KRETEK INTERNET:
INDONESIA CASE STUDY

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INTERNATIONAL TELECOMMUNICATION UNION
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This report has been written by Michael Minges of the International Telecommunication Union (ITU). It was edited by Vanessa Gray and formatted by Nathalie Delmas. The report is based on field research carried out 30 April – 4 May 2001 as well as articles and publications sourced in the document. The Directorate General of Posts and Telecommunications (Postel) provided incalculable support; without its assistance the report would not have been possible. Equally, the report would not have been possible without the cooperation of the many from the Indonesian public and private ICT sector who offered their time to the report's author. Special thanks to Mr. S. Abdulrachman and Ms. N. Purwati of the Indonesian Infocomm Society (MASTEL) and Mr. R. Rusdiah of the Indonesian Internet Kiosk Association (AWARI) for their comments. The report is one of a series of case studies examining the Internet in South East Asia carried out in 2001. Additional information is available on the ITU's Internet Case Study web page at http://www.itu.int/ITU-D/ict/cs/.

Information in this report is valid as at December 2001.

'Kretek' in the title is Indonesian for the word 'crackle'. This is the sound that burning cloves make. In Indonesia, cloves are combined with tobacco to produce sweet smelling Kretek cigarettes. Kretek is uniquely Indonesian and accounts for over 90 per cent of annual cigarette consumption in that country.

Contents

Figures

Tables

Boxes

Annexes

1. The crisis effect

Unfinished Jakarta Skyscraper - May 2001

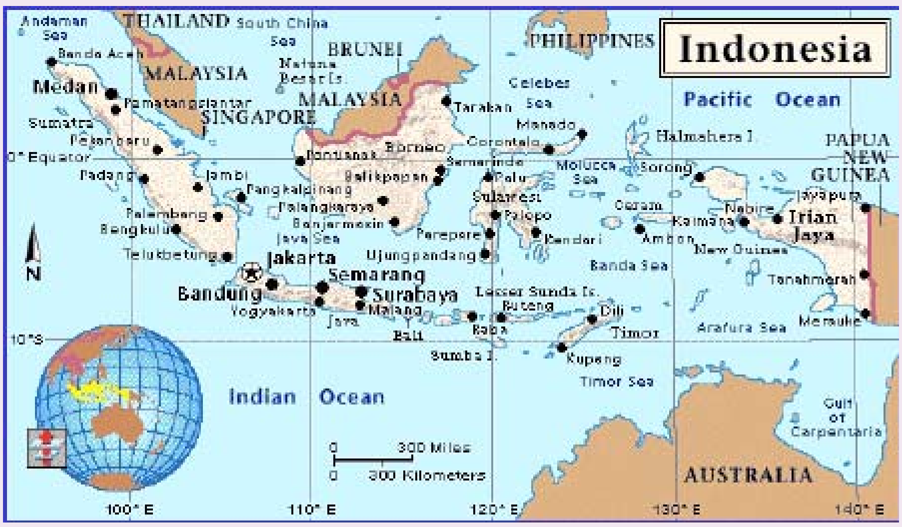
For the past few years, the Republic of Indonesia-the world's fourth most populated country-has been through its biggest turmoil since it declared independence from the Netherlands on the 17th of August 1945. It has not only had to contend with a regional financial crisis beginning in 1997, but a socio-political one as well. Longtime President Suharto left office in 1998. His departure unleashed political uncertainty and internal tension across this diverse nation. The effects of these crises are highly visible. The capital, Jakarta, is littered with abandoned skyscrapers and its previously metamorphic skyline basically unchanged since 1997.

This is a land of deep contrasts-more than a dozen ethnic groups speaking over 100 languages spread across 6'000 inhabited islands (out of more than 13'000). The sharp contrast between old and new, rich and poor is exemplified by packed shopping malls while across the street, bare foot street vendors dispense satay, the ever present kretek clove cigarette dangling from their lips.

1.1 Demographics

Located in South East Asia, the Republic of Indonesia is primarily water. Out of a total area of 9.8 million square kilometres, 81 per cent is sea. The country is divided into 33 provinces, 268 regencies, 73 municipalities, 4’044 sub-districts and 69’065 villages. The population of the country was projected at 210.5 million in 2000, a growth rate of 1.4 per cent compared to the previous year. The growth rate is down

Figure 1.1: Map of Indonesia



Source: Permanent Mission of the Republic of Indonesia to the UN.

from some two per cent in the period 1980-90 reflecting the success of family planning programmes. The distribution of Indonesia's population is heavily skewed. The capital Jakarta, located on the island of Java, had an estimated population of 9.6 million in 1999, accounting for almost five per cent of the country's total inhabitants. The island of Java is home to some 59 per cent of Indonesians but only accounts for 6.6 per cent of the land area. At the opposite extreme, the province of Irian Jaya, in the far east of the country, accounts for some 22 per cent of the territory but just one per cent of the population. Some 60 per cent of the population lives in rural areas. There are an estimated 51.2 million households or just over four members per household.

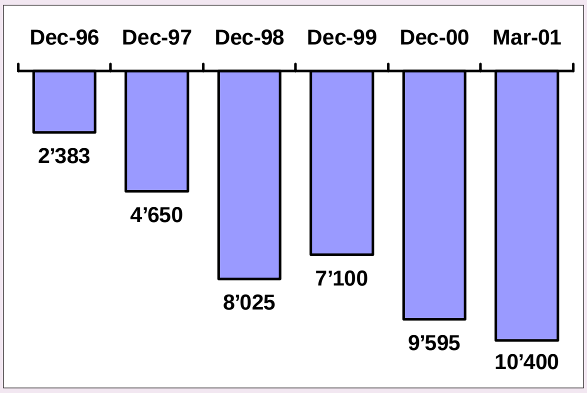
1.2 Economics

Indonesia's per capita income of US$ 570 has plunged by almost half since its peak of US$ 1'110, just before the economic crisis.[1] The drop was first a consequence of the Asian financial crisis, which began in Thailand in July 1997 and then rippled through the rest of the region. The Indonesian Rupiah (Rp) plummeted (see Figure 1.2) as investors pulled out. The decline in Indonesia's economy was its sharpest since independence and awakened suppressed political and social chasms. These in turn led to instability that has frozen foreign investment and kept the country in limbo, forcing it to turn to the International Monetary Fund (IMF) for a US$ 10.4 billion loan in November 1997.[2]

The crisis—capped by a decline of economic output of 13.1 per cent in 1998, the highest in Asia—brought to end several decades of impressive growth. Economic expansion was initially sparked by oil—Indonesia is the only Asian member of the 11-nation Organization of Petroleum Exporting Countries (OPEC). Later, as in most East Asian countries, Indonesia embraced trade—particularly in manufactured goods—to diversify and grow its economy. The results led to an annual average economic growth of 6.3 per cent between 1983-92 and annual average growth of over seven per cent between 1992 and 1996.

Figure 1.2: Freefall

United States Dollar middle rates against Indonesian Rupiah



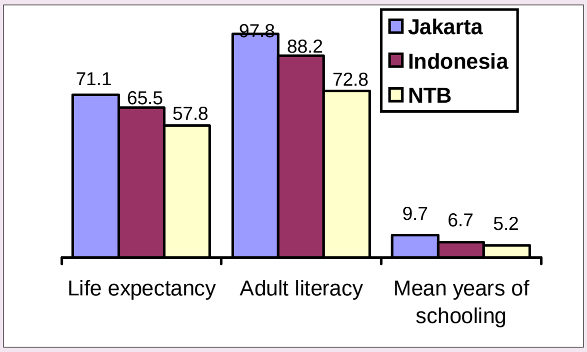
Source: Bank Indonesia.

1.3 Human Development

In the year 2001, Indonesia found itself ranked 102nd out of 174 countries, placing it in the medium human development grouping. Although one of the lowest ranked South East Asian countries (only above Myanmar, Cambodia and Laos), Indonesia is about where it

Figure 1.3: Human Development Gaps

1999



Note: NTB refers to Nusa Tenggara Barat, the lowest ranking of Indonesia's 27 provinces in terms of human development.
Source: BPS.

should be in terms of human development given its per capita income. There is cause for concern however as Indonesia's rank has been slipping, again caused by the economic crisis. This is reflected in national poverty statistics that show the percentage of the population living in poverty rising over the last few years (although there was a decline in 1999). There is also a national human development divide, with a notable gap in life expectancy, adult literacy and mean years of schooling between Jakarta and other parts of the nation (see Figure 1.3).

1 World Bank. "Indonesia Data Profile." http://devdata.worldbank.org/external/CPProfile.asp?SelectedCountry=IDN&CCODE=IDN&CNAME=Indonesia&PTYPE=CP.

2 In support of the loan, Indonesia had to commit to a 48 point 'Memorandum on Economic and Social Policies.' See "Indonesia Letter of Intent." 31 October 1997. www.imf.org/external/np/loi/103197.htm.

2. Telkom Territory

2.1 History

Like many countries around the world, Indonesia has progressively liberalized its telecommunication sector over the last decade. Some of the steps it has

PT Telkom - Jakarta

taken are related to global trends, others are specific to the South East Asia region and a few are distinctly Indonesian. The choices have been influenced by the tension between the desire to protect entrenched interests on the one hand and the need for private investment on the other. In this traditionally statist country, a reluctance to reduce government control also plays a role.

The roots of liberalization can be traced to the corporatization of the two state-owned companies for domestic —P.T. Telekomunikasi Indonesia (**Telkom**)— and international —P.T. Indonesian Satellite Corporation (**Indosat**)— telecommunication services in the early 1990s. In October 1994, Indosat completed an initial global public offering of shares. This was followed by the partial privatization of Telkom in November 1995. Unlike many other developing countries, shares in both companies were sold to the public rather than a strategic investor. Today, the government remains the largest shareholder in both companies.

A second international services competitor, PT Satelit Palapa Indonesia (**Satelindo**), was granted a license in 1993 and began offering services in August 1994. However, the degree of competition would inevitably be limited. First, Indosat owned 7.5 per cent of Satelindo (and Telkom 25 per cent). Second, Indosat and Satelindo were obliged to charge identical tariffs, established by the government, with competition to be based on quality

Box 2.1: Indonesia's telecom history

In 1884, the Dutch colonial government established a private company to provide postal services and domestic telegraph services and, subsequently, international telegraph services. Telephone services were first made available in Indonesia in 1882 and, until 1906, were provided by privately-owned companies pursuant to a 25-year government license. In 1906,the Dutch colonial government formed a government agency to assume control of all postal and telecommunications services in Indonesia. In 1961, most of these services were transferred to a newly-established state-owned company to provide postal and telecommunications services in Indonesia, apart from services in Sumatera, which were transferred in the 1970s. The Government separated postal and telecommunications services in 1965 into two state-owned companies, PN Pos dan Giro, and PN Telekomunikasi. In 1974, PN Telekomunikasi was further divided into two state-owned companies, Perusahaan Umum Telekomunikasi ("Perumtel") and P.T.Inti, to provide domestic and international telecommunications services and telecommunications equipment manufacturing, respectively. In 1980, the international telecommunications business was transferred from Perumtel to Indonesian Satellite Corporation ("Indosat").

Source: PT Telkom.

of service. Furthermore, at the time, the government stated that no other licenses for international telecommunications services would be granted before the end of 2004. Satelindo was also awarded a nationwide mobile cellular license and launched its digital GSM network in November 1994. Satelindo is unique in that it is the only fixed services operator that has had a foreign strategic investor since Germany's Deutsche Telekom acquired 25 per cent in 1995 for US$ 676 million.

Telkom is by far the biggest and most influential operator in the country. Apart from its fixed-line and domestic long distance monopoly, until recently, it owned shares in every other telecom operator except Indosat. This is clearly shown in Indonesia's mobile market (see Table 2.1).

2.2 Mobile

The roots of mobile communications go back to 1989 when a Telkom joint venture company, Mobisel, launched an analogue NMT network. An analogue AMPS network, Nacional (since split into Metrocel and Komselindo), was launched in 1991, again partly owned by Telkom. In 1994 two companies, Satelindo and **Telkomsel** were awarded digital GSM licenses. A third GSM license was awarded to **Excelcomindo**, which launched its network in October 1996.

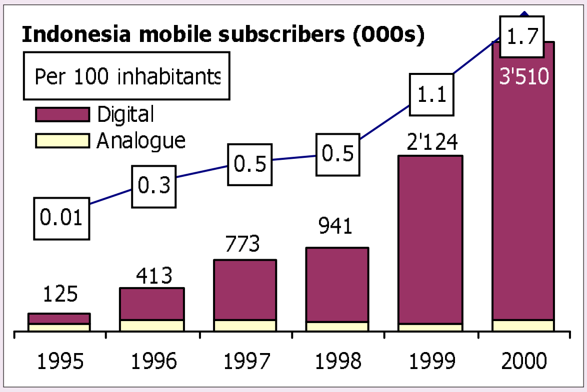
At the end of 2000, there were seven mobile cellular operators: three nationwide GSM-900 networks and four regional analogue networks. They served 3.7 million subscribers, or 1.7 per cent of the population. Most subscribers use GSM, accounting for 96 per cent of all subscribers.

Table 2.1: Mobile operators

Operator	Subscribers Dec 31, 2000	Growth 99-2000 (%)	Type	Coverage	Owners*
Telkomsel	1'687'339	64.58	GSM	Nationwide	Telkom (42.7%); Indosat (35.0%); KPN (Netherlands) (17.3%); PT Setdco Megacell Asia (5.0%)
Satelindo	1'055'306	47.49	GSM	Nationwide	Telkom (22.5%), Indosat (7.5%), Bimagraha Telekomindo (45%), DeTeAsia (Germany) (25%)
Excelcomindo	767'250	100.33	GSM	Nationwide	Telkom (6.9%) Rajawali (64.7%) Verizon (USA) (23.1%) Others (5.2%)
Komselindo	74'858	104.79	AMPS	Jakarta, Bandung, Medan, Manado and Ujung Pandang	Telkom (35%) PT Elektrindo (65%)
Metrosel	62'981	52.04	AMPS	Central and East Java	Telkom (20.17%), CPS (51.23%), Asia Link (20%), Telkom's Pension Fund (3.83%) others
Mobisel	14'037	9.66	NMT	Jakarta Central Java, East Java, West Java, Bali and Lampung.	Telkom (25%), Telkom's Pension Fund (5%) P.T.Rajasa (70%)
Telesera	7'556	16.59	AMPS	Bali, Kalimantan and Southern Sumatera	Revenue sharing split 30%-70% between Telkom and Telesera, respectively.
TOTAL	**3'669'327**	**65.21**			

Note: * Prior to announced share swaps by Telkom and Indosat.
Source: Telkom.

Figure 2.1: Mobile subscribers



Source: ITU.

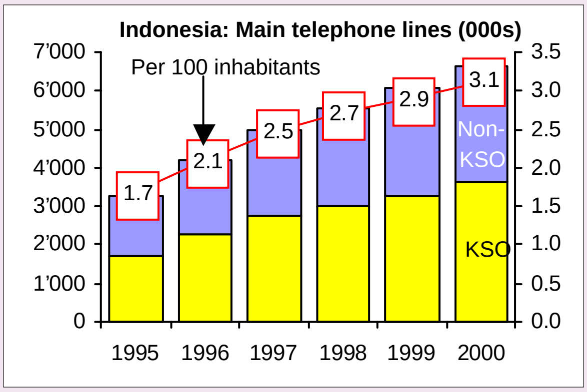
Seven regional and two nationwide GSM-1800 licenses were awarded in 2000 (the existing three GSM operators were also provided with 1800 licenses). Both Indosat and Telkom were awarded nationwide GSM-1800 licenses of their own for these so-called Personal Communication Systems (PCS). It also marks the first time that mobile companies were established without Telkom or Indosat having a share. In addition, a number of Japanese standard Personal Handyphone System (PHS) licenses were awarded but it is unlikely these networks will ever get off the ground. Some of the new PCS operators are planning to launch second and half generation (2.5G) networks. For example, Telkom plans to launch its network in the fourth quarter of 2001 with Wireless Access Protocol (WAP) and GPRS already enabled. Because of the recent PCS licenses and plans for 2.5 technology, it is unlikely that third generation cellular will be introduced in the country before the 2004/2005 time frame.

2.3 KSO

In an effort to attract foreign investment into the fixed-line business, a joint operating scheme known by the Indonesian acronym KSO (Kerjasama Operasi) was created in 1995. Fifteen-year concessions were granted in five of Telkom's seven operating regions to provide fixed-line telephone service and share revenues with Telkom. The number of lines in service in the KSO areas amount to just less than half the country total. The financial crisis has had a devastating effect on the KSOs, most of which are technically bankrupt. A series of transactions are underway, which will modify the KSO situation. These are described in the next section.

Figure 2.2: KSOs

Main telephone lines, 000s



Source: ITU adapted from Telkom.

2.4 Two domestic giants

Two factors are pressuring Indonesia to carry out additional telecommunication liberalization. One is the commitment Indonesia made under the World Trade Organization's Agreement of Basic Telecommunications. Indonesia's schedule for opening its telecommunication market is seen as lengthy compared to other developing countries (i.e., a period of exclusivity for local services until 2011, for national long distance until

2006 and international long distance until 2005).[3] Second, the economic crisis has required Indonesia to meet a number of IMF conditions aimed at restructuring the economy in exchange for financial support. Indonesia's commitments in the area of telecommunications are highlighted in a memorandum sent to the IMF (see Box 2.2).

One step is ending the exclusivity of Telkom, Indosat and Satelindo earlier than planned. For example, a government decree issued in August 2000 ends the exclusivity for local services by August 2002 and for national and international long distance services by August 2003.[4] New operators, rather than the government, are expected to compensate Telkom and Indosat for their loss of exclusivity.

A second step is a severing of ties between Telkom and Indosat through a series of financial transactions approved by their shareholders in May 2001. This calls for:

- Telkom purchasing all of Indosat's shares in the largest mobile operator, Telkomsel, for US$ 945 million.
- Indosat purchasing Telkom's shares in Satelindo for US$ 186 million.
- Telkom transferring its rights and obligations in KSO IV in Central Java to Indosat for US$ 375 million.
- Indosat purchasing Telkom's shares in PT Lintsarta, an important data service provider.

In addition, Telkom is buying out or renegotiating with its KSO partners. For example, it has repurchased the KSO in Region VI serving Kalimantan. The results of these transactions essentially create two major players, Telkom and Indosat, that will for the near term form a duopoly. With its purchase of Telkom's telephone lines in Central Java, Indosat adds to its foothold in the local service market. When combined with its part ownership in the KSO in Sumatra, Indosat will indirectly control some 1.5 million operating telephone lines, around one fifth of the nation's total. Surprisingly, Indosat rather than Telkom gained management control over Satelindo; this effectively once again gives Indosat a monopoly over international telephone traffic until August 2003.

2.5 Policy and regulatory issues

Telecom market changes have not led to a specifically conscious and corresponding change in policy and regulatory organizations. The **Directorate General of Posts and Telecommunications** (**Postel**) is the nominal regulator. It is a unit of the ministry, the **Department of Communications**. There are steps to convert Postel into an independent regulator, reiterated in the Indonesian government's memorandum with the IMF. While some countries have responded to convergence by adopting a revised law creating a unified IT, telecommunications and broadcasting ministry and regulator, this has happened by accident in Indonesia. The word "Information Technology" was simply tacked on to the unit in Postel responsible for telecommunications. Postel's broadcasting responsibilities came about when it absorbed the staff of the former Department of Information, which was abolished in early 2001 for political reasons.

A number of laws, ordinances and decrees regulate the Indonesian telecommunication industry. Other forces also have a bearing on telecommunications policy:

1. **Telecommunication laws and regulations**. In July 1999, a "*Blueprint of the Indonesian Government's Policy on Telecommunications*" was issued. The Blueprint calls for improving telecommunication sector performance; liberalization through competition and an end to monopolies; increasing regulatory transparency; enhancing strategic alliances with

foreign investors; and creating business opportunities for small and medium enterprises. These goals are to be carried out through the "*Telecommunication Law*" (No. 36/1999). The law eliminates the concept of "organizing entities" thus terminating the requirement that Telkom have a stake in all telecommunication operators.

- o The law also classifies telecommunications operations into three categories: (i) network operations; (ii) services operations; and, (iii) special telecommunications operations. Telecommunications network operation or provision of telecommunications services may be carried out by any legal entity. A network provider can provide telecommunications services, while a service provider can use its own network or lease network facilities owned by other network providers. Individuals, government institutions, special agencies and legal entities may provide special telecommunications operations for the purpose of self-interest, national defense and security, and broadcasting.

- o Under the New Telecom Law, a license is required from the Minister of Communications. Operators determine interconnection rates and end user tariffs based on government guidelines. Telecommunications network operators are obligated to interconnect their network to other network operators on request. Telecommunication operators are obliged to pay a license fee based on a percentage of revenue.

- o The new law does not terminate the existing exclusive rights of Telkom. However, it does allow early termination of the rights subject to a compensation agreement between Telkom and the government. In August 2000, the government issued a decree that contains early termination of Telkom's exclusive rights for local services in August 2002 and domestic long-distance telecommunication services in August 2003. A Ministry of Communication decree announced that Telkom had been awarded an international telecommunication services license to commence in 2003. The same decree awarded Indosat a local service license to begin in 2002 and a domestic long distance telecommunication license beginning a year later.

2. **Telecommunication-related aspects of the government's agreement with the IMF and other international organizations**. A Letter of Intent (LoI) signed between the Indonesian government and the IMF stipulated the requirement that Telkom and Indosat resolve their cross-ownership conflicts (see Box 2.2). The LoI also requires Telkom and Indosat to divest their ownership in non-strategic companies by the end of 2001.

3. **Overall ICT policy as outlined in a recent Presidential Decree**. In addition to laying out general government policy for ICT in several areas, the decree includes an Action Plan with projects relating to telecommunication policy and infrastructure. It also calls for the Indonesian Coordinating Team on ICT (TKTI) to take the lead in managing the development of ICT programmes and initiatives as well as among relevant government agencies. This is discussed in more detail in Chapter 5. In August 2001, a new Communication and Information Ministry was created. This suggests that formulation of ICT policy may be carried out by the new ministry.

Table 2.2: Replita targets

Development targets according to Indonesian government plans (Repelita)

Development Targets	Repelita (Year Ended March 31)				
	VI (1999)	VII (2004)	VIII (2009)	IX (2014)	X (2019)
Local exchange capacity (millions of lines)	10.5	19.0	29.0	42.0	60.7
Local exchange capacity per 100 inhabitants	5.1	8.7	12.4	17.1	23.6

Source: Bappenas.

4. **Infrastructure development within government plans**. The Government's national development policies were set forth in five-year development plans known as "*Repelitas*." The plans are developed by the National Development Planning Agency (BAPPENAS <www.bappenas.go.id>. For telecommunications, these included targets for local exchange capacity, line penetration (i.e., local exchange capacity per 100 inhabitants) and quality of service. Although the government has a majority stake in Telkom, and the company considers the targets when establishing its own plans, it is not formally required to meet the government targets. The government established long-term targets (through 2019) in 1995 (see Table 2.2). Because of the economic situation, the government has not announced detailed plans for Replita VII (covering the five year period through March 2004).

Box 2.2: IMF and Telecoms

"The Government continues to give priority to the rapid restructuring and privatization of the telecommunications sector. The GOI plans to issue shortly regulations needed in areas including tariffs, interconnection, and universal service obligations, and to provide for the early establishment of an independent regulatory agency. The Government remains committed to transforming Telkom and Indosat into competing full-service providers, and to requiring these companies to divest their stakes in all non-core businesses. Each company will be expected to divest its holdings in at least two such businesses by end-2000, and all non-core holdings will be divested by end-2001. An inter-ministerial team on telecommunications—established on May 30—will be strengthened and will develop a detailed reform action plan for the sector by end-October."

Source: Government of Indonesia Letter of Intent to IMF, September 2000, <http://www.imf.org/external/np/loi/2000/idn/04/index.htm>.

[3] "Regarding telecommunications, it sought clarification on Indonesia's intention in respect of the review of exclusive rights in telecommunications, which has rather long transition periods compared to other Members." WTO. Trade Policy Review Indonesia. Minutes of Meeting. WT/TPR/M/51. 27 January 1999.

[4] See Sunil Devmurari. "Indonesia: Impact of Market Liberalization Plans Reduced." Pyramid Alert. 10 August 2000.