separate accounting systems.

Financing

Access to capital required for expansion of the network is a problem for most developing countries, especially since a substantial part of this investment is in foreign exchange. Indonesia has made efforts to supplement the government funds by inviting private participation. Foreign companies may also invest in Indonesia, provided they have an Indonesian partner. Indonesian government has been able to attract about half of its telecom requirements from international funding bodies. Unlike many other countries, where resources have been generated through selling of shares of state owned telecom companies to the public, Indonesian government has no such plan for the near future.

Assessment of Policy Changes

Indonesia has responded to the emerging, more demanding business environment by making policy changes in its telecom sector. The speed and sequencing of reforms are a matter of debate. In terms of the sequencing of reforms proposed in an ITU Report [1989], the fundamental underlying issue that must be addressed in telecom reform is effective separation of the basic function of policy making, operational management and regulation. The second level consideration is that of access to capital and human resources. The third level concern is introduction of competition for efficiency in the telecom sector. Competition is considered to be a more important factor than ownership in introducing efficiency. Further, the order in which structural adjustments take place will also determine their effectiveness [Melody, 1990]. It is also argued that before separation of policy, regulation and operations and introduction of competition, a firm regulatory regime must be in place.

Effective Separation between Policy, Regulation and Operations

Using this framework in the Indonesian context, it may be observed that at present there is no clear separation between policy and regulation and between regulation and operation. The ministry does part policy formulation and regulation. This is because there are no guidelines for provision of licenses, interconnection mechanisms, transfer pricing. Each case is dealt with on an individual basis. Examination of the interface between regulation and operation, shows that since PT Telekom is the largest operator, and the regulatory body is ill-equipped to devise and regulate standards, PT Telekom has become the de-facto regulator in this area. The distinction between regulation and operation would come about when there is an independent regulatory body which is uninfluenced by the dominant players.

Most developing countries undertaking a reform process, to separate the policy, regulation and operations, face resistance to change. Lack of political will and a coherent action plan for the reform program creates bottlenecks giving rise to ad-hoc decisions. For example, Thailand, India, Philippines etc are examples of countries, which are facing problems in creating the required institutional framework for effecting the functional separation [Jain, 1992]. In India, a new organization called Telecom Commission was created in 1989 to formulate policy and regulate the monolithic Department of Telecommunications. Today, the Commission has effectively no role and the Department continues

to be the policy-maker, regulator and operator. Similarly, in Thailand, the carving out of Telephone Organization of Thailand and Communication Authority of Thailand from the Department of Telecommunications effectively reduced the department's role to carrying out routine jobs and did not lead to the creation of a strong regulatory body. In Philippines, the government is both the policy provider and regulator besides being a minor operator. Though the sector is regulated by a separate agency, National Telecommunications Commission (NTC), it is under the Department of Transport and Communications (DOTC). NTC gets its budget and staff support from the DOTC and is under the DOTC, the autonomy in decision-making is likely to be diluted. It is likely that regulatory guidelines flow from the government, rather than emerging out of the needs of the sector [Jain, 1994 (a) and (b)].

Introduction of Competition

Competition in the Indonesian telecom sector exists only in paging, cellular mobile and partially in the VSAT segment. In fact competition in the VSAT segment is likely to emerge more as fait accompli than as a well designed initiative. There is no competition in the basic services. With the sanction for a second international operator, there will be competition in this segment in the future.

Comparing this initiative with that of other developing countries such as India, the Indonesian initiative is better implemented. Indian telecom sector is still grappling with the issue of introduction of competition even in the value added segments. (No competition exists in the basic services segment). There continue to be legal battles regarding the process of award of licenses.

Sequencing of Reforms

A regulatory body had been set up after introduction of competition. Separation of regulation from operations took place subsequently. The regulatory body, therefore, did not get time and resources which would enable it to function independently of the operators. It has not been able to devise systems and performance parameters in a substantive manner for regulating the operators.

Access to Capital and Human Resources

Access to capital is being partially managed through private participation and foreign aid, besides generation of revenue by the state owned companies. An innovative financing scheme is exemplified by Lintas Arta. Lintas Arta provides some of the telecom services on a revenue sharing basis to the banking sector. Maybe similar funding mechanisms for telecom needs of different sectors of the economy could be envisaged. Operations through employee cooperatives, such as is being done for provision of line units is another mechanism to ensure access to finances and trained manpower. Public participation in capital raising could be tried by listing the state owned companies on the stock exchange. By involving employees as stakeholders and allocating part of shares to them, employee resistance to changes in ownership could be overcome. This would also ensure better business performance.

One of the critical financing issues facing Indonesia is the financing of rural telecommunications. By introducing competition only in the lucrative non-basic services and not tying it with development of rural telecom, PT Telekom will be burdened with infrastructural investments. At least by not having competition in the basic services, PT Telekom has been able to preserve the "bread and butter" revenue generating segment.

Both the state owned companies PT Telekom and PT Indosat have made attempts to focus on human resource development. There is more initiative to form synergistic collaborations both with domestic

and international companies. On the negative side, one of the bigger challenges, especially in PT Telekom is to change employee orientation to enable it to function more effectively as a business entity.

Using the ITU framework to assess Indonesian initiative, there has been a sketchy attempt at separation of the three functions viz policy, regulation and operations. In reality regulation is rather weak, coming directly either from the top-level or being pressed by state owned companies. Thus it appears that the Indonesian initiative, could be designed better. The introduction of competition in other segments would ultimately lead to efficiencies and lower tariffs. But other policies that would determine impact of these changes are trade and export and import policies.

Given the current status of regulation, it emerges that some of the issues which the regulatory framework must address more urgently are as follows:

- 1) Devising mechanism for private companies to invest in rural and low revenue yielding areas. This would not only ensure a more uniform distribution of telecom service across the country but also guarantee that the private sector does not skim just the more profitable segments of the market. Permission to invest in commercial and urban areas must be tied to obligation to invest in less profitable areas. Permission to lay down a specified number of line units in commercial areas may be contingent on laying down a percentage of these lines in non-commercial/rural areas.
- 2) PT Telekom must evolve a mechanism to convince the participating companies that it would provide them adequate number of switching facilities into the national network.
- 3) Mechanism to ensure that private companies who set up their own infrastructure in isolated areas such as tourist island, hotel, industrial estate etc, hand over ownership to PT Telekom at the end of revenue sharing period.
- 4) Guidelines to manage the inadvertent competition that is likely to creep into the basic services segment and VSAT network need to be developed.
- 5) Establishment of performance measurement systems.

Despite numerous other issues that remain unresolved, the positive aspect is that the government has made an attempt and may evolve the required guidelines in the future.

Many studies in the past have claimed that privatization and deregulation work only when the initial network has reached a certain level of penetration. This was the environment in which countries such as USA, UK and Japan had implemented telecom reforms. Other studies have argued that it is not the initial level of penetration that determines the success or otherwise of the reforms, but the potential for growth [Mohammed, 1990]. In this context, Malaysia introduced reforms - relatively successful - at a stage when its telephone density was 10% and its growth rate of economy was 12% - 13% and telecom sector was growing at the rate of 15% - 18%. In comparison even though, Indonesia has a poor level of infrastructure, as brought out by the low telephone density per person, Indonesian economy has been showing growth rates of 5.5% - 7%, which ultimately means a higher telecom growth potential. This potential for high telecom growth could contribute to a successful reform program for Indonesia.

Conclusion

The introduction of policy reforms in the Indonesian telecom sector has improved the service parameters for users. There is a need to set up an independent, autonomous regulatory body. The regulatory framework should be made more comprehensive, address to the entire range of issues. Mechanism for involvement of private sector in rural areas needs to be worked out. There is a need to introduce competition in telecom services.

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Exhibit 1 : Indonesian Telecom Sector Structure

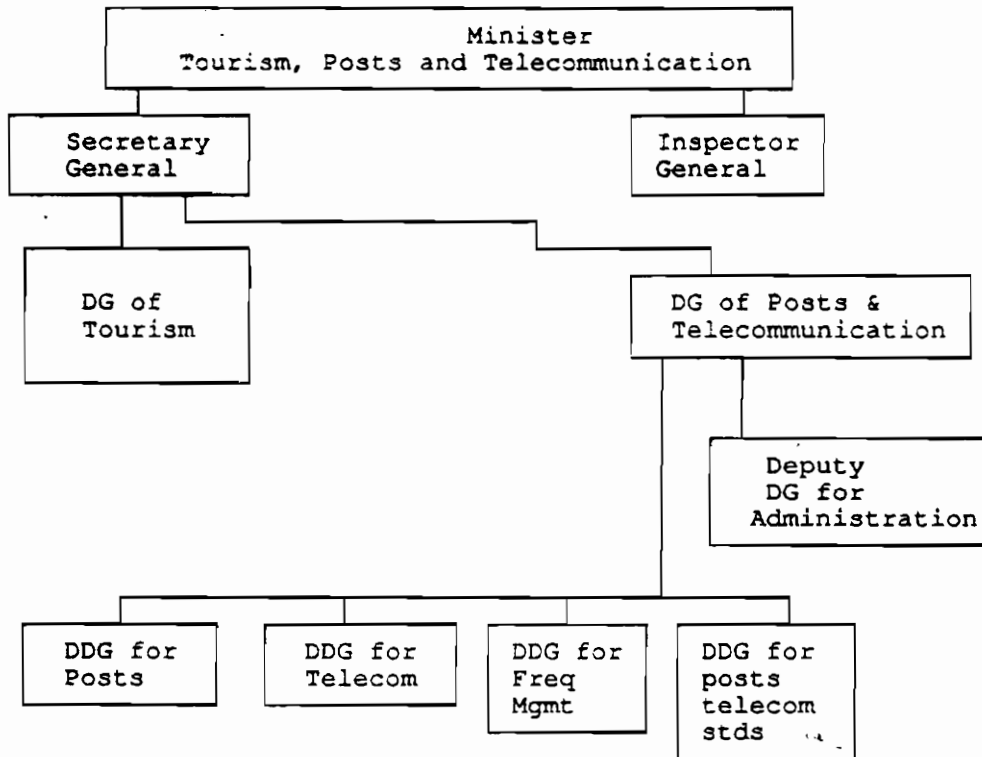


Exhibit 2: Growth of Indonesian Telecom Sector

Service Facility	1990	1991	1992
Central Exchange	811	829	832
Automatic Exchanges	367	536	708
Manual Exchanges	444	293	124
Central Capacity	1398,802	1564,451	2005,042
Automatic	1299,899	1514,760	2398,272
Manual	98,903	49,691	18,945
Public Coin Phone	12,395	21,679	34,863
Public Card Phone	1,123	2,844	6,215
SKDP	514	586	
<u>Telex</u>			
Telex Central	35	40	40
Central Capacity	22,850	29,477	31,631
<u>Channels and Transponders</u>			
Transponder Rental	11	24.15	54
Channel Rental	37	37	37
Telecom Service Rental	407	800	944
Intelsat Business Service	-	30	53
National Mobile Telephone	-	4,336	17,085

Central Telephone Capacity

Year	Manual	Automatic
Main Connections		
1988	97650	731162
1989	94419	785803
1990	84246	983681
1991	36788	1209123

Exhibit 3 : Organizational Structure : PT Indosat

**President
Chairman**

Chief Internal Auditor

Audit Manager, Operations, Engineering & Development Auditing
 Audit Manager, Administration, Finance & Computers
 Computerization

General Manager, Legal Affairs & Public Relations

Manager, Legal
 Manager, Public Relations
 Manager Secretary, Board of Directors

General Manager, Medan, Indonesia

Manager, Service Operations
 Manager, Maintenance Operations
 Manager, Finance & Information Systems
 Manager, Administration & General Affairs
 Manager, Batam Internal Gateway

General Manager, Corporate Planning, Research & Development

Manager, Corporate Planning
 Executive Officer, Technology
 Executive Officer, Human Resource & Organization
 Executive Officer, Economic & Finance

Vice President, Operations

General Manager, Engineering Operation
 General Manager, Services Operation
 General Manager, Marketing Operation
 General Manager, Internal Relations

Vice President, Planning & Development

General Manager, Business Development I (Internal)
 General Manager, Business Development II (Domestic)
 General Manager, Facilities Cons.
 General Manager, Procurement

Vice President, Administration & Personnel

General Manager, Human Resources
 General Manager, Information Systems
 General Manager, General Affairs
 General Manager, SSI Development

Vice President, Finance

General Manager, Finance
 General Manager, Budget
 General Manager, Funding Treasury & Taxation
 General Manager, Accounting

Exhibit 3 (Contd)**President****S P I****Central
Project****Director of Finance****Director of Development****Director of Services****Director of Human Resources****Director of Operations****Regional PT Telekom Offices****SBU**

Exhibit 4 : Financial Performance of PT Telekom and PT Indosat

Income (Rp. Million)				
	1989	1990	1991	1992
PT Telekom	1054528	1429213	1805944	2300893
PT Indosat	375178	475869	592354	719099
Costs (RP Million)				
PT Telekom		1233469	1533927	
PT Indosat		205340	279783	
Profit (RP Million)				
PT Telekom		195744	272017	
PT Indosat		270529	312571	

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