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Topic: ICT Development in Cambodia

Abstract:

The Kingdom of Cambodia, with an area of 181,035 square kilometers is located in South East Asia, on the south-western part of the Indochina Peninsula. The population size has increased from 11.4 million in 1998 to 13.4 million in 2008 with the number of households being 2.8 million.

The paper will describe the situation of development, challenges and strategy for ICT development.

With improvement in electricification in the whole country, the phone (mobile and fixed phone) and internet usage are increasing rapidly. The density of phones in 2010 per 100 persons in Cambodia was 59.8 cell phones. Including the fixed phones the telephones per 100 persons is 62.2, compared to 2004 with 5.3 telephones per 100 persons. The internet subscribers increased six times compared to 2009. The optical fiber is installed in Cambodia to improve bandwidth and enable more internet subscribers.

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ICT Development in Cambodia

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1. INTRODUCTION

The Kingdom of Cambodia, with an area of 181,035 square kilometers is located in South East Asia, on the south-western part of the Indochina Peninsula. It is bordered by Thailand on the west and north-west, by Lao PDR on the north, and by Vietnam on the east and south-east. Cambodia is bounded by the Gulf of Thailand on the south-west with a coastline that is 435 kilometers long.

After National Elections in 1993, the Information Communication and Technology (ICT) has improved gradually based on economic situation, electricity access and population size increase. The Gross Domestic Product (GDP) per capita at current price has increased from US\$ 319 in 2001 to US\$ 830 in 2010. The percentage of contribution by sectors in 2010 is i) Agriculture (33.9 %), ii) Industry (21.9%) and iii) Service (38.3%). The transportation and communication had contributed 4.5% among 38.3%. The population size has increased from 11.4 million in 1998 to 13.4 million (with 2.8 million households) in 2008.

With improvement in electrification in the whole country, the phone (mobile and fixed phone) and internet usage are increasing rapidly. The density of phones in 2010 per 100 persons in Cambodia was 59.8 cell phones. Including the fixed phones the telephones per 100 persons is 62.2, compared to 2004 with 5.3 telephones per 100 persons. The internet subscribers increased six times compared to 2009. The optical fiber is installed in Cambodia to improve bandwidth and enable more internet subscribers.

2. OBJECTIVE

- To explore for Information Communication and Technology (ICT) situation in Cambodia.

3. CURRENT SITUATION

3.1 Demography

The Population Size of Cambodia has increased from 11.4 million in 1998 to 13.4 million in 2008 based on General Population Cambodia 2008. Of the total population 19.5 percent (2.6 million) lived in urban areas and 80.5 percent (10.8) lived in rural areas according to the revised definition of the classification of place as urban and rural. Thus, the share of urban population has increased by 1.96 percent between 1998 and 2008 following the new classification. Cambodia's capital is Phnom Penh, with a population of about 1.3 million. With an estimated annual growth rate of 1.54 percent, the population is expected to double

within less than 30 years. Forty six percent of the population is under the age 20 and sixty eight percent of male population is under 30 years. With the relatively fewer adult men, about a quarter of Cambodia's households are headed by women. The population is predominantly Khmer (around 97 percent). It is likely to have a growing impact on the economy since its annual growth has been some ten percent since 1990, compared two percent for the agricultural sector and eight percent for the service sector.

Table 1 Population Indicators

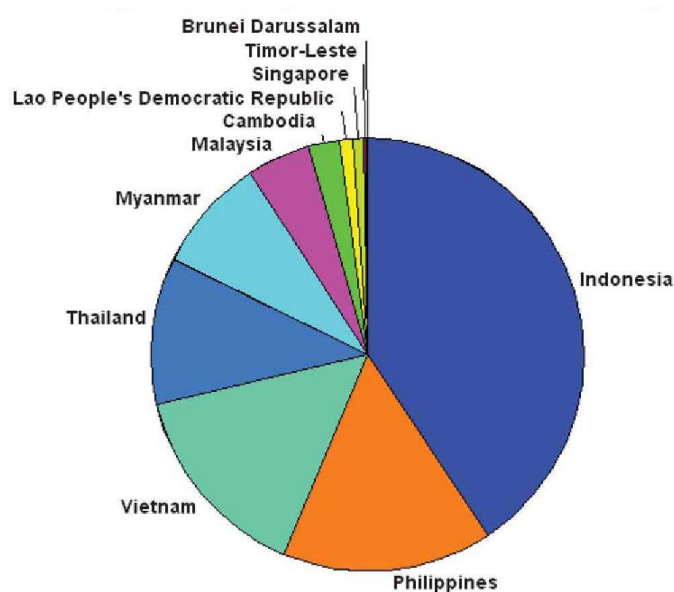
Item	Year	
	1998	2008
Total Population (million)	11.4	13.4
Population Growth Rate	2.4	1.5
Average life expectancy at birth (year)		
- Male	50	60.5
- Female	53	64.3
Urban population %	17.9*	19.5
Age Distribution:		
Below 15 years (%)	42.8	33.7
15-29 years(%)	26.1	31.5
30 years and older (%)	31.1	34.8

Note: * Based on new definition for classification

Source: National Institute of Statistics, Cambodia

According to a mid-2008 estimate about 8.6 percent of the world population of 6.7 billion lives in Southeast Asia. Cambodia which accounted for 2.3 percent of Southeast Asian population in 1998 continues to do so in 2008.

Figure 1. Population Composition of Southeast Asia by Countries



3.2 Economy

The Cambodian economy has been recovered from the global down turn and grew at average rate 6.0 percent in 2010, compared to real growth of 0.1 percent in 2009 and 6.8 percent in 2008. The estimated nominal GDP for 2009 was 47,047.985 billion Riels in current prices, up 9.3 percent compared to revised 2009 GDP estimated 43,056.732 billion Riels.

Table 2. GDP Growth Rates by Sector and Total, Percent (Constant 200 Price)

Sector	2006	2007	2008	2009	2010
Agriculture	5.5	5.0	5.7	5.4	4.0
Industry	18.0	8.4	4.0	-9.5	13.6
Services	10.1	10.1	9.0	2.3	3.3
Taxes less subsidies	7.6	45.7	9.1	6.1	5.0
Total	10.8	10.2	6.7	0.1	6.0

Source: National Institute of Statistics, Cambodia

The service sector was the largest contributor in 2010 growth, increasing by 3.3 percent and accounting for 39.0 percent of total GDP in constant 2000 prices. The agriculture sector grew by more than 5 percent in 2008 and 2009 and is in 2010 accounting for 27.3 percent of total GDP in constant 2000 prices. In 2009 the agriculture sector was the largest contributor to the growth of GDP. Estimated per capita GDP in 2010 in current prices was 3.355 million Riels, an increase of 6.7 percent from 2009. In real term, annual GDP per capita was 2.168 million Riels in 2010, an increase of 4.4 percent from 2009. Per capita GDP in US dollars has a somewhat lower annual growth of 10.2 percent in 2010, increasing to USD 830, compared to 15.8 percent and -0.9 percent in 2008 and 2009 respectively. Nominal GDP per capita increased from USD 503 in 2007 to USD 536 in 2010.

3.3 Human Resource Index (HDI)

In 1999, Cambodia ranks 121st out of 174 on the United Nations Development Programme's Human Development Index (HDI), placing the country at the end of the medium human development category. Although one of the lowest ranked South East Asian countries (only above Laos), Cambodia is about where it should be in terms of human development given its per capita income. The HDI is composed of a basket of indicators including life expectancy at birth, adult literacy, school enrolment and GDP per capita. Table 3 shows that the HDI varies greatly in ASEAN region and that Cambodia, together with Laos, has the region's lowest HDI. Cambodia's history of war and internal conflict has had a detrimental impact on the country's social and economic structure.

Table 3. Human Development Indicators

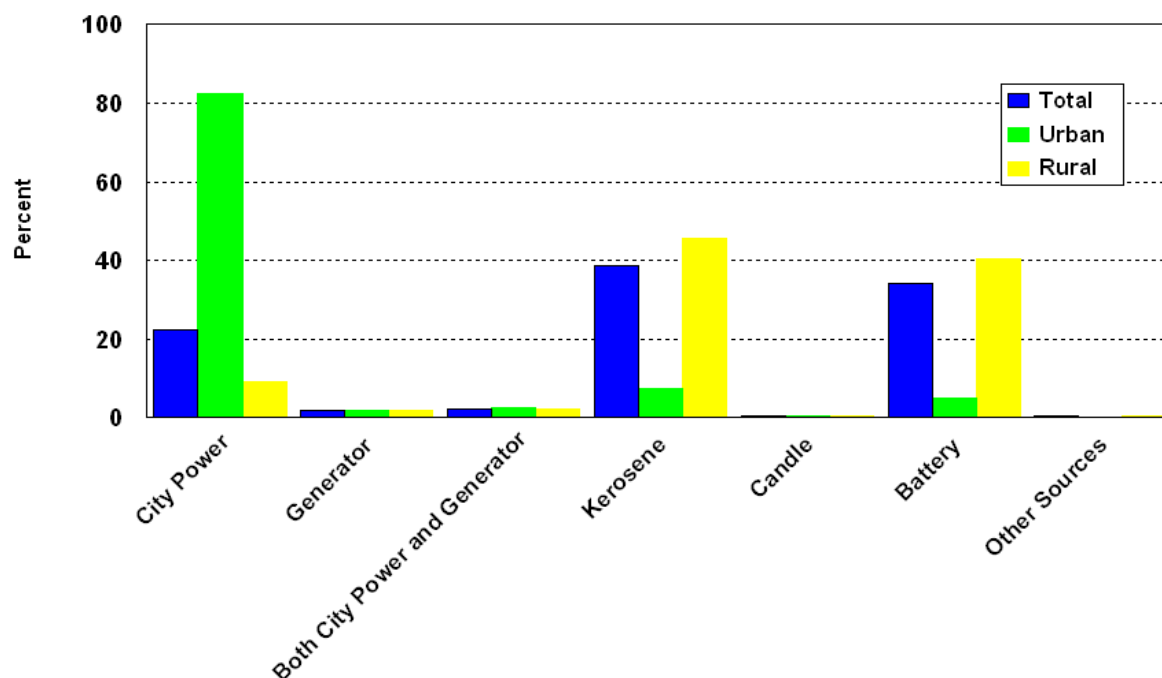
Cambodia compared to selected Asia-Pacific economies, 1999

HDI	Country	Life Expectancy at birth (Years)	Adult literacy rate (%)	Combined school gross enrolment ratio (%)	GDP Per Capita (PPP US\$)
26	Singapore	77.4	92.1	75	20,767
56	Malaysia	72.2	87.0	66	8,209
66	Thailand	69.9	95.3	60	6,132
70	Philippines	69.0	95.1	82	3,805
101	Vietnam	67.8	93.1	67	1,860
102	Indonesia	65.8	86.3	65	2,857
118	Myanmar	56.0	84.4	55	1,027
121	Cambodia	56.4	68.2	62	1,361
131	Lao PDR	53.1	47.3	58	1,471

3.4 Electrification

Electricity is the most important resource for using ICT equipment especially computer, mobile phone and internet etc. The electricity (including city power, generator and both) as a source of light is used only by 26.39 percent of the households in 2008 as against 15.11 percent in 1998. While 87 percent of the households in the urban areas are served by electricity, only 13.11 percent of households have this amenity in the rural areas of Cambodia.

Figure 2. Percent distribution of Households by Main Source of Light and by Residence, Cambodia 2008



3.5 Internet, Phones and Optical fiber

3.5.1. Internet

a. Access to internet

Access to internet facilities is gaining momentum in the country. Internet is accessible only to 4.5 percent households in the urban areas and most of these households have access to internet outside their home. The use of internet in rural areas is still low.

Table 4. Percent distribution of Households by Availability of Access to internet facility, Cambodia 2008

Type of Internet Access	Households		
	Total	Urban	Rural
Number	2,817,637	506,579	2,311,058
Total	100	100	100
No access	98.93	95.48	99.68
Access at home	0.11	0.43	0.04
Access outside home	0.85	3.64	0.24
Access at home and outside home	0.11	0.45	0.04

Source: National Institute of Statistics, Cambodia 2008

b. Internet Services

- Internet Access Services
 - + Dial up service
 - + Broadband services: ADSL/Leased Internet,
 - Wireless Internet (WiFi, WiMAX)
- Cable Modem (FTTH)
 - Satellite Broadband Internet Access
- +Web hosting
 - Satellite Broadband Internet (SBI):
 - + Local SBI Hub: iPSTAR Satellite, Hybrid Ku/Ka band
 - + Total subscriber: around 1000

c. Other Services

- **DNS .KH:641**(.com.kh, .gov.kh, .edu.kh, .org.kh, net.kh,.per.khand .mil.kh)
- **Internet Café: 229**118 in Phnom Penh
111 in Other provinces

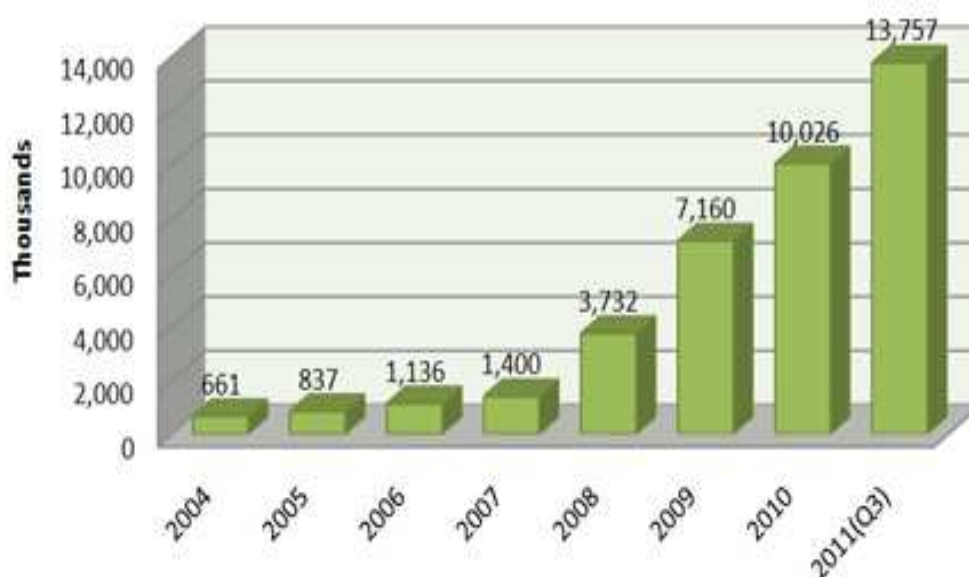
3.5.2 Phone used

There are 9 cell companies who have invested in Cambodia. As of June 2011, the penetration rate in Cambodia was estimated at 69.318% over a population estimate of over 14.7 million. **Data from** 2008 Census show that the number of households using fixed phone is about 1.13 percent and 37.35 percent are using cell phone.

Table 5. The list of cell phone companies

Rank	Operator	Technology	Subscribers (in millions)	Ownership
1	MobiTel	GSM	2.172 (March 2009)	Royal Group, Brand "Cell Card"
2	Mfone	GSM UMTS	1.000 (February 2011)	Cambodia Shinawatra Co. Ltd. by Shin Satellite and Asia Mobile Holding
3	Hello	GSM	0.77 (December 2009)	Axiata Group Berhad
4	Star Cell	GSM	0.14 [citation needed]	Applifone by TeliaSonera
5	qb	UMTS	0.05 [citation needed]	Cambodia Advance Communications
6	EXCELL	CDMA 2000 1x-EVDO	0.004 [citation needed]	GT-TELL
7	Metfone	GSM UMTS LTE (trial)	7.3	Viettel Cambodia
8	Smart Mobile	GSM	Not Yet Available	Latelz and Timeturns Holding
9	Beeline	GSM		VimpelCom(90%) Sotelco

Figure 3. Mobile subscribers by year



4. CHALLENGES

Currently, the Information Communication and Technology (ICT) in Cambodia have improved more according to capacity of human resources and economic growth. However, it has several challenges such as paucity of electric power supply, limited internet access, high service charges, and low knowledge for using new technology.

4.1 Less supply of Electric Power: With population increase, there is more demand for electricity compared to the previous time. Some rural areas do not have electric supply and the charges for using electricity are high that does not match with Cambodian standard of living.

4.2 Internet Access: The internet access is limited and users are not having satisfactory service. In some area cannot internet cannot be accessed.

4.3 High Price of Services: The prices of internet services are **higher** in respect of some companies. But if the users choose cheaper price the internet is difficult to access.

4.4 Low knowledge: The Cambodian people still have low knowledge for using new technology if compared to Singapore, South Korea and Japan.

5. Strategy for ICT Development

The main strategy for ICT development should focus on ICT Framework, ICT Service, ICT infrastructure, ICT Development and commitment to global issues.

5.1. ICT Framework:

- Develop a national ICT legal and regulatory framework to ensure national economic and social stimuli.
- Develop measures to achieve the e-ASEAN Framework Agreement, as well as to ensure efforts to keep pace with the ASEAN level of ICT technology through the promotion of a national ICT innovation.

5.2. ICT Service:

- Improve government services through the application of ICT
- Support the use of ICT in the private sector and the growth of e-commerce
- Encourage the growth of a national ICT industry and its links among the ASEAN region.

5.3 ICT Infrastructure

- Develop a reliable national ICT infrastructure

5.4. ICT Development

- Enhance the level of ICT literacy among the population
- Develop regionally competitive ICT experts and ICT savvy human resources
- Support WID (Women in Development) in the ICT Sector

5.5. Commitment to Global Issues

- Encourage an awareness of ICT as a tool for fighting global warming

6. CONCLUSIONS

Cambodia is the one country trying to rapidly adopt new technology. Until now, Cambodia is more improved for ICT and for reaching it to provinces according to population increase and economic growth in the serial years. However, some problems are still faced like want of required electricity, limited internet access, low knowledge of ICT and high price for internet and mobile services charge. In addition, some cell companies became bankrupt which affected the users of that system.