



The State of Information Communication Technology (ICT) Statistics Collection and Dissemination in Guyana



Training Course on Measuring ICT Access and Use in Households and Businesses

26-30 January 2009
Port of Spain, Trinidad and Tobago



BACKGROUND

The President of Guyana, in his 2006 New Year's address to the nation, declared that an ICT Strategy will be launched as part of his vision for building a modern Guyana. He stated that Guyana has the potential to evolve into a vibrant ICT nation and over the years we have made great strides in that direction.

On March 28, 2006, an ICT4D Guyana National Strategy was launched by the President of Guyana at a workshop co-ordinated by Mr. Robert Persaud (*Appendix 1*). The workshop was attended by a wide cross-section of ICT stakeholders who examined all the ICT thematic areas.

Subsequently, an ICT Sub-Committee on Statistics was formally established on the 4th of October 2007 at the Inaugural Meeting of the Caribbean Community (CARICOM) held in Guyana. The main objective of the meeting was to consider themes, issues and indicators for data collection on ICT that are of relevance to the Region and formulate a Draft Work Plan for the functioning of the Sub-Committee.

DEPLOYMENT

According to the ICT Guyana website, (<http://www.ict4d.gov.gy>), ICT is currently deployed throughout the following sectors in Guyana:

Government – Access to ICT is available within the Financial Administration, Revenue and Public Information sectors; Internet Access is present in most Ministries; the Constitution and laws of Guyana are available online; an e-Commerce bill has been published and a National Policy on Geographical Information System (GIS) was established in 2001.

Private Sector - The Government offers incentives to businesses investing in the ICT sector such as call centres and software development. Several large companies have implemented enterprise systems and the banking sector offers some online transactions but not the full range. Many retailers and authorized service centres of personal computers sell hardware and software, and a number of computer assembly stores have been established. Computer hardware is duty free. There are small numbers of Call Centres, Internet Service Providers, Web Hosting services and medical transcription services in different Regions of Guyana.

Education and Training - There is a culture of distance learning and many Guyanese are now accessing online courses from international institutions. The tertiary level educational institutions have not formally invested in the development of Guyanese online learning materials. One company in the private sector is developing the infrastructure for Guyanese online courses, while the Ministry of Education is delivering education using various ICT applications.

Health - Private hospitals have established relationships with medical personnel abroad to enhance the delivery of their services. The Public Health system utilizes HF (High Frequency) communications to serve remote communities.

Environment - The Environmental Protection Agency has a website that is utilized to keep the public informed of its activities and new developments. DevNet is collaborating with other institutions in the Caribbean region to launch a project to research the use of ICT in disaster management in Guyana.

Agriculture and land administration - Guysuco uses an Agriculture Management System (Field Reporting system) for managing sugar cane agriculture. GIS are in place at the Lands and Surveys Committee, the Forestry Commission, the Guyana Geology and Mines Commission and a few other organizations and private firms.

Other - There is a small but increasing Guyanese presence on the Internet. Local sites are developed with some individual initiatives for blogs, discussion groups on political and social content.

ICT STATISTICS

Data Collection

Population and Housing Census 2002 and Household Budget Survey 2005/2006 - ICT data has been collected in these surveys, but the questions only measured the accessibility of households to ICT (*see Appendix 2*). Therefore, the data collected provides for limited analysis of the topic. A complete measure of access, use and impact of ICT requires additional questions to be added to existing questionnaires or a separate survey on ICT be carried out. This point was raised by the OSILAC representative during the Inaugural CARICOM ICT Sub-Committee meeting on the 4th of October 2007 in Guyana. It was indicated that countries were adopting the approach of including ICT related questions in household surveys, business surveys and censuses. However, according to the first draft of the suggested Core and Non-core topics and questions for the 2010 round of Population and Housing Censuses compiled by CARICOM, there is no core topic on ICT. There is a Non-Core Topic under section I: Access to the Internet (*see Appendix 3*).

Guyana National Economic Survey 2008 – No questions on ICT were included in this questionnaire since the main objective of the survey was to determine the current GDP of the country and it did not focus particularly on living conditions. However, business entities associated with ICT were collected along with the jobs available in ICT related industries.

Demographic and Health Survey 2009 – This questionnaire focused on collection data on the health of men, women and children. There was no section on ICT use in Health. However, it is important to measure the use of ICT in Health especially during the administering of treatment.

ICT Survey - In improving the data currently collected on ICT, a separate survey should be undertaken. The approach will be to select questions relevant to the contextual issues of the Region (*see Appendix 4 for ICT Themes and Indicators prepared by CARICOM*).

Dissemination of Data

ICT data has not been analyzed nor disseminated. Data on ICT Statistics from the Census 2002 was never in demand until recently when CARICOM requested such in preparation for the CARICOM ICT Sub-Committee meeting that is to be held in the first quarter of 2009 (*see Appendix 5*). The HBS data is pending approval by the Government of Guyana before any publication can be made. However, CARICOM recently requested ICT data from this survey as well. To date this is the only dissemination of ICT Statistics from the Bureau of Statistics.

ROLE OF REGIONAL AND INTERNATIONAL ORGANISATIONS

Organizations such as CARICOM, UNDP, ECLAC, UNCTAD and ITU have provided support for ICT development within Guyana either technically or through the funding of projects and workshops. With such global commitments the future of ICT in Guyana is very bright.

CONCLUSION

Guyana is advancing in the area of ICT with the implementation of a successful Strategy on ICT and ongoing development of the sector. According to the vision of the President of Guyana, within the next five years 80 percent of all Guyanese will have access to the Internet and Information Technology will dramatically transform the way every sector within the country functions. However, it is imperative to improve the methods of collecting ICT data in order to monitor the relevant issues related to ICT development as well as guide policy intervention.

BIBLIOGRAPHY

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APPENDIX 1

The Coordinator of the ICT4 Development Strategy, Mr. Robert Persaud (formally Information Liaison to the President) welcomes the participants at the ICT Guyana workshop.



APPENDIX 2

Question related to ICT from the 2002 Round of Population and Housing Census in Guyana.

- Does this household have any of the following items in working Condition?

Personal Computer; Internet Connection; Radio; Cellular phone; Land telephone;
TV

APPENDIX 3

Draft Non-Core Topic related to ICT from the 2010 Round of Population and Housing Census in Guyana.

Access to the Internet

- Do you have/does (N) has access to the internet?

Yes; No

Current Use

- How did you/ (N) access the Internet in the last three (3) months?

Home; Work; School; Internet Café; Blackberry; Cellular Phone/PDA;
Family or Friend's House

APPENDIX 4

Themes and Issues/Concerns, and Indicators Relative to ICT Data Collection

Theme: Concerns/Issues	Indicators	Comments
1 ICT Infrastructure and Access:		
1.1 ICT Sector Liberalization		Liberalization in the telecommunications sector has resulted in a positive impact on the number of users and cost of service (as seen in Guyana and Jamaica re: Digicel). But what effect has this has on the State owned entity? What measures would prove/disprove the assumption that liberalization equates with a drop in price and democratization of access?
1.1.1 Is there a monopoly in the Telecommunications Sector?	1. No. of Telecommunications Companies in operation. 2. Ownership of Telecommunications Companies (State owned or private).	
1.1.2 Is there any government or internet provider censorship of ICT content? Of what? Why?	1. Is there any government or internet provider censorship of ICT content? If yes, of what? Why?	
1.1.3 Are there any restrictions on internet telephony (VOIP)?	1. Are there any restrictions on internet telephony (VOIP)?	
1.2 Tele-density		
1.2.1 What is the availability of telephones by region/parish?	1. No. of land line telephones by parish/region. 2. No. of cell phones by parish/region. 3. No. of cell phones per person. 4. No. of cell phones in circulation by company.	
1.2.2 Is there access to cell phones in areas where there are either no land lines or a limited number of land lines available?	1. What is the service range of cell phone companies?	
1.2.3 Where there is no access to cellular or landline telephone service, is there access to other forms of telephony e.g radio telephony?	1.	This can be important in measuring hinterland access.
1.3 Cost and Number of Local and International Telephone Calls.		
1.3.1 How many land line calls are made within the same exchange and what is the cost?	1. No. of calls within the same exchange. 2. Cost of calls within the same exchange.	This might help to show what kind of correlation there is between the number of calls made and the cost of those

Theme: Concerns/Issues	Indicators	Comments
1.3.2 How many land line inter-exchange calls are made and what is the cost?	1. No. of inter-exchange calls. 2. Cost of inter-exchange calls.	calls.
1.3.3 How many calls are made from land line phones to mobile phones and what is the cost?	1. No of calls from land line phones to mobile phones. 2. Cost of calls from land line phones to mobile phones.	There may also be a correlation between internet telephony (VOIP) and the number of international calls being made.
1.3.4 How many calls are made from mobile phones to land line phones and what is the cost?	1. No of calls from mobile phones to land line phones. 2. Cost of calls from mobile phones to land line phones.	
1.3.5 How many international calls are made and what is the cost?	1. No. of international calls from land line phones by destination. 2. Cost of international calls from land line phones by destination. 3. No of international calls from mobile phones by destination. 4. Cost of international calls from mobile phones by destination.	
1.3.6 What is the price of service relative to per capita income?	1. Cost of basic telephone (cellular and land line) service.	This can be calculated once the basic statistics are collected.
1.4 Access to Print and Electronic Media		
1.4.1 How many television stations are there?	1. No. of TV stations and service range.	
1.4.2 Are there any restrictions on television programming?	1. Is there any sort of censorship on television programming content?	
1.4.3 What proportion of television programming consists of local content?	1. No. of hours of local television content per week.	
1.4.4 How many cable TV subscribers are there and what is the cost of service relative to per capita income?	1. No. of cable TV subscribers. 2. Cost of basic cable service.	
1.4.5 How many TVs are there per household?	1. No. of TV sets per household.	
1.4.6 How many radio stations are in operation?	1. No. of radio stations in operation.	
1.4.7 How many radios are there per household?	1. No. of radios per household.	
1.4.8 What proportion of radio programming consists of local content?	1. No. of hours of local radio content per week.	
1.4.9 How much time is spent listening to the	1. No. of hours are spent listening to the radio per week.	

Theme: Concerns/Issues	Indicators	Comments
radio?	2. No. of hours of that time spent listening to local content.	
1.4.10 How many local newspapers are there?	1. No. of newspapers in circulation (by region/parish). 2. Cost of newspapers.	This can be useful in analyzing the correlation between access to the internet (esp. when there is little local content available online) and readership of the newspapers (which would contain a significant proportion of local content).
1.4.11 How many local magazines are there?	1. No. of locally published magazines and other print media. 2. Cost of locally published magazines and other print media. 3. What are the modes of dissemination?	Are any of the print media also disseminated electronically?
1.5 Access to a Computer and the Internet		
1.5.1 Are there any areas where the public can use a computer or access the internet (either free or for a fee)?	1. No. of public internet access areas (eg hot spots, libraries) by region/parish. 2. No. of internet cafés by service provided and region/parish. 3. Cost of service provided in internet cafés.	
1.5.2 How many households have a computer?	1. No. of computers per household (by type).	
1.5.3 How many households have access to the internet?	1. No. of households with an internet subscription (by type of service). 2. Cost of internet subscription (by type).	Depending on the ISP used, the cost of the service may vary. By picking up this data at the household level, analysis can be made in terms of household income.
1.5.4 How many internet service providers are there?	1. No. of internet service providers (by type of service provided). 2. Cost of internet service (by type). 3. No. of subscribers (by type of service subscribed to).	
2 Access to, and Use of, ICT by Households and Individuals:		
2.1 Are there programmes (Government or NGO) which seek to provide internet access to people who are on the wrong side of the digital divide either for economic or cultural reasons? e.g poor people, remote	1. No. and type of programme seeking to provide internet access to persons on the wrong side of the digital divide.	

Theme:		
Concerns/Issues	Indicators	Comments
areas, indigenous groups etc.		
2.2 How many households use VOIP?	1. No. of households using VOIP.	
2.3 What is the internet used for?	1. Total No. of hours spent using the internet per week. 2. Hours per week spent doing the following activities: Chatting, Net to cell phone text messaging (SMS), shopping, research and information (eg news), e-mail, internet phone calls, online auctions, stock investing, gaming.	
3 Use of ICT by Businesses:		
3.1 E-commerce/E-Business		
3.1.1 Do businesses have a web presence?	1. No. of Businesses with a website. 2. No. of Businesses with a website that is kept up to date.	This can probably be captured in the Establishment Surveys already in place.
3.1.2 How many businesses use the internet to sell locally produced items?	1. No. of businesses using the internet to sell their products.	Another indicator that might be picked up here is whether credit cards or other forms of payment are available to the general population for electronic purchases.
3.1.3 How many businesses use the internet to outsource work?	1. No. of business using the internet to outsource work (eg disseminating material and communicating with consultants overseas; data-entry).	
3.1.4 How many local internet hosts are there and what is the cost of hosting a website?	1. No. of local internet hosts. 2. Cost of hosting website/page.	While websites with local content can be hosted anywhere in the world, local hosts will also contribute to the economy (job provision, income generation, etc).
3.2 Visibility		
3.2.1 Is an online directory of business establishments available?	1. Is an online directory of business establishments available? 2. If yes, does it include listings for businesses without a web presence? 3. Frequency of updates to site.	
3.2.2 Is there a directory of Civil Society groups?	1. Is there a directory of Civil Society groups? 2. If yes, does it include listings for groups without a web presence? 3. Frequency of updates to	

Theme: Concerns/Issues	Indicators	Comments
	site.	
3.3 Contribution to Development		
3.3.1 Do businesses offer training in ICT related fields for their employees?	1. No. and type of businesses offering training in ICT to their employees.	
3.3.2		
4 ICT Sector and Trade in Goods:		
4.1 Labour Force		
4.1.1 What proportion of the labour force is employed in the ICT Sector?	1. Percentage of labour force directly employed in the ICT sector.	
4.1.2 What proportion of workers are employed in an ICT capacity within businesses?	1. No. of employees in an ICT related capacity within business entities as a percentage of total employees in the entity.	
5 Education:		
5.1 How many schools/ institutions have access to computers and the internet?	1. No. of schools/institutions (public/ private) with access to computers and the internet (primary-tertiary). 2. No. of computers per student population (primary – tertiary).	
5.2 What ICT related courses/ certification are offered?	1. Courses and certification offered (primary – tertiary).	
5.3 How many graduates are there with certification in ICT related fields?	1. No. of graduates by type and level of ICT certification.	
6 Local Content:		
6.1 What local content is available to the population?		
6.1.1 Is local information on various sectors (e.g. health/ healthcare, tourism, etc) available on websites?	1. No. of Government agencies having a website. 2. No. of Government agencies having a website that is kept up to date. 3. No. of Govt. Agencies having information about all their Programmes/departments available on the website.	
6.1.2 Is there a Government Information Service (GIS) website with up	1. Is there a Government Information Service (GIS) website available?	

Theme: Concerns/Issues	Indicators	Comments
to date information on services available?	2. Does it have information on government services available? 3. Is it kept up to date?	
6.1.3 Is locally relevant self-help information available? (e.g. How do you start up your own business; how do you prepare for a job interview; how do you preserve your environment; how do you take care of your health; how do you empower yourself in terms of gender equality, minority/indigenous issues, etc).	1. Some information can be gathered from Indicator 3 at 5.1.1 2. Private web pages and their content can probably best be captured at the census level (thereby making the information dated if we use the household and population census as the data capture medium).	This data is probably going to be among the most difficult to capture due to the fast changing nature of the number of websites being created. It might also have a direct correlation to access to the internet and education.
6.1.4 Are there any local e-zines in circulation?	1. No. of local e-zines in circulation. 2. What topics/issues are dealt with?	
6.2 Language		
6.2.1 Is local content available in local languages/dialects?	1. Proportion of web pages with local content in local languages/dialects.	
7 Security:		
7.1 Data Protection		
7.1.1 How secure are local servers?	1. No. of local hosts by type of server and level of security.	Important if sensitive data (eg banking) is stored on local hosts.
7.1.2		
7.2 Security and Protection of Intellectual Property		
7.2.1 What laws are in place for the prosecution of illegal use of intellectual property?	1. Laws in place for copyright protection.	
7.2.2 Are these laws being enforced?	1. No. of cases brought in front of the courts with regard to copyright infringement. 2. No. of fines/convictions in these cases.	

APPENDIX 5

Bureau of Statistics: Population and Housing Census 2002 Access to ICT by Region.

Bureau of Statistics																
Population and Housing Census - 2002																
Access to ICT by Region																
Region No.	Radio				TV				VCR				PC			
	Yes	No	Not stated/ Don't Know	Total	Yes	No	Not stated/ Don't Know	Total	Yes	No	Not stated/ Don't Know	Total	Yes	No	Not stated/ Don't Know	Total
1	2,163	1,694	117	3,974	460	3,302	212	3,974	340	3,384	250	3,974	31	3,698	245	3,974
2	3,548	7,558	114	11,220	2,676	8,447	97	11,220	863	10,239	118	11,220	917	10,184	119	11,220
3	18,483	7,189	282	25,954	17,992	7,657	305	25,954	5,381	20,096	476	25,953	977	24,531	446	25,954
4	58,086	18,490	1,359	77,935	58,247	18,380	1,310	77,937	20,964	55,205	1,763	77,932	7,042	69,237	1,658	77,937
5	9,122	3,747	79	12,948	8,167	4,704	77	12,948	3,078	9,735	135	12,948	259	12,570	119	12,948
6	23,244	8,028	197	31,469	23,113	8,197	159	31,469	10,108	21,009	352	31,469	952	30,131	386	31,469
7	2,061	1,528	52	3,641	1,734	1,861	46	3,641	819	2,752	70	3,641	114	3,471	56	3,641
8	600	1,249	22	1,871	121	1,727	23	1,871	109	1,734	28	1,871	8	1,838	25	1,871
9	1,371	2,162	7	3,540	258	3,276	9	3,543	142	3,383	10	3,535	31	3,501	11	3,543
10	6,951	2,851	250	10,052	6,765	3,059	228	10,052	3,040	6,671	341	10,052	451	9,276	325	10,052
Total	125,629	54,496	2,479	182,604	119,533	60,610	2,466	182,609	44,844	134,208	3,543	182,595	10,782	168,437	3,390	182,609
Region No.	Internet				Cellular				Telephone(land)							
	Yes	No	Not stated/ Don't Know	Total	Yes	No	Not stated/ Don't Know	Total	Yes	No	Not stated/ Don't Know	Total				
1	23	3,652	299	3,974	25	3,671	278	3,974	142	3,365	467	3,974				
2	2,982	8,133	105	11,220	506	10,657	57	11,220	1,514	8,811	895	11,220				
3	728	24,692	534	25,954	3,900	21,574	480	25,954	5,549	19,372	1,033	25,954				
4	5,001	71,067	1,866	77,934	17,955	58,130	1,852	77,937	30,685	45,330	1,922	77,937				
5	97	12,685	166	12,948	2,322	10,479	147	12,948	2,003	10,737	208	12,948				
6	497	30,501	471	31,469	5,216	25,823	430	31,469	6,379	24,657	433	31,469				
7	83	3,469	89	3,641	452	3,113	76	3,641	663	2,801	177	3,641				
8	2	1,836	33	1,871	10	1,837	24	1,871	29	1,798	44	1,871				
9	9	3,517	12	3,538	7	3,524	12	3,543	91	3,438	14	3,543				
10	200	9,422	430	10,052	1,618	8,049	385	10,052	2,628	7,003	421	10,052				
Total	9,622	168,974	4,005	182,601	32,011	146,857	3,741	182,609	49,683	127,312	5,614	182,609				