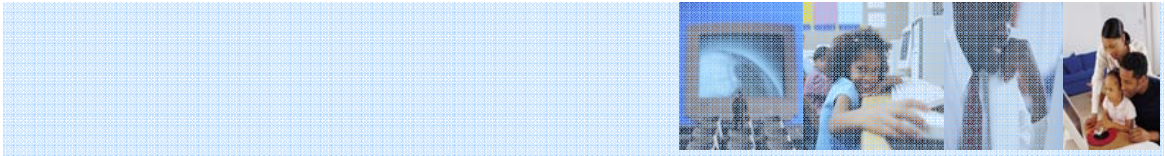




# *e-Readiness Assessment*

*Belize National ICT Policy*

*September 2007*



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## 1. OVERVIEW

The Government of Belize, supported by the Commonwealth Secretariat, has embarked on a process to develop a National Information and Communications Technology (ICT) Policy and Strategic Plan. The National ICT programme will play a pivotal role in the achieving many of the country's national development goals; seeking to deliver broad social, economic and public administration improvements through increased levels of connectivity, effective application of ICT and development of appropriate skills and expertise within the local workforce.

Before any detailed strategic planning can take place, it is important to understand the current state of ICT diffusion within Belize – and Belize's level of ICT maturity on a global scale. ICT Benchmarking and e-Readiness assessments are both useful tools for determining a country's "starting point" in terms of ICT, and are the initial phase of the national ICT strategic planning process. A separate ICT Benchmarking Assessment has been produced as a companion document to this report. The ICT Benchmarking Assessment uses secondary data to compare the level of ICT development in Belize to seven other comparator countries, while the e-Readiness analysis looks at the current state of ICT preparedness within Belize, using primary data collected through a survey questionnaire sent to a number of public and private sector organisations.

During August and September 2007, the Office of Governance, assisted by the Commonwealth Secretariat, carried out the ICT Benchmarking and e-Readiness reviews to determine the current level of ICT preparedness and competitiveness in Belize. A series of multi-stakeholder follow-up discussions took place over the period 24-28 September to review the Benchmarking and e-Readiness findings and identify possible areas for further analysis during the policy development and strategic planning process.

The development of the National ICT Policy and Strategic Plan is scheduled to continue throughout the remainder of 2007 and into the first few months of 2008. A framework and methodology for the ICT strategic planning process is currently under discussion.



## 2. APPROACH

The e-Readiness Assessment analyzed the preparedness of Belize to participate in the global information society and digital economy. The level of e-Readiness was gauged by assessing maturity across a series of Information and Communications Technology (ICT) indicators that are considered key in facilitating national development and delivering broad ICT-related benefits.

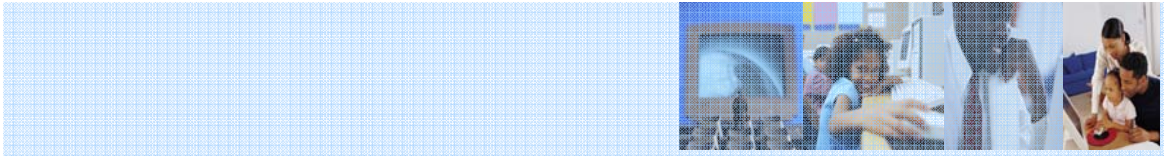
The Assessment focused on the five areas of development that will likely feature in the National ICT Policy and Strategic Plan:

- ICT Infrastructure
- Legal and Regulatory Framework
- Human Resource Development
- Industry
- Government

These components were further broken down into a series of sub-sections, each containing questions that probe various aspects of ICT readiness. Some are statistical or quantitative in nature; others call for information that is more descriptive or qualitative.

An e-Readiness Questionnaire was formulated (see Appendix A) and forwarded to various Ministries and agencies within the Government of Belize. These included the Ministry of the Attorney General, Ministry of Education, Ministry of Foreign Trade, Ministry of Public Service and the Ministry of the Solicitor General. The document was also sent to the Public Utilities Commission, Statistical Institute of Belize, University of Belize, Galen University, the Belize Chamber of Commerce and Industry and a selection of local companies. Response to the Questionnaire was limited however it did provide sufficient information to develop a reasonable understanding of the current state of ICT readiness within Belize. Feedback from the various participants can be found at Appendix B.

The results from the e-Readiness Assessment will be combined with the output from the ICT Benchmarking Analysis in order to provide a complete picture of Belize ICT competitiveness within a global context. This will allow the country to precisely determine where it is positioned in terms of advancing its connectivity agenda, and facilitate the development of a pragmatic action plan for helping the nation achieve a series of critical ICT goals.



### 3. A SUMMARY OF E-READINESS IN BELIZE – SEPTEMBER 2007

A summary of the findings of the e-Readiness Assessment is provided below:

#### ICT Infrastructure

**The telecommunications infrastructure is developing. Although Internet subscription remains modest, the number of telephone users (especially mobile users) is high:**

- Belize benefits from >90% national electrification – with fibre being built into all new transmission cables
- Telecommunications infrastructure continues to improve:
  - Liberalized telecommunications sector
  - 2 carrier service licenses awarded, however one license has subsequently been withdrawn
  - 36 ISP licenses have been issued
  - International and mobile rates have decreased as a result of increased competition
  - Growing network capacity with speeds up to 2Mbps
  - Access to international fibre connectivity via ARCOS1 link through Mexico
- No formal information was made available regarding ICT's at a community or household level – the following figures were gathered from interviews and from the ICT Benchmarking Assessment (i.e. secondary data from 2005/2006)
- More than 90% of households have radios
- Approximately 20% of households own a television
- Approximately 40% of homes have a telephone
- Approximately 50% of the population are cellular subscribers (150,000 subscribers)
- Approximately 14% of the population have access to Personal Computers
- Approximately 7% of the population are Internet subscribers (40,000 subscribers)
- Affordability of PC's and Internet subscription is a key constraint – most use Internet from work

#### Legal and Regulatory Framework

**A solid legislative base is being established. Effort is now required to further accelerate implementation:**

- ICT related legislation and policy frameworks exist in the areas shown below:
  - *Telecommunications Act 2002* – allows for the development of the telecommunications sector through competition.
  - *Electronic Transactions Act 2003*:
    - eliminates legal barriers to electronic communications
    - acknowledges electronic/digital signatures
    - promotes harmonization of legal rules on electronic transactions across international boundaries



- promotes confidence in electronic transactions and enables electronic communications with government
- provides for “Universal Service” – “to provide all Belizeans, regardless of where they reside, with reasonable access to basic telecommunications services, payphones and community telephones with due regard for cost, benefits and national priorities”
  - *Electronic Evidence Act 2003* – makes provision for the legal recognition of electronic records and facilitates the admission of electronic records into evidence in legal proceedings
  - *Copyright Act 2003* – provides Intellectual Property legislation for digital data
- The Public Utilities Commission was introduced in 2003. It is an autonomous agency with a mandate to promote fair competition and efficient market conduct within the telecommunications industry
- Strengthened/additional legislation is required in the following areas:
  - Data Protection and Privacy
  - Computer Misuse
  - Cybercrime
  - Inappropriate/undesirable content on the Internet
  - Competition legislation

## Human Resource Development

### Insufficient data was provided to develop a clear understanding of the level Human Resource Development with relation to ICT:

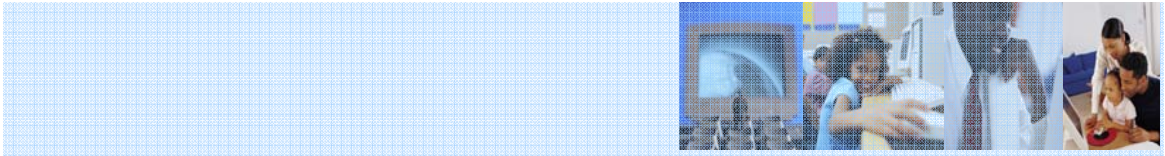
- Virtually all schools are on the national grid and have a reliable source of electricity
- The majority of primary schools, and all secondary and tertiary institutions, have telephones
- The University of Belize estimates that it has one computer for every 10 students
- High speed Internet access is provided to both the University of Belize and Galen University
- A significant number of students are undertaking tertiary level education in important ICT related fields:
  - 143 in computer related studies
  - 560 in business related studies
  - 213 in science related studies
  - 0 in Telecommunications and Network Engineering

## Industry

### Limited data was received with regards to ICT in Industry

- Most companies in Belize realize the importance of ICT and the Internet, however it is not currently being utilized as a business tool
- It was suggested that 40-50% of companies have computers and Internet access
- It was suggested that 40-50% of companies have static websites – but <5% of companies offer e-commerce transactions



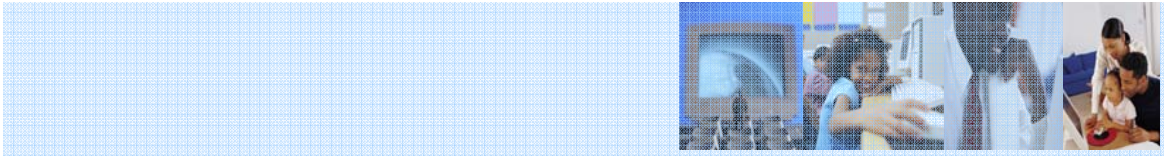


- Some of the larger companies offer e-payment (e.g. BEL has approximately 5,000 on-line customers, Bank of Nova Scotia has approximately 2,000 on-line customers)
- BEL has implemented a customer call centre and IVR system
- Other than the Office of Governance, there appears to be no specific branch within Government that is stimulating ICT uptake and e-Commerce within the marketplace
- At this time there appears to be no/little incentives (tax/fiscal) encouraging the private sector to use ICT and e-Commerce
- There are no sector specific ICT policies at this time, e.g. Tourism, Agriculture, Financial Services, etc
- There appears to be no active ICT Association or National Computer Society at this time
- No online Government-to-Business (G2B) services are available at present
- The University of Belize is planning to establish a co-location of its ICT related campus with a high-tech park

## Government

### **Steady progress is being made in advancing the national e-Government programme**

- A formal e-Government Policy is in place – however the Policy focuses primarily on the Internet and does not incorporate the telephone channel into e-Government service delivery
- Several e-Government projects are in progress including a Government Wide Area Network and a Central Portal
- All of the eleven government ministries have a website
- Most government websites are primarily information based sites, with some downloadable application forms
- Most ministries and departments have introduced initiatives aimed at greater efficiency, effectiveness and improvement of service delivery – with the Ministry of Finance and the Ministry of Natural Resources, Local Government and the Environment at the forefront of these changes
- Most of the payroll processes have been automated with salary and deduction transfers made online directly into Public Officers bank accounts
- Some ICT and customer service training is available to civil servants
- Specific e-Government policies are limited



## **Appendix A**

### **e-Readiness Questionnaire**





## ***Introduction***

### ***What is e-Readiness?***

e-Readiness is a term used to assess the preparedness of a community to participate in the global information society and digital economy. The level of e-Readiness is gauged by assessing a community's maturity across a series of Information and Communications Technology (ICT) indicators that are considered key in facilitating national development and delivering broad ICT-related benefits.

Understanding a nation's level of e-Readiness provides an excellent platform for launching any national ICT endeavour, and also provides the all important baseline for measuring progress as the national ICT agenda advances. e-Readiness assessments should be routinely carried out as a part of ICT monitoring and reporting.

### ***e-Readiness Methodology***

Many e-Readiness assessments are academic exercises that calculate various indices of penetration, coverage, etc. e-Readiness assessments featuring these types of measures are available from a number of sources such as McConnell, Harvard or others institutions. These studies typically give a good view of physical infrastructure statistics, along with subjective ordinal rankings of other criteria. While they are useful as a starting point, these forms of assessment often overlook the more obscure, subtle readiness determinants that drive momentum and accelerate development. It is important therefore, to go beyond these numbers, and collect more meaningful data that provides a deeper, cross-societal view of ICT absorption and usage.

The Government of Belize is currently preparing to undertake the development of a National ICT Policy. An important first step in developing the Policy will be to establish the current level of national e-Readiness. This document contains a detailed e-Readiness Questionnaire with a series of criteria that will provide a clear understanding of Belize's preparedness to participate in the networked world.

The e-Readiness Questionnaire has been specifically structured to complement and build upon the five focus areas that feature in the National ICT Policy, namely:

1. Infrastructure and Security
2. Legal and Regulatory Framework
3. Human Resource Development
4. Industry and Economic Development
5. Government



These components are broken down into a series of sub-sections, each containing questions that probe various aspects of ICT readiness. Some are statistical or quantitative in nature; others call for information that is more descriptive or qualitative. In order for this study to be successful, it is important that the data collection teams thoroughly investigate each area in order to accurately portray the Belize current state of readiness.

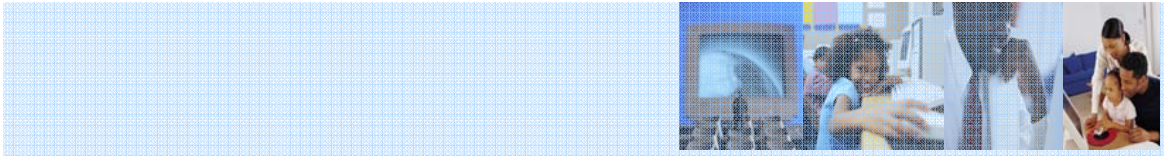
The results from the e-Readiness Assessment will be combined with the output from a Benchmarking Analysis, which examines ICT indicators from selected jurisdictions, in order to provide a complete picture of Belize's ICT competitiveness within a global context. This will allow the country to precisely determine where it is positioned in terms of advancing its connectivity agenda, and facilitate the development of a pragmatic action plan for helping the nation achieve a series of critical ICT goals.

### ***How to Use This Guide***

Completing the e-Readiness Assessment is a hands-on exercise. While it may prove helpful to consult previous studies for baseline statistics, it is expected that new information be collected as part of the assessment. Such information may include primary research of raw data, as well as research from secondary sources (e.g. World Economic Forum (WEF), International Telecommunications Union (ITU) etc.). It may be useful to examine historical trends as well as "point in time" snapshots of information. National level data should be considered, as well as breakdowns by geography (e.g. regional comparisons, urban vs. rural, etc.). Additionally, it is important that the data collection teams strive to include descriptive qualitative information in addition to quantitative data, and show all the thinking around a question, not just the final answer.

Some questions may make reference to a potential answer format, such as "number per 100 inhabitants" or "annual cost". However, in general, the answer format for the research questions is unstructured; the data collection teams are being challenged to generate as much data as required, at the appropriate level of detail, in order to best answer the question. The format of the response to this survey is left to the teams themselves, with input from the specialist consulting team. The information collected will be used as a starting point for the ICT Policy development, so it is critically important that the teams strive to answer each aspect of the study as completely as possible.

The consulting team will be available, either in person, or via telephone or e-mail, to provide assistance and answer any questions the data collection teams may have.



## 1. Infrastructure & Security Questionnaire

The minimum necessary condition for e-Readiness is access to adequate network infrastructure. Without access to global communications networks, no community can participate in the networked world. Access is determined by a combination of the availability and affordability of use of the network itself, as well as of the hardware and software needed for network interface. The quality and speed of the network are also important in determining how the network is used. The customer service orientation of access providers is another major factor in network application adoption and usability which must be considered. Because of the growing importance and unique character of the Internet, which provides a global platform for both data and (increasingly) voice services, the assessment of network access should be carried out in the context of Internet access, rather than access to either voice or data. The significance of the Internet will only continue to grow in terms of global trade and communication.

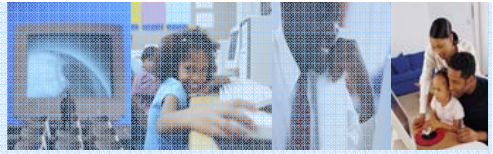
The fundamental building block to allow any country to become connected is to have a network infrastructure in place that reaches everywhere, is affordable to all, and has sufficient scalability to carry greater levels of data in the future.

For the purposes of this assessment, Infrastructure e-Readiness will be examined across eight areas:

### Areas of Study:

1. Access to Telecommunications
2. Service and support
3. Internet availability
4. Hardware and software
5. Information infrastructure
6. Internet affordability
7. Policy
8. Community Access

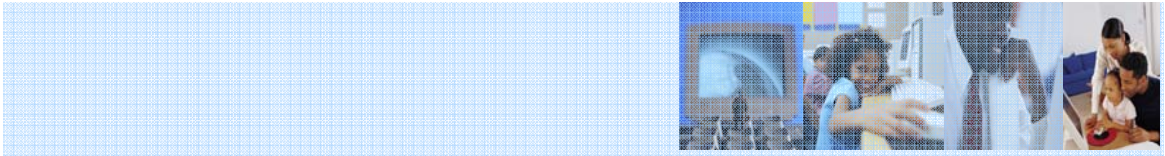
INFRASTRUCTURE & SECURITY Questionnaire		
	Question	Answer
<b>1.1.0</b>	<b>Access to Telecommunications</b>	
1.1.1	What is the network speed and quality?	
1.1.2	What percentage of voice calls are successful?	
1.1.3	What is the quality of the voice calls?	
1.1.4	How many problems are reported annually per 100 lines?	
1.1.5	What data services and speeds are available?	
1.1.6	What is the backbone network capacity?	



1.1.7	What are the most common dial-up modem transfer speeds?	
1.1.8	What technology choices are available for access to the network?	
1.1.9	What technology solutions have been implemented in the network?	
1.1.10	What broadband technology solutions have been deployed?	
<b>1.2.0</b>	<b>Service &amp; Support</b>	
1.2.1	Who are the service providers for voice, mobile, data and Internet and what are their territories?	
1.2.2	What is the average time for telephone mainline maintenance and installation in urban centres?	
1.2.3	What is the average time for telephone mainline maintenance and installation in rural areas?	
1.2.4	What is the quantity of and qualifications of software developers, programmers or computer technicians?	
1.2.5	What are the average maintenance costs for the various networks that have been deployed?	
1.2.6	What percentage of problems are power initiated?	
1.2.7	What are the bandwidth offerings (#Megs) and subscription ratio for residential customers, small, medium and large business customers, and MUSH (Municipal, School, University and Hospital) customers?	
<b>1.3.0</b>	<b>Internet Availability</b>	
1.3.1	How many ISPs offer local dial-up access?	
1.3.2	How many ISPs offer broadband access?	
1.3.3	What is the degree of public access?	
1.3.4	What is the availability and type of higher bandwidth solutions?	
1.3.5	What are the service provider's plans to expand their service offerings and reach?	
<b>1.4.0</b>	<b>Hardware &amp; Software</b>	
1.4.1	What is the availability of off-the-shelf hardware and software solutions?	
1.4.2	What is the availability of locally produced hardware and software?	
1.4.3	What local and international standards are in use?	
1.4.4	Is Open-Source software readily available? How extensively is it being used?	
<b>1.5.0</b>	<b>Information Infrastructure</b>	
1.5.1	What is the extent of electrification?	
1.5.2	What specific locations have access to	



	telecommunications infrastructure (voice, data, Internet, mobile, wireless and satellite)?	
1.5.3	What is the degree of tele-density?	
1.5.4	What is the degree of mobile wireless penetration?	
1.5.5	What is the degree of cable penetration?	
<b>1.6.0</b>	<b>Internet Affordability</b>	
1.6.1	What are the prices charged for local voice, international voice, and data calls?	
1.6.2	What impact does competition in telecommunications market have on pricing?	
1.6.3	What are the costs per meter to deploy fibre, copper, broadband, and wireless technologies?	
1.6.4	What are the costs for satellite based services?	
1.6.5	What are the number of small, medium and large businesses in all the communities?	
1.6.6	What are the take-up rates for Residential customers, small, medium and large Business customers, and MUSH (Municipal, School, University and Hospital) customers?	
<b>1.7.0</b>	<b>Policy</b>	
1.7.1	What is the level of telecommunications competition?	
1.7.2	What is the status and impact of the telecommunications regulatory body?	
1.7.3	What are the regulatory provisions with respect to telecommunications services?	
1.7.4	What are the regulatory provisions with respect to on-line privacy and security?	
1.7.5	What are the plans for telecommunications deregulation?	
1.7.6	What is the status of universal access?	
<b>1.8.0</b>	<b>Community Access</b>	
1.8.1	Number of telephone subscribers / district?	
1.8.2	Number of mobile phone subscribers / district?	
1.8.3	Number of PCs / household by district?	
1.8.4	Number of televisions / household / district?	
1.8.5	Number of radios / household / district?	
1.8.6	Cost of Internet access / district?	
1.8.7	Access to broadband by district	
1.8.8	Number of public / community access facilities / district?	
1.8.9	Number of public / community access PCs / district?	
1.8.10	Number of public / community access facilities / inhabitant / district?	
1.8.11	Number of public / community access facilities /	



	inhabitant in urban vs. rural areas / district?	
1.8.12	Internet access type per public / community access facility / district?	
1.8.13	What is the extent of local content available to communities? Please give examples.	
1.8.14	What is the level of ICT use by local and district government / district?	
1.8.15	What is the availability of online government services at a community level?	



## 2. Legal & Regulatory Questionnaire

Public policy can be a help or a hindrance to the networked economy. The favourable climate that public policy can create for Internet use and e-Commerce encourages communities, organizations and individuals to invest and use Information and Communication Technology. Important aspects of networked readiness, such as Internet availability, e-Government and electronic business transactions are all influenced by public policy. For a community to become ready for the networked world, the appropriate policy-makers must realize the implications of their decisions upon ICT adoption and use.

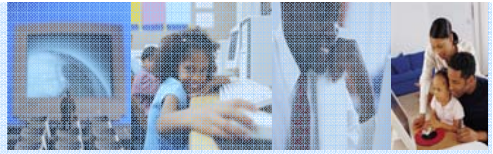
For the purposes of this assessment, the ICT Legal and Regulatory Framework will be examined across twelve areas:

### Areas of Study:

1. Telecommunications regulation/legislation
2. Regulator
3. Universal Access
4. Trade & Investment
5. Inappropriate Content & Cyber Crimes
6. Electronic Records & Evidence
7. Electronic Signature
8. Privacy
9. Business Laws
10. Copyright & Intellectual Property
11. Transparency
12. Consumer Protection

LEGAL & REGULATORY Questionnaire		
	Question	Answer
<b>2.1.0</b>	<b>Telecommunications Regulation/ Legislation</b>	
2.1.1	Is there framework legislation in place for competitive telecommunications?	
2.1.2	Is the national/dominant carrier privatized?	
2.1.3	Is there a framework in place for interconnection and/or co-location (e.g., accounting separations, cost allocations)?	
2.1.4	Have principles and terms and conditions of interconnection been established?	
2.1.5	Is there legislation providing for a transparent and fair process of spectrum allocation?	
<b>2.2.0</b>	<b>Regulator</b>	
2.2.1	Is there an independent regulator in place?	

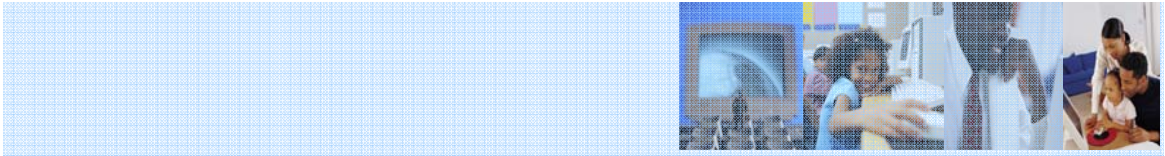




2.2.2	Does legislation provide the regulator with the powers required to promote and enforce a competitive telecommunications market?	
2.2.3	Is there an independent competition authority to prevent anti-competitive practices?	
2.2.4	Does the competition authority or regulator have the powers necessary to deal with anti-competitive behaviours in the telecom market?	
2.2.5	Is the relationship between the telecom regulator and the competition authority clarified with respect to competition in telecommunications and ICT?	
2.2.6	Does the regulatory structure allow for consideration of conversion issues?	
<b>2.3.0</b>	<b>Universal Access</b>	
2.3.1	Are there provisions in legislation or policies to promote universal access to telecommunications services?	
2.3.2	Are the provisions for universal access being implemented?	
2.3.3	If yes, are they being implemented effectively?	
<b>2.4.0</b>	<b>Trade &amp; Investment</b>	
2.4.1	Is Belize a signatory to the WTO agreement on GATS and the Agreement on Basic Telecommunications? Other relevant agreements?	
2.4.2	Are there restrictions on investment in telecoms? Or sectors (e.g., broadcasting)?	
2.4.3	Are there tariffs on equipment, computers, software etc.? How significant?	
2.4.4	Is foreign direct investment allowed? Encouraged?	
2.4.5	Are there non-tariff barriers, such as unusually strict equipment approval/licensing conditions?	
2.4.6	Is trade in services restricted? Encouraged? How?	
2.4.7	Is the tax structure neutral or positive with respect to equipment, etc.?	
<b>2.5.0</b>	<b>Inappropriate Content &amp; Cyber Crimes</b>	
2.5.1	Is there legislation to deal with pornography/hate/other undesirable content on the Internet?	
2.5.2	Is there legislation to deal with: data crimes (interception, modification, data theft, trafficking in digital signatures or domain names)?	
2.5.3	Is there legislation to deal with network crimes (network interference, network sabotage)?	
2.5.4	Is there legislation to deal with access crimes (unauthorized access, virus dissemination)?	



2.5.5	Is there legislation to deal with access or interception by law enforcement and national security officials to electronic data?	
<b>2.6.0</b>	<b>Electronic Records &amp; Evidence</b>	
2.6.1	Is there media-neutral legislation to deal with electronic records as evidence before a court or tribunal; as basis of contracts?	
2.6.2	Is cyber cash recognized?	
2.6.3	Is electronic settlement available for securities trading?	
<b>2.7.0</b>	<b>Electronic Signature</b>	
2.7.1	Is there legislation dealing with electronic signatures, including digital signatures?	
2.7.2	Is there an infrastructure to handle electronic signatures?	
<b>2.8.0</b>	<b>Privacy</b>	
2.8.1	Is there legislation to protect the privacy of personal and commercial data?	
2.8.2	If yes, does the legislation comply with the requirements of the EU Directive on Data Protection/OECD Guidelines?	
<b>2.9.0</b>	<b>Business Laws</b>	
2.9.1	Do the laws allow for fast start-ups to achieve legal status (e.g., incorporation) and to do business without delay?	
<b>2.10.0</b>	<b>Copyright &amp; Intellectual Property</b>	
2.10.1	Is there legislation in place that recognizes intellectual property rights in computer software, electronic documents or other forms of data?	
2.10.2	Does the trademark legislation adequately protect against cybersquatting?	
2.10.3	Has ISP liability been specifically limited as appropriate?	
2.10.4	Is there a dispute resolution system in place regarding domain name protection?	
<b>2.11.0</b>	<b>Transparency</b>	
2.11.1	Are the regulatory and legislative processes transparent and open?	
2.11.2	Do citizens and potential foreign investors have timely access to all laws, regulations, decrees, and court/tribunal rulings?	
2.11.3	Are citizens, potential foreign investors and other stakeholders involved in the developing and drafting of legislation?	
2.11.4	Are all laws, regulations, decrees and rulings available	



	in print? Through the Internet?	
<b>2.12.0</b>	<b>Consumer Protection</b>	
2.12.1	Is there legislation providing for consumer protection and remedies with respect to electronic commerce/distance selling?	



### 3. Human Development Questionnaire

Without an educated, ICT-savvy workforce, no community can fully participate in the digital economy. To foster this resource, Information and Communications Technology must be effectively incorporated into a country's learning "system". Unfortunately, even though the effective use of ICTs in schools, educational institutions and adult training centres is one of the most powerful catalysts for establishing a prominent position in the global information society, it is an opportunity that is often squandered, misunderstood or underestimated.

The educational objectives of integrating computer, telecommunication and Internet technologies into the learning environment requires complex decisions about curriculum, training, financial, technical, and infrastructure requirements, plus active participation of teachers, principals and government planners to determine the optimum set of programmes for integrating ICTs into learning institutions, curriculum and professional training.

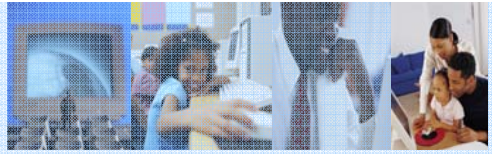
This section of the e-Readiness Questionnaire will help to identify the state of technologies and programmes available to the educational sector (primary, secondary, colleges, vocational schools and universities, non formal work-based) and build a national understanding of the issues generally included in ICT policies for education and human development.

For the purposes of this assessment, the Human Development e-Readiness will be examined across three areas:

#### Areas of Study:

1. Computers in Schools
2. ICT in Education
3. Tertiary and Adult Education

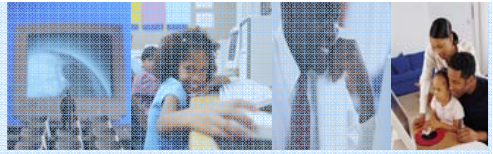
Human Development Questionnaire		
	Question	Answer
3.1.0	<b>Computers in Schools</b>	
NOTE	Please indicate the educational sub-sector for which the Questionnaire is being completed.	A: Primary level B: Secondary level C: Tertiary level D: Technical Colleges E: Private institutions
3.1.1	What is the total number of schools or learning institutions in your sector?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary level



		D: Technical Colleges E: Private institutions
3.1.2	What is the total number of learners?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.3	What is the average number of students per classroom? (only for schools)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others)
3.1.4	What is the expected growth of the school population over time? Increase or decrease in %.	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.5	What percentage of schools are on the national grid, generator and solar?	National grid Generator Solar
3.1.6	What percentage of schools have telephones?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.7	What is the total number of PC's in schools?	
3.1.8	What is the percentage of schools/learning institutions with computers for learners?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.9	What is the average number of PC'S per school/learning institutions?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges



		E: Private institutions
3.1.10	What is the ratio of learner's per computer?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.3.11	What is the target ratio of students per computer in your sector?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.12	What is the number and percentage of schools/learning institutions with computer labs/rooms?	A1: Primary (gov.) A2: Primary (others) B1: Secondary B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.2.13	What percentage of schools provide security for computer labs/rooms?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.2.14	Is the computer lab available for use by the local community after school hours?	
3.2.15	Are learners with disabilities able to access specialized computers?	
3.1.16	What is the number of schools/learning institutions with a LAN?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.17	What percentage of schools/learning institutions utilize Internet access for learners?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others)



		C: Tertiary D: Technical Colleges E: Private institutions
3.1.18	What kind of school connectivity is possible and affordable? Dial up = slow ISDN= faster Cable= very fast Fibre = fastest	
<b>3.2.0</b>	<b>ICT in Education</b>	
3.2.1	Is there a formal "ICT in Education Strategy"? Please provide if available.	
3.2.2	What processes are in place to formally measure the benefits of ICT in education?	
3.2.3	Do teachers/trainers know how to teach with computers and how to integrate them into classroom learning?	
3.2.4	What percentage of teachers and trainers received training in ICT?	Computer lab teachers General teachers
3.2.5	What types of ICT training?	
3.2.6	Are teachers and trainers required to have ICT certification for the job?	
3.2.7	Has the curriculum been revised to include ICT as both a subject and a classroom tool?	
3.2.8	What percentage of teachers have access to their electronic files both at school/learning institutions and home?	Computer lab teachers General teachers
3.2.9	Please provide a listing of available educational software for your sector (for any subject matter).	A: locally produced educational software B: external produced educational software C: Access to web-based training
<b>3.3.0</b>	<b>Tertiary and Adult Education</b>	
3.3.1	What are the literacy figures (educational attainment) by age and gender?	
3.3.2	What percentage of children attend university directly from secondary school? Are annual numbers increasing or declining?	
3.3.3	How many students are undertaking	





	tertiary education in computer related studies?	
3.3.4	How many students are undertaking tertiary education in the following areas: <ul style="list-style-type: none"> <li>• Business</li> <li>• Engineering</li> <li>• Telecoms and Network Engineering</li> <li>• Science</li> </ul>	
3.3.5	Are the tertiary educational institutions developing ICT-specific related topics/degrees	
3.3.6	What level of "Brain Drain" does the Belize currently experience?	
3.3.7	What programmes are available for developing ICT adult skills outside of the formal tertiary institutions (e.g. adult training centres)?	
3.3.8	What forms of ICT related education, awareness and training take place at a community level?	



## 4. Industry and Economic Development

Nations must fully exploit the power and versatility of Information and Communications Technology if they are to become globally competitive and maximize the advantages offered by the networked economy.

In recent years, countries such as Taiwan, South Korea, Austria, Estonia, Malta and all of the Scandinavian nations have utilized the innovation of ICT not only to improve economic productivity but also to develop entirely new industry sectors – realizing dramatic increases in GDP and economic and social conditions as a result.

ICT is no longer only used to assist with e-Commerce. It is now being effectively employed within a wide variety of industries and business settings, ranging from Agriculture to Zoology. In many regards, the successful application of ICT is only limited by the level of innovation of its user. Those countries that take full advantage of ICT will surge ahead and realize maximum benefit, those that are slower to adopt and effectively implement ICT will see many of the economic opportunities being taken by other countries. India's dominance in Call Centres, Finland's expertise in cellular telephony and Ireland's achievements in software development are good examples of early ICT adopters that secured significant economic benefit as a result of their vision and decisive actions.

The Industry and Economic e-Readiness Questionnaire has been designed to establish the current state of ICT absorption in the Belize economy and provide a platform on which to build an innovative ICT marketplace.

For the purposes of this assessment, the Industry and Economic Development Questionnaire will focus on 5 areas:

### Areas of Study:

1. Enabling Government
2. Enabling Infrastructure
3. ICT Usage
4. ICT Sector
5. Personnel & Training

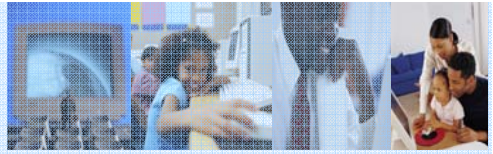
INDUSTRY AND ECONOMIC DEVELOPMENT Questionnaire		
	Question	Answer
4.1.0	<b>Enabling Government</b>	
4.1.1	Does the government have a department or branch with a mandate to stimulate ICT uptake and e-Commerce in the marketplace?	



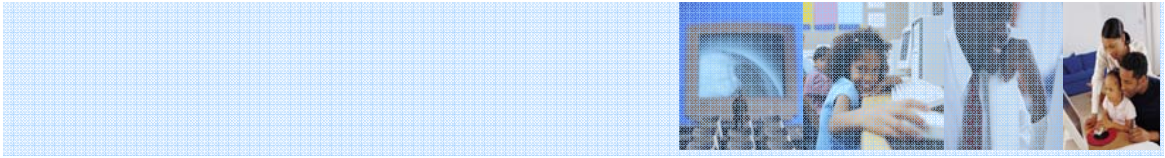
4.1.2	How does this department work with industry?	
4.1.3	What types of government/industry collaboration are currently taking place?	
4.1.4	What is done by the department to influence/clarify marketplace rules through policies in the areas of electronic transactions, electronic payments, privacy protection and online security?	
4.1.5	How does the department support development of other legal and regulatory frameworks of relevance to electronic commerce?	
4.1.6	Are there incentives to encourage the private sector (particularly SMEs) to use ICT and e-Commerce?	
4.1.7	Are there policies to attract foreign capital for the development of domestic ICT industries?	
4.1.8	Are there sectoral policies in place to strengthen ICT use and e-Commerce in specific sectors where Belize enjoys a comparative advantage – e.g. Eco-tourism?	
4.1.9	What tax or fiscal incentives are there in place to encourage business or consumers to transact online? Are there any e-Business funding sources available for MSMEs?	
4.1.10	Is there a government programme in place to stimulate innovation or entrepreneurship?	
4.1.11	How many government to business services are available on-line?	
4.1.12	Is there a central government site from which business users can access government services and/or information that will assist in growing e-Business in Belize?	
<b>4.2.0</b>	<b>Enabling Infrastructure</b>	
4.2.1	Are infrastructure platforms and technical standards adequate to facilitate rapid deployment of new e-Business solutions?	
4.2.2	What are the price, quality and service aspects of telecommunications services for businesses? Are they enabling – or prohibitive?	
4.2.3	Is telecommunications service and access ubiquitously available?	
4.2.4	Is there an independent regulator for tariff and price control?	
4.2.5	Are electronic payment gateways and platforms readily available?	
<b>4.3.0</b>	<b>ICT Usage</b>	
4.3.1	Do businesses see the Internet as a strategic tool?	



4.3.2	How aware are SMEs of the opportunities and threats of the Internet?	
4.3.3	What percentage of businesses have computers?	
4.3.4	What percentage of businesses with computers have Internet connections?	
4.3.5	What percentage of business Internet connections are dial-up? DSL? Cable? Fibre?	
4.3.6	What percentage of business Internet connections are in urban areas? Rural?	
4.3.7	How much pressure do domestic and/or international suppliers and customers put on SMEs to move online?	
4.3.8	What is the extent of credit-card ownership?	
4.3.9	How many Internet purchases are made per year? What types of products/services are being purchased online?	
4.3.10	What are some of the banking issues surrounding Internet purchases/transactions?	
4.3.11	What are the societal challenges in carrying out online purchases/transactions?	
4.3.12	What level of venture capital is available in Belize?	
<b>4.4.0</b>	<b>ICT Sector</b>	
4.4.1	How many IT/high tech companies exist in country? What types of fields do they cover?	
4.4.2	What are the number of ICT companies / district?	
4.4.3	Is there any form of high-tech park or ICT cluster in place or under development?	
4.4.4	Is there an ICT Association or National Computer Society in place?	
4.4.5	How many Internet Service Providers are there?	
4.4.6	How strong are the ties between research and educational institutions with industry?	
4.4.7	How many ICT organizations have projects currently focused on R&D?	
4.4.8	Does the country have any expertise in utilizing ICT for cultural/heritage/entertainment products or services?	
<b>4.5.0</b>	<b>Personnel &amp; Training</b>	
4.5.1	How many people are educated in ICT related fields?	
4.5.2	What are the numbers of trained ICT specialists / district	
4.5.3	Are there good ICT training programmes in universities and technical colleges?	
4.5.4	Is there an existing pool of highly skilled software engineers, programmers and other technical specialists?	



4.5.5	What are the average salary levels for ICT specialists	
4.5.6	How often are specialist ICT skills imported into the country for specific assignments?	
4.5.7	Are there linkages to private sector and international organisations providing training, mentoring, internships, etc.?	



## **5. e-Government Questionnaire**

### ***What is e-Government and Why is it Important?***

e-Government is the application of Information and Communications Technology (ICT) within public administration. e-Government can provide government, the citizen and business with a set of tools that can potentially transform the way in which interactions take place. An effective e-Government programme can improve the way in which public services are delivered, knowledge is utilised, policy is developed and implemented, citizens participate in governance, and public administration reform and good governance is met.

The strategic and well conceived use of ICTs in government result in a more inclusive, effective, efficient, transparent, accountable and “people centred” public administration. It can also serve as a vehicle for meeting the Millennium Development Goals across sectors such as governance, economic development, health, education and the environment.

### ***Why Measure e-Government Readiness?***

It is recommended that any e-Government programme include an e-Readiness Assessment as part of the initial planning process. An e-Readiness assessment will help determine where Government is “starting from” and therefore identify what plans and actions are required to achieve longer-term e-Government, and public sector reform goals.

It is important to understand that any e-Readiness Assessment captures “a moment in time” and therefore has a relatively short shelf life before becoming out of date. Consequently, the e-Readiness phase should be comprehensive, but not protracted, and used as a springboard for the development of an action-oriented plan.

For the purposes of this assessment, the level e-Government in Belize will be examined across five areas:

#### **Areas of Study:**

1. Drivers for e-Government
2. Citizen/Business goals for Government
3. Current State of Government – Strategic Level
4. Current State of Government – Operational Level
5. Current State of Government – Personnel Level



GOVERNMENT Questionnaire		
	Question	Answer
5.1.0	<b>General Drivers</b>	
5.1.1	What are felt to be the Government drivers for introducing e-Government? For example: <ul style="list-style-type: none"> <li><input type="checkbox"/> Improved information base for decision making</li> <li><input type="checkbox"/> Improving communications between the political and administrative process</li> <li><input type="checkbox"/> Improved efficiency and effectiveness</li> <li><input type="checkbox"/> Deter corruption</li> <li><input type="checkbox"/> Cost savings</li> <li><input type="checkbox"/> A catalyst for public sector reform</li> <li><input type="checkbox"/> Etc.</li> </ul>	
5.1.2	What are felt to be <u>Citizen/Business</u> goals for e-Government? For example: <ul style="list-style-type: none"> <li><input type="checkbox"/> Transparency and accountability</li> <li><input type="checkbox"/> Citizen participation</li> <li><input type="checkbox"/> Access to Information</li> <li><input type="checkbox"/> Generating locally-relevant content on the Internet</li> <li><input type="checkbox"/> Economic development</li> <li><input type="checkbox"/> Increased public sector efficiency</li> <li><input type="checkbox"/> Improved responsiveness and customer service</li> </ul>	
5.2.0	<b>Current State of Government – Strategic Level</b>	
5.2.1	How do the general public and business community mainly interact with government today? <ul style="list-style-type: none"> <li><input type="checkbox"/> In person?</li> <li><input type="checkbox"/> Over the counter</li> <li><input type="checkbox"/> Via telephone</li> <li><input type="checkbox"/> Via mail/fax/courier</li> <li><input type="checkbox"/> Via Internet/kiosks?</li> </ul>	
5.2.2	Does the Government have a formalised e-Government Strategy?	
5.2.3	Is the Strategy publicly available?	
5.2.4	Is the Strategy part of a larger plan for public sector reform? Is the plan publicly available?	
5.2.5	Which Minister or Ministry is responsible for e-Government design and implementation?	
5.2.6	Is there a centralised governance model in place or a particular Ministry/Unit/ Department that stimulates the	





	e-Government development process?	
5.2.7	How is it structured and managed?	
5.2.8	What is government's spending on e-Government/ICT as a percentage of budget?	
5.2.9	What major e-Government, ICT or large-scale IT initiatives are underway? What is their status?	
5.2.10	Is e-Government considered to be all electronic service delivery channels (www. telephone and fax) or purely Internet service delivery?	
5.2.11	What regulation and legislation is in place or being developed that will enable increased levels of e-Government? For example, is there authority to take payments on line?	
5.2.12	Are there government-wide policies in place dealing with web content management? Multi-channel delivery of services? Risk management? Content and presentation design standards ("common look and feel")?	
5.2.13	Is there a central agency to oversee regulatory compliance on ICT or e-Government related issues?	
<b>5.3.0</b>	<b>Current State of Government -Operational Level</b>	
5.3.1	How many Ministries/Agencies are there within Government?	
5.3.2	How many have websites?	
5.3.3	Are websites providing client-related information or primarily information about policy, the Ministry or the Minister?	
5.3.4	What percentage of ministry websites offer downloadable forms?	
5.3.5	What percentage of ministry websites offer on-line services and transactions?	
5.3.6	What percentage of public servants have computers and email addresses?	
5.3.7	How does government manage information today – primarily paper files, desktop storage, ministry servers/database, corporate solutions etc.?	
5.3.8	Are paper files kept as "back-up" to electronic files?	
5.3.9	Does the government have access to a common ICT platform?	
5.3.10	Is there a government wide Intranet?	
5.3.11	Have service delivery standards and personnel performance standards been considered or put in place?	

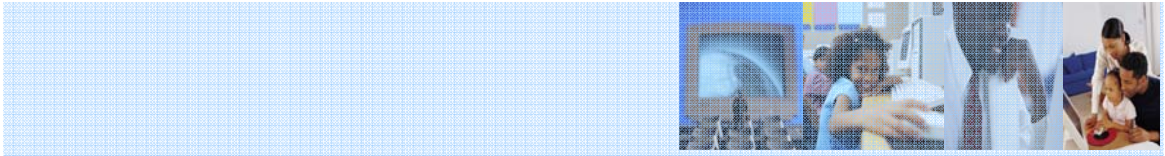


5.3.12	Have technical standards been developed for topics such as Data Management and Integration, Network Management, Security etc?	
5.3.13	Is there a general policy or legislation dealing with records management (archives)?	
5.3.13.a	Is it publicly available?	
<b>5.4.0</b>	<b>Current State of Government - Personnel Level</b>	
5.4.1	What is the average age of civil service employees?	
5.4.2	What is the average number of years that civil service employees have spent in the service?	
5.4.3	What is the percentage of civil service employees with an equivalent of college or higher education degree?	
5.4.4	Are there training facilities for the public service?	
5.4.5	Is there ICT/e-Government training for public servants?	
5.4.5.a	How effective is it?	
5.4.6	Is there customer service training for public servants?	
5.4.6.a	How effective is it?	
5.4.7	Is there change management training for public servants?	
5.4.7.a	How effective is it?	



## **Appendix B**

### **Completed e-Readiness Questionnaires**



# **MEMORANDUM**

To: Director, Office of Governance

From: Solicitor General, Attorney General's Ministry

Date: 22<sup>nd</sup> August, 2007

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SUBJECT: NATIONAL E-READINESS ASSESSMENT FOR BELIZE

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I refer to your letter (with questionnaire attached) dated May 18<sup>th</sup>, 2007, Ref. GEN/13/10/07 regarding the matter at caption.

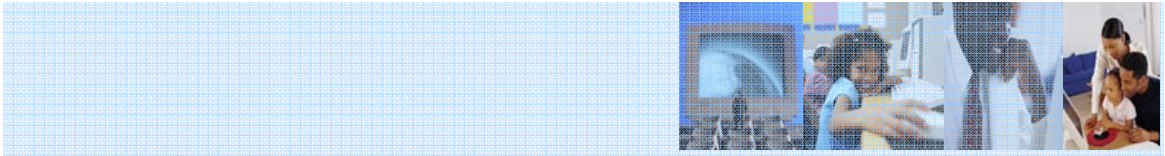
Kindly find attached answers to Sections 1.7, 2.3, 2.5 to 2.12 of the National E-Readiness Assessment for Belize as per your request.

If you have any further enquiries regarding this matter, please do not hesitate to contact this office.

The delay in submitting the completed sections is deeply regretted.

Yours sincerely,

PRICILLA J. BANNER  
**CROWN COUNSEL**  
**FOR: SOLICITOR GENERAL**



## **NATIONAL E-READINESS ASSESSMENT FOR** **BELIZE** **e-Readiness Questionnaire**

### **1.7 POLICY**

#### **1.7.1 What is the level of telecommunications competition?**

*According to the 2001 Policy Framework that maps the future direction and developments of telecommunications in Belize (available at [www.puc.bz](http://www.puc.bz)), the main objectives following the expiration of the BTL monopoly licence on 29 December, 2002 include allowing the phasing in of competition in the provision of all telecommunications services, providing for regulation to prevent anti-competitive practices, creating an environment that promotes and fosters investment and entrepreneurship, providing for the fulfillment of universal service obligations with funds raised through the use of competitively neutral and non-discriminatory methods, encouraging the introduction and use of innovative technologies especially in the achievement of universal access, assuring that consumers enjoy reasonable prices to ensure that the benefits of increased efficiency prompted by competition or improved technology are passed on to them in the form of lower prices or by the regulation of prices in markets where effective competition is lacking, facilitating the use of telecommunications to enhance education, health, national security and meet the needs of disabled persons, protecting consumers by ensuring quality of service, service standards and privacy of communications, and ensuring that international commitments, treatments or agreements are honoured. The Policy Framework states that "provision of telecommunication services will no longer be on an exclusive basis but will be done within an open and competitive framework". The Policy Framework indicates that competition "would be allowed in networks and services*



*including but not limited to...fixed wireline services including local, long distance and international calls; wireless services such as mobile cellular and radio paging; customer premises equipment importation, manufacture, distribution, installation and maintenance; and data communication, including internet.” Competition in these services would be opened on a gradual basis. Further, actions that may constitute anti-competitive behaviour are monitored by the Public Utilities Commission (“PUC”). Conduct by a service provider with dominant market power that takes advantage of that power with the effect or likely effect of substantially lessening competition in the market constitutes anti-competitive behaviour. In the Policy Framework the PUC recommended the enacting of legislation such as a Competition Act since PUC utility regulations do not cover all aspects of anti-competitive practices. Currently, Belize has no Competition Act.*

*The 2001 Policy Framework formed the basis from which the Belize Telecommunications Act was developed and enacted in 2002. The Belize Telecommunications Act allows for the development of the industry through competition. In 2002, post-monopoly, two individual licences were granted to Belize Telecommunications Limited and The International Telecommunications Limited. In 2003, a third individual licence was granted to Speednet Communications Limited. Over the period December 2002 to present, the PUC has granted over 20 Class Licences such as Internet Services, Reseller, Data Networks, and Private Domestic Network. Notable is that VoIP is also available to Belizeans.*

1.7.2 What is the status and impact of the telecommunications regulatory body?

*The telecommunications regulatory body, the PUC, is governed by the Public Utilities Commission Act, Cap.223 of the Substantive Laws of Belize R.E. 2003 and is a body corporate with perpetual succession and a common seal. The PUC is an autonomous institution and the 7 Commissioners are appointed by the Governor General acting on the advice of the Prime Minister given after consultation with the Leader of the Opposition. The Commissioners are appointed for a period not exceeding six*



***years. The telecommunications regulatory body is active in developing competition in the telecommunications industry. However, it is expected that its impact would be felt to a greater degree with the introduction of Competition legislation.***

- 1.7.3 What are the regulatory provisions with respect to telecommunications services?

***The PUC under section 2 (c) of the Belize Telecommunications Act, 2002, is charged with the promotion of fair competition and efficient market conduct within the telecommunications industry. The PUC is of the view that consistent with the regulatory framework as established under governing legislation, market forces should determine the price levels for certain telecommunications services. The PUC can intervene as provided for in Section 26 of the Telecommunications Act if, for example, the PUC detects anti-competitive pricing and acts of unfair competition. Furthermore, the PUC can also review rates to assess if they are fair and reasonable through the complaint process established in the Public Utilities Commission Act.***

- 1.7.4 What are the regulatory provisions with respect to online privacy and security?

***Currently there exist no regulatory provisions and no data protection or privacy legislation as it relates to online privacy and security.***

- 1.7.5 What are the plans for telecommunications deregulation?

***In the present telecommunications environment, the PUC intends to regulate new and converging technologies "in the most optimum manner to maximize the benefits to the country" but "as the market becomes effectively competitive and the interests of users are met appropriately, the PUC may forbear from imposing regulatory obligations when, and as they are no longer justified".***

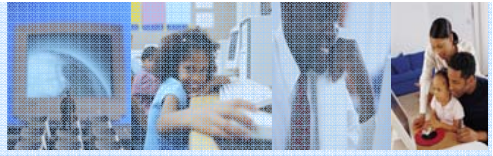




#### 1.7.6 What is the status of universal access?

*In its 2001 Framework Policy, the Government of Belize and the Public Utilities Commission saw as the objective for universal service “to provide all Belizeans, regardless of where they reside, with reasonable access to basic telecommunications services, payphones and community telephones with due regard for cost, benefits and national priorities”. It was noted in the Framework Policy that “the new universal service obligation (USO) regime will also have to address the needs of people with disabilities by requiring the supply of prescribed services and equipment that are designed or adapted to meet the reasonable demands of disabled persons in Belize.” Universal service therefore entails assured access to all existing users, provision of access to the national telephone to all potential users, and provision of service on standard terms and conditions and at affordable rates. In order to relieve any single operator from having to bear the full cost of providing such service, the PUC noted that it would recommend that all licensed service providers contribute towards USO costs in direct proportion to their share of total “eligible revenue”. While funding would be the preferred method, the PUC noted that it reserved the right to use other methods of providing universal service including making it a condition of the licence given to the service provider. Section 34 of the Telecommunications Act, “Universal Access Fund,” provides that: “(1) The PUC may establish a fund into which providers of telecommunications services (public and private) shall pay any fees the PUC may prescribe as universal access development fees; (2) The PUC may impose, as a condition of the grant of a licence, any obligations with regard to the provision of universal service to the widest users including those with disabilities or in a specified area or region, to the extent technically feasible and economically reasonable; (3) A licensee who, under this Act, is required to provide universal service shall be entitled to compensation in relation to the actual costs incurred in meeting that obligation.”*

*Currently provisions dealing with universal access are being included in the licences for service providers in the following terms:*



***“2.1 - The Licensee shall provide to every Person who requests the provision of such services at any place within the Licensees Service Area (normally the entire country), including rural areas (a) Two-way voice telephony services; and (b) Other Telecommunications services as determined by the PUC consistent with Universal Access Obligations; except where the PUC has made a determination that the services set out in 2.1(a) and 2.1(b) shall be implemented and financed under the Universal Access Fund and as such this obligation is removed from the Licensee. The Licensee shall ensure that its systems are installed, kept installed and run for those purposes.”***

***“2.2 – The Licensee shall comply with the provisions in the Act and any Regulations, Orders or Directives made thereunder by the PUC relating to universal service obligations and the Licensee shall pay promptly any fees or other levies assessed by the PUC and payable to the Universal Access Fund.”***

***“2.3 – The Licensee shall file with the PUC and update on a quarterly basis (i) the number and location of Community Telephones and Public Payphones currently installed; (ii) the procedures in place for the operation and management of these Community Telephones and Public Payphones.”***

***“2.4 – The PUC, after review and consultation with the Licensee, may cause amendments to the procedures described in condition 2.3.”***

***“2.5 – The Licensee cannot terminate services provided to a Community by a Public and Community Telephone without prior approval from the PUC.”***

### **2.3.0 UNIVERSAL ACCESS:**

2.3.1 Are there provisions in legislation or policies to promote universal access to telecommunications services?

***Yes. The Telecommunications Act, Cap. 229 of the Substantive Laws of Belize, R.E. 2003 makes provision for Universal Service (Section 33) and for the establishment of a Universal Access Fund (Section 34). Under Section 16 of the Telecommunications Act, in granting a license, the Public Utilities Commission may among other relevant factors, have regard to, “the extent of technical feasibility and economic reasonableness, and the promotion of universal access throughout Belize”. Section 33 of the Telecommunications***



**Act provides: “(1) The PUC shall develop annual objectives for services to be provided with the purpose of ensuring that the public telecommunication service, in particular basic telephone service, is accessible to the widest number of users; (2) The PUC shall determine the public telecommunications services in respect of which the requirement of universal service shall apply taking into account the needs of the public, affordability of the service and advances in technology; (3) The PUC shall develop the regulations and any conditions for the provision of public telecommunications services with respect to universal service obligation.” Section 34 of the Telecommunications Act “Universal Access Fund” provides that: “(1) The PUC may establish a fund into which providers of telecommunications services (public and private) shall pay any fees the PUC may prescribe as universal access development fees; (2) The PUC may impose, as a condition of the grant of a licence, any obligations with regard to the provision of universal service to the widest users including those with disabilities or in a specified area or region, to the extent technically feasible and economically reasonable; (3) A licensee who, under this Act, is required to provide universal service shall be entitled to compensation in relation to the actual costs incurred in meeting that obligation.” Further, under Statutory Instrument No. 110, “Telecommunications (Licensing Classification, Authorisation and Fee Structure) Regulations, section 9 provides that “where a person applying under the Act for a licence is required to make a contribution to the Universal Access Fund such person shall pay such contributions as prescribed in Regulations made by the PUC governing Universal Service Obligations.”**

2.3.2 Are the provisions for universal access being implemented?

**No. The provisions for universal access are in the process of being implemented by the Public Utilities Commission.**

2.3.3 If yes to 2.3.2, are they being implemented effectively?

**Not applicable.**

## **2.5.0 INAPPROPRIATE CONTENT AND CYBER CRIMES**



- 2.5.1 Is there legislation to deal with pornography/hate/other undesirable content on the Internet?

***No. Currently Belize does not have any legislation dealing with Cyber Crime or crimes committed through the use of the internet.***

- 2.5.2 Is there legislation to deal with: data crimes (interception, modification, data theft, trafficking in digital signatures or domain names)?

***No. Currently Belize has no Data Protection legislation nor does it have specific legislation criminalizing corruption or tampering of digital signatures or domain names or fraudulent activities concerned therewith. Belize does however have the Electronic Transactions Act which facilitates electronic transactions in order to eliminate legal barriers to the effective use of electronic communications in transactions; promotes the harmonization of legal rules on electronic transactions across national boundaries; facilitates the appropriate use of electronic transactions; promotes business and community confidence in electronic transactions; and enables business and community to use electronic communications in their transactions with Government. While the Act makes provision for the use of electronic signatures, it does not likewise criminalize improper use or theft of a person's e-signature by others.***

- 2.5.3 Is there legislation to deal with network crimes (network interference, network sabotage)?

***No. Belize does not have enacted any legislation dealing with computer misuse as it relates to the interference with or the sabotage of computer networks.***

- 2.5.4 Is there legislation to deal with access crimes (unauthorized access, virus dissemination)?

***No. Belize does not have any cyber crime legislation.***

- 2.5.5 Is there legislation to deal with access or interception by law enforcement and national security officials to electronic data?



***No. Belize does not have interception of communications legislation for any type or forms of communications, electronic or otherwise, for purposes of law enforcement or national security.***

## **2.6.0 ELECTRONIC RECORDS AND EVIDENCE**

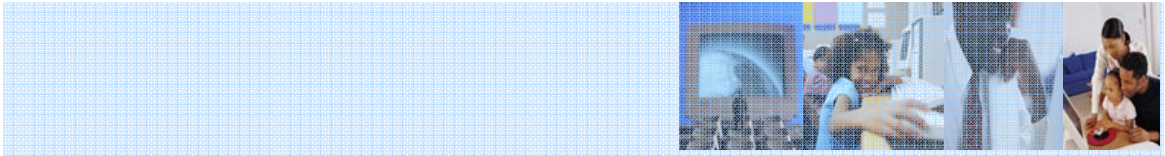
2.6.1 Is there media-neutral legislation to deal with electronic records as evidence before a court or tribunal; as basis of contracts?

***Yes. The Electronic Transactions Act, Cap. 290.01 of the Substantive Laws of Belize R.E. 2003, eliminates legal barriers to the use of electronic transactions in business and community life (See 2.5.2 above). The Electronic Evidence Act, Cap. 95:01 of the Substantive Laws of Belize R.E., 2003, on the other hand makes provision for the legal recognition of electronic records and facilitates the admission of such records into evidence in legal proceedings. Under the Act, "legal proceedings" means a civil, criminal or administrative proceeding in a court or before a tribunal, board or commission. The Act defines an electronic record as data recorded or stored on any medium in or by a computer system or other similar device and that can be read or perceived by a person or a computer system or other similar device and includes a display, printout or other output of that data. Under section 3, the rules of evidence shall not apply to deny the admissibility of an electronic record in evidence on the sole ground that it is an electronic record. The burden of proving the authenticity of an electronic record in any legal proceeding is on the person seeking to adduce such evidence (section 5). Section 6 declares that the best evidence rule is satisfied on proof of the integrity of the electronic records system in or by which the data was recorded or stored. The Act also makes provision for agreements between the parties to the proceedings on the admissibility of electronic records (section 11). Section 12 of the Act states that an electronic signature satisfies any rule of law requiring a signature on a document and stipulates how such signature may be proved.***

2.6.2 Is cyber cash recognized?

***No.***





2.6.3 Is electronic settlement available for securities training?

**No.**

## 2.7.0 ELECTRONIC SIGNATURE

2.7.1 Is there legislation dealing with electronic signatures, including digital signatures?

***Yes. Under section 12 of the Electronic Evidence Act, “where a rule of evidence requires a signature, or provides for certain consequences if a document is not signed, an electronic signature satisfies that rule of law or avoids those consequences.” Further, an electronic signature may be proved in any manner including by showing that a procedure existed by which it is necessary for a person, in order to proceed further with a transaction, to have executed a symbol or security procedure for the process of verifying that an electronic record is that of the person.***

2.7.2 Is there an infrastructure to handle electronic signatures?

***No. Currently there is no infrastructure in place to handle electronic signatures on a general basis or on the large scale that is contemplated in the legislation. However, the infrastructure to handle electronic signatures exists in certain organizations or entities such as with the Belize Intellectual Property Office (BELIPO) and a few others.***

## 2.8.0 PRIVACY

2.8.1 Is there legislation to protect the privacy of personal and commercial data?

***No. Currently in Belize the right to privacy of every citizen is constitutionally protected. The Constitution states that “a person shall not be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence, nor to unlawful attacks upon his honour and reputation. However, Belize has no legislation such as the Data Protection Act or the Privacy and Personal***



***Information Act which caters specifically to the protection of the privacy of personal and commercial data.***

2.8.2 If yes, does the legislation comply with the requirements of the EU Directive on Data Protection/OECS Guidelines?

***Not Applicable.***

## **2.9.0 BUSINESS LAWS**

2.9.1 Do the laws allow for fast start-ups to achieve legal status (eg. Incorporation) and to do business without delay?

***Yes.***

## **2.10. COPYRIGHT AND INTELLECTUAL PROPERTY**

2.10.1 Is there legislation in place that recognizes intellectual property rights in computer software, electronic documents or other forms of data?

***Yes. The Copyright Act, Cap. 252 of the Substantive Laws of Belize, R.E. 2003 recognizes intellectual property rights in electronic documents. The Act provides that any references to the "copying" of a work of any description shall be construed to include a reference to storing the work in any medium by electronic means. In the Act "publication" includes, in the case of a literary, dramatic, musical or artistic work, making it available to the public by means of an electronic retrieval system. Further "commercial publication" in relation to a literary, dramatic, literary or artistic work means making the work available to the public by means of an electronic retrieval system.***

2.10.2 Does the trademark legislation adequately protect against cybersquatting?

***No.***

2.10.3 Has ISP liability been specifically limited as appropriate?

***No.***





2.10.4 Is there a dispute resolution system in place regarding domain name protection?

**No.**

**2.11.0 TRANSPARENCY**

2.11.1 Are the regulatory and legislative processes transparent and open?

**Yes.**

2.11.2 Do citizens and potential foreign investors have timely access to all laws, regulations, decrees, and court/tribunal rulings?

**Yes. All laws, regulations, decrees and court rulings are available at the Supreme Court library for easy access by the public as well as on the websites for the various organizations or entities which are regulated, governed or affected by a specific law, regulation, decree or court ruling. Information relating to laws, regulations and court rulings may also be found on the website of the Attorney General's Ministry at [www.belize law.org](http://www.belize law.org).**

2.11.3 Are citizens, potential foreign investors and other stakeholders involved in the developing and drafting of legislation?

**Yes. The legislative process is participatory in nature. Stakeholders are involved to a great extent in the drafting of legislation and such legislation is further brought to the attention of citizens as well as foreign investors and stakeholders when Bills are tabled before the House of Representatives. Following this tabling there is normally robust debate and interaction with citizens and consequent amendments being made as a result of the interaction.**

2.11.4 Are all laws, regulations, decrees and rulings available in print? Through the internet?

**All laws, regulations, decrees and rulings are available in print at the Supreme Court Library. Most of this information is also available on the internet at**



[www.belize law.org](http://www.belize law.org). The last update of the information took place in 2006.

**2.12.0 CONSUMER PROTECTION**

2.12.1 Is there legislation providing for consumer protection and remedies with respect to electronic commerce/distance selling?

*Yes. Section 24 of the Electronic Transactions Act, Cap. 290:01 makes provision for consumer protection in electronic commerce by ensuring that consumers have certain contact information of providers of goods or services. Section 24 protects consumers by requiring e-commerce providers to provide certain information: “(1) A person using electronic communications to sell goods or services to consumers shall provide accurate, clear and accessible information about themselves sufficient to allow (a) the legal name of the person, its principal geographic address, and an electronic means of contact and telephone number; (b) prompt, easy and effective consumer communication with the seller; (c) service of legal process; (2) A person using electronic communications to sell goods or services to consumers shall provide accurate and accessible information describing the goods or services offered, sufficient to enable consumers to make an informed decision about the proposed transaction and to maintain an accurate record of the information; (3) A person using electronic communications to sell goods and services to consumers shall provide information about the terms, conditions and costs associated with a transaction, and notably: (a) terms, conditions and methods of payment, (b) details of and conditions related to withdrawal, termination, return, exchange, cancellation and refund policy information.” Notable is that it is felt that the issue of consumer protection should be dealt with in the context of modernised consumer legislation, eg. legislation that deals with unfair terms in electronic contracts, unfair business practices and modern warranties.*



1. Infrastructure & Security Questionnaire Areas of Study:

- 9. Access to Telecommunications
- 10. Service and support
- 11. Internet availability
- 12. Hardware and software
- 13. Information infrastructure
- 14. Internet affordability
- 15. Policy
- 16. Community Access

INFRASTRUCTURE & SECURITY Questionnaire						
	Question	Answers				
		Public Utilities Commission	Belize Telemedia (BTL)	Belize Electricity Ltd	GS-COM	Solicitor General
<b>1.1.0</b>	<b>Access to Telecommunications</b>					
1.1.1	What is the network speed and quality?	64 kbps – 2Mbps				
1.1.2	What percentage of voice calls are successful?	N/A				
1.1.3	What is the quality of the voice calls?	N/A				
1.1.4	How many problems are reported annually per 100 lines?	N/A				
1.1.5	What data services and speeds are available?	64 kbps – 2Mbps				
1.1.6	What is the backbone network capacity?	N/A				
1.1.7	What are the most common dial-up modem transfer speeds?	56 kbps				
1.1.8	What technology choices are available for access to the network?	Dial-Up, DSL, Wireless				



1.1.9	What technology solutions have been implemented in the network?	Fiber and Microwave				
1.1.10	What broadband technology solutions have been deployed?	DSL & Wireless				
<b>1.2.0</b>	<b>Service &amp; Support</b>					
1.2.1	Who are the service providers for voice, mobile, data and Internet and what are their territories?	BTL, Speednet provide voice, Mobile & Internet 26 ISP's licensed to provide Internet				
1.2.2	What is the average time for telephone mainline maintenance and installation in urban centres?	N/A				
1.2.3	What is the average time for telephone mainline maintenance and installation in rural areas?	N/A				
1.2.4	What is the quantity of and qualifications of software developers, programmers or computer technicians?	N/A				
1.2.5	What are the average maintenance costs for the various networks that have been deployed?	N/A				
1.2.6	What percentage of problems are power initiated?	N/A				
1.2.7	What are the bandwidth offerings (#Megs) and subscription ratio for residential customers, small, medium and large business customers, and MUSH (Municipal, School, University and Hospital) customers?	N/A				
<b>1.3.0</b>	<b>Internet Availability</b>					
1.3.1	How many ISPs offer local dial-up access?	Two				
1.3.2	How many ISPs offer broadband access?	Twelve				
1.3.3	What is the degree of public access?	N/A				



1.3.4	What is the availability and type of higher bandwidth solutions?	Available				
1.3.5	What are the service provider's plans to expand their service offerings and reach?	Expanding Presently				
<b>1.4.0</b>	<b>Hardware &amp; Software</b>					
1.4.1	What is the availability of off-the-shelf hardware and software solutions?				N/A	
1.4.2	What is the availability of locally produced hardware and software?				Hardware – none Software – Low	
1.4.3	What local and international standards are in use?				Via internet – low	
1.4.4	Is Open-Source software readily available? How extensively is it being used?					
<b>1.5.0</b>	<b>Information Infrastructure</b>					
1.5.1	What is the extent of electrification?	Urban & most Rural Areas have access to electricity			Note that although this question relates to electricity, it may not necessarily apply to BEL only. Though BEL is the main provider of electricity, there are other small communities, businesses and industries that generate their own electricity. In the past there have been reports quote that 90% of our population	



				has access to electricity but not certain of how accurate this may be. The Statistical Institute of Belize may be a better source as they include this in their 10 year census.		
1.5.2	What specific locations have access to telecommunications infrastructure (voice, data, Internet, mobile, wireless and satellite)?	Urban & some Rural Areas have access to telecommunication infrastructure				
1.5.3	What is the degree of tele-density?	N/A				
1.5.4	What is the degree of mobile wireless penetration?	N/A				
1.5.5	What is the degree of cable penetration?	N/A				
<b>1.6.0</b>	<b>Internet Affordability</b>					
1.6.1	What are the prices charged for local voice, international voice, and data calls?	Local Calls \$0.05 - \$0.4, International \$0.90 - \$4.00				
1.6.2	What impact does competition in telecommunications market have on pricing?	International and Mobile rates have decreased				
1.6.3	What are the costs per meter to deploy fibre, copper, broadband, and wireless technologies?	N/A				
1.6.4	What are the costs for satellite based services?	N/A				
1.6.5	What are the numbers of small, medium and large businesses in all the communities?	N/A				



1.6.6	What are the take-up rates for Residential customers, small, medium and large Business customers, and MUSH (Municipal, School, University and Hospital) customers?	N/A				
<b>1.7.0</b>	<b>Policy</b>					
1.7.1	What is the level of telecommunications competition?	Two Individual Licences, BTL & Speednet				
1.7.2	What is the status and impact of the telecommunications regulatory body?	There is an independent Regulator decreed by legislation				
1.7.3	What are the regulatory provisions with respect to telecommunications services?	Pro Competition, holds the incumbent as dominant provider				
1.7.4	What are the regulatory provisions with respect to on-line privacy and security?	N/A				
1.7.5	What are the plans for telecommunications deregulation?	None at the moment. Follow a soft touch regulation regime				
1.7.6	What is the status of universal access?	By license condition and telecom act must be provided by licensees				
<b>1.8.0</b>	<b>Community Access</b>					
1.8.1	Number of telephone subscribers / district?	N/A				
1.8.2	Number of mobile phone subscribers / district?	N/A				





1.8.3	Number of PCs / household by district?	N/A				
1.8.4	Number of televisions / household / district?	N/A				
1.8.5	Number of radios / household / district?	N/A				
1.8.6	Cost of Internet access / district?	N/A				
1.8.7	Access to broadband by district	N/A				
1.8.8	Number of public / community access facilities / district?	N/A				
1.8.9	Number of public / community access PCs / district?	N/A				
1.8.10	Number of public / community access facilities / inhabitant / district?	N/A				
1.8.11	Number of public / community access facilities / inhabitant in urban vs. rural areas / district?	N/A				
1.8.12	Internet access type per public / community access facility / district?	N/A				
1.8.13	What is the extent of local content available to communities? Please give examples.	N/A				
1.8.14	What is the level of ICT use by local and district government / district?	N/A				
1.8.15	What is the availability of online government services at a community level?	N/A				



## 2. Legal & Regulatory Questionnaire

### Areas of Study:

13. Telecommunications regulation/legislation
14. Regulator
15. Universal Access
16. Trade & Investment
17. Inappropriate Content & Cyber Crimes
18. Electronic Records & Evidence
19. Electronic Signature
20. Privacy
21. Business Laws
22. Copyright & Intellectual Property
23. Transparency
24. Consumer Protection

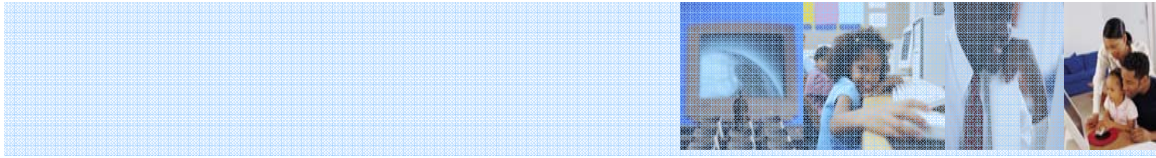
LEGAL & REGULATORY Questionnaire				
	Question	Answer		
2.1.0	<b>Telecommunications Regulation/ Legislation</b>	Public Utilities Commission	Solicitor General's Office	Ministry of Foreign Trade
2.1.1	Is there framework legislation in place for competitive telecommunications?	Yes		
2.1.2	Is the national/dominant carrier privatized?	Yes		
2.1.3	Is there a framework in place for interconnection and/or co-location (e.g., accounting separations, cost allocations)?	Yes		



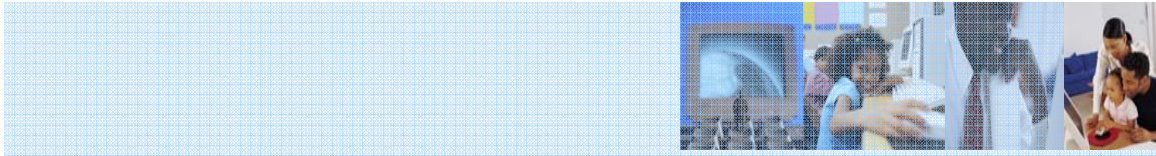
2.1.4	Have principles and terms and conditions of interconnection been established?	No		
2.1.5	Is there legislation providing for a transparent and fair process of spectrum allocation?	Yes		
<b>2.2.0</b>	<b>Regulator</b>			
2.2.1	Is there an independent regulator in place?	Yes		
2.2.2	Does legislation provide the regulator with the powers required to promote and enforce a competitive telecommunications market?	Yes		
2.2.3	Is there an independent competition authority to prevent anti-competitive practices?	No		
2.2.4	Does the competition authority or regulator have the powers necessary to deal with anti-competitive behaviours in the telecom market?	Yes		
2.2.5	Is the relationship between the telecom regulator and the competition authority clarified with respect to competition in telecommunications and ICT?	N/A		
2.2.6	Does the regulatory structure allow for consideration of conversion issues?	Yes		
<b>2.3.0</b>	<b>Universal Access</b>			
2.3.1	Are there provisions in legislation or policies to promote universal access to telecommunications services?	Yes		
2.3.2	Are the provisions for universal access being implemented?	Yes		
2.3.3	If yes, are they being implemented effectively?	No		
<b>2.4.0</b>	<b>Trade &amp; Investment</b>			
2.4.1	Is Belize a signatory to the WTO agreement on GATS			Belize is a signatory to the GATS the



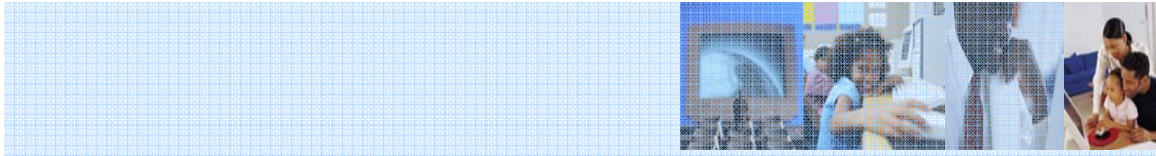
	and the Agreement on Basic Telecommunications? Other relevant agreements?			Agreement on Basic Telecommunications.
2.4.2	Are there restrictions on investment in telecoms? Or sectors (e.g., broadcasting)?			The automatic answer would want to be no. However, we prefer to defer this question to the PUC who is the authority on this subject
2.4.3	Are there tariffs on equipment, computers, software etc.? How significant?			Again, we believe that tariffs on computer has just been removed, but in terms of getting an appreciation for such a wide scope of goods, we prefer the Customs & Excise Department to respond to this question
2.4.4	Is foreign direct investment allowed? Encouraged?			We assume that you are referring to general foreign direct investment. – Certainly, Belize as a developing country has undertaken many initiatives to encourage FDI. In some cases, foreign investors are treated even better than nationals although we should hasten to add, that in these instances, there have been efforts to correct this unintended discrimination. There are several schemes that are available to foreign investors, and we encourage you to speak to BELTRADE as they have lead responsibility for attracting investment and would be in a better position to answer this question.
2.4.5	Are there non-tariff barriers, such as unusually strict equipment approval/licensing conditions?			Would prefer to defer this question to the PUC as they are better informed to comment on this.
2.4.6	Is trade in services restricted? Encouraged? How?			Generally speaking, we have a rather liberalized services economy. Most of the



				time, sectors are open and service suppliers can come and provide their services. Of course these are regulated at the micro level by the different sectors, although not in all sectors. The issue here would be mostly foreign direct investment, which as mentioned earlier, it is usually welcome except for a few contentious sectors, like for example telephony. Regarding the provision of service by a natural person, again, that is dependent on the extent of regulation the sector concerned has in place. E.g., we want foreign investors in the sector. But we have closed off the service of tour guides by foreigners and this is strictly limited to Belizeans. Additionally, we should point out that investors enjoy instances, these are service providers rather than in the goods and manufacturing sectors.
2.4.7	Is the tax structure neutral or positive with respect to equipment, etc.?			We would want to think that the tax structure is neutral re:-equipment. However, we prefer to defer the question to the Department of Tax.
<b>2.5.0</b>	<b>Inappropriate Content &amp; Cyber Crimes</b>			
2.5.1	Is there legislation to deal with pornography/hate/other undesirable content on the Internet?			
2.5.2	Is there legislation to deal with: data crimes (interception, modification, data theft, trafficking in digital signatures or domain names)?			
2.5.3	Is there legislation to deal with network crimes (network interference, network sabotage)?			

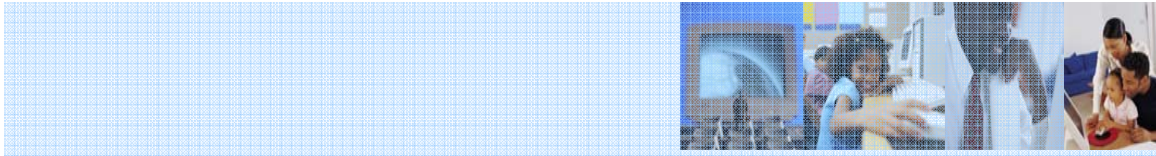


2.5.4	Is there legislation to deal with access crimes (unauthorized access, virus dissemination)?			
2.5.5	Is there legislation to deal with access or interception by law enforcement and national security officials to electronic data?			
<b>2.6.0</b>	<b>Electronic Records &amp; Evidence</b>			
2.6.1	Is there media-neutral legislation to deal with electronic records as evidence before a court or tribunal; as basis of contracts?			
2.6.2	Is cyber cash recognized?			
2.6.3	Is electronic settlement available for securities trading?			
<b>2.7.0</b>	<b>Electronic Signature</b>			
2.7.1	Is there legislation dealing with electronic signatures, including digital signatures?			
2.7.2	Is there an infrastructure to handle electronic signatures?			
<b>2.8.0</b>	<b>Privacy</b>			
2.8.1	Is there legislation to protect the privacy of personal and commercial data?			
2.8.2	If yes, does the legislation comply with the requirements of the EU Directive on Data Protection/OECD Guidelines?			
<b>2.9.0</b>	<b>Business Laws</b>			
2.9.1	Do the laws allow for fast start-ups to achieve legal status (e.g., incorporation) and to do business without delay?			
<b>2.10.0</b>	<b>Copyright &amp; Intellectual Property</b>			
2.10.1	Is there legislation in place that recognizes intellectual			



	property rights in computer software, electronic documents or other forms of data?			
2.10.2	Does the trademark legislation adequately protect against cybersquatting?			
2.10.3	Has ISP liability been specifically limited as appropriate?			
2.10.4	Is there a dispute resolution system in place regarding domain name protection?			
<b>2.11.0</b>	<b>Transparency</b>			
2.11.1	Are the regulatory and legislative processes transparent and open?			
2.11.2	Do citizens and potential foreign investors have timely access to all laws, regulations, decrees, and court/tribunal rulings?			
2.11.3	Are citizens, potential foreign investors and other stakeholders involved in the developing and drafting of legislation?			
2.11.4	Are all laws, regulations, decrees and rulings available in print? Through the Internet?			
<b>2.12.0</b>	<b>Consumer Protection</b>			
2.12.1	Is there legislation providing for consumer protection and remedies with respect to electronic commerce/distance selling?	No		



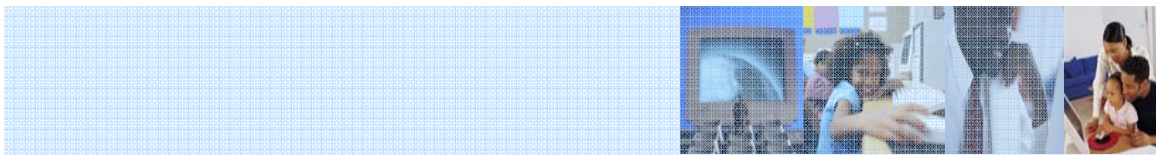


### 3. Human Development Questionnaire

#### Areas of Study:

4. Computers in Schools
5. ICT in Education
6. Tertiary and Adult Education

Human Development Questionnaire						
	Question	Answer				
<b>3.1.0</b>	<b>Computers in Schools</b>	<b>University of Belize</b>	<b>Galen University</b>			
NOTE	Please indicate the educational sub-sector for which the Questionnaire is being completed.	A: Primary level B: Secondary level <b>C: Tertiary level</b> D: Technical Colleges E: Private institutions	A: Primary level B: Secondary level <b>C: Tertiary level</b> D: Technical Colleges E: Private institutions	A: Primary level B: Secondary level C: Tertiary level D: Technical Colleges E: Private institutions	A: Primary level B: Secondary level C: Tertiary level D: Technical Colleges E: Private institutions	A: Primary level B: Secondary level C: Tertiary level D: Technical Colleges E: Private institutions
3.1.1	What is the total number of schools or learning institutions in your sector?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) <b>C: Tertiary level - 4</b> D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary level D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary level D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary level D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) <b>C: Tertiary level</b> D: Technical Colleges E: Private institutions
3.1.2	What is the total number of learners?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.)



		B2: Secondary (others) C: Tertiary – 2,768 D: Technical Colleges E: Private institutions	B2: Secondary (others) C: Tertiary - 220 D: Technical Colleges E: Private institutions	B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.3	What is the average number of students per classroom? (only for schools)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) - 30	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others)
3.1.4	What is the expected growth of the school population over time? Increase or decrease in %.	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary – 10% D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.5	What percentage of schools are on the national grid, generator and solar?	National grid Generator – 100% Solar	National grid Generator Solar	National grid Generator Solar	National grid Generator Solar	National grid Generator Solar
3.1.6	What percentage of schools have telephones?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary- 100% D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.7	What is the total number of PC's in schools?					
3.1.8	What is the percentage of	A1: Primary (gov.)	A1: Primary (gov.)	A1: Primary (gov.)	A1: Primary (gov.)	A1: Primary (gov.)



	schools/learning institutions with computers for learners?	A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary – 100% D: Technical Colleges E: Private institutions	A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.9	What is the average number of PC'S per school/learning institutions?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary - 498 D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.10	What is the ratio of learner's per computer?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary – 10 to 1 D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.3.11	What is the target ratio of students per computer in your sector?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary – 10 to 1 D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary – 7 to 1 D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.12	What is the number and percentage of schools/learning institutions with	A1: Primary (gov.) A2: Primary (others)	A1: Primary (gov.) A2: Primary (others)	A1: Primary (gov.) A2: Primary (others)	A1: Primary (gov.) A2: Primary (others)	A1: Primary (gov.) A2: Primary (others)



	computer labs/rooms?	B1: Secondary B2: Secondary (others) C: Tertiary – 100% D: Technical Colleges E: Private institutions 100 %	B1: Secondary B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	B1: Secondary B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	B1: Secondary B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	B1: Secondary B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.2.13	What percentage of schools provide security for computer labs/rooms?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions 100 %	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.2.14	Is the computer lab available for use by the local community after school hours?	NO				
3.2.15	Are learners with disabilities able to access specialized computers?					
3.1.16	What is the number of schools/learning institutions with a LAN?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions 100%	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.17	What percentage of schools/learning institutions utilize Internet access for	A1: Primary (gov.) A2: Primary (others)	A1: Primary (gov.) A2: Primary (others)	A1: Primary (gov.) A2: Primary (others)	A1: Primary (gov.) A2: Primary (others)	A1: Primary (gov.) A2: Primary (others)



	learners?	B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions 100%	B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions	B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.18	What kind of school connectivity is possible and affordable? Dial up = slow ISDN= faster Cable= very fast Fibre = fastest	FIBER	DSL and Satellite Internet Connection			
<b>3.2.0</b>	<b>ICT in Education</b>					
3.2.1	Is there a formal "ICT in Education Strategy"? Please provide if available.		IT Strategic Plan			
3.2.2	What processes are in place to formally measure the benefits of ICT in education?					
3.2.3	Do teachers/trainers know how to teach with computers and how to integrate them into classroom learning?					
3.2.4	What percentage of teachers and trainers received training in ICT?	Computer lab teachers General teachers				
3.2.5	What types of ICT training?					
3.2.6	Are teachers and trainers required to have ICT certification for the job?					
3.2.7	Has the curriculum been revised to include ICT as both a subject and a					



	classroom tool?					
3.2.8	What percentage of teachers have access to their electronic files both at school/learning institutions and home?	Computer lab teachers General teachers				
3.2.9	Please provide a listing of available educational software for your sector (for any subject matter).	A: locally produced educational software B: external produced educational software C: Access to web-based training				
<b>3.3.0</b>	<b>Tertiary and Adult Education</b>					
3.3.1	What are the literacy figures (educational attainment) by age and gender?					
3.3.2	What percentage of children attend university directly from secondary school? Are annual numbers increasing or declining?	80%				
3.3.3	How many students are undertaking tertiary education in computer related studies?	143				
3.3.4	How many students are undertaking tertiary education in the following areas: <ul style="list-style-type: none"> <li>• Business</li> <li>• Engineering</li> <li>• Telecoms and Network Engineering</li> </ul>	Business – 561 Science – 112 Telecoms & Network Engineering – 0 Science - 213				



	<ul style="list-style-type: none"> <li>• Science</li> </ul>					
3.3.5	Are the tertiary educational institutions developing ICT-specific related topics/degrees	yes				
3.3.6	What level of "Brain Drain" does the Belize currently experience?					
3.3.7	What programmes are available for developing ICT adult skills outside of the formal tertiary institutions (e.g. adult training centres)?	Programmes are offered on demand/request through our ACE Department				
3.3.8	What forms of ICT related education, awareness and training take place at a community level?	NONE				





## 4. Industry and Economic Development

### Areas of Study:

6. Enabling Government
7. Enabling Infrastructure
8. ICT Usage
9. ICT Sector
10. Personnel & Training

INDUSTRY AND ECONOMIC DEVELOPMENT Questionnaire						
	Question	Answer				
4.1.0	Enabling Government	Ministry of Foreign Trade	Belize Chamber of Commerce & Industry			
4.1.1	Does the government have a department or branch with a mandate to stimulate ICT uptake and e-Commerce in the marketplace?	N/A				
4.1.2	How does this department work with industry?	N/A				
4.1.3	What types of government/industry collaboration are currently taking place?	N/A				
4.1.4	What is done by the department to influence/clarify marketplace rules through policies in the areas of electronic transactions, electronic payments, privacy protection and online security?	Unfortunately, we are not at the level to which this question is referring to and it therefore becomes				



		not applicable.				
4.1.5	How does the department support development of other legal and regulatory frameworks of relevance to electronic commerce?	Defer to BELTRADE				
4.1.6	Are there incentives to encourage the private sector (particularly SMEs) to use ICT and e-Commerce?	We know that there are general investments schemes. Whether there are specific policies governing the ICT industries, is dubious given that this is a relatively new sector for the country. However, we are aware that the Ministry of National Development has been attempting to put together something in this area. Again, defer to the Ministry of National Development and BELTRADE.				
4.1.7	Are there policies to attract foreign capital for the development of domestic ICT industries?	Again, this is a question best dealt				



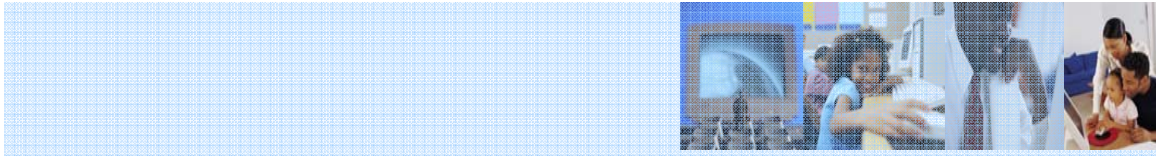
		<p>with sectorally as these sectors would have a deeper awareness of what policies have been developed to strengthen ICT use and e-Commerce.</p>				
4.1.8	<p>Are there sectoral policies in place to strengthen ICT use and e-Commerce in specific sectors where Belize enjoys a comparative advantage – e.g. Eco-tourism?</p>	<p>This, points to the fundamental issue that we are not as technologically advanced as the question seem to make the assumption that we are to a certain extent. As it is, we have only just received on-line banking and paying utilities on line, but it is a far cry to where we ideally would like to be, and where “tax or fiscal incentives” would have its place. In the interim, we believe the question is not applicable.</p>				



4.1.9	What tax or fiscal incentives are there in place to encourage business or consumers to transact online? Are there any e-Business funding sources available for MSMEs?	We would want to think so, again, we would prefer to defer this question to BELIPO and/or Ministry of National Development.				
4.1.10	Is there a government programme in place to stimulate innovation or entrepreneurship?	As far as we are aware, and we may be wrong, we do not know of any. We know that the Customs Department along with the Supplies Control Board under the Ministry of Finance is considering implementing an online service for private sector.				
4.1.11	How many government to business services are available on-line?	We are uncertain as to the response to this question				
4.1.12	Is there a central government site from which business users can access government services and/or information that will assist in growing e-Business in Belize?					
4.2.0	<b>Enabling Infrastructure</b>					



4.2.1	Are infrastructure platforms and technical standards adequate to facilitate rapid deployment of new e-Business solutions?					
4.2.2	What are the price, quality and service aspects of telecommunications services for businesses? Are they enabling – or prohibitive?					
4.2.3	Is telecommunications service and access ubiquitously available?					
4.2.4	Is there an independent regulator for tariff and price control?					
4.2.5	Are electronic payment gateways and platforms readily available?					
<b>4.3.0</b>	<b>ICT Usage</b>	Public Utilities Commission	Belize Chamber of Commerce and Industry			
4.3.1	Do businesses see the Internet as a strategic tool?	Yes	Yes			
4.3.2	How aware are SMEs of the opportunities and threats of the Internet?	N/A	Somewhat aware			
4.3.3	What percentage of businesses have computers?	N/A	99%			
4.3.4	What percentage of businesses with computers have Internet connections?	N/A	90% - estimated			
4.3.5	What percentage of business Internet connections are dial-up? DSL? Cable? Fibre?	N/A	Don't Know			
4.3.6	What percentage of business Internet connections are in urban areas? Rural?	N/A				
4.3.7	How much pressure do domestic and/or international suppliers and customers put on SMEs to move online?	N/A	Significant			
4.3.8	What is the extent of credit-card ownership?	N/A	High			

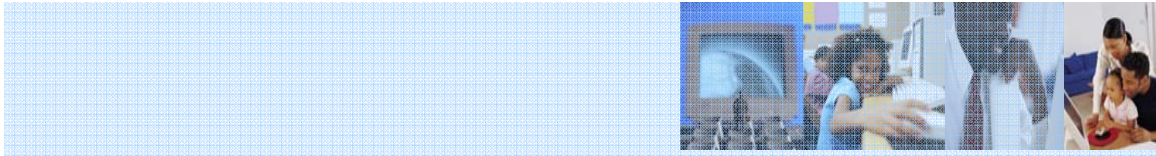


4.3.9	How many Internet purchases are made per year? What types of products/services are being purchased online?	N/A	Goods and services			
4.3.10	What are some of the banking issues surrounding Internet purchases/transactions?	N/A	Foreign Exchange, Credit Card			
4.3.11	What are the societal challenges in carrying out online purchases/transactions?	N/A	None			
4.3.12	What level of venture capital is available in Belize?	N/A	Limited			
<b>4.4.0</b>	<b>ICT Sector</b>					
4.4.1	How many IT/high tech companies exist in country? What types of fields do they cover?					
4.4.2	What are the number of ICT companies / district?					
4.4.3	Is there any form of high-tech park or ICT cluster in place or under development?					
4.4.4	Is there an ICT Association or National Computer Society in place?					
4.4.5	How many Internet Service Providers are there?					
4.4.6	How strong are the ties between research and educational institutions with industry?					
4.4.7	How many ICT organizations have projects currently focused on R&D?					
4.4.8	Does the country have any expertise in utilizing ICT for cultural/heritage/entertainment products or services?					
<b>4.5.0</b>	<b>Personnel &amp; Training</b>					
4.5.1	How many people are educated in ICT related fields?					
4.5.2	What are the numbers of trained ICT specialists / district					
4.5.3	Are there good ICT training programmes in universities					



	and technical colleges?					
4.5.4	Is there an existing pool of highly skilled software engineers, programmers and other technical specialists?					
4.5.5	What are the average salary levels for ICT specialists					
4.5.6	How often are specialist ICT skills imported into the country for specific assignments?					
4.5.7	Are there linkages to private sector and international organisations providing training, mentoring, internships, etc.?					



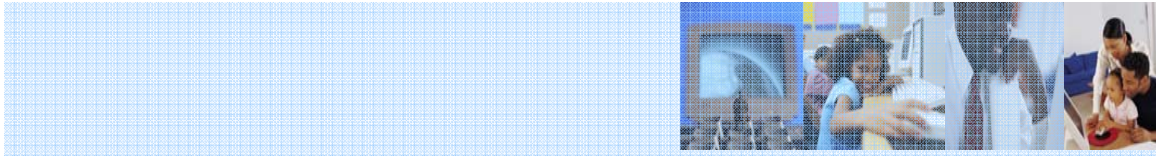


## 5. e-Government Questionnaire

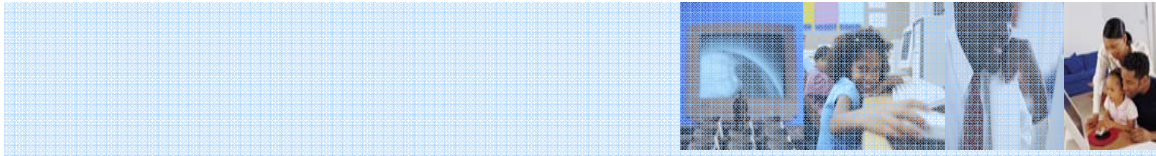
### Areas of Study:

6. Drivers for e-Government
7. Citizen/Business goals for Government
8. Current State of Government – Strategic Level
9. Current State of Government – Operational Level
10. Current State of Government – Personnel Level

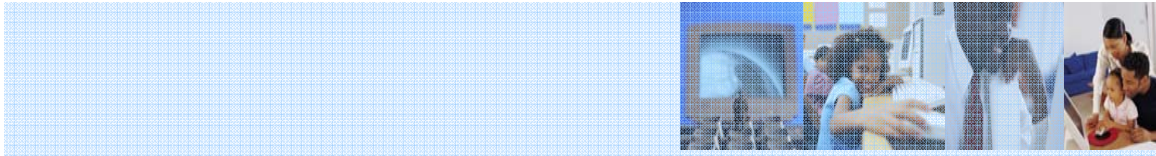
GOVERNMENT Questionnaire		
	Question	Answer
5.1.0	<b>General Drivers</b>	
5.1.1	What are felt to be the Government drivers for introducing e-Government? For example: <ul style="list-style-type: none"> <li><input type="checkbox"/> Improved information base for decision making</li> <li><input type="checkbox"/> Improving communications between the political and administrative process</li> <li><input type="checkbox"/> Improved efficiency and effectiveness</li> <li><input type="checkbox"/> Deter corruption</li> <li><input type="checkbox"/> Cost savings</li> <li><input type="checkbox"/> A catalyst for public sector reform</li> <li><input type="checkbox"/> Etc.</li> </ul>	
5.1.2	What are felt to be <u>Citizen/Business</u> goals for e-Government? For example: <ul style="list-style-type: none"> <li><input type="checkbox"/> Transparency and accountability</li> <li><input type="checkbox"/> Citizen participation</li> </ul>	



	<input type="checkbox"/> Access to Information <input type="checkbox"/> Generating locally-relevant content on the Internet <input type="checkbox"/> Economic development <input type="checkbox"/> Increased public sector efficiency <input type="checkbox"/> Improved responsiveness and customer service	
<b>5.2.0</b>	<b>Current State of Government – Strategic Level</b>	
5.2.1	How do the general public and business community mainly interact with government today? <input type="checkbox"/> In person? <input type="checkbox"/> Over the counter <input type="checkbox"/> Via telephone <input type="checkbox"/> Via mail/fax/courier <input type="checkbox"/> Via Internet/kiosks?	
5.2.2	Does the Government have a formalised e-Government Strategy?	
5.2.3	Is the Strategy publicly available?	
5.2.4	Is the Strategy part of a larger plan for public sector reform? Is the plan publicly available?	
5.2.5	Which Minister or Ministry is responsible for e-Government design and implementation?	
5.2.6	Is there a centralised governance model in place or a particular Ministry/Unit/ Department that stimulates the e-Government development process?	
5.2.7	How is it structured and managed?	
5.2.8	What is government's spending on e-Government/ICT as a percentage of budget?	



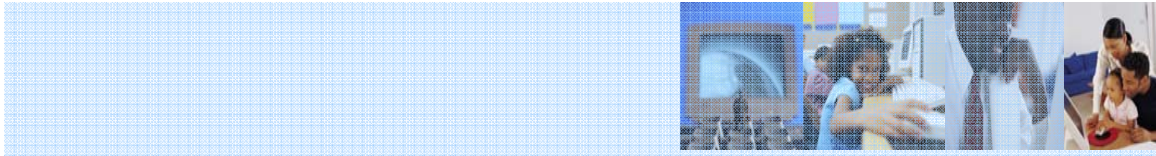
5.2.9	What major e-Government, ICT or large-scale IT initiatives are underway? What is their status?	
5.2.10	Is e-Government considered to be all electronic service delivery channels (www, telephone and fax) or purely Internet service delivery?	
5.2.11	What regulation and legislation is in place or being developed that will enable increased levels of e-Government? For example, is there authority to take payments on line?	
5.2.12	Are there government-wide policies in place dealing with web content management? Multi-channel delivery of services? Risk management? Content and presentation design standards ("common look and feel")?	
5.2.13	Is there a central agency to oversee regulatory compliance on ICT or e-Government related issues?	
<b>5.3.0</b>	<b>Current State of Government -Operational Level</b>	
5.3.1	How many Ministries/Agencies are there within Government?	
5.3.2	How many have websites?	
5.3.3	Are websites providing client-related information or primarily information about policy, the Ministry or the Minister?	
5.3.4	What percentage of ministry websites offer downloadable forms?	
5.3.5	What percentage of ministry websites offer on-line services and transactions?	



5.3.6	What percentage of public servants have computers and email addresses?	
5.3.7	How does government manage information today – primarily paper files, desktop storage, ministry servers/database, corporate solutions etc.?	
5.3.8	Are paper files kept as “back-up” to electronic files?	
5.3.9	Does the government have access to a common ICT platform?	
5.3.10	Is there a government wide Intranet?	
5.3.11	Have service delivery standards and personnel performance standards been considered or put in place?	
5.3.12	Have technical standards been developed for topics such as Data Management and Integration, Network Management, Security etc?	
5.3.13	Is there a general policy or legislation dealing with records management (archives)?	
5.3.13.a	Is it publicly available?	
<b>5.4.0</b>	<b>Current State of Government - Personnel Level</b>	
5.4.1	What is the average age of civil service employees?	
5.4.2	What is the average number of years that civil service employees have spent in the service?	
5.4.3	What is the percentage of civil service employees with an equivalent of college or higher education degree?	
5.4.4	Are there training facilities for the public service?	
5.4.5	Is there ICT/e-Government training for public servants?	
5.4.5.a	How effective is it?	



5.4.6	Is there customer service training for public servants?	
5.4.6.a	How effective is it?	
5.4.7	Is there change management training for public servants?	
5.4.7.a	How effective is it?	



**Areas of Study:**

- 7. Computers in Schools
- 8. ICT in Education
- 9. Tertiary and Adult Education

Human Development Questionnaire				
	Question	Answer		
		Statistical Institute of Belize		Ministry of Education
<b>3.1.0</b>	<b>Computers in Schools</b>			
NOTE	Please indicate the educational sub-sector for which the Questionnaire is being completed.	A: Primary level B: Secondary level C: Tertiary level D: Technical Colleges E: Private institutions		
3.1.1	What is the total number of schools or learning institutions in your sector?	A1: Primary (gov.) 54 A2: Primary (others) 232 B1: Secondary (gov.) 15 B2: Secondary (others) 34 C: Tertiary level 5 D: Technical Colleges E: Private institutions F. Post Secondary 15 G. Jr. College 10	54 234 38 12 9 N/A N/A	
3.1.2	What is the total number of learners?	A1: Primary (gov.) 10731 A2: Primary (others) 54761 B1: Secondary (gov.) 6452	> 64405 > 16696	



		B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions F. Post Secondary G. Jr. College	10869 2745  5412 2667	4355 N/A N/A
3.1.3	What is the average number of students per classroom? (only for schools) (2006-2007)	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others)	24.7 25.1 N/A N/A	
3.1.4	What is the expected growth of the school population over time? Increase or decrease in %.	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions F. Post Secondary	2.4 4.7 3.6 4.8   3.4	
3.1.5	What percentage of schools are on the national grid, generator and solar?	National grid Generator Solar	With the exception of a few remote rural school, most are on the national grid	
3.1.6	What percentage of schools have telephones?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary	56% 83% 100% 100%	

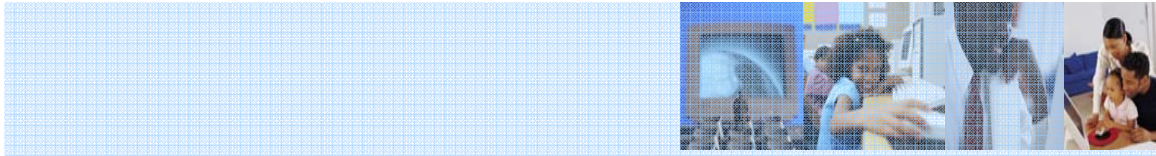




		D: Technical Colleges E: Private institutions F. Post Secondary	100%	
3.1.7	What is the total number of PC's in schools?			
3.1.8	What is the percentage of schools/learning institutions with computers for learners?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions		
3.1.9	What is the average number of PC'S per school/learning institutions?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions		
3.1.10	What is the ratio of learner's per computer?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions		
3.3.11	What is the target ratio of students per computer in your sector?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.)		



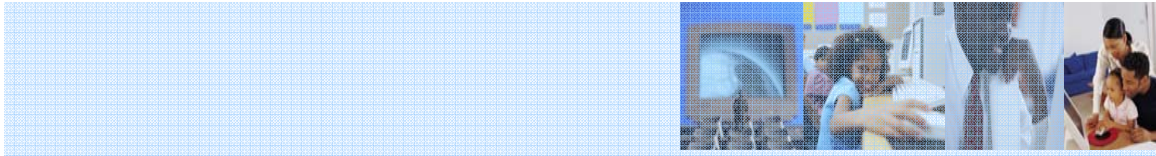
		B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.12	What is the number and percentage of schools/learning institutions with computer labs/rooms?	A1: Primary (gov.) A2: Primary (others) B1: Secondary B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.2.13	What percentage of schools provide security for computer labs/rooms?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.2.14	Is the computer lab available for use by the local community after school hours?	
3.2.15	Are learners with disabilities able to access specialized computers?	
3.1.16	What is the number of schools/learning institutions with a LAN?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges



		E: Private institutions
3.1.17	What percentage of schools/learning institutions utilize Internet access for learners?	A1: Primary (gov.) A2: Primary (others) B1: Secondary (gov.) B2: Secondary (others) C: Tertiary D: Technical Colleges E: Private institutions
3.1.18	What kind of school connectivity is possible and affordable? Dial up = slow ISDN= faster Cable= very fast Fibre = fastest	
<b>3.2.0</b>	<b>ICT in Education</b>	
3.2.1	Is there a formal "ICT in Education Strategy"? Please provide if available.	
3.2.2	What processes are in place to formally measure the benefits of ICT in education?	
3.2.3	Do teachers/trainers know how to teach with computers and how to integrate them into classroom learning?	
3.2.4	What percentage of teachers and trainers received training in ICT?	Computer lab teachers General teachers
3.2.5	What types of ICT training?	
3.2.6	Are teachers and trainers required to have ICT certification for the job?	



3.2.7	Has the curriculum been revised to include ICT as both a subject and a classroom tool?	
3.2.8	What percentage of teachers have access to their electronic files both at school/learning institutions and home?	Computer lab teachers General teachers
3.2.9	Please provide a listing of available educational software for your sector (for any subject matter).	A: locally produced educational software B: external produced educational software C: Access to web-based training
<b>3.3.0</b>	<b>Tertiary and Adult Education</b>	
3.3.1	What are the literacy figures (educational attainment) by age and gender?	
3.3.2	What percentage of children attend university directly from secondary school? Are annual numbers increasing or declining?	
3.3.3	How many students are undertaking tertiary education in computer related studies?	
3.3.4	How many students are undertaking tertiary education in the following areas: <ul style="list-style-type: none"> <li>• Business</li> <li>• Engineering</li> <li>• Telecoms and Network Engineering</li> </ul>	



	<ul style="list-style-type: none"> <li>• Science</li> </ul>	
3.3.5	Are the tertiary educational institutions developing ICT-specific related topics/degrees	
3.3.6	What level of "Brain Drain" does the Belize currently experience?	
3.3.7	What programmes are available for developing ICT adult skills outside of the formal tertiary institutions (e.g. adult training centres)?	
3.3.8	What forms of ICT related education, awareness and training take place at a community level?	



**Areas of Study:**

- 11. Enabling Government
- 12. Enabling Infrastructure
- 13. ICT Usage
- 14. ICT Sector
- 15. Personnel & Training

INDUSTRY AND ECONOMIC DEVELOPMENT Questionnaire		
	Question	Answer
<b>4.1.0</b>	<b>Enabling Government</b>	Office of Governance
4.1.1	Does the government have a department or branch with a mandate to stimulate ICT uptake and e-Commerce in the marketplace?	Yes, Office of Governance
4.1.2	How does this department work with industry?	Networking
4.1.3	What types of government/industry collaboration are currently taking place?	
4.1.4	What is done by the department to influence/clarify marketplace rules through policies in the areas of electronic transactions, electronic payments, privacy protection and online security?	Training of 2 officers on ICT's, E-Laws and Legislative Drafting
4.1.5	How does the department support development of other legal and regulatory frameworks of relevance to electronic commerce?	Development of an Electronic Government Policy
4.1.6	Are there incentives to encourage the private sector (particularly SMEs) to use ICT and e-Commerce?	
4.1.7	Are there policies to attract foreign capital for the development of domestic ICT industries?	
4.1.8	Are there sectoral policies in place to strengthen ICT	



	use and e-Commerce in specific sectors where Belize enjoys a comparative advantage – e.g. Eco-tourism?	
4.1.9	What tax or fiscal incentives are there in place to encourage business or consumers to transact online? Are there any e-Business funding sources available for MSMEs?	
4.1.10	Is there a government programme in place to stimulate innovation or entrepreneurship?	Yes. ICT/Electronic Government Unit OOG
4.1.11	How many government to business services are available on-line?	
4.1.12	Is there a central government site from which business users can access government services and/or information that will assist in growing e-Business in Belize?	Yes. <a href="http://www.governmentofbelize.gov.bz">www.governmentofbelize.gov.bz</a>
<b>4.2.0</b>	<b>Enabling Infrastructure</b>	
4.2.1	Are infrastructure platforms and technical standards adequate to facilitate rapid deployment of new e-Business solutions?	
4.2.2	What are the price, quality and service aspects of telecommunications services for businesses? Are they enabling – or prohibitive?	
4.2.3	Is telecommunications service and access ubiquitously available?	
4.2.4	Is there an independent regulator for tariff and price control?	
4.2.5	Are electronic payment gateways and platforms readily available?	

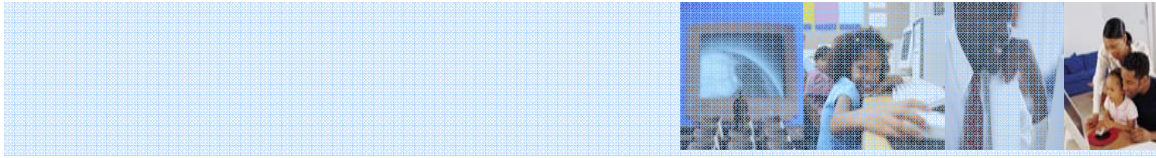




<b>4.3.0</b>	<b>ICT Usage</b>	
4.3.1	Do businesses see the Internet as a strategic tool?	Yes
4.3.2	How aware are SMEs of the opportunities and threats of the Internet?	
4.3.3	What percentage of businesses have computers?	
4.3.4	What percentage of businesses with computers have Internet connections?	
4.3.5	What percentage of business Internet connections are dial-up? DSL? Cable? Fibre?	
4.3.6	What percentage of business Internet connections are in urban areas? Rural?	
4.3.7	How much pressure do domestic and/or international suppliers and customers put on SMEs to move online?	
4.3.8	What is the extent of credit-card ownership?	
4.3.9	How many Internet purchases are made per year? What types of products/services are being purchased online?	
4.3.10	What are some of the banking issues surrounding Internet purchases/transactions?	
4.3.11	What are the societal challenges in carrying out online purchases/transactions?	
4.3.12	What level of venture capital is available in Belize?	
<b>4.4.0</b>	<b>ICT Sector</b>	
4.4.1	How many IT/high tech companies exist in country? What types of fields do they cover?	
4.4.2	What are the number of ICT companies / district?	
4.4.3	Is there any form of high-tech park or ICT cluster in place or under development?	



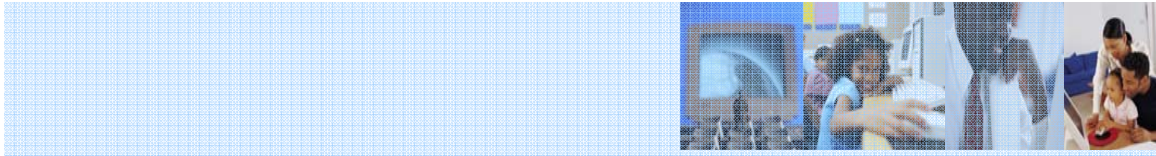
4.4.4	Is there an ICT Association or National Computer Society in place?	
4.4.5	How many Internet Service Providers are there?	
4.4.6	How strong are the ties between research and educational institutions with industry?	
4.4.7	How many ICT organizations have projects currently focused on R&D?	
4.4.8	Does the country have any expertise in utilizing ICT for cultural/heritage/entertainment products or services?	
<b>4.5.0</b>	<b>Personnel &amp; Training</b>	
4.5.1	How many people are educated in ICT related fields?	
4.5.2	What are the numbers of trained ICT specialists / district	
4.5.3	Are there good ICT training programmes in universities and technical colleges?	
4.5.4	Is there an existing pool of highly skilled software engineers, programmers and other technical specialists?	
4.5.5	What are the average salary levels for ICT specialists	
4.5.6	How often are specialist ICT skills imported into the country for specific assignments?	
4.5.7	Are there linkages to private sector and international organisations providing training, mentoring, internships, etc.?	



**Areas of Study:**

- 11. Drivers for e-Government
- 12. Citizen/Business goals for Government
- 13. Current State of Government – Strategic Level
- 14. Current State of Government – Operational Level
- 15. Current State of Government – Personnel Level

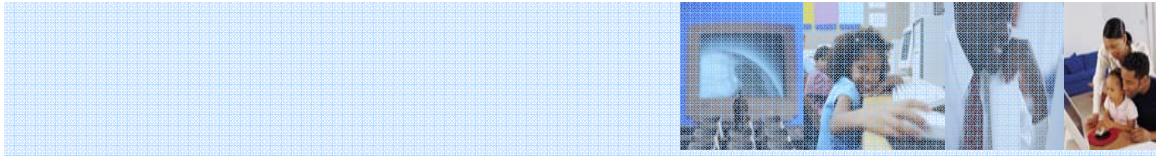
GOVERNMENT Questionnaire		
	Question	Answer
5.1.0	<b>General Drivers</b>	
5.1.1	What are felt to be the Government drivers for introducing e-Government? For example: <ul style="list-style-type: none"> <li><input type="checkbox"/> Improved information base for decision making</li> <li><input type="checkbox"/> Improving communications between the political and administrative process</li> <li><input type="checkbox"/> Improved efficiency and effectiveness</li> </ul>	 X  X



	<input type="checkbox"/> Deter corruption <input type="checkbox"/> Cost savings <input type="checkbox"/> A catalyst for public sector reform <input type="checkbox"/> Etc.	 X  X  X
5.1.2	What are felt to be <u>Citizen/Business</u> goals for e-Government? For example: <input type="checkbox"/> Transparency and accountability <input type="checkbox"/> Citizen participation <input type="checkbox"/> Access to Information <input type="checkbox"/> Generating locally-relevant content on the Internet <input type="checkbox"/> Economic development <input type="checkbox"/> Increased public sector efficiency <input type="checkbox"/> Improved responsiveness and customer service	 X  X  X  X  X
<b>5.2.0</b>	<b>Current State of Government – Strategic Level</b>	
5.2.1	How do the general public and business community mainly interact with government today? <input type="checkbox"/> In person? <input type="checkbox"/> Over the counter <input type="checkbox"/> Via telephone <input type="checkbox"/> Via mail/fax/courier <input type="checkbox"/> Via Internet/kiosks?	 X  X  X  X  X
5.2.2	Does the Government have a formalised e-Government Strategy?	Yes
5.2.3	Is the Strategy publicly available?	Yes, on the GOB



		website
5.2.4	Is the Strategy part of a larger plan for public sector reform? Is the plan publicly available?	Yes
5.2.5	Which Minister or Ministry is responsible for e-Government design and implementation?	Prime Minister, Minister of the Public Service
5.2.6	Is there a centralised governance model in place or a particular Ministry/Unit/ Department that stimulates the e-Government development process?	Yes, Office of Governance, ICT/E Government Unit
5.2.7	How is it structured and managed?	<p><b>Director, Office of Governance</b></p> <p>↓</p> <p><b>Head, ICT/E-Government Unit (Manages the Unit)</b></p> <p>↓</p> <p>Systems Administrator</p>
5.2.8	What is government's spending on e-Government/ICT as a percentage of budget?	
5.2.9	What major e-Government, ICT or large-scale IT initiatives are underway? What is their status?	
5.2.10	Is e-Government considered to be all electronic service delivery channels (www. telephone and fax) or purely Internet service delivery?	



5.2.11	What regulation and legislation is in place or being developed that will enable increased levels of e-Government? For example, is there authority to take payments on line?	
5.2.12	Are there government-wide policies in place dealing with web content management? Multi-channel delivery of services? Risk management? Content and presentation design standards ("common look and feel")?	
5.2.13	Is there a central agency to oversee regulatory compliance on ICT or e-Government related issues?	
<b>5.3.0</b>	<b>Current State of Government -Operational Level</b>	
5.3.1	How many Ministries/Agencies are there within Government?	11 Ministries
5.3.2	How many have websites?	All
5.3.3	Are websites providing client-related information or primarily information about policy, the Ministry or the Minister?	Not all Ministries are providing client related information.
5.3.4	What percentage of ministry websites offer downloadable forms?	
5.3.5	What percentage of ministry websites offer on-line services and transactions?	
5.3.6	What percentage of public servants have computers and email addresses?	
5.3.7	How does government manage information today – primarily paper files, desktop storage, ministry servers/database, corporate solutions etc.?	Primarily paper files



5.3.8	Are paper files kept as “back-up” to electronic files?	yes
5.3.9	Does the government have access to a common ICT platform?	
5.3.10	Is there a government wide Intranet?	yes
5.3.11	Have service delivery standards and personnel performance standards been considered or put in place?	
5.3.12	Have technical standards been developed for topics such as Data Management and Integration, Network Management, Security etc?	
5.3.13	Is there a general policy or legislation dealing with records management (archives)?	
5.3.13.a	Is it publicly available?	
<b>5.4.0</b>	<b>Current State of Government - Personnel Level</b>	
5.4.1	What is the average age of civil service employees?	
5.4.2	What is the average number of years that civil service employees have spent in the service?	35
5.4.3	What is the percentage of civil service employees with an equivalent of college or higher education degree?	
5.4.4	Are there training facilities for the public service?	no
5.4.5	Is there ICT/e-Government training for public servants?	yes
5.4.5.a	How effective is it?	
5.4.6	Is there customer service training for public servants?	yes
5.4.6.a	How effective is it?	
5.4.7	Is there change management training for public servants?	yes
5.4.7.a	How effective is it?	



