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FLYING BEFORE WALKING

The impact of new information technology on the national economies of Indochina

By Harish C. Mehta


Forays by old Indochina hands into their favourite hunting grounds in Cambodia have generated humour of the very dry and gravelly kind.

Sample this. A team of World Bank experts arrives in Cambodia's eastern Kompong Cham province to study the need for new information technology versus the pressing demands for water, electricity, sanitation, and basic housing. As the bankers stroll along the banks of the swollen Mekong River they see a man being swallowed alive by a large crocodile that has taken in his entire body, except his head which is still outside. The man lies very still. Seeing this, one of the World Bank veterans remarks: "This village is rather prosperous. There is a man cuddled up inside a Lacoste sleeping bag".  

1 A veteran Indochinese banker who believes in the theory of well-rounded development that Indochina needs not just water but also champagne, not just butter but also bombs for legitimate self-defence. Consider these facts. Vietnam with a population of 77.8 million has more than 60 people per telephone, which exerts a tremendous pressure on the creaking infrastructure, but the country also has a staggering 2,298 people per doctor. Cambodia's population: 10.3 million; people per doctor: 9,523. And Laos' population: 5 million; people per doctor: 4,381. The choices to some people are clear. These countries need the basic
To even begin to talk about a Cambodian villager owning a Lacoste sleeping bag is bizarre. To expect villagers in Vietnam, Cambodia, and Laos to apply for an Internet connection, when they do not have telephones, safe drinking water, or access to a hospital, is to put the cart before the horse.

To that extent, the development of new information technology must rank fairly low in the over-stretched national budgets of these countries. Nevertheless, Indochina has woken up, not a day too soon, to the tantalising visions that the new information technology has promised.

Take Cambodia's revered King Norodom Sihanouk, the foremost filmmaker of his country, and a producer and director of some 17 films since 1966. King Sihanouk has now made the happy discovery that he can sell video copies of his films through the Internet. The monarch has his own website: http://www.norodomsihanouk.org/. His films can be ordered at http://www.meridianvideo.com

King Sihanouk is not alone. Hundreds of businessmen in Phnom Penh and Hanoi are regularly logging on to the Internet. But Laos has yet to start. If all goes well, an Internet service will be launched in Vientiane this month.

The Laotians have been using the Internet for some time now. The Lao Embassy in Washington, DC, has its own Website that tells the world how it should do business with Laos. The realisation had dawned that great economic benefits were waiting to be reaped through the Internet. Over in Phnom Penh, the Cambodian People's Party of Prime Minister Hun Sen had launched its own Website highlighting its constitution and party platform, as had its rival Funcinpec party and the Sam Rainsy Party. In Washington, DC, the necessities first, and only then should they spend on developing their information technology.
Embassy of Vietnam has its own Website where it puts up speeches of its President and other government leaders. These remarkable trends would have been unthinkable just three years ago.

Isolated in Cambodia

On a visit to Phnom Penh in 1990, I unearthed some stunning facts. There were, at the time, less than 10 operator-assisted telephone lines via Moscow. It meant that if you wanted to call London, your call would go through three operators -- in Phnom Penh, Moscow and London -- and could take forever. Cambodia's link to the outside world, via Moscow, was a Soviet-supplied Intersputnik satellite dish.

A lot has changed since then. Now there is International Direct Dialling (IDD), thanks to a 10-year contract signed between Australia's Telstra and the Cambodian Directorate of Posts and Telecommunications in early-1990.

But, at the time, there were no IDD links. A few months later, in November, Phnom Penh got its first 16 lines with the commissioning of Telstra's 7.5 metre Vista satellite dish, but calls were still operator-assisted. When IDD services began five months later, the system could carry 90 lines.

Fast-forward to November 1992 when Cambodia's Minister of Communications, Transport and Posts, So Khun, and Telstra Managing Director Peter Shore signed a deal for Telstra to upgrade international links. After having invested about US$2 million to US$3 million in the Vista system, Telstra began constructing a modern, international telecommunications centre known as the

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Intelsat Standard-A satellite earth station, right next to the obsolete Intersputnik dish in Phnom Penh, not far from this hotel. The new earth station was built at a cost of about US$8 million. For what seemed such an enormous business risk at the time, Telstra did rather well by bagging a US$40 million deal to provide a satellite-based communications network for the United Nations Transitional Authority in Cambodia, or UNTAC, the international body that organised the elections in 1993. Telstra beat out the competition by forming a formidable alliance with Indonesian carriers, PT Indosat and PT Telekom, and services were provided on the Indonesian Palapa satellite.

Telstra has also set up a payphone network in the country. By the time Telstra’s 10-year contract ends in 2000, the company would have earned a high return on its investment.

Crossed Wires in Cambodia

Not only was Cambodia’s phone system outdated and inadequate, but the Department of Posts and Telecommunications which ran the network was hamstrung by government meddling till the early 1990s. Despite showing a profit of 150 million riels (US$64,000) in 1990, the department lacked the funds. Its main sources of revenue were postal and telecom services, with the latter providing about two-thirds of total revenue. But the heart of the problem was that government offices and state-owned firms, which accounted for 80 per cent of subscribers, were reluctant to pay their bills. Bad debts in 1992 amounted to half a year’s revenue. Ironically, while

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state firms and departments were loath to pay for their phone calls, the department still forked out a 30 per cent tax on its profits.

Till 1994, Phnom Penh had an old-fashioned crossbar exchange with a capacity of 4,000 lines, but fewer than 3,000 were operational. There also were automatic switchboards in Battambang province bordering Thailand (about 300 subscribers), in central Kompong Cham province (100 subscribers), and in the southern states of Kompong Som and Koh Kong with no more than 100 subscribers each. To satisfy the pent up demand, a few Thai and Malaysian firms moved in with cell phone technology as an alternative to fixed lines. They set up cellular phone operations that were also plagued with serious problems when it came to collecting bills.

Early Days in Vietnam

After the fall of Saigon in 1975, Communist North Vietnam literally wiped out private enterprise in the south, virtually killing the development of telecommunications, and forcing international communications firms to shut their offices and escape. Till 1990, most telecom equipment was obsolete, difficult to maintain, and provided unreliable service. Although some of the equipment was produced in the 1960s and 1970s, it was of the pre-1930s design. The war against the United States had so depleted Vietnam that virtually no technological development took place in the country.

The dream existed, though. Even before 1990, the government of Vietnam had embarked on a programme to invest US$20 million through foreign investors to develop digital electronic gateway

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exchanges in Hanoi and Ho Chi Minh City. Some 40 per cent of subscribers at the time were served by manual exchanges. Likewise, about 30 per cent of telex services were manual.

There were plenty of other kinks in the system. The national trunk system consisted of 161,000 kilometres of open wire that was aging and vulnerable to typhoons, with only 305 kilometres of cable in sound condition. There were 26 telephone circuits and 26 telegraph circuits though the Soviet Intersputnik that linked Vietnam to the Communist states of Eastern Europe. Later, a Vista earth station provided 28 telephone circuits and nine telegraph circuits via Sydney.

As early as 1990, Vietnam had set itself a goal to create by 2005 a developed telecom infrastructure with a view to providing a telephone density of between two to three phones per 100 people, and an automatic IDN service of high quality for all the cities. The country also aimed to provide fax service at all post offices, and a national data transmission network linked to the global network.

Vietnam has, in fact, installed a digital circuit switching system, consisting of three levels of electronics switchboards to accommodate the needs of the growing numbers of phone users. Through contracts with international companies the Vietnamese aim to install and operate fibre optic cables. It would be a major leap forward for the country that is already using state-of-the-art technologies.

Vietnam Logs On

Computers were such a rarity in Cambodia and Laos in the 1990s that their use was restricted to a few government offices, foreign companies, and non-governmental organisations. But Vietnam was a star performer. In fact, Vietnamese companies had discovered the
economic payoffs of developing computer software several years ago.

Back in September 1991, I interviewed the head of a Vietnamese software company who was yanking his country out of the paper age, albeit in slow motion. Dr Tran Ha Nam was the director-general of Scitec, a company set up in Ho Chi Minh City in 1989 with a capital of US$200,000, and staffed by more than 50 graduate computer programmers. Scitec made a major breakthrough in the world markets by selling computer software to companies in France and Japan.

Scitec designed a programme using computer-aided cartography for two French companies, Cartogrammie and Signaux Girod, and a small Japanese firm. It earned US$100,000 from its admittedly small but remarkable software business. Dr Nam, who had studied computer science at the Sorbonne, Paris, now employed programmers who were graduates of the University of Ho Chi Minh City, and the city’s Polytechnic Institute. To foreign companies the allure of Vietnam’s software lay in its low cost of production. A programmer could, at the time, be hired in Vietnam for US$200 a month, versus US$4,000 a month in the United States, and US$2,000 a month in Singapore. Making a rough comparison, Dr Nam pointed out that for the same investment, a software producer in the US could employ only 50 programmers, but as many as 100 in Singapore and 1,000 in Vietnam. "This speeded up the production 10 times," he said.

Cut-price labour had its downside, too. Serious personnel problems dogged Scitec because the quality of Vietnamese programmers was not up to the mark owing to their poor training. To upgrade their skills, Scitec joined forces with Lotus-France, a non-governmental

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5 Back to the Computer, Business Times, October 11, 1991.
organisation, to establish the Lotus College of Information Technology and Management in Ho Chi Minh City, in the first national effort to create a private technical institution.

At the time, the only other company involved in information technology was Vietronics Binh Hoa that imported computers in completely knocked-down kits and assembled them for export. Scitec, too, had a small assembly line to produce computers from semi-knocked down kits.

As early as 1989, Vietnam was witnessing the beginnings of a boom in computers, as computer sales outlets, service centres, and training schools looked set to flourish. It had been a long and difficult road. Before the Vietnam war ended in 1975, there were about 40 IBM mini-systems and mainframes installed in South Vietnam. Between 1975 and 1985 virtually no computers entered the country. From 1985 to 1991, about 20,000 personal computers were imported. Among them were mini-systems from Honeywell-Bull that were installed in various government agencies.

But there was a major roadblock. The United States trade embargo shut out US computer firms from entering the country. After the embargo was lifted, the number of computers in use grew to more than 300,000 at the end of last year, rising at a blistering pace of 40 per cent a year.  

The US Embargo, and After

Vietnam's fortunes changed in early-1994 when US President Bill Clinton lifted the US embargo, and moved Vietnam to "Country Y" category from its status as an embargoed state. On cue and within

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6 According to Nghiem Xuan Tinh, deputy director, Vietnam Data Communication Company.
days, US computer firm, Unisys, signed an agreement with the Vietnamese government to produce an information technology master plan for the country.  

But the more acceptable "Y" status did not mean that the floodgates of aid and investment would be opened. Still, Vietnam could now have access to certain types of US technologies that were previously denied. Although there were no reliable estimates of the size of the country's IT market, the annual demand for personal computers was thought to run at about 1,200 units that were imported. Given the influx of foreign companies that had invested some US$20 billion in the country, demand for personal computers was expected to explode.

The other Vietnam veterans were coming back too. IBM, which operated in Vietnam in the 1930s but left when Saigon fell in 1975, returned to sell its personal computers and its line of AS-400, some types of RS-6000, and ES-9000 computers. Digital Equipment Corp was also feasting its eyes on the Vietnamese market. Taken together, US computer hardware and software makers were being attracted by the prospect of selling equipment worth US$300 million to US$500 million to Vietnam in just seven years after the lifting of the embargo.

I was in Phnom Penh the day that Mr Clinton lifted the US trade embargo. My editor phoned me to rush to Vietnam and cover the story. I reached Hanoi within hours. In the following days I met most of the major American players. Motorola's country manager for Vietnam, Frank Marciano was at last able to close a deal that he had booked in 1975. Motorola found itself pitted against the likes of

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7 Unisys signs deal to produce IT masterplan for Viets, Business Times, February 16, 1994.

Alcatel, AT&T and other European players, all of whom were chasing Vietnamese consumers. For starters, Motorola planned on opening a new market niche: selling pagers.

Like Mr Marciano, IBM's John Howell had been camping in Hanoi well before Mr Clinton lifted the embargo. Mr Howell saw a major policy change in the offing and opened a representative office in Hanoi months before the embargo was lifted. When it operated in Vietnam before 1975, IBM ran a marketing firm that employed 115 Vietnamese, and sold its line of computers such as 360s and 370s to the government and commercial firms. Remarkably, some of those systems were still in use. The ingenious Vietnamese had beaten the embargo by cannibalising some systems to make others work.

A Welter of Master Plans

Beyond 2000 in Vietnam

The first Indochinese country to draft a national policy on information technology was Vietnam. It signed a national IT policy into law in 1993, but its slow implementation reflected problems of inadequate funding, low IT usage, and a weak software industry and telecom infrastructure. The twin aims of Vietnamese policy was to use IT as a tool to improve economic performance, and to develop IT itself as an independent segment of the economy.

A master plan for the development of the electronics and information technology industries till 2010, drafted by the Ministry of Industry, placed priority on seven groups of products and services -- consumer electronics, IT equipment, telecom equipment, electronics for industrial and special uses, software, IT services and components.

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9 Institute of Electrical and Electronics Engineers, Inc.
Short of funds and long on ambition, Vietnam is on the lookout for foreign investments worth US$900 million to kick-start these development projects, mainly in the production of electronics components, with the objective of achieving sales of up to US$1.6 billion by 2000.  

The government's salesmen from the State Committee for Cooperation and Investment succeeded in drumming up foreign investment in the IT sector. Investments climbed from next to nothing to more than US$600 million in 1996, with most units located in the two major metropolises, Hanoi and Ho Chi Minh City. Increasing access to telephones and computers boosted domestic demand for electronics and IT products. But the use of IT products by individuals remained fairly restricted owing to the low incomes. The main users were the state companies and resident foreigners.

Aware of the tremendous direct and spinoff benefits of IT, the Hanoi government launched an ambitious plan to set up a national high-tech park. Japanese and Vietnamese planners spent a year completing a master plan and feasibility study for the country's first high-tech park in Hoa Lac, 30 kilometres west of Hanoi.  

Spanning about 1,600 hectares, the park is to be developed in phases till 2020 by which time, the planners hope, it will be a haven for advanced technology industries. An initial study conducted by specialists from the Japanese International Cooperation Agency and the Vietnamese Ministry of Science and Technology prepared a policy master plan which included recommendations on the development of science and technology and the promotion of investments. The study identified 24 business

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sectors that stood to gain from the application of advanced technology such as software, bio-technology, and others.

It was a tall order. A contingent of well-trained scientists was needed to be deployed at the park, but the country’s scientific pool was dry. There seemed no alternative but to bring in scientists from abroad to buttress Vietnam’s own Russian-trained scientists. To develop the park, the Vietnamese government was expected to provide US$550 million, with an additional one-third of the required funds to be raised from investors. With immediate returns not readily apparent, it was uncertain if investors would take the bait.

Laos Aims High

With a population of five million and more than 180 people per telephone, Laos was better placed than some of its neighbours. Acutely conscious of the deficiencies in its telecom system, the government of the Lao People’s Democratic Republic drafted a master plan covering the period 1987 to 2010 that was divided into five phases. The first phase (1987-1990) patched up the rundown infrastructure using a US$4.5 million loan from the World Bank. In addition, Australia provided funds worth US$8 million that was used to install a Vista satellite earth station in Vientiane, the international gateway capable of receiving signals from Intelsat with connections to the USA, France, and Australia.

The second phase (1991-1993) focused on the installation of basic equipment and saw the introduction of automated systems. This phase had a budget of US$43.4 million (US$24.5 million as a World Bank loan, US$13.8 million as aid from Japan, and the rest from foreign aid and local investors). At the end of this phase, the number of telephone lines increased from 5,675 to 18,232 -- all digital.

12 Lao Telecom Co Ltd.
Communications that were radio-based were replaced by microwave with a 24-hour automatic switched telephone service for both local and international calls.

The third phase (1994-1997) expanded the network throughout the landlocked country. The microwave system was extended from Luang Prabang to Pakse, as well as to every province. A new satellite earth station was designed to have at least 120 telephone channels that could be expanded to more than 1,900 channels.

The fourth phase (1998-2000), and the fifth phase (2001-2010), were revised to meet the country's current and on-going needs. The number of phone lines is targeted to be increased to 340,000, or five lines per 100 people.

The private sector also tasted the pie. The Lao Telecommunication Co Ltd (LTC), a 51/49 joint venture between the Lao government and Thailand's Shinawatra International, announced that it would invest US$65 million on new telecommunications services in Laos.\(^\text{13}\) Of this, US$60 million would be used to expand the fixed line network in Laos, and US$5 million to expand the Lao GSM network. LTC has 27,000 fixed line subscribers, and serves 39 towns. The company expects to have 49,000 lines by 2001, and aims to control 1.5 per cent of the total phone lines in the country.

LTC, a monopoly service provider, was given a 25-year exclusive basic services license in 1996. In November 1998, the company achieved full capacity utilisation of its 5,000 GSM lines with 5,000 users in Vientiane, Savannakhet, Champassak, Luang Prabang, and Oudomxai. LTC earned about 11 billion kip in net profits last year. It operates 150 public card payphone booths, and provides a paging service, but has less than 1,000 paging subscribers.

\(^{13}\) Laos company, LTC, to invest US$65 million in new telecom services, The Economist Intelligence Unit Ltd, April 14, 1998.
A Grand Cambodian Vision

Cambodia's master plan, authored by the Geneva-based International Telecommunications Union, calls for a total investment of US$270 million till 2003, by which time switch capacity of 145,000 lines would be established, enabling 120,000 connections to be provided. Mr Lar Narath, the Under Secretary of State for Telecommunications, sees these developments taking place both through private investments and bilateral grants.

From 1998 to 2001, some 10,000 lines will be added each year in Phnom Penh, and 5,000 lines in 2002, leading to a new capacity of 45,000 lines. In the provinces, 85,000 new lines will be created during this period, according to the master plan.

Turning a Threat into an Opportunity

Just the fact that Vietnam had opened up to the Internet was in itself revolutionary. The deeply suspicious Communist government realised that there was no stopping, or running away from, the Internet tsunami. A looming threat was cleverly turned into an economic opportunity. It could only happen after Prime Minister Vo Van Kiet signed a decree entitled "Temporary Regulations on the Management, Establishment, and Use of the Internet", which allowed the country to connect with the Internet.

In Laos, the Communist government was initially fearful of the Internet, but knew there was no rolling it back. Cambodia, the only liberal-democratic state in Indochina, was not obsessed by such worries, and openly welcomed the new technology.

The ruling Communist parties in Vietnam and Laos were not all that perturbed by the free flow of information because the penetration of the Internet was fairly small and superficial.

14 Cambodian undersecretary of telecommunications Lar Narath.
However, it is expected that the Vietnamese and Lao regulators will, sooner or later, block out certain Websites they deem a threat to national stability.

Vietnam Leaps into the Quantum

In its enthusiasm to chronicle the arrival of the Internet in Vietnam, a state-owned paper got ahead of itself. It reported in August last year that the country would go on-line a month later. It did not happen as planned. After a delay, the Internet arrived on November 20, 1997.

E-mail had been available since 1994, but the authorities were wary of providing a live-link because of concerns over undesirable information circulating. Sections of the overseas Vietnamese community had been agitating against the Communist government in Hanoi, and had used e-mail, Usenet news groups, and sites on the World Wide Web. Back in 1994 there were just 30 users of e-mail that grew to 3,000 users two years later.

The process of getting on-line was cumbersome. Vietnamese organisations planning to send information via the Internet need to submit to the Ministry of Culture and Information a detailed list and career histories of all employees. Diplomats and foreign organisations were also required to seek permission to get access to the Internet.

Vietnam spent almost US$200 million on Internet access, including the cost of equipment and staff training. From the word go, foreign IT giants began hunting for economic opportunities

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15 Vietnam to link to Internet, Associated Press, August 12, 1997.
16 Vietnam’s Internet Prospects, International Executive Reports Ltd, East Asian Business Intelligence.
connected with Vietnam going on-line. Hewlett-Packard and IBM reached agreement to provide equipment. Vietnam selected IBM servers and Hewlett-Packard software.

Vietnam's powerful Department General of Post and Telecommunication licensed four Internet Service Providers (ISPs) -- Vietnam Data Communications Company, Institute of Information Technology, Corporation for Financing and Promoting Technology, and Saigon Postel.

Starting with just 2,000 users in January 1997, the number of users shot up to 16,000 last month, and was expected to hit 100,000 by the turn of the century. 17

The Vietnamese Cash In

The potential of doing business on the Internet dawned early on Vietnamese businessmen. Nguyen Huu Phuc, marketing manager for Thang Cong Textiles, said: "Looking for customers on the Internet is faster than grabbing a suitcase and going all over the world. Even then you can't expect to find the sort of customers you want." 18 Mr Phuc told a roundtable organised by the Saigon Times that, thanks to the Internet, his firm had been able to learn about new patterns and was able to readjust its production plan. Not only did the company keep a close eye on world prices of garments on the Internet and was able to fix its prices competitively, it was also planning to develop its own Website.

A Vietnamese trader said that he accidentally visited a Website and discovered that agricultural engines were offered for sale cheaper than what he was quoted. Had he not come across that site, he would have continued paying higher prices for the same product.

17 Estimates gathered from Vietnamese ISPs.
The case history of the ISP, Corporation for Financing and Promoting Technology (FPT), is a remarkable testimony to Vietnamese ingenuity. Despite all sorts of financial and operational difficulties, FPT grew from a small group of 14 scientists into a leading IT company with a staff of more than 400 people. The firm was involved in key national projects such as the Hoa Binh Hydro Power Project, Yaly Hydro Power Plant, and the North-South 500 kv transmission line. It also supplied and installed some 1,000 computer networks, and provided services to some 20 domestic and foreign banks through its SmartBank programme. Growing at a frenetic 70 per cent a year, FPT generated Dong 376 billion in revenue last year.

Room Only for Two in Phnom Penh

The first ISP to start up in Cambodia in the middle of last year, Camnet, was funded by a US$366,000 grant from Canada’s International Development Resources Center. Soon afterwards, Australia’s Telstra launched its Big Pond service. Both the foreign entities had signed separate contracts with the Ministry of Posts and Telecommunications to run Internet services.

Moa Chakrya, Camnet’s manager, confirmed that his service had 1,400 users, most of whom were foreign companies and individuals. About 600 of them were direct-dial-up commercial and non-commercial users, while another 800 users accessed the Net through leased lines. Most of its users were in Phnom Penh, and only two were in Siem Reap. Camnet expects more provincial users to sign up in the next two years. New users were not hard to find, as they had been waiting for the service to start. Many Cambodian

20 Author’s interview with Moa Chakrya, network manager of Camnet.
companies were benefiting from using the Internet as transmission was free, unlike the fax or the telephone.

Big Pond, meanwhile, had some 650 users, mostly organisations, in Phnom Penh. David Lewis, a Big Pond spokesman, said that the growth in new users would be closely linked to the development of the Cambodian economy. "The growth that we have seen has surpassed our expectations with the numbers of users doubling every nine months," he said. While the Internet was bringing down the cost of doing business by reducing fax and phone bills, it had the potential of putting Cambodian business on the world market, he said.

Big Pond has seen the profile of its users change. The first through the door were the foreign companies and non-governmental organisations, but this year smaller Cambodian companies began signing up. The result? There was a clear 50/50 split between foreign and local users for Big Pond's services.

The government regulator was keen to bring IT into the country, but it does not want to see more ISPs enter a small market where there was only room for two.

Fingers Crossed in Laos

In April this year, the Lao Telecommunications Company Ltd (LTC) announced that it would set up the first ISP in Vientiane within three months. Alas, its plans were delayed.

LTC, a joint venture between the Lao government and Thailand's Shinawatra International, hopes that Laos will go on line this month. A Shinawatra official said that the arrival of hardware worth US$130,000 had been delayed. The software, expected to cost about

21 Author's interview with David Lewis, spokesman for Big Pond.
US$40,000, is believed to be in place. 22 The company expects about 400 users to sign up next year, and hopes to get a return on its investment in about two years.

Even before the Internet could start up, Laos had stepped into the Internet age – after a fashion. The Singapore office of Pan Asian Networking (PAN), funded by Canada’s International Development Research Centre, had started a dial-up e-mail service linking Vientiane to Singapore. The best that some 400 Laotians could do was to access e-mail four times a day. A full Web access lay in the imminent future. The IDRC, it must be said, was playing a critical role in bringing the Internet to the less travelled places of Southeast Asia, such as Laos, Cambodia, and Vietnam, in addition to Nepal, Sri Lanka, and Bhutan.

Laos presented unique problems. Not having a coastline ruled out the use of undersea cables to hook the country up. The only efficient phone lines ran through Thailand, and would-be users must call Thailand and log on through Internet accounts there, or go through Singapore. Still, the existing e-mail service in Laos was pathetically slow and unreliable as PAN had no choice but to work with the Lao government instead of a more efficient private company, analysts have said.

Constraints to the Development of IT in Indochina

Thinner Budgets

For all their desire and honest intentions to pitchfork their economies into the fullblown IT age, the three Indochinese countries remained hobbled by a lack of budgetary support. Governments in Hanoi, Phnom Penh, and Vientiane were finding, with varying shades of disappointment, that when there was just

22 Author’s interview with a Shinawatra International spokesman.
not enough money for core developmental projects such as housing, education, and healthcare, they could not push the cause of IT with too much vigour.

Vietnam's deputy minister of Science, Technology and Environment, Buoi Manh Haul told the *Nhan Dhan* (People's Daily) in October this year that investment in science, technology and the environment accounted for a mere 1.25 per cent of government spending. Next year, things won't be much better. The budget was expected to inch up to 1.6 per cent of total spending, rising to two per cent in 2000.  

Out of these meagre resources, what ultimately ended up in the development of IT was a pittance. A thick 28 per cent slice of the allocated funds was consumed by departmental salaries. Another 20 per cent went into the funding of some 150 studies under 11 science and technology programmes. A mere 3.2 per cent was allocated this year for scientific research and development that served rural communities in the mountainous areas. A further 12 per cent was spent on upgrading equipment in scientific laboratories.

As a result, the development of IT relied almost entirely on foreign investments. Typically, direct foreign investments in Vietnam's telecom and postal sector was less than 10 per cent of total investments worth about US$20 billion.

In Cambodia's case, out of a budget expenditure of more than 186 billion-riels in 1992, some 40 per cent was spent on national defence and on civil servants' salaries, with no allocation for science

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and technology. The current situation was pretty much the same, and highlighted the need for urgent international aid to Cambodia.

The Mask of High Literacy

On the face of it, Vietnam and Laos had attained high literacy levels of around 80 per cent due to the ballast provided by their Communist regimes that made primary education compulsory. However, the standard and quality of education remained low, and was grossly inadequate for a country to make a quantum leap into the realm of high technology. The scientific elites in these countries were largely Soviet-trained and were small in number, and, as a result, they lacked the critical mass necessary for even a mini-scientific revolution. Vietnam was the only Indochinese country that had made serious efforts to set up numbers of institutes that churned out software designers. Even before 1990, a private college had been founded in Hanoi specialising in computer science and mathematics. A lack of education had placed computers and the Internet beyond the reach of the people.

In Cambodia, the government's expenditure on education was a mere 22 million riels (about US$8,000) in 1994. Lest this figure should sound misleading, it must be remembered that annual fees were US$2.50 for a primary school student, US$5 a year for a secondary student, and US$50 a year for a university student. The war-ravaged and isolated country needed all the help it could get. Universities across Indochina suffered from a shortage of computers and, as a result, only a few hundred students were able to graduate in computer science each year. To be able to sell to low

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income users, Vietnamese computer firm, Scitec, produced low priced software, and personal computers.

Low income levels, High Internet charges

With the salaries of Cambodian government officials generally being as low as US$50 a month, and that of private sector employees only marginally higher, the common people could not afford the luxury of the Internet. Big Pond's Mr Lewis admitted that the pricing was high for recreational users. At US$60 for eight hours of usage, plus US$6 per hour for usage more than eight hours, Big Pond's prices were clearly beyond the pocketbook of the common man.

One of the Vietnamese ISPs charged a US$20 registration fee, and US$30 per month for a basic connection. Throughout Indochina a barrier to the Internet remained the low ownership of telephones. While Internet usage was a rarity in the urban centres where it was confined to companies and the 'elite, it was non-existent in the rural areas. But the potential existed for a growing Internet market among the expanding middle classes in Ho Chi Minh City where the average annual income was approaching US$1,100, three times the national average.

One of the Vietnamese ISPs, Vietnam Data Communications Company had the bright idea of wooing users by offering free access from November 3 to December 2 this year. It would also award a Dong 10 million prize to its 10,000th user.

State Monopolies Control Access

Throughout Indochina, access to the Internet market is regulated by the state. Foreign companies could enter the market as ISPs only through joint ventures with the government. To gain access the
foreign partner was expected to bring in, and transfer, technology, as well as invest capital and train the locals. The Vietnamese authorities had set the cost that an ISP must pay at US$5,000 a month, higher than the cost in some other countries. Governments had expressed concern about the free flow of information on the Web, and it could be expected that Vietnam would draft laws to penalise those who accessed pornography on the Net, or used it to propagate anti-government views.

Copyright Piracy Rising

The Indochinese countries provide no protection to intellectual property as yet. Consider Vietnam, the largest market among the three countries for pirated goods. US software giant Microsoft estimates that 90 per cent of its software in Vietnam is pirated. Vietnam is neither a member of the Berne Convention for the Protection of Artistic and Literary Works, nor the Universal Copyright Convention.

Vietnam’s membership of the World Trade Organization, as a result, remains on hold until it provides adequate protection to intellectual property, besides making progress on related trade issues. Vietnamese law provides limited protection to written works such as drama and opera, films, computer software and architectural works that are released outside Vietnam. Protection is provided only if the works are released in Vietnam within 30 days of their release abroad. The so-called “30-day window” had put existing works in danger of being pirated. 26

Computer software producers were understandably leery. Why would Vietnam do such a thing? Foreign lawyers based in Hanoi

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26 Copyright mars Hanoi’s bid to join WTO, Business Times, June 21, 1995.
believe that Vietnam passed the ill-advised rule in a bid to obtain the latest computer software. Under the WTO’s Trade Related Aspects of Intellectual Property, or Trips, WTO members were obliged to enforce copyright usually for 50 years. Vietnam does not conform to Trips. The country needs to put in place its own legislation to protect and enforce copyright judgments.

Even though Vietnam had signed a bilateral copyright pact with the United States, the deal did not go far enough. Under the agreement both countries said they would provide protection to each other’s citizens and companies under their laws. But Vietnam did not have a law.

After a long war, the Indochinese countries were behaving in a schizoid manner. They wanted a flood of foreign investment and cutting edge technology, on the one hand, but they were tiptoeing around the issues related to Internet access, control, and copyright, on the other hand. They must learn to walk first, fly later.

Media & Economic Development in Cambodia: Opportunities & Issues

Koy Veth
Khmer Women's Voice Centre

Pen Samithy
Rasmei Kampuchea

Him Suong
National Television of Cambodia

In Chhay
National Radio of Cambodia