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Effects of ICTs on Media Transformation, Education and Training in Vietnam, Laos and Cambodia

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1

Synthesis

Journalists in the affluent industrialised world have since the mid-80s adopted information and communication technology (hereafter referred to as the internet) as part of their daily work. The internet has also enabled geographically isolated journalists to build an extensive network of contacts and access diverse information sources. Journalists, and citizens alike, are increasingly publishing their work for access by a global audience. This has effectively forced a redefinition of what constitutes professional practice in journalism.

We hear varied claims of how the internet have transformed mainstream journalism practices and empowered citizens to tell their own stories via alternative online news sites. However, the extent that the internet has or has not changed the way journalists in developing economies, for instance in the Indochina region, carry out their work is not as widely known. Instead, what we read is mainly news of political restrictions, nay repression, on journalists by authoritarian governments in the developing countries.

Indeed, much research has been done on how journalists from the rich developed economies have adopted the internet in their work, and how the technology has transformed the way news is produced and disseminated to a global market at relatively low costs. Little, however, is known about how similar technologies have influenced or transformed media practices, media operations and media cultures in socialist bloc countries such as Vietnam, Cambodia and Laos. This project aims to bridge this knowledge. The three countries were selected for our study because they share similar political history and economic experience.

Over the past decade, the governments of Vietnam, Laos and Cambodia have cautiously embraced the Internet. The potential strengths of the internet to foster sustainable economic and social development in the Indochina region via the media are apparent, but remain untested.

The technology thus far is mainly used by the state to distribute public relations information to attract direct foreign investments and tourism. This has effectively reinforced the impression that the internet is mainly used in the Indochina region as a Party organ, just as the media are traditionally used as a state apparatus.

For lack of empirical research evidence on ICT usage among Indochinese journalists, this impression persists in the collective perception of media scholars. Our research project aims to address this perception of the application of internet technology in the context of media realities in the Indochina region.

We do this by canvassing the views of journalists from the three countries to understand how they have or have not used the internet in their daily work, the issues they face in using the technology, and the training they urgently need to optimise their usage of the new technology.

This investigation is a direct response to the lack of research and scant literature on the internet's encompassing effects on the Indochinese media, which today are operating in an increasingly open market economy. Evidence of the integration of the internet in the Indochinese media would help both the government and journalists realistically locate their

perceived separate functions – albeit with a common interest to improve the quality of life and civil governance in a transitionary economy.

Together with the country researchers, we set out to meet the journalists and media executives in the capital cities - Hanoi, Vientiane and Phnom Penh -- where the respective country's major media organizations are located. We wanted to find out whether the Internet has empowered the journalists to report with greater freedom in areas that were previously neglected by their news organizations. Or, has journalism in the Indochina region remain the way it was before the internet ever became part of every day life?

Scope of Report

This report is in two parts. Part 1 reports on the usage of ICTs by journalists in Hanoi, Vientiane and Phnom Penh. Part 2 proposes a training module for journalists in using ICTs in their daily work. This report does not delve into the history of the mass media and developments of the internet in the three countries. Factual information is available from these websites and reference text:

- Country case studies conducted by the International Telecommunication Union http://www.itu.int/osg/spu/casestudies/index.html#internet
- OpenNet Initiative, http://www.opennet.net
- Gunaratne, Shelton (2002), Handbook of the Media in Asia, Sage, New Delhi.
- Country profiles on ICT in Education at the UNESCO site: http://www.unescobkk.org/education/ict/countries

Project Design and Implementation

The project adopts a combination of methods to collect the qualitative and quantitative data: primary literature review, questionnaire surveys, personal interviews with newspaper editors and government officials, and an ICT-needs and inventory survey.

A pilot questionnaire comprising 71 closed-ended and open-ended questions was translated to Vietnamese. Two country researchers from the Institute of Communication and Journalism in Hanoi administered the questionnaire to 65 journalists in December 2005.

Responses to the open ended questions were used to refine the final questionnaire survey, which comprised of two sections. Section A contains 31 closed-ended questions. Section B, which aims to gather data on the media organisations' infrastructure support facilities, comprises 22 items.

Two country researchers were appointed in each capital city to administer the questionnaire survey. A list of major media organizations from Hanoi, Vientiane and Phnom Penh was created from email discussions with the country researchers. Interviews with journalists, editors and relevant government representatives were subsequently arranged by the country researchers.

We traveled to Hanoi, Phnom Penh and Vientiane in February 2006 to meet with the country researchers and to provide on-site training in questionnaire administration, data coding, and conduct the interviews. We spent a week in each city.

Much time was spent in observing operations in the local newsroom and journalists' access to internet connectivity, availability of computers and telecommunications services. Cultural issues such as the use of different Asian languages on the internet was also examined, along with the problems of displaying languages that do not use the Roman alphabet on the Internet.

Methodology & Project Process

A combination of methodologies was used to gather the data and qualitative information for this report. They are: questionnaire surveys, site-visits, dialogues, and on-camera interviews with journalists, editors and government officials.

Country researchers, who are working journalists, were appointed in Hanoi, Phnom Penh and Vientiane to arrange appointments with the editors and relevant government representatives for face-to-face interviews. The interview questions focused on in-house policies of internet access, usage, training needs, and information technology infrastructure support.

Country researchers were each given three hours of on-site training by Dr Eric Loo and Dr Hang Dinh on how to administer the close-ended questionnaire survey, interpret the multiple-choice questions, and code the responses. As the country researchers from Vientiane did not speak fluent English, Dr Hang interpreted the training session in Vietnamese, which was understood by one of the Lao country researcher.

All questionnaires were translated to Vietnamese, Khmer and Lao. The questionnaires were administered by the country researchers at major news organizations in Vientiane, Phnom Penh and Hanoi from February to March 2006. Each questionnaire took an average of 45 minutes to complete.

Questionnaire responses were recorded in separate coding sheets by the country researchers and emailed to the principal researcher, Dr Eric Loo at University of Wollongong, Australia. The data were then entered into a database, interpreted, and analysed by SPSS (Statistical Package for the Social Sciences).

About 12 hours of digital camera footage of the interviews were obtained. It was scripted and edited down to an hour in Sydney with the help of a professional editor at *Sky Channel* with input provided by Dr Hang Dinh. A first test copy of 45 minutes was completed in November. A final copy of one-hour with additional script, voice-overs and footage was completed in December.

The DVD 'documentary', a learning resource on internet usage; a profile of journalists' strengths and weaknesses, and an overview of the ICT infrastructure in selected media organizations accompany this final report.

Much time was spent in the newsrooms observing the workings of any ICT-related journalism activities. We wanted to find out the extent of journalists' access to and application of ICTs in their work. This ranged from the availability of individual computer work stations, which journalists in the richer more developed economies take for granted, telecommunication services and internet connectivity. The economics of such services, relative to the local economy, and technical issues such as bandwidth and the reliability of connections were also looked at.

Cultural issues such as the use of different Asian languages on the Internet was examined, along with the problems of displaying languages that did not use the Roman alphabet on the Internet were considered.

This project is utilitarian. It essentially addresses the "hands on" issues faced by the journalists such as their convenient access to infrastructure support, the economics of daily access to the internet and their work routines that may or may not require their access to the internet. Most of the journalists and editors – the primary subjects in our research – do not speak English. Thus, we had to rely on the country researchers' correct interpretation of the questionnaire and subsequent fielding of the questions. Occasionally, we were uncertain if technical terms such as "ICTs, dial-ups, broadband, internet speed in kbps, ICT infrastructure" were correctly communicated to the local journalists. This was addressed through follow-up checking and clarifications with the country researchers based on the responses they received from their fieldwork.

What worked well for our project was the on-camera interview. The presence of a camera indeed was a significant factor in getting the editors' attention. We operated with a single DVD camera with an external microphone. Placed on a tripod, the camera was left running during the 45-60 minute interview sessions. All were recorded in simple head shots.

The on-camera interviews were limited to those who can speak fluent English, except for the Director of Lao TV when we were assisted by an interpreter. The on-camera interviews covered a range of topics from an overview of ICT usage in the respective organization to issues about how the internet has given journalists greater scope in reporting issues previously overlooked, to identifying the type of training urgently needed by journalists.

The one-hour documentary well complements this final report, which we hope will help inform on the future development of ICT-related journalism production and training programs in the three countries.

Research Questions

1. To what extent is the internet being adopted and used by journalists in Vietnam, Cambodia and Laos in their daily work?
2. What are urgent training required by journalists in the three countries so that they can optimise their application of the internet to their work?
3. What impediments – infrastructural, political, economic, language and cultural – do journalists face in using the internet?
4. To what extent has the internet empowered journalists, most of whom are not formally trained, in becoming effective representatives of the public interest?

5. What type of low-cost model for training in ICT-assisted news production is appropriate for journalists in the respective countries?

Summary Findings

Laos is one of the last countries in the region to introduce the internet. Its entry as a member state of the Association of South East Nations in 1997 likewise opened the country to the benefits of networking via the e-ASEAN initiative *www.e-aseantf.org*. [1] The Lao National Internet Committee (LANIC) was formed in 1998 under decree by the Prime Minister to develop policies and guidelines on how the technology can be harnessed to primarily promote 'national development policies'. [2] LANIC also issues the licences to internet service providers.

Vice-director of the entertainment section, Phitsamay Bounvilay, who is in charge of *Lao TV's* IT application sums it up well. He says because the Internet was only introduced to *Lao TV* in December 2005, policy makers from the ministry level to journalists at *Lao TV* are generally not aware of the internet's capability, apart from basic emailing.

Phitsamay, who completed his graduate studies in Australia says most journalists and policy makers are not trained to use new information technology nor aware of how ICTs can benefit the general population. For example, most do not even know how to use emails, research for information on the internet or browse a website.   Thus, there is little incentive to improve ICT planning and access.

Language difficulties among Lao journalists and the lack of Lao-language based internet contents,[3] Phitsamay says, also prevent the wider usage of the internet for research, networking and information gathering.   Minimal exposure to and experience in using ICTs among journalists working in Lao-language media have led to scarce reporting of ICT-related issues.

The only media in Laos that can claim to be at the forefront in using the internet at the workplace is the English-language *Vientiane Times,* which covered the April 2006 national assembly election with daily online updates on the paper's website.

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[1] In July 1996, the Canadian International Development Research Centre (IDRC) launched a project through its Pan Asia Networking (PAN) initiative to provide e-mail connectivity in Laos. IDRC provided a grant to the Science, Technology and Environment Agency (STEA) to purchase equipment for setting up e-mail service through a dial- up connection to a server in Singapore. Since then, the Lao government has granted international organizations permission to operate their Very Small Aperture Terminal (VSAT) satellite connections to the internet via dial-ups.

[2] Refer to the UNESCO Bangkok site for information on Laos PDR's development of ICTs national strategies and programs, and assistance provided by ASEAN e-initiative, the European Commission, UNESCO, UNDP, Japanese government and other foreign agencies in developing ICTs in education and public administration in Laos.   Document is titled: "*UNESCO Meta-survey on the Use of Technologies in Education* " accessible at: http://www.unescobkk.org/fileadmin/user_upload/ict/Metasurvey/LAO.PDF (Accessed 15 Dec.2006)

[3] However, increasingly the younger generation of urban-based Laotians in Vientiane are connecting with the Laotian diaspora from as far as the US and Canada to its immediate neighbour, Thailand. This connection has opened new opportunities for Laotians to benefit from the ICT experience of the Laotian diaspora, and that of Thailand's.

Savankhone Razmountry, director-general of *Vientiane Times* says that since the paper was established in 1998, its website has been at the forefront in correcting the mis-representation of the country in foreign websites set up by Lao expatriates in the United States.

Le Renovateur, a French language weekly also published by *Vientiane Times* has used the internet widely to promote Laos to foreign visitors and English-speaking Laotian. The main message communicated in both websites, Razmountry says, is that Laos is "a peaceful and politically stable country with investment potentials"

In Cambodia, the internet was first used by journalists in 1994 when the *Open Forum of Cambodia,* a non-governmental organization in Phnom Penh provided the first email connectivity. Full connectivity to the internet happened in 1997 with the assistance provided by the International Development Research Centre (IDRC) from Canada via a link to Singapore.

The main organization providing ICT-related education and training is the Community Information Web Portal of Cambodia. The portal is accessible over the Internet and in 22 Community Information Centers (CICs) around Cambodia. Local contents for the web portal is collected and managed by the CIC Web Portal Team at *Open Forum of Cambodia,* which specializes in information technology issues.

Open Forum is also developing a Khmer operating system – *KhmerOS* – which is translating free and open software applications to the Khmer language "to allow people in Cambodia to work with computers in their own language in order to give access to computers to people in lower levels of the economic scale, to students and people in rural areas, to small-and-medium enterprises (SMEs) that required computers (but not English) and finally, to the government, for it to work in its own language".

Pen Samitthy, editor of the main Khmer language newspaper, *Rasmei Kampuchea,* says most of its journalists do not use the Internet for research or email. Samitthy's observation applies to journalists across all media types in Cambodia as well as in Laos, but less so in Vietnam where its romanised Vietnamese language provides journalists with greater capability in downloading documents from relevant websites, with the added advantage for self-publishing and weblogging.

The obstacles to greater usage of ICTs in Cambodia – just as in Laos - are: high connection costs, the lack of telephone landlines, lack of English language proficiency, difficulty of computerizing the Khmer script, lack of ICT human capital and inadequate financial resources to promote ICTs among the public. These constraints are commonly faced by government officials and professionals alike, such as journalists.[4]

In Vietnam, the internet was only publicly available in December 1997. However, Vietnamese journalists compared to their Lao and Cambodian counterparts are not as hampered by infrastructural constraints, or hardware and software limitations.

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[4] The international community have initiated numerous ICT-related projects in the education sector in Vietnam, Cambodia and Laos. For reports on *ICT use in Education* in the Indochina countries, refer to the UNESCO reports. Click on the document titled: *Meta-survey on the Use of Technologies in Education in Asia and the Pacific 2003-2004* by following the links at: http://www.unescobkk.org/education/ict/countries

Majority of Vietnamese media organisations have their respective homepages on the Internet. Several on-line newspapers published from Hanoi and Ho Chi Minh City are accessible in both English and Vietnamese.[5] For instance, *Vietnam NetBridge* (http://english.vietnamnet.vn/), *Than Nienh Daily* (www.thanhniennews.com), *Vietnam Economic Times* (www.vneconomy.com.vn/eng), *Forum Vietnam Journalism (*(www.vietnamjournalism.com) and *Vietnam News Agency* (www.vnagency.com.vn)

In the last three or four years, internet users have increased exponentially in Vietnam. The Internet World Statistics estimated that in December 2005 there were close to 5.87m internet users in Vietnam, which is 7-8% of the population.

However, figures of internet users vary according to different definition of who is an internet user. The web-blog IT FACTS' statistics estimate the number of internet users in Vietnam at around 10 million, which sets the level of internet penetration in Vietnam at 12%. The Vietnamese government plans to increase the country's internet penetration to 35% by 2010 – mainly by investing heavily in the telecommunication sector.

While our research has gathered relevant empirical data to paint a picture of the immediate internet-related training needs and issues faced by newspaper journalists in Hanoi, Phnom Penh and Vientiane, contrary to general assumption, the internet has not led to significant transformation in the way that journalism is practised and produced in the three countries. This is mainly due to software limitations, high internet connection costs, inadequate infrastructure support within the media organizations, lack of a clear ICT development plan, and general low exposure to and experience of the benefits of ICTs in the workplace. Political factors were not perceived to be critical impediments to the wider usage of internet by journalists.

In summary, journalists' application of ICTs in their work is limited in both range and frequency, although levels of use – mainly in MS Word processing and basic desktop publishing -- are highest in Hanoi followed by Phnom Penh and Vientiane. The evidence suggests that the media organizations despite many having caught on the internet since 1998, the extent of ICT usage can be considered to be in the early or adoption stage – with the exception of established media organizations that are clearly in the 'adaptation' stage, for instance in Hanoi: *Voice of Vietnam, Vietnam News Agency and VietnamNet;* in Vientiane: *Vientiane Times;* and in Phnom Penh: *Open Forum* and *Cambodia Daily*.

While most journalists in the three cities surveyed recognized the inherent enabling capacity of ICTs, many evidently lack confidence in their own skills. This is exacerbated by the lack of in-house technical support or specialist staff.

Overview of ICT Usage in Indochina

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[5] For a list of Vietnamese newspapers and news sites, refer to: *www.world-newspapers.com/vietnam.html*

Available information notes that the internet was first used in Vietnam in December 1997. The *Lao Dong* newspaper reported that of the 700,000 computers sold in Vietnam in 2000, there were 72,000 internet subscribers.[6] In about five years to June 2002, there were as many as 400,000 to 600,000 internet users,[7] although that represented less than 0.8% of the population.

Over the last three to four years, internet users have increased exponentially in Vietnam. The Internet World Stats estimated that in from December 2005 to November 2006, the number of internet users jumped nearly three-fold to 14.2m.[8] (See table in the following pages) These figures, which change weekly, show the exponential growth of internet users – which is a common phenomenon.   Figures of internet users also tend to vary according to different definition of who is an internet user.

The web-blog IT FACTS statistics estimate the number of internet users in Vietnam at around 10 million, which sets the level of internet penetration in Vietnam at 12%. [9]   The Vietnamese government plans to increase the country's internet penetration to 35% by 2010 – mainly by investing heavily in the telecommunication sector.

In Laos, the major users of ICT are government organizations, although the distribution of a total of 2,456 personal computers in 2004 was somewhat uneven. More than half of the PCs were located in the Ministries of Education, Communication, Finance, Foreign Affairs, the National Bank and STEA. Less than 10 percent were located in the Ministries of Agriculture, Public Health, Justice, and the Military although together they have more staff than the other ministries.

A survey by LANIC in 2004 showed that only about a third (31.7%) of government departments are connected to the internet, and 21.7% of government officers access the internet, mainly for emailing and searching for information on foreign websites. Each computer is shared by an average of three staff members throughout the 25 government organizations in Vientiane (Phonpasit, 2005) [10]

With Vietnam, in a rare development and demonstration of the country's experimentation with media reforms, Prime Minister Nguyen Tan Dung initiated an online forum on Feb.9, 2007 via the *VietnamNet Bridge* website. (http://english.vietnamnet.vn/politics/2007/02/663043/). The public was invited to email questions to the Prime Minister. Editors-in-chief from the country's major media organizations selected the questions and read it to the Prime Minister. The answers were broadcast live online via the government's website, the online Communist Party newspaper and VietNamNet.

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[6] The *Lao Dong* Newspaper, 4 August, 2000

[7] *thang dau nam, thi truong vien thong,* Internet *chuyen bien tich cuc,* (First six months, telecommunication market, positive move of the Internet), www.vnpt.com.vn, 5 August 2002; and *Vietnam's IT development plan targets regional parity,* www.xinhuanet.com/english, 10 August 2002.

[8] http://www.internet worldstats.com/stats3.htm

[9] http://blogs.zdnet.com/ITFacts

[10] Phonpasit Phissamay, Laos (country report), *Digital Review of Asia Pacific 2005/2006,* pp.134-137

In Cambodia, an often cited example of the country's comparatively more liberal approach to the internet is how the former king, Norodom Sihanouk, used his personal website *(http://www.norodomsihanouk.info)* to communicate with people within and outside the country.

His son, King Norodom Sihamoni, likewise, has his own royal website which contains his biography, schedule of royal activities, and information about the royal family. Much sought after by the international media from the website was the King's comments on the constitutional crisis following the formation of a new government in July 2004.

Norbert Klein from *Open Forum of Cambodia (http://www.forum.org.kh),* commenting on the King's website noted: "These frank commentaries led the king to engage in a regular and wide-ranging public political discourse that would not have been possible without the internet. The royal website provides an email address which renders the king accessible to the public, thereby putting in practice the concept of a 'Kingdom with a King who shall rule according to the Constitution, and to the principles of liberal democracy and pluralism'. " [11]

Prime Minister Hun Sen, who chairs the National Information Communications Technology Development Authority, noted in July 2003 in his speech at a national meeting to formulate the country's ICT policies and strategies: "All Cambodians have open access to information from overseas for study and general knowledge, through the internet and email without any restrictive controls as is the case in some countries in the region." [12]

Hun Sen announced on 21 April 2006 that defamation by the media will no longer result in imprisonment of journalists, marking a significant step in the country's media liberalization. However, his announcement on the decriminalization of defamation came with the caution that journalists "draft their articles well" to avoid lawsuits. [13]

To what extent Hun Sen's announcement will lead to the development of a more responsible investigative media, the resources being currently provided for Cambodian journalists through their easier access to the internet, albeit still costly relative to their earning power, is open to question.

Klein noted that Cambodia's ICT goals have yet to be realised:
    "It is hard to imagine its actualisation with the existing backward-looking policies
    hampering economic progress and technological advancement. An example is the
    restriction of VoIP services; [when] such services have helped to bring about

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[11] Norbert Klein, Cambodia (country report), *Digital Review of Asia Pacific 2005/2006,* pp.124-127. Corroborated by a personal interview in at *Open Forum* office in Phnom Penh, Feb.13, 2006.

[12] http://www.nida.gov.kh/activities/summit/PMSpeech_English.pdf

[13] Reporters Without Frontiers, reported on 25 April 2006 that: "As it stands, the law on defamation provides for preventive detention and a sentence of a year in prison or a fine of 10 million riels (2,100 euros). Amendment of article 63 will just do away with the prison sentence. It must be approved by parliament before it can take effect.
Former King Norodom Sihanouk meanwhile said on 24 April he would sue the French-language magazine "L'Echo du Cambodge" for publishing an article that was "hostile" towards him. The monthly recently carried extracts from "Des courtisans aux partisans," a 1971 book about Cambodia by French writers Serge Thion and Jean-Claude Pomonti. The king previously said he would not sue journalists out of respect for press freedom." (http://www.ifex.org/en/content/view/full/73989/, Accessed 03/05/06).

significant cost reductions in other countries. The progress achieved by the open source movement in many countries in Asia shows that an enabling and encouraging environment for praxis-oriented experimentation, research and production will release creative talent that helps to bring about economic and technological benefits to society. As the Cambodian leadership is anxious that the country is not left behind, present constraints are expected to be removed."[14]

As with Laos, the limiting factor in the establishment of websites by media and non-governmental organizations in Cambodia is the absence of a common standard for the use of the Khmer script in communication.[15] Thus, Khmer content are often uploaded to websites in the form of scanned graphics, which is unsurprisingly slow and expensive to download. Thus, the main users of online technology are those working in the tourism and hotel industry where the main language is English.

Following is a table of the distribution of internet users extracted from the Internet World Stats, with Malaysia and Thailand included to provide a comparative context. The figures show that despite Vietnam's population being nearly thrice of Malaysia's, the internet penetration in Vietnam is only 16.9% compared to Malaysia's 40.2% as of November 2006. However, the six-year user growth in Vietnam at about 70-fold is the second highest at among the five countries, after Cambodia which experienced a five-fold growth.

Internet Usage and Population in Asia[16]

(as of 27 November, 2006)

Countries	Population (2006 Est)	Internet Users (2000)	Internet Users (as of Dec. 2006)	Penetration % of Pop.	% Users in Asia	User Growth 2000-2006
Cambodia	15.1m	6,000	41,000	0.3%	0.0%	583%
Laos	5.7m	6,000	25,000	0.4%	0.0%	316%
Vietnam	83.9m	200,000	14.2m	16.9%	3.6%	7,005%
Malaysia	27.3m	3.7m	11m	40.2%	2.9%	198%
Thailand	66.5m	2.3m	8.4m	12.7%	2.3%	266.1%

Source: Extracted from Internet World Stats – Usage and Population Statistics (http://www.internet worldstats.com/sats3.htm#asia) *(Accessed 06 April 2006)*

Another way to gauge the number of country domain names from web-hosting directory services. One of the reliable database site is provided by *WebHosting.info* (http://www.webhosting.info/about/profile/) which "monitors over 35 million domain names, 1.3 million DNS servers, 35,000+ hosting companies, and approximately 2 billion IP Address

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[14] Klein, 2005, *ibid.* Corroborated by a personal interview in at *Open Forum* office in Phnom Penh, Feb.13, 2006.

[15] As is common in the region where intellectual property and copyright laws, there was widespread usage of pirated proprietary software. With Cambodia's entry into the WTO, it has compelled the country to develop such laws and open source codes as a solution to its ICT future. The *Open Forum of Cambodia* is developing the KhmerOS software "based on the Unicode standard for the Khmer language which can satisfy 80 percent of the needs" of Khmer speaking users. Details at: *http://www.KhmerOs.info*

[16] The Internet usage figures were compiled by the Internet World Stats from various sources, mainly from data published by Nielsen/NetRatings. Details of the ratings are accessible at: http://www.nielsen-netratings.com/ Definitions of the terms used by Internet World Stats can be viewed at: http://www.internet worldstats.com/surfing.htm

on a regular basis". Out of 243 countries ranked in the database, the picture as of Dec.4, 2006 is illustrated in the following table:

Country Domain Registered Names
(as of 04 December 2006)[17]

Country	Rank (out of 243 countries)	Total Domains
Thailand	18	261,690
Malaysia	34	70,894
Vietnam	52	29,197
Lao PDR	147	856
Cambodia	155	679

Source: Web Hosting Info (http://www.webhosting.info/domains/country_stats/)

Descriptive Findings

A total of 183 journalists in Hanoi (63), Vientiane (59) and Phnom Penh (61) from 36 media organizations were surveyed from February to March 2006.

The earliest period that the internet was first installed among the 36 media organizations [18] surveyed was 1998. The Cambodian news organizations only started to install the internet on a broader scale from 2000 onwards, and the Lao media from 2001.

Currently, there is no common application software for the Khmer and Lao indigenous script, [19] which proves to be a major impediment in the establishment of websites by the media and non-governmental organizations in Cambodia and Laos.

For Vietnamese papers, however, the Romanised script of the Vietnamese language makes it easier to develop and upload contents to its websites.

Other impeding factors of widespread internet usage at the workplace are low connection speed, inadequate internet skills, and low awareness of how online technology can improve the productivity, creativity and quality of journalistic work. For instance at the national television station, *Lao TV* in Vientiane, the dial-up connection speed was limited to 128kbps (observed during our site visit in February 2006).

Most of the journalists use the internet for about 1-2 hours daily – and that's mainly for emails (63%), followed by researching for story ideas (53%); reading overseas news (49%);

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[17] These figures change monthly. Constant updates accessible from:
http://www.webhosting.info/domains/country_stats/
[18] A total of 36 news organizations were surveyed in Phnom Penh (16); Hanoi (12); Vientiane (8). See Appendix for a list of the organizations.
[19] The *Open Forum of Cambodia* is developing the KhmerOS software "based on the Unicode standard for the Khmer language which can satisfy 80 percent of the needs" of Khmer speaking users. Details at: *http://www.KhmerOs.info*

interviewing sources (44%); chatting with friends (41%); and accessing general consumer product information.

About more than half (54% by collapsing the categories of "often" and "fully applies") said they were sufficiently skilled to fully use the internet – ie. primarily for news research and emails -- at their workplace.

Of the 166 respondents who used the internet for 1-2 hours daily, only 23% have attempted to publish stories and pictures on their personal websites. The minimal attempt at self-publishing is attributed to the lack of skills in developing and designing websites, lack of interest or no felt need in doing so.

About a quarter (29%) thought the internet had not given them any more freedom than they already have to report or investigate in areas that were previously neglected by their news organization.

Apart from providing greater access to information worldwide, the internet, however, is not seen to have made much difference to their daily work. The main reason given is they lacked fluency in English, the main language used on the internet, followed by the lack of appropriate programs to decipher the Lao and Khmer script.

Interestingly, the majority (75%) said the fear of being monitored by the authorities was not a critical issue either.[20] The majority of journalists believe that Web contents in their respective countries are not subject to official regulation or any direct restrictions. This is contrary to the fact that all Vietnamese mass media are state-owned and regulated by the Ministry of Culture and Information. With telecommunications, and thus internet connections, the Ministry of Posts and Telematics sets and regulates the communications policy. Likewise, for the media in Laos.

The Lao and Vietnamese journalists' perception of minimal government interference in the dissemination of internet contents reveals a reality gap between what is seen from the outside and what is being experienced by journalists in their daily work. For instance, the OpenNet Initiative report on internet filtering in Vietnam notes:

> The trend in Vietnam is towards increased regulation of Internet content, resources, and access. Vietnamese authorities have launched a crackdown on what they consider unlawful usage of the Internet in an effort to prevent citizens from accessing material that might undermine its control. Backed up by explicit regulations, these controls are distributed across multiple government ministries and extend into the operations of major ISPs, cybercafés, and Web site operators. (www.opennet.net/vietnam) (p.21; Accessed Dec.06, 2006).

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[20] The OpenNet Initiative (www.opennet.net), formed in 2002 by consortium of universities – Cambridge, Toronto, Harvard and Oxford – is monitoring the level of internet filtering and surveillance in more than 40 countries worldwide. China is said to be the most notorious in filtering the internet. Sophisticated programs sold by internet security companies from the West are being sold to governments to in Asia to filter and censor web contents in the local language, such as Vietnamese, Mandarin, Arabic and Farsi. However, ONI has developed a "simple internet censorship circumnavigation program" called "psiphon" which can be downloaded for free from: *http://psiphon.civisec.org/*

Existing press laws in Vietnam, Laos and Cambodia, however, do not yet apply specifically to internet communications. The governments of Laos and Vietnam – as in the case of Malaysia -- are reportedly looking into introducing specific requirements that must be met by internet service providers, and website owners before an ISP licence is granted.

Demographics

Out of 183 journalists, 34% are from Vietnam, 32% from Laos and 33% from Cambodia. 63% are males. [21] More than half (57%) are aged between 25-34 years old. About a quarter (26%) are aged between 35-44 years.

With gender distribution, 63.4% of the 183 journalists are males. Except for Cambodia where 77% of the respondents are males, for Vietnam and Laos they are quite evenly split.

Table 1: Gender by country of origin

	Vietnam	Laos	Cambodia	Total
Male	**36**	**33**	**47**	**116**
% within Gender	31.0%	28.4%	40.5%	100.0%
% within Country of origin	57.1%	55.9%	77.0%	63.4%
% of Total	19.7%	18.0%	25.7%	63.4%
Female	**27**	**26**	**14**	**67**
% within Gender	40.3%	38.8%	20.9%	100.0%
% within Country of origin	42.9%	44.1%	23.0%	36.6%
% of Total	14.8%	14.2%	7.7%	36.6%
Total Count	**63**	**59**	**61**	**183**

Table 2: Years in journalism by country of origin

Years in journalism		Vietnam	Laos	Cambodia	Total
2-4	Count	**26**	**11**	**18**	**55**

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[21] All percentages in this report are rounded up to the nearest figure for easy reading. Exact percentages to the decimal points can be viewed from the respective tables in the Appendix.

		47.3%	20.0%	32.7%	100.0%
5-7	Count	**19**	**10**	**16**	**45**
		42.2%	22.2%	35.6%	100.0%
8-10	Count	**8**	**12**	**5**	**25**
		32.0%	48.0%	20.0%	100.0%
> 10	Count	**10**	**26**	**22**	**58**
		17.2%	44.8%	37.9%	100.0%

A total of 58 journalists (31.7%) have been working as journalists for more than 10 years; a quarter (45 journalists or 25%) between 5-7 years, and the rest 2-4 years. Out of the 58 journalists who have worked for more than 10 years, about 45% are from Laos followed by about 38% from Cambodia.

Slightly more than half (51%) began their journalism career in newspapers, followed by radio (19%), magazine (13%), and television (13%). A small minority started with the news agency (3%), such as the *Vietnam News Agency* and *Lao News Agency* (*Khaosan Pathet Lao),* and online news site (1%).

The number of years the journalists have been working in their current position were somewhat unevenly distributed, most with 2-4 years (37%); followed by nearly a quarter having worked in their current position for 5-7 years (26%); more than 10 years (21%), and 8-10 years (16%)

The primary responsibility of most respondents (72%) at the time of the survey were in news reporting and feature writing, with 13% in sub-editing, and the rest in editorial management (5%), column writing (4%), radio and television production (4%).

Education & Training Background

About 70% hold at least a university degree, and an equally high proportion (77%) able to speak and write in English, apart from their native language – Vietnamese, Lao and Khmer.

About 42% also speak and write a third language – Thai and French for respondents from Vientiane; Chinese (*Putonghua*), French and Russian for those from Hanoi and Phnom Penh.

By country breakdown, Vietnam had the highest number of journalists who hold a university degree (44.5%) followed by Laos (35.2%) and Cambodia (20.3%).

For journalists with only a high school qualification, the majority (63%) come from Cambodia – which highlights the historical spectre of how the Khmer Rouge's four years of atrocities had destroyed the country's education system together with a generation of intellectuals and their families in 1975-79. Today, it is believed that two-thirds of the generally young population above 15 years-old in Cambodia today are illiterates.

Most journalists surveyed have had some form of (conventional) journalism training at short-term workshops (39%) or during their university studies (32%). The rest were trained on the job (23%). The extent of formal training, mainly for the print media, is in the following areas:

- News reporting (82%)
- Feature writing (81%)
- Interviewing skills (68%)
- Photography (60%).
- Sub-editing (44%).

Table 3: Education by country of origin

Education Qual		Vietnam	Laos	Cambodia	Total
High schl	Count	1	9	17	27
		3.7%	33.3%	63.0%	100.0%
	% of Total	.5%	4.9%	9.3%	14.8%
College	Count	5	5	18	28
		17.9%	17.9%	64.3%	100.0%
	% of Total	2.7%	2.7%	9.8%	15.3%
University	Count	57	45	26	128
		44.5%	35.2%	20.3%	100.0%
	% of Total	31.1%	24.6%	14.2%	69.9%
	Total Count	63	59	61	183
		34.4%	32.2%	33.3%	100.0%

The majority (80%-90%) have not received any formal training in using the internet for journalism-related work -- such as conducting on-line discussion, emailing, subscribing to mailing lists, online research, weblogging, multimedia production, or web design. Education and training in ICT-related subjects are equally hampered by lack of technical staff experienced in ICT applications in the newsroom.

In-country training avenues are unsurprisingly lacking. Any available training is mainly conducted by overseas aid organizations in collaboration with local universities, such as the Royal University of Phnom Penh in Cambodia, and the Institute of Journalism and Communication in Hanoi, or established news organizations such as *Vientiane Times/Le Renovateur* in Laos.

Of those who have received internet-related training, 16% were trained in-house, followed by 14% during their university studies; and a minority (10%) who have attended online research training workshops -- mainly held in Bangkok and Hanoi.

Interestingly, close to 78% of all journalists have their own email addresses (mainly with Yahoo, Gmail and Hotmail accounts). The frequency of email usage is, however, limited to their access during work hours, or in some cases in cybercafes. This is most evident in our follow-up emails with some of the journalists after the survey, which did not receive any replies.

In the case of Laos, education and training in ICT-related subjects are significantly hampered by the lack of experienced ICT-skilled staff in the newsroom. Thus, the reliance on external trainers. For instance, in May 2006, the Asia Pacific Institute of Broadcast Development (AIBD), supported by UNESCO's International Programme for the Development of Communication (IPDC), conducted a two-week training workshop for radio journalists from the provinces in Central Laos in using digital technology in producing citizen participatory programs.

Among ASEAN countries, according to news reports, Laos spends the least of it annual budget - about 7.4% - on tertiary education in 2003. ICT-related education and training is currently provided by private commercial organizations in Vientiane and the country's only public university, the National University of the Lao PDR (NUOL), set up in 1995. NUOL relies heavily on foreign aid and donations, mainly from Japan, to kick start its ICT education sector. The Japanese government funded a computer lab at NUOL, which launched the Lao-Japan Technical Training Center, with computers connected to the internet and a local area network.[22]

A study of Laos's ICT capability by the International Telecommunication Union (ITU) in March 2002 noted the following:

> "Laos lacks qualified IT manpower. Most government and private sector IT staff studied abroad, with the help of foreign grants. Lao students continue to go to foreign universities in countries such as Australia, Malaysia and Singapore. Others get training within Laos, through the private sector, with several private colleges and companies offering specialized IT training courses.

> "NUOL has introduced an undergraduate programme in Computer Science and recently (2002) graduated its first batch of students. One of the country's most ambitious projects is the Cisco Network Academy Programme (CNAP). Through CNAP, Cisco Systems, in cooperation with governments, the private sector and educational institutions, provides IT training in the area of computer networks. The project (between) Cisco, the Lao government, the UNDP and the university, would provide a useful source of training. It is not quite clear yet where the Academy would be hosted, but potential partners include NUOL and the Science, Technology and Environment Agency (STEA)." [23]

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[22] For a detailed account of the IT education in Lao PDR, see UNDP reports from its website.
[23] Michael Minges & Vanessa Gray, Internet on the Mekong: Lao PDR Case Study, ITU, March 2002, p.14. (http://www.lao.net/html/ICT/itu-79478.pdf) (Accessed 05 April 2006)

Four years on, the situation has changed little. The main agency for internet training (and research in ICT-related areas) is the Information Technology Centre in the Science, Technology and Environment Agency (STEA), established by the government in 2000. The *2005/6 Digital Review of Asia Pacific* (http://www.digital-review.org/) provides the following estimates:

ICT Profile by Country
Extracted from:
Digital Review of Asia Pacific 2005/6, UNDP-Asia Pacific Development Information Programme

	Laos	Cambodia	Vietnam	Thailand
▪ Rural population	85% [1]	82.6% [3]	75%	69.9%
▪ Literacy in national language	60%	68.5%	95%	92.6%
▪ Computer ownership per 100 persons	0.18	0.11 [2]	1.17	2.78
▪ Telephone lines per 100 persons	0.91	0.27	2.44	12.6
▪ Internet cafés per 10,000 persons	0.371	0.08 [4]	6.2	n/a
▪ Internet users per 100 persons	0.16	0.05	1.3	6.7
▪ Internet hosts per 10,000 persons	0.011	n/a	0.06	11.75
▪ Cell phone subscribers per 100 persons	0.54	2	1.9	12.33
▪ Websites in English and other language(s)	20	n/a	n/a	n/a

[1,2] As in 2000.
[3] As in 2001.   [4] As in 2003

Digital Review in its 2005 report noted that the average number of PCs with internet access in each government ministry was about 10 to 15, which limited the access to the top administrators. [24] And the majority of whom, as Phitsamay noted earlier, were not familiar with using emails or navigating websites due to inadequate fluency in the English language

In the case of the Vietnamese media, by comparison with their Lao and Cambodian counterparts, most have their respective homepages on the internet. There are on-line newspapers both in English and Vietnamese. As of September 2006, there are about 70 Vietnamese online newspapers and about 2,500 information websites. [25] The figures understandably are in constant flux, mostly in an upward trend.

Our field visits to *VietnamNet* and established media organizations such as the *Voice of Vietnam* (VOV) and *Lao Dong* show the vast difference in the technological set-up and ICT infrastructure support available to journalists in Hanoi. Which explains the ICT-related

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[24] ICT Profile – Lao PDR, *2005 Digital Review for Asia Pacific*, UNDP-APDIP. (Accessed on 30/06/06 from website last updated 24/06/05).
[25] Provided by an official from the Press Department, Ministry of Culture and Information

training workshops especially provided to Lao journalists by the Institute of Journalism & Communication, Ho Chi Minh National Political Academy in Hanoi.

Training Needs

In terms of internet-journalism training needs, the critical areas according to priority (by collapsing 'most needed' and 'often needed') are:

- Online journalism research (59%)
- Email interviews with sources (49%)
- Publish stories on the web (41%)
- Designing and maintaining websites (37%)
- Multimedia audio-visual production (31%)
- Networking with other users (30%)
- Lead online discussion groups (27%)
- Weblogging (15%).

In-country journalism training workshops are mainly conducted by overseas media organizations. For instance, in Vietnam, the *Independent Journalism Foundation* (http://www.ijf-cij.org) based in Eastern Europe has worked with *Vietnam News Agency, Vietnam Investment Review,* the *Saigon Times Group* and *Vietnam Economic News* in training journalists in specific editorial skills – news research, news writing, editing, photography, news design, how to use modern technology effectively in news production, digital camera skills, and on-line publishing with simple web design software.

In Cambodia, a one-year diploma and four-year degree level journalism studies are available only through the Cambodia Communications Institute (CCI) established by UNESCO and the Danish government in 1994. In 2002 CCI was absorbed into the Department of Media and Communications at the Royal University of Phnom Penh, which recently launched a one-year diploma course in journalism.

As professional course offerings are limited by availability of expert staff at RUPP, most radio and television companies offer basic in-house training in radio and TV production to their own staff. For example*, National Radio Kampuchea (RNK)* and *National Television Kampuchea (TVK)* have hosted occasional technical training programmes involving visiting experts from Europe (particularly Germany) and Asia (Japan, Korea, China, Vietnam, Malaysia, India, Sri Lanka).

An organization that has embraced training and academic scholarship is the *Cambodia One-Click Communication* fellowship (www.cocc.biz), "created under a philosophy of Khmer to Khmer". It is founded by a group of lecturers and graduates to facilitate the exchange of ICT-research information and applications. It aims in the long term to develop software in the local language customised to local needs. It has institutional links with the *Center for the International Cooperation for Computerisation* from Japan.

Another Cambodian organization working on facilitating wider ICT applications is the *Open Forum of Cambodia* (www.forum.org.kh), which started the *KhmerOS Initiative*. The organization is currently compiling a basic glossary of computer terms in Khmer.

In Laos, *Vientiane Times* has sent its journalists mainly to Bangkok for training – mainly in the areas of environmental reporting and photojournalism hosted by the Indochina Media Memorial Foundation and UK-based Thomson Foundation. In-house training in editorial production, desktop publishing and advanced reporting is held occasionally and conducted by foreign instructors.

The immediate training needed, says *Vientiane Times* director, Savankhone Razmountry, is writing in the English language, "so that we don't have to depend all the time on native speakers". ICT-related training is mainly provided by senior staff members. (Interview, 07/02/06).

With radio and television, in-house training is mainly conducted by overseas organizations. During our field visit to *Lao TV* on Feb.07, 2006, a two-week training was then being conducted by *Deutsche Welle Television Training Centre* from Berlin, Germany.

To get a clearer picture of the training needs and ICT infrastructure support available in 2006, a follow-up survey was conducted from September to October with 30 media organizations (10 each in Hanoi, Vientiane and Phnom Penh).

One of the questions asked was*: If funds are available to your organization, what type of training would you want your staff to take?* The training needs identified by the media organisations in the three cities do not provide a uniform list with a mixed bag of priorities. Instead, the priorities cited by respondents were defined by their ICT skills level. A summary of the priority training needs by cities is as follows:

Hanoi:
1. Staff training in using new software for presentation, for example PowerPoint.
2. Training courses in designing/creating news website and reporting for the internet.
3. Website development, update and maintenance, database management.
4. Newspaper design and layout.
5. Quark and Photoshop.

Vientiane
1. Online payment service;[26] web design and development using PHP language; JavaScript; newspaper editing; setting up network and internet security.
2. Create Lao-English-Lao dictionary software; news reporting; basic computer knowledge and skills; setting up Linux server and internet router.
3. Database maintenance; newspaper design; program development (VB, NeT); computer editing; using FTP; accessing databases and archiving photographs.
4. Photo editing; photography; maintaining web server and mailserver; using the internet and emailing for journalists

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[26] 'Online payment service' in the context of the responses refers to how users will be able to pay for online subscriptions to the *Vientiane Times* and *Le Renovateur.*

5. Audio and video training; how to install and update software; building and maintaining servers.

Phnom Penh
1. Quark Express, PageMaker, online journalism reporting and research; Microsoft Office, basic news reporting.
2. Photoshop, 3D graphic design;
3. Hardware and software maintenance.
4. Using Clip Art and Video Clip for websites; online editing.
5. TV internet

The country researchers in Phnom Penh [27] made the following observations at the respective media organizations during their site visits to conduct the inventory survey:

1. Cambodge Soir (Monday, 25 September 2006)

It is observed that the technology used in Cambodge Soir is very limited. Most of the Macintosh computers used for news production and general administration are old and out-of-date. A French man whose son used to work for the organization in the past years donated most of these computers.

There are not many other modern technologies used in the organization besides an old satellite to receive news from Agence France Press (AFP). Three computers are connected via a single Internet line for reporters' online research. Although desk phones are available, the reporters mainly use their personal mobile phone for interviews, as it is fast, convenient and flexible enough for them to do their reporting.

2. The Commercial News (Monday, 25/09/06)

With the availability of fax machine, telephone, scanner, desktop computer, Macintosh computers, satellite etc., the news production process is fully computerised. However, the organization does not have a specific budget to acquire new technology as requested by its journalists, nor does it have an annual allocation for staff training in using ICTs.

3. Rasmei Kampuchea Daily (26/09/06)

It seems that Rasmei Kampuchea has used quite sophisticated technology in its news production. However, there is a clear digital divide in the organization between the young and 'old-handed' (sic) journalists. The old people are still using very traditional tools, for instance, typewriters, to write their stories given that they are "not much educated in using such technology" nor are they willing to learn the new technology.

This problem has, indeed, prompted the editor-in-chief to initiate a policy to urge those old journalists to learn to use new technology in the newsroom. The initial phase was to push

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[27] Som Ratana, journalism lecturer at the Royal Phnom Penh University; and Kay Kimsong, business editor at *The Cambodia Daily.* The text has been edited for clarity. Country researchers in Hanoi and Vientiane did not report on their observations.

them to create an email account so that they could send and receive emails. The next step is to make them understand how reliable, efficient, and convenient such technology is to their daily profession. Only when they understand the importance of technology will they agree to adopt ICT in their daily work.

4. The Phnom Penh Post (26/09/06)

Unlike Rasmei Kampuchea where not many journalists know how to use computers for news production, The Phnom Penh Post finds the Macintosh system convenient for their daily news production. Since the beginning, the Post has employed two main operating programs - Macintosh and Windows - in its newsroom. However, Windows are popular among the journalists in the newsroom (who purely write the news), whereas the Macintosh is mainly used for designing and production.

Compared to the above three organizations, the Post has most widely used emails for its internal and external communication. This is due to the fact that there is no language barrier for its entire staff working for the English language-based newspaper.

5. Popular Magazine (27/09/06)

No single computer has so far been used by its journalists in their daily work for various reasons: first, the knowledge of the ITCs of the journalists is very limited; second, not many organizations in this country can spare such computers for journalists to do their work given the high costs of computers. Although computers were made available to the journalists last year (2005), not many of them have used it. Like many media organizations in Phnom Penh, *Popular Magazine* does not have an allocated budget to implement an ICT-oriented newsroom.

6. The National Television of Cambodia (TVK) (27/09/06)

TVK, being the only national television station, is the sole organization in Phnom Penh to fully install sophisticated technology in its operation. Some of the technologies were donated by the government and the NGOs. Most were purchased by the station's self-generated income.

There is, of course, no specific requirement for the new recruits to be functionally literate in new technology. However, fresh technology graduates from various universities are preferred in an attempt to improve the level of ICT application in the newsroom.

TVK does not have an allocated budget to acquire new technology due to limited subsidy by the government. New technology is therefore acquired only when there is an "urgent need" as and when they arise.

7. Sinhua Newspaper (28/09/06)

It is worth noting that Sinhua Newspaper requires all journalists to be able to use ICTs, especially computers in their work. ICT skills are also required of any would-be recruits. However, there is a limit to the use of the technologies. For instance, although journalists can go online at any time in their works, some websites are banned by the organization. The technology is, indeed, adequate for the organization to produce the quality paper.

8. Women and Beauty Magazine (28/09/06)

This magazine has employed quite sophisticated technology. With only five journalists, it has ten computers - five desktops and five laptops. When working in the field, journalists use their laptops to store the information. However, when journalists need to go online, they could use other five desktops permanently installed in the newsroom, all connected to the Internet.

Most of the journalists working in this organization are noticeably between 25 - 30 years of age. It can be concluded that young journalists tend to be more technologically literate.

9. The Cambodia Daily (29/09/06)

It is interesting to know that most of the computers in the paper were donated by various local agencies. With these donations, the paper seems to be well equipped with both old and recent technologies. Alhough the respondent thinks better technology is important for the better quality of news production, his organization is not in the right circumstance and position to race with it. That is why the paper does not set aside any budget for updating technology in the newsroom.

10. Koh Santepheap Newspaper (31/09/06)

It should be noticed that the interview with the paper was conducted online. This is due to the fact that the paper was not willing to meet in person with the researcher for the interview. With the repeated failures of persuasion for face-to-face interview, the researcher finally decided to conduct the interview by phone. Hence, the researcher could not make any observation of the newsroom for this particular organization.

Computer Ownership Among Journalists

More than half of the journalists surveyed (63.4%) own a computer at home. About half of these journalists (49.1%) are from Vietnam followed by Cambodia (31%). From the table below, more than half of Lao journalists do not own a home computer.

Only about a third (36%) of those who own a home computer are connected to the Internet. This is anticipated, explained by the fact that it cost an average of US$300-500 a month to connect to the Internet via dial-ups in Vientiane; US$296 in Phnom Penh; and US$70 in Hanoi. And, all this at an average speed of less than 512kbps.[28]

Table 4: Home computer ownership by country of origin

Own a home	Vietnam	Laos	Cambodia	Total

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[28] The figures cited in the ASEAN connectivity database shows that in 2002 the average speed for dial-up connections for home and business users in Cambodia and Vietnam was 50-56kbps. For business users, the wireless internet connection speed in the same year goes up to 2Mbps via dedicated leased lines, ADSL and ISDN. http://www.aseanconnect.gov.my/d_database/digitalDivide.php (Accessed Dec.12, 2006)

23

computer

Yes	**57**	**23**	**36**	**116**
% within all who own a home computer?	49.1%	19.8%	31.0%	100.0%
% within country of origin	90.5%	39.0%	59.0%	63.4%
% of Total	31.1%	12.6%	19.7%	63.4%
No	**6**	**36**	**24**	**66**
% within all who own a home computer?	9.1%	54.5%	36.4%	100.0%
% within Country of origin	9.5%	61.0%	39.3%	36.1%
% of Total	3.3%	19.7%	13.1%	36.1%

The high connection fee is beyond the affordability of the population where the average income is US$60 in Vientiane; US$120 in Hanoi and US$100 in Phnom Penh. The following table shows a breakdown of the connection fees and connection speed in the Indochina region -- compared to Thailand and Malaysia.

Monthly Subscription Fee of Broadband (ADSL) Internet Connection
(in US Dollars)
http://www.aseanconnect.gov.my/d_database/digitalDivide.php

Country	128 Kbps	256 Kbps	512 Kbps	1 Mbps
Malaysia [1]	n/a	n/a	$ 22	$ 26
Thailand [2]	n/a	$ 25	n/a	n/a
Cambodia [3]	$ 300	$ 550	n/a	n/a
Laos [4]	$ 140	$ 220	$ 300	n/a
Vietnam [5]	n/a	n/a	$ 16	n/a

Source:
[1] Jaring, http://www.jaring.com.my

[2] Jasmine Internet Co. Ltd.,. (http://www.ji-net.com)

[3] Camnet Internet Service, Phnom Penh. (http://www.camnet.com.kh/sbi.htm)

[4] Lao Telecom, http:// www.laotel.com

[5] FPT Telecom, http://www.fpt.vn/Service/Adsl.asp

By country breakdown, of those journalists who own a home computer, 31% are from Vietnam; 20% from Cambodia; and 13% from Laos. This parallels the respective country's level of ICT development and per capita income. According to the UNDP's 2005 *Global ICT for Development Factbook (*http://sdnhq.undp.org/perl/yp.pl) the figures for the respective countries are:

ICT profile of Cambodia, Laos and Vietnam
(in 2005)

	Cambodia	Laos	Vietnam
• Population (millions):	13.8	5.5	80.30
• Human development index rank (out of 173):	130	135	112
• Adult literacy rate (% age 15 and above):	69.4	66.4	90.3
• GNI per capita (US$):	280	310	430
• Telephone mainlines (per 1000 people):	3	11	48
• Mobile phones (per 1000 people)	28	10	23
• Personal computers (per 1000 people):	2	3.3	9.8
• Internet users (per 1000 people):	2.2	2.7	18.5

Source: United Nations Development Programme – Global ICT for Development Fact Book 2005,
http://sdnhq.undp.org/perl/yp.pl

Nevertheless, 68% of the journalists say they have access to cyber cafes, which over the last five years have sprouted with the influx of backpacker and eco-tourists. 79% also have access to the internet in the office, albeit the limited number of leased lines and low speed connection.

Access to internet kiosks is expensive by local standards. For example, in Phnom Penh, it costs about 2,000 riel (about 50 US cents) an hour to access the Web, about half a government employee's daily wage. Charges rise sharply outside the capital, which explains why most internet kiosk customers are backpacking tourists.

Similar cost structure applies in Vientiane about US$1 per hour. However, in Hanoi it is much cheaper to access the web through the internet shops. It costs about 2 or 3 thousand Vietnam Dongs (about US$0.15-0.20 cents per hour).

Nine of the organizations surveyed have not acquired any new computers over the last 12 months from September 2005.[29]

The *Lao News Agency* acquired the most number of new computers, 72; followed by *Toui Tre Youth Voice* (50); *Vietnam Express, Nhan Dan, VietnamNet* (30 each); and *Rural Today* (21) all from Vietnam.

About 67% of the organizations say they cash-purchased the computers. Other organizations acquired their computers through donations by the government (13.3%); combination of cash purchase and donated (10%); donated by foreign organizations (6.7%); or leased (3.3%). This bucks the trend in established commercial operations where new computers and high technology equipment are mainly leased for budgetary planning and cash flow purposes.

Table 5: Software installed in most of the computers

	Yes	%	No
• Digital imaging eg. Photoshop, Illustrator.	27	90%	3
• Browsing the Web, eg. Explorer, etc.	27	90%	3
• E-mailing.	27	90%	3
• Sending and receiving files and documents, eg. Acrobat Reader	27	90%	3
• Spreadsheet, database, eg. Excel, etc	25	83.3%	5
• Scanning photographs.	24	80%	6
• Designing and developing Websites.	21	70%	9
• Desktop publishing, eg. PageMaker, Quark Express, InDesign	19	63.3%	11
• Internet telephone eg. VoIP	7	23%	23

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[29] Two from Cambodia: *Cambodge Soir, Rasmei Kampuchea*; five from Laos - *Update Magazine, Lao TV, Vientiane Capital RTV, Lao Phattana, Vannasin Magazine;* two from Vietnam – *Vietnam Radio* and *Lao Dong*.

Nearly all the organisations (90%) have the standard internet-related programs installed in their computers. Internet telephone (VoIP) is installed in computers in 7 organisations: five in Hanoi; one each in Vientiane (*Vientiane Times)* and Phnom Penh (*Cambodia Daily).*

Most of the organizations (73.4%) have at least one technical staff employed to look after the ICT installations and attend to computer problems.

About 67% of the journalists have access from their individual workstation, although the average speed of the connection is less than 128kbps.

Table 6: How organisations keep track of journalists' ICT needs

	Yes	%	No
• Technical staff keeps a database of what software and hardware need to be upgraded	21	70%	5
• As requested by journalists.	9	30%	6
• Annual stock-check of ICT hardware and software	6	20%	3
• No system for keeping track of ICT developments.	6	20%	9
• In-house policy on staff usage of Internet	6	20%	24

70% of the media organizations do have an in-house technical staff who keeps a database of the organisation's ICT needs. Software and hardware upgrades are, however, carried out only as the needs are communicated to the technical staff by journalists.   However, a systematic procedure of keeping track of the organisation's ICT development needs is not apparent as the table above indicates.

Slightly more than half of the organizations have at least set aside an annual budget for purchasing new computers and upgrading internet connection speed, although allocation on average is about 20-30%. More than half (66.7%) of the media organizations do not have an annual budget for staff training; or for purchasing new software (60%). Which explains why 70% of the organizations do not yet provide any form of ICT-related training to their staff. Thus, the commonly accepted reliance on funded training provided by foreign agencies (30%) and local universities (10%).

Table 7: Does your organization set aside an annual budget?

	Yes %	% of organizations with the following budget allocations					
		<20%	20-30%	30-40%	40-50%	> 50%	No budget
• Buying new computers	53.3%	6.7%	26.7%	3.3%	6.7%	3.3%	47%
• Upgrading internet connections	53.3%	6.7%	23.3%	3.3%	6.7%	-	47%
• Website development	50%	-	23.3%	6.7%	6.75%	3.3%	49%
• Buying new software	40%	6.7%	23.3%	6.7%	-	-	60%
• Staff training in using new technology	30%	-	16.7%	3.3%	6.7%	-	66.7%

Table 8: Where organization provides training in ICT for its journalists

	Yes	%
• In-house.	12	40%
• Local partnership with universities	3	10%
• Partnership with overseas organizations.	9	30%
• No training provided.	21	70%

Table 9: Type of training in ICT provided for journalists

	Yes	%
• Basic skills, eg. word processing, spreadsheets	19	63.3%
• Advanced skills, eg. database management, DTP	14	46.7%
• Internet skills, eg. web design, online research, online reporting	15	50%
• Others	7	23.3%

Table 10: Constraints organization faces in expanding usage of ICTs

	Yes	%
• High cost of Internet connection.	25	83.3%
• High cost of computers.	20	66.7%
• Language difficulties, main technical language is English.	19	63.3%
• Staff lack training in how to use information technology.	14	46.7%
• Staff lack knowledge of what the technology can do.	14	46.7%
• Staff not interested in using information technology.	8	26.6%
• Poor telecommunication infrastructure and support.	7	23.3%
• Other constraints: Poor server and router; organization lack equipment and human resources; staff lack income.	4	13.3%

Table 11:
If funds were available to your organization, what would you use the funds for in terms of priority (Pr1 to Pr5)?

	Pr1	Pr2	Pr3	Pr4	Pr5
• Provide staff training on using ICT.	46.7%	20%	10%	6.7%	-
• Install more broadband internet connections.	26.7%	3.3%	33.3%	3.3%	10%
• Purchase new computers and software.	16.7%	53.3%	16.75	6.7%	-
• Set up and maintain organisation's own website.	3.3%	10%	10%	10%	33.3%
• Network all computers in the organization.	-	6.7%	3.3%	40%	16.7%

• Others: *Lao TV* – build server, set up archive; *Lao News Agency* – build server for database, network security, install router for internet gateway. *Rural Today* (Hanoi): establish online newspaper.

Table 12: If funds were available to the organizations they would use it for the following tasks by priority (Pr1 to Pr5):

	Pr1			Pr2			Pr3			Pr4			Pr5		
	P	V	H	P	V	H	P	V	H	P	V	H	P	V	H
• Provide staff training on using ICT.[30]	3	8	3	3	1	1	1	1	-	2					
• Install more broadband internet connections.	3	1	4	-	-	1	2	6	2	-	1	-	2	1	-
• Purchase new computers and software.	2	1	2	6	6	4	1	2	2	1	1	-			
• Set up and maintain organisation's own website.		1			2	1	3	-	-	3	-	-	3	7	-
• Network all computers in the organization.					1	1	1	-	-	4	7		1	2	2
• Others: *Lao TV* – build server, set up archive; *Lao News Agency* – build server for database, network security, install router for internet gateway. *Rural Today* (Hanoi): establish online newspaper.															

P – Phnom Penh V – Vientiane;. H – Hanoi;

As the tables above indicate, the journalists from Vientiane identify their most needed training is in acquiring ICT knowledge and skills followed by the purchase of new computers and software. Journalists in Phnom Penh see similar imperatives in upgrading the computer systems in their respective newsroom. While ICT-training needs are clearly indicated, the type of specific ICT training required in Phnom Penh, however, is not as clearly expressed.

The summary of ICT-related training needs explained earlier shows that they range from basic skills such as how to use PowerPoint, MS Word, Excel spreadsheet, Microsoft Office and emails, to more intermediate tasks such as website design, online research and desktop publishing and complex tasks such as setting up networking security, internet routers, website language programming and database management.

The diverse training needs of its journalists - and the ad-hoc in-house ICT-training development program, or the lack of it -- reflect the technological transition of the Indochina media industry. What is clear, nevertheless, is all the organizations surveyed expressed an urgent need for highly qualified ICT workers to manage their network facilities, improve system security, increase the bandwidth and networking capacity. What is clearly lacking is a progressive culture of ICT development plan for updated applications in the newsroom.

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[30] Editors in Phnom Penh and Vientiane perceive ICT-related training to any tasks that involve the usage of computers (including desktop publishing with PageMaker and Photoshop) and access to the Internet. Specific journalism training, for instance in traditional newspaper reporting and photojournalism is not included in this definition.

This is exacerbated by the lack of experienced staff in developing or generating contents for dissemination on the internet.

Journalists' Choice of Medium for Contacting Sources

Almost all the journalists (92%) surveyed own a mobile phone. More than half of the journalists (56%) said the mobile phone was their "most" or "often preferred" (56%) medium for contacting news sources – about equal to the office phone (59%). Given the low usage of the internet in other sectors, it was not surprising that less than half (42%) of the journalists said they would use emails to contact their sources.

Most of the journalists have been using the internet in their work for 3-5 years (42%) and more than six years (28%). The rest are still new to the internet with 13% having just used it over the last 12 months or so. About 9% have never used the internet at the time of this survey.

Limitations of ICT Usage at the Workplace

Widespread usage of the internet at the workplace is mainly hampered by low connection speed, inadequate skills and low awareness of how online technology can improve the journalists' productivity, creativity and quality of journalistic work. For instance at the national television station, *Lao TV* in Vientiane, the connection speed is limited to 128kbps.

Vice-director of the entertainment section, Phitsamay Bounvilay, who is also in charge of *Lao TV's* IT application said low awareness of new information and communication technology event extended to the policy makers at the ministry level. This is primarily a result of the lack of IT training among government staff in areas as basic as how to use emails, research for information on the internet, and website maintenance.

Language difficulties also hamper wide usage of the Internet for information gathering. Bounvilay said the Internet was only introduced to *Lao TV* in December 2005.

Laos is one of the last countries in the region to embrace the Internet. The Lao National Internet Committee (LANIC) was only formed in 1998 under decree by the Prime Minister to develop policies and guidelines on how the technology can be harnessed primarily to promote the government's social and economic policies.

The only media in Laos that can legitimately claim to be at the forefront in using ICT at the workplace is *Vientiane Times,* which covered the April 2006 national assembly election with daily online updates on the paper's website.

Savankhone Razmountry, director-general (or also known as editor) of *Vientiane Times* said since the paper was established in 1998, its website *(www.vientianetimes.com.la)* has been at the forefront in correcting the mis-representation of the country in foreign websites set up by Lao expatriates in the United States (Interview, 07/02/06).

Le Renovateur, a French language weekly is also published by *Vientiane Times*, and located in the same building. Both papers acknowledge their primary role in promoting, through their websites, Laos to foreign visitors and English speaking Lao people.

The main message communicated in both websites, Razmountry said, is that Laos is "a peaceful and politically stable country with investment potentials" (ibid).

In Cambodia, the primary organization providing ICT-related education and training is the Community Information Web Portal of Cambodia (http://www.cambodiacic.org/) funded by the US Agency for International Development, and The Asia Foundation. The portal is accessible over the Internet and in 22 Community Information Centers (CICs) around Cambodia. It is also a repository of CD-ROMs and hardcopy resources.

Local contents for the web portal is collected and managed by the CIC Web Portal Team at *Open Forum of Cambodia,* (www.forum.org.kh), which specializes in information technology issues and has been promoting information exchange since 1994.

Open Forum is also developing a Khmer operating system – *KhmerOS* – which is translating free and open software applications to the Khmer language "to allow people in Cambodia to work with computers in their own language in order to give access to computers to people in lower levels of the economic scale, to students and people in rural areas, to small-and-medium enterprises (SMEs) that required computers (but not English) and finally, to the government, for it to work in its own language". [31]

Available information shows there are five main Internet service providers in Cambodia in November 2006: *Telesurf* (operated by *Mobitel*), *Online* (formerly *Bigpond*), *Open Forum, Camnet* and *Camintel.* Local domain names are issued by the Ministry of Interior for a refundable deposit of USD200**.**

The Internet was first used in Cambodia in 1997. The government initially allowed two Internet service providers to operate: *Camnet* and *Bigpond*. Four others followed: *Telesurf, Shinawatra, Online,* and *Caminet*. The main barriers to greater Internet usage in the country are: cost, the lack of telephone landlines, and lack of proficiency in the language of the Internet – English -- which is prevalent even among government officials and professionals, such as journalists.

Pen Samitthy, editor of the main Khmer language newspaper, *Rasmei Kampuchea,* says most of its journalists do not use the Internet for research or email (Interview, Phnom Penh, 21/02/06).

Samitthy's observation applies to journalists across all media types in Cambodia as well as in Laos, but less so in Vietnam where the romanised Vietnamese language has provided journalists greater capability in downloading texts and graphics from relevant websites, with the added advantage for self-publishing and weblogging.

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[31] "Khmer software initiative: an APC member takes language solutions to 13 million," article published in *Internet & ICTs for Social Justice and Development News,* 31 Jan., 2006 (http://www.apc.org/english/news/index.shtml?x=3861572) (Accessed 07 April 2006).

Pattern of Internet Usage in the Newsroom

Experience of newsrooms in other countries indicate that the internet is generally used as a direct tool to communicate with sources and to research for stories. Journalists are also known to use the internet at the workplace for more personal tasks such as online banking, travel or other consumer-oriented information unrelated to their daily journalistic work.

To find out how the internet is being used in the newsroom, we asked respondents to rank how often they used the medium and for what purposes. This is premised on the rationale that internet technology, if used effectively, can expand the journalists' scope of activities and productivity in terms of the quantity and quality of stories written daily.

Most of the journalists only used the internet for about 1-2 hours daily mainly for emails (63%), followed by researching for story ideas (53%); reading overseas news (49%); interviewing sources (44%); chatting with friends (41%); and accessing the following information:
- consumer products (36%);
- health and medical (34%);
- travels (25%);
- finance (21%);
- telephone listings (12%).

About a fifth (22%) would also spend 1-2 hours daily playing online games. However, of the 166 respondents who have used the internet, only 23% have attempted to publish stories and pictures on their personal websites.

Are news websites significant in prompting the journalists to write breaking stories? Evidently, not. Only 15% said their breaking stories are sourced from websites; 29% from media releases; 24% from talking to experts and 27% from research reports. Reflective of the less than free exchange or lack of access to public information, about 44% of the journalists' breaking stories are often or always prompted by their personal contacts.

The KAF 2005 report on media and democracy in Cambodia notes:
> "Reporters are generally allowed access to any information, although that can depend on the institution holding the information. Quite often, particular ministers or senior officials at certain ministries often deny journalists access to information. However, the media sector in Cambodia has not been extensively researched and there is a general lack of information and reliable statistics regarding owners, patrons and, not least, media consumers. Traditionally, the main source of information in Cambodia has been the grapevine. Oral information through informal channels is generally much more important than written words."[32]

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[32] *KAF Democracy Report 2005: Media and Democracy*, Konrad Adenauer Foundation (http://www.kas.de/upload/Publikationen/KAF-dem-rep2005_3-4.pdf (Accessed 11/05/06). p.104

KAF's observation is contrary to, for instance, the more developed countries in the region, such as Singapore and Malaysia, where breaking stories in the mainstream papers are mainly prompted by stories published in alternative news websites, research reports, and follow-ups to media releases.

With the medium of choice for communicating or contacting their news sources, the most preferred is the office phone (46%) followed by mobile phone (33%) and emails (22%). By collapsing "most preferred" and "often preferred" categories, the preferences are as follows:

- office telephone and mobile (equal at 59%),
- emails (42%),
- fax (19%),
- pager (17%).

Most journalists said their newspapers have their own websites (73%), with about 38% of these websites published in the native language (Vietnamese, Lao and Khmer) and English. Further development of native language websites, however, are hampered by the lack of a common system in the usage of local scripts or software applications in Khmer, Lao or Vietnamese, although for the Vietnamese papers, the Romanised script has made it easier to upload websites in Vietnamese. However, for newspapers and magazines in Vietnam that do not have websites, it is less a problem of the script but more a case of managers who are unaware of ICTs and its applications to journalism.

Importance of the Internet to Journalist's Work

How necessary is the internet to the journalists in their work? What are the critical issues in using the internet at the workplace?   About half (49%) said that security software was least or seldom necessary, which to an extent, points to the low priority that the journalists gave to issues of copyright and privacy. More than half (51%) said that breaking copyrights on the internet, or censorship, is among the least critical issues at the workplace.
The majority (75%) said the fear of being monitored by the authorities was not a critical issue either. Perhaps, the government's handle on the online surveillance technology is not yet up to the level of governments in, for instance, Singapore or Malaysia. Which does not necessarily mean that online surveillance is not a critical issue. Nevertheless, the Press Law in Vietnam, Laos and Cambodia does not yet apply specifically to internet communications.

Web contents across the three countries are not subject to official regulations, nor does it appear that they are monitored or subject to any informal restrictions, although, for instance as explained earlier for Vietnam and Laos, the governments are looking at introducing specific requirements that must be met by internet service providers, and website owners.

Video and audio-on-demand, weblog and online chat technologies are also perceived to be "seldom" or "least necessary" to the journalists' work. This could partly be explained by the unfamiliarity or insufficient skills to capitalise on the technology. About 73% said they had poor or no skills in weblogging, or they did not see the relevance of weblogging to their area of reporting. [33] More than half are focused on the more pressing issue of having broadband access (69%) to email facilities.

By collapsing "often" and "most critical" issues that journalists faced in using the Internet, we have the following picture of priority issues:

- cost of connection (45%)
- speed and reliability of connection (43%)
- language difficulty (40%)
- lack of security (36%)
- too much conflicting, and thus, accuracy of the information (28%)
- over-relying on the Internet(25%)
- spams and rubbish emails (22%)

Level of Skills and Awareness in ICT Usage

About three-quarters of the journalists said they had very poor or no skills at all in the following areas: a) using the internet to blog (73%); (b) facilitating discussion groups (58%); (c) publishing stories online (56%).

With more basic applications, such as interviewing sources via email, more than a third said they were fairly skilled (39%) while about a quarter (23%) said they were good, and about one in 10 (9%) said they had very good and excellent skills.

Usage of the Internet, however, is low, with only half of the respondents (51%) using it daily – and that's mainly accessing the internet at the workplace. Out of the three places for accessing the Internet – cybercafes, home and office – most would go to cybercafes -- and that's only for 2-3 days a week (43%).

The low usage of the Internet, by international standards, could be attributed to high cost of internet connection, and as mentioned earlier, the low level skills or scanty knowledge of online technology and its applications.

About 45% said they had "fair" knowledge of information and communication technologies, while about a fifth (19%) thought their knowledge was rather poor. A quarter (25%) said they had good knowledge, and one in ten (10%) said they had very good knowledge.

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[33]   In Vietnam, however, video and audio-on-demand are seen by VTV and VOV as a crucial area in its operations. Both organizations at this time of writing are pushing for broader installations of both delivery systems.

By country breakdown, out of the 45% of journalists who said they had "fair" knowledge of the technology, about 20% are from Vietnam: 13 % from Laos, and 12% from Cambodia.

Of those who said they had "good" to "very good" knowledge of the technology, the majority were from Cambodia (83%) followed by Vietnam (59%), and Laos (58%). The higher percentage in Cambodia could arguably be explained by the relatively greater freedom in accessing the internet and the Hun Sen government's position on media liberalisation. In Vietnam's case there is open public access to the internet as indicated earlier in the Prime Minister's initiation of an open online forum through VietNamNet Bridge website. [34]

Internet's Impact on Journalism at the Workplace

To gauge the impact of the internet on journalism at the workplace, journalists were asked to rank 13 situational statements according to how the situations applied or did not apply to their work experience. [35] By collapsing "fully applies" and "often applies", the results show an apparent optimism in the potential of the internet in making a difference in the newsroom. Here is a profile of the situational impact in descending order:

- I am optimistic that the internet will bring about greater media freedom in my country. (59%)
- The internet has made me feel more responsible for the stories I write. (48%)
- The internet has helped me cooperate with other journalists in researching, writing stories, and sharing of photographs. (45%)
- The internet has made me feel better connected to my readers and audience. (44%)
- The internet has changed the way I look at news events and my work as a journalist. (43%)
- The internet has made it necessary for journalists to think more quickly, write better quality stories, and be more productive. (43%).

The above statements show nearly half (43-48%) of the Indochinese journalists' experience of the internet theoretically fall in line with the general impact of the internet in newsrooms in

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[34] Compared to Cambodia and Laos, internet access in Vietnam is relatively cheaper at the many internet kiosks in the capital cities. Which raises an issue of definition of terms in our survey. In retrospect, ICTs as a concept is less concrete than the more commonly used term "Internet", which we believe would have received a different response. Another reason is that in both Vietnam and Laos, some surveys were done in small magazines and newspapers where the internet is not used for work. In Vietnam, journalists in big media organisations must have good skills as it is one of recruitment's criteria.

[35] The situational statements were adapted from a qualitative survey conducted in 2000 (Loo, 2000) where 15 online journalists in •••Australia, the United States, Canada, United Kingdom, Singapore and Hong Kong were contacted by email to describe their reactions on how the Internet has influenced their work. ••• The survey findings were presented in a paper *"Power to the People: Public Surrogates on the Net,"* at the International Association of Mass Communication Research, (IAMCR) Annual Conference, Singapore, July 16-19, 2000. Findings also published in the following newspaper articles: *"Blazing a train in online journalism,"* (29/05/2000) and *"A click of choice, a better voice,"* (10/07/2000) The Edge, *(www.theedgedaily.com)* national business weekly in Malaysia,.

developed countries (ibid, Loo, 2000). How their positive experience of the internet has manifested in the news contents or transformed the way they carry out their daily journalistic work is not as clear at this stage given that the majority are relatively new users of the medium. Nevertheless, one may arguably conclude from the Indochinese journalists' relatively positive perception of the internet that the critical issue to address is how the constraints posed by a weak ICT-infrastructure and lack of ICT-skills among journalists as evident from the survey can be overcome to provide the enabling environment needed for significant transformation in media practices in the region.

About a quarter (29%) thought the internet had not given them any more freedom than what they already have or do not have to report or investigate into areas that were previously neglected by their organization. Whether that perception was due to the journalists' lack of skills in fully exploiting the technology, or other technical obstacles such as low connection speed or inadequate hardware and software facilities to enable investigative reporting is difficult to tell. However, the figures show that more than half of the journalists (54% by collapsing the categories of "sometimes" "often" and "fully applies") said they were not skilled enough to fully use the internet at their workplace.

About 38% said that apart from providing them access to more information, the internet had also made no difference to how they carried out their daily work. About 27% said that under the current political leadership, the internet would not make much difference to journalism in their respective country. For instance in Laos, journalists unapologetically admit to their pro-government stance.[36] In the case of Cambodia, arbitrary press laws continually shadow the journalists' work. [37]

Of immediate concern to Cambodian journalists is Article 12 and Article 13 of the 1995 press law. Despite the country's1993 Constitution, which guarantees citizen's rights to freedom of expression and freedom of the press, Article 12 states that: "the employer, editor or author of the article may be subjected to a fine of 5,000,000 to 15,000,000 riels ($1,282 to $ 3,846), without taking into account possible punishment under the criminal law."

The law also gives the Ministries of Information and Interior the right to confiscate the offending issue of the newspaper, and allows the Information Ministry to suspend a publication for 30 days and transfer the case to the court. Article 13 deems that the press shall not publish or reproduce false information, which humiliates or is in contempt of national institutions.

The responses generally point to a rather ambivalent anticipation on how the internet would free up media practice in Indochina. In terms of the differences in anticipation by countries, there were more journalists in Vietnam (68%) who thought the technology would bring about greater media freedom than Laos (58%) or Cambodia (51%).

While the trend in more developed countries point to journalists over-relying on the internet for their work, in the Indochina region the trend seems to point the other way. More than half

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[36] Savankhone Razmountry, Director-General of *Vientiane Times,* personal interview at (07/02/06). See also interviews from DVD documentary attached to this report.
[37] Houth Ratanak, Director of *Open Forum Cambodia,* personal interview *(13/02/06).* See also interviews from DVD documentary attached to this report.

(67%) said the following statement - *"I depend too much on the Internet, so much so that I don't often get out of my office to investigate the stories or speak to my sources personally"* - did not apply to their situation.

Similarly, they did not think that the internet had distracted them from their journalism work by spending too much time surfing the net and reading unrelated information. When pressure at the workplace gets heavy, do the journalists find it easier to copy stories off other related web sites than to write their own stories? The majority (80%) said no, the situation did not apply.

Infrastructure Support

One of our research objectives is to paint a picture of the available infrastructure support for journalists in the media organizations [38] and to assess the availability of local, or locally adapted information necessary for the development of ICT usage in the newsroom.

We surveyed the ICT infrastructure support at the following levels: hardware, software, ICT skills of the journalists, technical support, and level of connectivity – both to the World Wide Web, emails, local area network and intranet.

The infrastructure survey was complemented by an examination of the journalists' access to ICT training opportunities, and the support they receive from their media organizations or overseas agencies for such training and continuing education.

As most of the media organisation's websites, where available, are published in the local language – Vietnamese, Khmer and Lao – we disregarded the published contents on the internet in our study of the ICT infrastructure.

The primary question posed to the journalists is: What are the constraints faced by the media organizations, and their existing capabilities to facilitate their journalists' adoption of ICT in their daily work? The main observation derived from our on-site interviews and the questionnaire survey is that internet application in the newsroom remains in its infancy stage, limited to dial-ups with average speed of 128kbps with ad-hoc technical support provided either by a journalist, who also works as an IT advisor (such as in the case of *Lao TV).*

Internet access to online news sites for background information and context to potential stories are constrained by the journalists' limited fluency in the English language. Broadband access is also limited by the journalists' accessibility to internet kiosks located in the capital cities. There is an extremely low incidence of personal computer ownership at home. Journalists only get to use computers during work hours in the office. Technical

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[38] A total of 36 news organizations were surveyed in the Stage 1 in Phnom Penh (16); Hanoi (12); Vientiane (8). See Appendix for a list of the organizations.

support for internet and software services, for instance at *Lao TV,* is mainly provided, often unreliably, by external operators.

Inventory checks on the ICT support within the organizations were conducted in two stages. The first survey in April 2006 of the ICT infrastructure in the news organizations did not reveal reliable data due to different interpretations by the country researchers – and thus the respondents - of ICT-related terms, such as the type of internet connections, number of computers installed and understanding of what comprises adequate technical support. Attempts to obtain correct and updated information from the oganisations – particularly in Laos and Cambodia – were not as successful as we hoped. The media organizations generally do not have a central database of the number of computers purchased, system programs and type of applications installed, or a strategic plan for hardware-software upgrades.

A second survey, based on a revised questionnaire derived from the responses of the first survey, was administered at 10 media organizations each in Hanoi, Vientiane and Phnom Penh from September to October 2006. (See the appendix for a list of the organizations). Tables in the following pages show a profile of the ICT inventory of the 30 organisations surveyed.

Table 13: Cambodia - ICT inventory Check List

Media in Cambodia as of Sept. 2006	Journos employed	No. of Comp.	First Internet	Internal email	Dial-ups	Broad -band	Av. speed in kbps	Website
• Koh Santepheap Daily	60	100	2001	N	Y	N	n/a	Y
• Jian Hua Daily	6	13	2000	N	Y	N	64	N
• Commercial News Daily	7	32	2000	N	n/a	Y	n/a	Y
• Popular Magazine	11	10	1995	N	Y	N	64	N
• Cambodge Soir	10	20	2001	N	Y	Y	128	Work in progress
• Phnom Penh Post	7	20	1995	Y	Y	Y	n/a	Y
• Rasmei Kampuchea	24	30	1996	N	Y	Y	128	N
• National TV Kampuchea	40	20	2003	N	Y	N	128	Y
• Women & Beauty	5	10	2005	N	Y	N	128	N
• Cambodia Daily	23	27	1995	N	Y	Y	128	Y

Table 14: Laos - ICT inventory Check List

Media in Laos as of Oct. 2006	Journos employed	No. of Comp.	First Internet	Internal email	Dialups	Broad band	Av. speed in kbps	Website
• Lao National TV	200	50	2005	N	N	Y	128	Y
• Vientiane Mai	14	22	2005	Y	N	Y	128	Y
• Update Magazine	3	4	2004	N	N	Y	128	N
• Lao National Radio	50	25	2001	N	Y	Y	128	Y
• Paxaxon (People) Newspaper	26	17	2002	Y	Y	Y	128	Y
• Vientiane Capital City & Radio	8	7	n/a	N	N	N	n/a	N
• Vientiane Times	35	60	1998	Y	Y	Y	512	Y
• KPL (Lao News Agency)	93	72	1998	Y	Y	Y	128	Y
• Vannasinh (Arts) Magazine	2	5	n/a	n/a	N	N	n/a	Work in progress
• Lao Patthana	5	7	2005	N	N	Y	512	Work in progress

Table 15: Vietnam - ICT inventory Check List

Media in Vietnam as of Oct. 2006	Journos employed	No. of Comp.	First Internet	Internal email	Dialups	Broad band	Av. Speed kbps	Website
• Lao Dong (Labour)	140	190	2001	Y	Y	Y	64	Y
• Tuoi Tre (Youth)	90	200	2000	Y	N	Y	64	Y
• Women Capital	22	15	1998	N	N	Y	> 512	N
• Vietnam Radio (VOV)	500	800	1999	Y	N	Y	128	Y
• Nhan Dan (The People) Newspaper	230	110	2000	N	N	N	64	Y
• Vietnam Net	160	160	1998	Y	Y	Y	> 512	Y
• Rural Today	75	41	2000		N	Y	> 512	Work in progress
• Hanoi Moi	90	120	1999	Y	N	Y	> 512	Y
• Vietnam Express	70	72	1998	Y	Y	Y	> 512	Y
• Thanh Nien	188	156	1998	Y	N	Y	512	Y

The earliest period that the internet was first installed in the media organizations surveyed was 1998:

▪ Hanoi (4) *Women Capital; Vietnam express, Thanh Nien, Vietnam Net.*

▪ Vientiane (2): *Vientiane Times, Khaosan Pathet Lao (Lao News Agency).*

▪ Phnom Penh (3): *Radio Free Asia; and the Chinese newspapers - Jian Hua Daily, Commercial News Daily.*

Cambodian news organizations started to install internet technology on a broader scale from 2000 onwards, and the Lao media from 2001. About 92% of the 30 organisations operate on the Windows platform. All have their computers connected to the internet, except for two in Laos: *Radio & TV Laos* and *Vannasinh Arts Magazine;* and one in Cambodia: *New Millennium Magazine.*

The organizations access the internet either via broadband or dial-ups as follows:

	Broadband	Dial-ups
Hanoi	8	4
Phnom Penh	8	11 [a]
Vientiane	3	3

[a] Totals more than 16 as *Cambodge Soir, Koh Santepheap Daily* and *Rasmei Kampuchea* have both dial-ups and broadband connections.

More than half of all the media organizations in each country have at least one cable television installed for foreign news updates.

Fulfilment of Objectives

Our research has gathered relevant empirical data, which paints a picture (as in 2006) of immediate ICT-related training needs and issues faced by newspaper journalists in Hanoi, Phnom Penh and Vientiane. It answers the research questions we posed at the beginning of this report. Except for Cambodia followed by Vietnam, the internet has not led to significant transformation in the way that journalism is practised and produced in Laos, although theoretically, the journalists recognised the empowering elements inherent in the internet. [39] Potentially significant ICT-led media transformations are being held back by software limitations, high internet connection costs and inadequate in-house infrastructure support. Political factors, interestingly, were not perceived to be critical impediments in the wider usage of internet by journalists.

Data gathered from the questionnaire survey and inventory check-list in October 2006 provides a picture of the ICT realities within the media organizations. Persistent efforts by country researchers to speak to editors and news executives in the respective organizations manage to surmount the problems faced in the first phase of the project in February: inaccessibility to concrete information from the media organization, lack of proper documentation of internet installations, and misinterpretation of technical terms in the translated questionnaires - such as 'broadband connections', 'dial-ups' and 'connection speed'.

This research has succeeded to the extent that we gained the confidence of media editors, policy makers and journalists to be interviewed on camera. A total of 12 hours of interview footage were recorded. The first take of a 35-minute 'documentary was completed in October 2006. The final take of a 48-minute documentary of the interviews was completed in December. It is appended to this report for a peek into the news culture in the Indochina region.

Best Practices Under the Project

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[39] Although more than half of the journalists surveyed believed the internet has given them relatively more opportunities to gather information, which otherwise would not be accessible.

We mainly relied on emails and internet telephone (Skype) to plan the research, discuss the logistics of travelling and meeting with editors and journalists; designing the questionnaires, and gathering background information on the targeted media organizations.

As the country researchers from Vientiane were not completely fluent in the English language, primary communication was conducted through telephone by Dr Hang Dinh from Hanoi to one of the researchers who spoke Vietnamese. With the high usage of mobile telephones among journalists in Vientiane but low usage of emails, the telephone proved to be the ideal medium.

Internet communication with researchers in Phnom Penh – a journalist from *Cambodia Daily* and a journalism academic at Royal Phnom Penh University – was more effective than the researchers from Vientiane. Country researchers in Hanoi were trainee lecturers mentored by Dr Hang, who helped with the smooth administration of the questionnaire surveys - and thus, accurate interpretation and coding of the subjects' responses.

A methodological issue arose from the limited time available for us to closely observe the accessibility of the internet by journalists and how they use the available ICTs in their daily work. Ideally, spending a working week observing the activities in each newsroom and interacting with the journalists would have provided a more contextual scenario of ICT usage and support facilities.

The questionnaire survey administered by relatively inexperienced country researchers who worked unsupervised, notwithstanding the 3-hour training provided by the investigators, posed hidden risks of the data's integrity being compromised through misinterpretation of the questions and responses, and *in situ* sampling of the survey respondents.

The data on ICT inventory and infrastructure support facilities gathered in the February survey (Stage 1) did not provide as clear a scenario as we hoped. The data was compromised by the country researchers administering the questionnaires to working journalists who were not directly involved in their organisations' ICT installations. In the process of crunching the figures by SPSS, it was found that some data were in conflict -- for example the number of dial-ups and broadband connections exceeding the number of computers connected to the internet.

A new set of questionnaire, which focused on the organisations' ICT installations with clearer terms of definitions of infrastructure support and ICT training needs was re-designed. Country researchers were contacted by email and telephone with new written instructions on how to administer the questions only to editors and those directly involved in the organisations' ICT installations. The follow-up survey with a new group of respondents purposively sampled from 10 major news organizations in each city was conducted from September to October.

The primary strength in the project lies in the corroboration of the data derived from the questionnaire survey with the face-to-face on-camera interview with editors and policy makers. The project's utilitarian focus therefore takes the discussion of ICT usage in the newsroom beyond an academic inquiry.

The project's unanticipated weakness, nevertheless, stems from the questionnaires being translated to Vietnamese, Lao and Khmer language by the country researchers. Every effort, however, was made to ensure that the translations are correct via the vetting of the translations by a reader from the local university.

A secondary issue, somewhat unavoidable, is the unavailability of experienced country researchers who can work effectively unsupervised. The lack of fluency in the English language at times interfered with the efficient administration and coding of the questionnaires. This could be easily overcome with in-depth training of the country researchers, with the help of an experienced interpreter, in interviewing skills and the administering of questionnaires.

Both journalists and their editors in Vietnam, Laos and Cambodia are not used to research surveys and being interviewed. This is partly explained by the lack of industry-oriented research by local universities, which often do not have the funds to conduct such research, and thus the communication gap between media organizations and the academy. This posed varied levels of difficulties on the country researchers in obtaining the consent of the media organizations to participate in the survey. Thus, it is important to have good contacts from within the media organizations to implement future projects

Project Outcome & Outputs

This project focuses on pragmatic issues such as the journalists' access to technological infrastructure support facilities, economics and work routines. Thus, the immediate beneficiary of the empirical data obtained from the survey are anticipated to be foreign agencies that plan to deploy media training programs to specific areas of need.

Other impact areas are anticipated to be in the development of continuing education program – particularly in the area of ICT-assisted reporting techniques -- for local journalists. The project report thus provides a basis for formulating training policies to facilitate the news organisations' full integration of internet technology in its daily operations.

The empirical data gathered from the research points to varied levels of language, economic, hardware and software constraints that the journalists' face in their usage of internet in the newsroom. Within this restricted environment, we have designed a five-day short-term internet-related training program for journalists in Vietnam, Cambodia and Laos. The training and education program, albeit generic in its framework, comprises one of our research's primary contributions to current literature on ICT applications in journalism in the Indochina region.

Admittedly, the inventory check of infrastructure support in the media organizations was less than satisfactory as the respondents had difficulties in providing accurate figures of, for instance, how many office computers are connected to the internet. Frequently, respondents could not differentiate between dial-up and broadband connections.

The final outputs of the project are:
1. An assessment report of ICT application needs and existing infrastructure support systems for journalists.

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2. A short-term training and education program for ICT-assisted journalism in the Indochina region.
3. A collection of digital video recordings of the field trips and interviews. The one-hour documentary can be used to provide readers of this report with a glimpse of the state of ICT-aided journalism training needs in Indochina, which we anticipate will be significant in helping aid organizations channel their training funds to the right places.

The project has seen three country researchers – two television journalists from *Lao Television* in Vientiane*;* two communication junior lecturers from Hanoi; a business journalist from *Cambodia Times* and a journalism academic from *Royal Phnom Penh University* trained in questionnaire survey administration, interviewing, and coding of questionnaire responses for analysis by SPSS.

Throughout the 6-week survey period in February, there was constant email communication with the country researchers on matters related to the administration of the questionnaire and the coding process. Except for Cambodia, the country researchers in Hanoi and Vientiane were involved in the on-camera interviews with the journalists. This has been helpful in familiarising the country researchers with the setting up of equipment and peripherals for on-camera interviews, managing the process, handling of a digital video camera, sound recording, and interviewing techniques.

Our research trip to Phnom Penh led to an invitation to introduce our research project, followed by a lecture on *'Best Practice in Journalism'* at the Cambodia Communications Institute at Royal University of Phnom Penh. About 25 journalism students, and staff, attended the lecture.

The research grant is administered by Institute of Journalism and Communication (IJC) at the Ho Chi Minh National Political Academy in Hanoi. This is the first research grant received and administered by the Institute. It has provided a significant opportunity for IJC junior lecturers to work on an international project, manage a research account, as well facilitating intellectual exchange among Vietnamese journalists and media academics.

By being involved in the project, IJC has not only broaden its international relations with international institutions such as the Wollongong University and the Royal University of Phnom Penh but also gain experience in the administration of a project at an international level. This experience has put in place a system for the Institute to apply for future research grants.

Project Management

The project grant was managed by Dr Hang Dinh from IJC. The conceptual framework, methodology and questionnaire design were developed by Dr Eric Loo with input by Dr Hang. The internet was crucial to the planning and subsequent carrying out of the questionnaire survey. We revised the December 2005 deadline for submission to February

2007 to cater to producing the 48-minute documentary, and additional data needed to complete the final report.

Recommendations

Our survey shows that effective development of journalists' ICT skills and knowledge needs to go beyond formal training. Training is only as effective as journalists have ready access to ICT resources and in-house support – which, as the survey shows is clearly lacking in the media organizations, particularly in Vientiane and Phnom Penh. Future studies could examine ways of how media organizations can manage existing, albeit limited, resources to maximise their journalists' access to ICTs.

As a stop-gap measure, an awareness workshop program introducing journalists to available self-learning resources online. This is assuming that journalists in the three cities can easily connect to the internet from their workstations.   The learning objective of the awareness program is to imbue in the journalists a sense of how ICTs are integral to their professional life. The ICT-awareness program, in raising the knowledge base of the journalists, will provide a platform for media organisations to launch staff development programs focusing on ICT-skills enhancement.

This raises the critical question of the 'e-readiness' of media organizations, which varies across the three cities with likewise varied funding capacity for in-house ICT-training. Thus, external training programs need to be flexible to adapt to the different pace of ICT development Hanoi, Vientiane and Phnom Penh.

Essentially, development programs in fostering ICT usage in the newsrooms require a holistic approach to raise journalists' information literacy, awareness of ICTs and its enabling capacity to improve their journalistic productivity and creativity. This approach involves:

   a. Relating the training to journalists' professional goals and aspirations.
   b. Relating the training to different stages of ICT 'adoption' and 'adaptation' among media organizations across the region; and therefore,
   c. Contextualising the training to the hardware-software constraints that journalists face daily in their work.

It may be unrealistic, given the resource constraints, to expect every journalist to have access to their own computer at the workplace or at home where they can access the internet on an 'anytime, anywhere' basis. It may be more realistic to foster among the decision and policy makers in the media organisations a proactive approach to the management of ICT resources and budgeting for its ICT installations. There is scope for more research in this area, which

can be drawn from the more mature experience of news organizations in Hanoi, for instance, *VietNamNet, Voice of Vietnam (VOV)* and *Vietnam News Agency.*

Our field trips and observations gathered a more competitive culture within big media organizations particularly in Hanoi, which as one would expect, are more updated with global issues. Journalists and their editors in Hanoi understand the advantages of using ICTs in their work. With the smaller organisations, especially in the local language media where the editors and deputy editors are from the older generation and don't speak a foreign language, they are understandably often uninformed about ICTs. Thus their journalists are not required to have any ICT skills in their job description.

Our survey and field trips show up widespread usage of old and obsolete equipment in most newsroom, and where internet connections are mainly via modem and dial-ups. Here lies the dilemma. Media organisations wanting to foster greater ICT applications in the newsroom is held back by budgetary limitations in meeting growing expectations by their journalists once they have experienced the enabling wonders of the internet, and thus their goals to integrate ICTs in their daily work. Political implications of free and open access to the internet is another issue. Solutions to these localized issues need to be developed locally in line with the news organizations' operational procedures, political expectations and other demands on what clearly are limited resources. Fundamentally, these highlight the need to build ICTs into strategic planning, resource allocation and decision making in the newsroom.

A short-term solution to low ICT usage among journalists is to introduce a system where they are able to access the internet from home via their laptop computers. This means news organizations can put in place a scheme to subsidise their journalists' access from home via an external modem connected to the organization's server. Our survey data show that access to a computer at home gives journalists the time and motivation to use ICTs in their work, which arguably will raise the pace of ICT usage in the newsroom.

In summary, any development program to enhance the use of ICTs in the newsroom should first focus on eliminating the major barriers: access, cost, human resources development, language and content generation. These barriers are longstanding, as evident in reports by previous researchers.[40]

The first promising stop to draw on existing training resources is the e-ASEAN Framework Agreement, which provides ASEAN members with a forum for capacity-building according to the "e-readiness of member countries". The program's focus on ICT education and training for small business enterprises, ICT workers, policy makers and regulators could be

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[40] Refer to country profiles on ICT in Education at the UNESCO site: http://www.unescobkk.org/education/ict/countries; For updated reports on ICT applications in business, government and civil societies in Laos, Vietnam and Cambodia, refer to the *2005/6 Digital Review for Asia Pacific*, UNDP-APDIP, accessible at: http://www.digital-review.org/

extended to cover media workers.   Under the agreement, more advanced member countries with ICT training facilities, such as Singapore, offer training courses – for instance an ICT training of trainers program -- to the less developed member countries to generate skilled personnel in using, training and managing ICT resources.

APPENDIX 1

List of Organisations Surveyed for ICTs Use and Infrastructure Support – Stage 1

Phnom Penh:
- Koh Santepheap Daily (Peace Island)
- Radio Free Asia
- Jian Hua Daily (Chinese Language)
- Commercial News Daily (Chinese Language)
- Youth Voice
- Popular Magazine
- Cambodge Soir (French Language)
- Apsara TV & Radio
- Radio Fm 93.5
- Rasmey Kampuchea (Light of Cambodia)
- New Millennium Magazine
- Television Kampuchea (TVK)
- Bayon TV & RADIO
- National Radio
- Cambodian Sense Magaginze
- Women Media Center

Vientiane
- Lao National Television
- Lao National Radio
- Vientiane Mai (New Vientiane) Newspaper
- People (Paxaxon) Newspaper
- Radio & Television of Vientiane Capital
- Vientiane Times
- KPL (Lao News Agency)
- Vannasinh (Arts) Magazine

Hanoi

- Lao Dong (Labour) Newspaper
- Tuoi Tre (Youth) Newspaper
- Thoi Bao Kinh Te Vietnam(Vietnam Economic Time) Newspaper
- Cong An Nhan Dan (People Police) Newspaper
- Vietnam Radio VOV
- Nhan Dan (The People) Newspaper
- Tien Phong Newspaper
- Vietnam Television VTV

List of Organisations Surveyed for ICTs Use and Infrastructure Support – Stage 2

Phnom Penh:
- Koh Santepheap Daily (Peace Island)
- Jian Hua Daily (Chinese Language)
- Commercial News Daily (Chinese Language)
- Cambodge Soir (French Language)
- Cambodia Daily
- Popular Magazine
- Rasmei Kampuchea (Light of Cambodia)
- Television Kampuchea (TVK)
- Phnom Penh Post
- Women & Beauty

Vientiane
- Lao National Television
- Lao National Radio
- Vientiane Mai (New Vientiane) Newspaper
- People (Paxaxon) Newspaper
- Radio & Television of Vientiane Capital
- Vientiane Times
- KPL (Lao News Agency)
- Vannasinh (Arts) Magazine
- Lao Phatthana
- Update Laos

Hanoi

- Lao Dong (Labour) Newspaper
- Tuoi Tre (Youth) Newspaper
- Vietnam Radio VOV
- Nhan Dan (The People) Newspaper
- Vietnam Express
- Than Nien

APPENDIX 2

Journalists' emailed responses to a survey conducted in April 2000 (Loo, E).

Journalists' perception of their work

1) Journalists need to clearly explain the contexts of their stories because experts anywhere can easily access the published stories on the Internet .

2) Availability of critical research information on the Internet has compelled journalists to act local but think global, that is, to consider the multi-perspectives of an issue.

3) Secrecy of the news decision-making process is no longer the jurisdiction of journalists. The veil has been lifted, thus exposing journalists to wider criticisms by their readers.

4) Email access to journalists has heightened journalistic accountability through real dialogue between journalists and the••ir audience. Public antipathy towards old-fashioned journalism may be reversed.

5) "I write, you accept" is no longer acceptable. The "us-to-them" model will become irrelevant.

6) Journalists will place premium on fairness and balance, knowing that virtually every issue under the sun is debatable rather than universally accepted.

7) Journalists need to be prepared to respond quickly to negative perceptions. The Internet provides an avenue to justify their stories to their readers, such as through blog sites.

8) Need to constantly update the news and feed the ravenous appetite of Internet readers. The adverse consequence is insignificant details, as defined by journalistic conventions, will become news.

9) Journalists will embed themselves in their stories••, thus, an event becomes news because the news personality chooses to report it.

10) Freelancing becomes easier. The Internet exposes writers to diverse forms of narratives and publication outlets.

11) Cyclical 24-hour deadline will faze, giving place to reporting events as they happen. Thus, journalists need to be more timely as the story has to go up as soon as possible, rather than meeting an end-of-day deadline.

12) Story is no longer limited by length but by journalist's capacity for research, contextualising and visualing the story in terms of hyperlinks.

13) Journalists are freed and enslaved at the same time by the Internet . A paradox. Freed in terms of having access to infinite information resources, enslaved in terms of over relying on the net for information.

14) Armchair journalism will be common. Journalists write their stories based on email interviews without ever having to step out of the newsroom. Online interaction leads to social isolation, another paradox. •

Journalists' perception of their a••udience

1) Audiences will feel less intimidated in emailing journalists, compared to telephoning or speaking in person, to point out inaccuracies in the stories.

2) Promise of stories reaching niche audience due to coverage of search engines – introduces the concept of mass-casting and narrow-casting stories.

3) Loyalty to one single publication (under the old model) is breaking down as the Internet provides audience with alternative news outlets.

4) Those who respond to audience enquiries, whose site acts like a news portal, will soon

over-run publications (and journalists) who are slow to think "digital".
5) Diversity of news on the Internet has created more discerning readers.
6) People will expect quality content and more value from their news now, for instance, via hyperlinks.
7) Journalist will know their audience better through their online queries.

Internet as a news delivery system

1) As the Internet is another delivery mechanism, newspapers now have become an information service provider, not only news.
2) Journalists have to think in terms of delivering their stories in text, graphics and sound, thus adapt to constant change in content delivery, technology, design and marketing.
4) Production and delivery costs are dramatically lowered, for instance, in transmitting graphics and pictures online.
5) The Internet will require conventional media to focus on offering more value-added stories other than straight reporting, as they have lost their timeliness advantage to online news services. •

New skills

1) Need for multi-skilled journalists - audio, video, slide shows, forums, chat rooms, polls -- who at the same time will need to maintain traditional journalistic values.
2) Print journalists compelled to report as immediately as broadcast journalists but without compromising standards of accuracy.
3) Papers will develop more analytical reflections on events of the day with more emphasis on critical and creative writing, information graphics and photographs.
4) New methods of interviewing, e.g. Q&A by email or Internet Chat Relay.