



United Nations

Economic Commission for Latin America and the Caribbean

# Barbados' Information Society Country Profile

Subregional Headquarters for the Caribbean

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Para más información, visite:

- [www.eclac.org/socinfo](http://www.eclac.org/socinfo)
- [www.eclac.org/portofspain](http://www.eclac.org/portofspain)

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# 1. Summary Profile

A nation with a population of less than 300,000, facing global competition on all sectors and major regional transformations, Barbados has chosen to be ready for an ever changing world and is betting its future on:

- Using ICT to form creative long-life learning-able citizens.
- A solid regulatory framework for technology.
- A competitive telecommunications environment.
- Elimination of custom duties on ICT related equipment.
- Leadership on adoption of technology by the government.

Early recognition of the importance of ICT and the allocation of proper funding has given Barbados a head start in the region.

## Access and Infrastructure

Its telecommunications market is fully liberalized and the country benefits from competition in price and services availability.

## Policy Instruments

Barbados formal National ICT public policy is defined by a dedicated chapter within its National Strategic Plan and supported by several separate strategies. Its comprehensive legal framework includes ICT specific legislation and extensive incentives for business development.

## Capacities and Knowledge

Barbados has solid programs of ICT in public education and, while ICT skilled personnel is not particularly abundant, local labour supports a vibrant ICT business sector and a large offshore services industry.

## Content and Public Services

A hyperactive multi-tier approach has left Barbados with an uneven and inefficient institutional and logistical framework for the coordination of public ICT policies and e-government development. The government acknowledges this and sees it as one of the main factors keeping the deployment of ICT in the public sector from delivering its full potential and benefits. A new, better coordinated framework and approach has been formally proposed and is expected to be enabled soon.



Table 1. Selected Data and Indicators<sup>1</sup>

|                                |   |                     |
|--------------------------------|---|---------------------|
| <b>Territorial Extension</b>   | 166.02 sq miles   |                     |
| <b>Population</b>              | 268,881<br>52% Urban<br>98,000 in largest city (Bridgetown) |                     |
| <b>Gross Domestic Product</b>  | USD 2,812 millions<br>USD 10,460 per capita                 |                     |
| <b>Cost of Internet Access</b> | USD 32 Dial Up unlimited<br>USD 42 Broadband 512k           |                     |
| <b>ICT Penetration</b>         | <b>Total</b>  | <b>per 100 pop.</b> |
| Fixed Line Subscribers         | 134,683   | 50.09               |
| Mobile Subscribers             | 198,569   | 73.85               |
| No. of Computers               | 33,745  | 12.55               |
| Internet Users                 | 148,960   | 55.4                |
| Broadband Users                | 27,157  | 10.1                |

<sup>1</sup> Sources: Fixed Line and Mobile Subscribers (ITU, 2005); Internet Users, No. of Computers (ITU, 2004).

## 2. Access and Infrastructure

Barbados' telecommunications market is fully liberalized and the country benefits from competition in price and services availability. Over half its population has access to the Internet and mobile phone penetrations is over 70%

### 2.1. Telecommunications Sector

By 2005, Barbados had reached full competition in the telecommunications market. As of 2006, licenses for the international market have been issued to four companies (Digicel, Cable & Wireless, Blue Communication and Telebarbados Inc.).

Interestingly enough, while competition has significantly reduced the cost of international communications to outside the Caribbean, rates for international calls within the Caribbean remain high.<sup>2</sup>

This may change since in 2006 and motivated by the competitive market, TeleBarbados completed laying an undersea cable that would increase the country's bandwidth and potentially reducing connectivity services prices through competition.

The Ministry of Energy and Public Utilities issues formal licenses for wireless technologies to private parties, supporting their development and deployment.

The government has placed special care in achieving and maintaining competition in the mobile market providing licenses to four providers: Cable and Wireless (former monopoly), Digicel, Cingular and Sunbeach Communications. With an imminent fusion of Digicel and Cingular operations, the government plans to recover the spectrum assigned to one of the parties and offer another license for providers interested in entering the market.

### 2.2. Internet Access

CaribSurf<sup>3</sup> offers dial-up and broadband DSL Internet access, as well as prepaid Internet access cards and Voice over IP services. Digicel provides wireless Internet access via its GPRS networks with selected mobile phones.<sup>4</sup>

#### Box 1. CaribSurf's Computer-less solutions

To reach the market segment of homes without computers, CaribSurf offers "Max",<sup>5</sup> a complete basic computing - broadband solution that comes with a keyboard, mouse, monitor and high speed Internet modem, manufactured by microchip maker AMD, running a custom version of Microsoft Windows with pre-installed applications.

It also offers Netspeak, a Voice over IP package that allows broadband Internet subscribers make seamless long distance phone calls at significantly reduced price using a digital phone (no computer required) to which a telephone number accessible by conventional phones is assigned.

<sup>2</sup> *Economic and Financial Policies of the Government of Barbados, presented by Hon. Owen Arthur, Minister of Finance, January 16, 2006.* <http://www.barbados.gov.bb/Docs/Budget2006.pdf>

<sup>3</sup> <http://www.caribsurf.com> - CaribSurf is an Internet Service Provider fully owned by Cable and Wireless.

<sup>4</sup> [http://www.digicelbarbados.com/add\\_ons/add\\_ons.php?addon\\_display=mobile\\_web](http://www.digicelbarbados.com/add_ons/add_ons.php?addon_display=mobile_web)

<sup>5</sup> <http://www.caribsurf.com/services/access/max>

Table 2. Internet Access Prices per Month in Barbados

| Provider/Service             | US\$ | BB\$ | Provider/Service | US\$ | BB\$ |
|------------------------------|------|------|------------------|------|------|
| <b>Dial-Up</b>               |      |      |                  |      |      |
| CaribSurf (Cable & Wireless) |      |      | Sunbeach         |      |      |
| - 10 hours                   | 15   | 29   | - 5 hours        | 6    | 12   |
| - 40 hours                   | 26   | 52   | - 15 hours       | 13   | 25   |
| - 100 hours                  | 38   | 75   | - 30 hours       | 18   | 35   |
| - Unlimited                  | 30   | 59   | - 60 hours       | 23   | 45   |
|                              |      |      | - Unlimited      | 33   | 65   |
| <b>Dial-Up</b>               |      |      |                  |      |      |
| CaribSurf (Cable & Wireless) |      |      | Sunbeach         |      |      |
| - 256k/128k                  | 35   | 69   | - 512k           | 33   | 65   |
| - 512k/256k                  | 50   | 99   | - 1M             | 50   | 99   |
| - 768k/384k                  | 71   | 139  |                  |      |      |
| - 1.5M/768k                  | 142  | 279  |                  |      |      |
| - 2M/768k                    | 187  | 369  |                  |      |      |

### 2.3. Top Level Domain Governance and Commercialization

Barbados’ country code top level domain (ccTLD) is “.bb” and is administered by Cable & Wireless, the former local telecommunications monopoly. There is complete local control and management over the top level domain at administrative, technical and commercial levels. On September 2006, the government Telecommunications Unit<sup>6</sup> initiated a consultation directed to take over control of the .bb Top Level Domain.

Table 3. Barbados’ Country Code Top Level Domain (ccTLD) Governance

| tld | Sponsoring Org. |         | Admin. Contact |         | Technical Contact |         | DNS Servers |         |
|-----|-----------------|---------|----------------|---------|-------------------|---------|-------------|---------|
|     | Location        | Nature  | Location       | Nature  | Location          | Nature  | Location    | Nature  |
| .bb | Local           | Private | Local          | Private | Local             | Private | Local       | Private |

Domains under the .bb TLD are only available and sold to Barbados residents and organizations registered and operating in Barbados. Although .bb domains can not be acquired through competitive on-line retailers but only through a single source,<sup>7</sup> automated availability checks and the complete order and payment process can be completed on-line. If the country decided to exploit its TLD, it could probably find some market value from individuals and organizations interested in using the letters “bb” to identify topics such as big brother, bed & breakfast, bulletin board, baseball, broadband and baby boomer.

Table 4. Commercialization of Barbados’ Domain Names

| tld | Price                     | On-line Commercialization |                    |       |         |
|-----|---------------------------|---------------------------|--------------------|-------|---------|
|     |                           | Info Request              | Availability Check | Order | Payment |
| .bb | BB\$115/yr<br>(US\$57/yr) | ●                         | ●                  | ●     | ●       |

<sup>6</sup> <http://www.telecoms.gov.bb>

<sup>7</sup> <http://domains.org.bb>

## 3. Capacity and Knowledge

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Barbados has solid programs of ICT in public education and, while it faces a limited availability of ICT skilled personnel, the University of West Indies' Cave Hill vibrant campus and the Barbados Community College provide a fresh supply of labour with formal training in technology areas. Its supplemental community training initiatives, including a virtual campus, help increase local capacity both in ICT and in general skills required by the business sector.

### 3.1. Public Education System

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#### Education Sector Enhancement Program (EduTech)<sup>8</sup>

At the core of this comprehensive education reform program, lies the goal of turning students into creative, critical thinking, problem solving, well rounded “citizens readily retrainable at any stage of their lives”.

It has four components:

- Curriculum Reform
- Developing Human Resources
- Physical renovations
- Technological Infrastructure

According to the program, technology is being used as a tool to:

- assist with lesson preparation and presentation.
- build student skills and competencies.
- foster integrated learning across subject areas.

The use of technology includes:

- Teachers and Staff.
  - Teacher multimedia centres in classrooms to enhance classes.
  - PCs and laptops for the staff room.
- Primary Level.
  - Computers in classrooms for classes 1-4.
  - One computer laboratory for schools with less than 500 students, and two laboratories for schools with more than 500 students.
- Secondary Level.
  - Computers in classrooms for Forms 1-3.
  - Computer laboratories equipped with 30 computers.
  - Specialist subject rooms with computers and other technologies (printers, digital cameras, scanners, plotters, science probes, digital whiteboards, multimedia projectors and TVs).
- Software.
  - Standard application software.
  - Education Management Information System (EMIS).

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<sup>8</sup> <http://www.edutech2000.gov.bb>

- Academic and educational software, including access to an Academic Information System (AIS), with over 24,000 curriculum-correlated web sites.

## NETSchools and StudyPros

An interesting pilot involving two (2) primary schools and one (1) secondary school, where students are assigned rugged notebook computers (StudyPros) they carry home to do their research and homework as an attempt to bridge the economic divide that generates a gap among students whose families can afford to have a computer at home and those whose families don't.

The notebook computers have wireless network connections via infrared ceiling access points and also enable students remote access to the school network from home, via a telephone line.

Two (2) more primary schools and another secondary school were expected to join the program.

## Education Sector Enhancement Program (IADB)<sup>9</sup>

This international cooperation program with the Inter-American Development Bank, supports the Barbados education reform with a total budget of US\$85,000,000, 33.2% of which had already been disbursed as of April 2006.

It is comprised of five components:

- school rehabilitation;
- technological infrastructure;
- human resource development and training;
- curriculum reform and evaluation; and
- program management and technical assistance to achieve institutional strengthening.

In terms of technology, the program allocates funding for computerization of all primary and secondary schools, including classrooms, computer laboratories, staff rooms, libraries and offices, and newly-created "media centers" in each classroom.

## 3.2. Higher Education

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### University of West Indies Cave Hill Campus<sup>10</sup>

This active campus is a constant source of formally trained labour with ICT skills. It provides Internet access, including wireless, to students and it makes extensive use of ICT through its Cave Hill Campus Online Student Information System (CHOL), its on-line campus that supports its training program and through its Distance Education Centre (DEC).

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<sup>9</sup> <http://condc05.iadb.org/idbprojects/asp/ppProject.aspx?pCountry=&pProject=BA0009>

<sup>10</sup> <http://www.cavehill.uwi.edu>

## Barbados Community College (BCC)<sup>11</sup>

Its Division of Computer Studies offers programs in Information and Communications Technology and Technical and Vocational Education, as well as short certificate courses on industry required skills (programming, multimedia, database administration, etc.). It is also responsible for management of the College's computer systems.

### 3.3. Community Training

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#### Community Technology Programme

This four-year-old programme provides training at the community level in Internet and e-mail usage, word processing and other IT basic skills. It's considered by the government as part of its digital divide bridging and poverty reduction initiatives, as it provides citizens with the skills to function in the information society. To date, 4,615 Barbadians, including children and senior citizens, have passed through the programme (that's before the 2006 courses which started in June, during our research).

#### On-line learning facility

Located at the Samuel Jackman Prescod Polytechnic,<sup>12</sup> it has helped close the deficit in higher and technical education in Barbados through an open and flexible learning initiative where a number of courses are currently being offered online.

#### Information Society of Barbados<sup>13</sup>

This non-profit organization promotes awareness on Information Society issues and ICT skills through workshops, seminars, demonstrations, conferences and active participation in government consultation processes.

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<sup>11</sup> <http://www.bcc.edu.bb>

<sup>12</sup> <http://www.sjpp.edu.bb>

<sup>13</sup> <http://www.isb.org.bb>

## 4. Business and Commerce

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Barbados has a solid offshore business sector, particularly strong in companies conducting international business and financial services. Its broad set of attractive incentives and solid legal framework include tax exemption for computer equipment and ICT specific legislation. This makes possible and facilitates the existence of local virtual stores, the availability of e-commerce providers and facilities and on-line banking services.

### Box 2. Profile of International Business in Barbados

There are currently over 4,000 international business entities conducting a wide range of business in far-flung markets across the world. The business activities are classified as international insurance, banking, treasury management, private wealth management, international trade and commerce, trust, and information and communications technology businesses.

#### International Trade and Commerce

There are over 2,300 entities in Barbados conducting a wide variety of international trade and commerce business facilitated by the provisions of the International Business Companies Act or the Societies With Restricted Liability Act. These operations are engaged in activities including international sales of products and equipment, aircraft leasing, support for mining operations, and inbound and outbound call centres.

Barbados International Business Association, 2006<sup>14</sup>

### 4.1. Availability of e-Commerce Services

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Barbados has an incipient local e-commerce sector, with several local on-line stores, offering mostly books, crafts, prints, apparels, music and local videos, targeting largely international consumers.<sup>15</sup>

Local businesses can contract complete e-commerce services and solutions, including real-time credit card payment and on-line transactions from Cable and Wireless.<sup>16</sup> And customers of the First Caribbean International Bank benefit from Internet banking services introduced on January 2005 by the bank in all fifteen (15) countries it operates in the Caribbean region, including Barbados.

### 4.2. Government's Support of ICT Sector

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Barbados has taken several actions to promote the development of a thriving local ICT sector, including:

- Liberalization of the telecommunications sector (2001).

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<sup>14</sup> <http://www.biba.bb>

<sup>15</sup> Some of the local small on-line stores are: <http://www.annscraftcentre.com>, <http://www.barbadosbooks.com>, <http://www.best-of-barbados.com>, <http://www.crsmusic.com>, <http://www.earthworks-pottery.com> and <http://shop.funbarbados.com>

<sup>16</sup> <http://www.candw.com.bb/barbados/products/internet/e-commerce.html>

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- Enactment of a solid and early legal and regulatory framework to enable secure on-line transactions, e-commerce and cybercrime accountability and prosecution (2001).
- Publication of “Guidelines for Electronic Banking” by the Central Bank (2002).<sup>17</sup>
- Removal of all customs duties from computers and peripheral devices (2003).
- Invitation of local financial institutions to provide electronic merchant services to enable citizens to pay for public services through the e-government portal under development (2006).

In addition, the country offers an attractive set of incentives for international businesses establishing and operating within the island, including:<sup>18</sup>

- Tax rate of 1% - 2.5% on profits of Information Services companies, International Financial Services Companies and International Business Companies.
- Full exemption from import duties on components, raw materials, production machinery and other production related equipment such as computers and spare parts.
- Full and unrestricted repatriation of capital, profits and dividends.
- Industrial training grant scheme to subsidize the cost of worker training.

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<sup>17</sup> <http://www.centralbank.org.bb/Financial/ElectronicBankingGuidelines.pdf>

<sup>18</sup> Barbados Investment and Development Corporation, <http://www.bidc.com>

## 5. Policy Instruments

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Barbados formal National ICT public policy is defined by a dedicated chapter within its National Strategic Plan and supported by several separate strategies. Its comprehensive legal framework includes a complete set of ICT specific legislation and extensive incentives for business development and the ICT sector, including the elimination of custom duties on ICT related equipment.

### 5.1. Public ICT Policy History

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During the last ten (10) years, Barbados has been active performing assessments and producing strategies and policy documents that lay a solid foundation for a strong development of ICT in the country.

#### Education Reform and ICT in the Curriculum (1995/1996)

As early as 1996, the Government of Barbados started to envision a strategy for integrating information and Communication Technology into the curriculum as part of an Education Reform program financed by the International Development Bank that also envisioned upgrading the physical environment of primary and secondary schools, infusing technology into the system and re-training teachers in child-centered pedagogy. These plans were based on the educational reform strategy “Each One Matters - Quality Education for All” published in 1995 by the authorities in 1995.

#### Early Public Sector Reform and IT Strategy (1996)

Around 1996 the Government of Barbados entered into an agreement with the Inter-American Development Bank (IDB) to undertake an Investment Sector Reform Programme. As part of this programme a number of studies were undertaken, one of these focused on a strategic information technology plan for Barbados. This plan which was undertaken by the Central Computer and Telecommunications Agency was completed in June 1997.

In addition, Government embarked on a Public Sector Reform Programme in 1996 which led to the development of a White Paper of Public Sector Reform in 1997. This document proposed information and communication technology as one of the ways through which government could improve its operations and the delivery of its services.

#### Telecommunications Sector Reform (2000/2002)

On December 20, 2000 the Government of Barbados issued a Green Paper on Telecommunications Sector Policy.<sup>19</sup> The Green Paper outlined Government’s draft policies for the reform of the telecommunications sector in Barbados. Also as a signatory to the WTO/GATS Agreement on Telecommunications, Barbados was obligated to reform its telecommunications sector and to transform the existing monopoly telecommunications market into a fully liberalized and competitive one; To achieve this the Government of Barbados held discussions with Cable and Wireless to renegotiate their exclusive licenses and a Memorandum of Understanding was signed which details the processes for the effective liberalization of the telecommunications sector.

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<sup>19</sup> [http://www.barbadosbusiness.gov.bb/miib/Ministry/Documents/Green\\_Paper.pdf](http://www.barbadosbusiness.gov.bb/miib/Ministry/Documents/Green_Paper.pdf)

On September 30, 2002 the Telecommunications Act 2001-36<sup>20</sup> was proclaimed. This Act assisted Barbados in achieving its obligations to promote liberalization, competition and transparency in national regional and international telecommunication in accordance to the commitments on basic telecommunications made under the WTO/GATS agreement.

## 5.2. Coordinators and Main Actors Today

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The Ministry of Labour and Civil Service is currently responsible for both Public Sector Reform and e-Government. However, there is intense development activity around the implementation of ICT in the Barbados government and different Ministries, agencies and departments play different roles, not all coordinated as we can appreciate below:

- Ministries
  - The Ministry of Labour and Civil Service (Civil Service): Responsible for e-Government.
  - The Ministry of Commerce, Consumer Affairs and Business Development: Responsible for eCommerce and the development of the National ICT Strategy.
  - The Ministry of Economic Affairs and Development: Responsible for the development and implementation of the National Strategic Plan and Telecommunications.
- Departments/Agencies
  - The Data Processing Department: Develops, implements and monitors ICT systems in the public sector. Also sets standards and renders advice to ministries and departments on ICT investments.
  - The Telecommunications Unit: Develops policy and performs regulatory and licensing functions in accordance with the Telecommunications Act.
- National Advisory Committee on ICT: Advises on policies and promotes ICT use.

### National Advisory Committee on ICT: National ICT Strategy

Under the responsibility of the Ministry of Commerce and Consumer Affairs and chaired by the Prime Minister's Special Envoy on ICT, this Committee, consists of members from Government, private sector, non-governmental organizations and the labor union. The group meets monthly with the following mandate:

- Advise the Minister on ICT policies;
- Advise the Minister on the preparation and implementation of the ICT plan;
- Promote the application and the use of ICT; and
- Encourage the development of a culture of innovation in the business community and facilitating cooperation among the public sector, the private sector, labour and civil society in the development and use of ICTs.

### The Ministry of Labour and the Civil Service: e-Government Strategy

Has responsibility for the advancement and coordination of e-Government. It continuously monitors ICT development in the public sector. The department periodically requests departments to submit updates on their projects as well as conducts surveys on ICT use in the public service. It is presently conducting a survey on ICT use in the public service.

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<sup>20</sup> [http://www.barbadosbusiness.gov.bb/miib/Legislation/Documents/telecommunications\\_act\\_cap282b.pdf](http://www.barbadosbusiness.gov.bb/miib/Legislation/Documents/telecommunications_act_cap282b.pdf)  
*There is on-going work to amend the Act.*

## Data Processing Department (DPD): Government Applications

This active government agency has an important role coordinating, implementing and monitoring public ICT systems and setting standards for them:

- As a central coordinating body, it holds quarterly meetings with IT personnel in the public sector to inform departments about its programmes and to hear what other agencies were planning or currently doing.
- As an application development unit, it implements and monitors ICT systems for other government agencies.
- As a technical body, it defines standards and provides advice on the acquisition and deployment of ICT by government agencies.

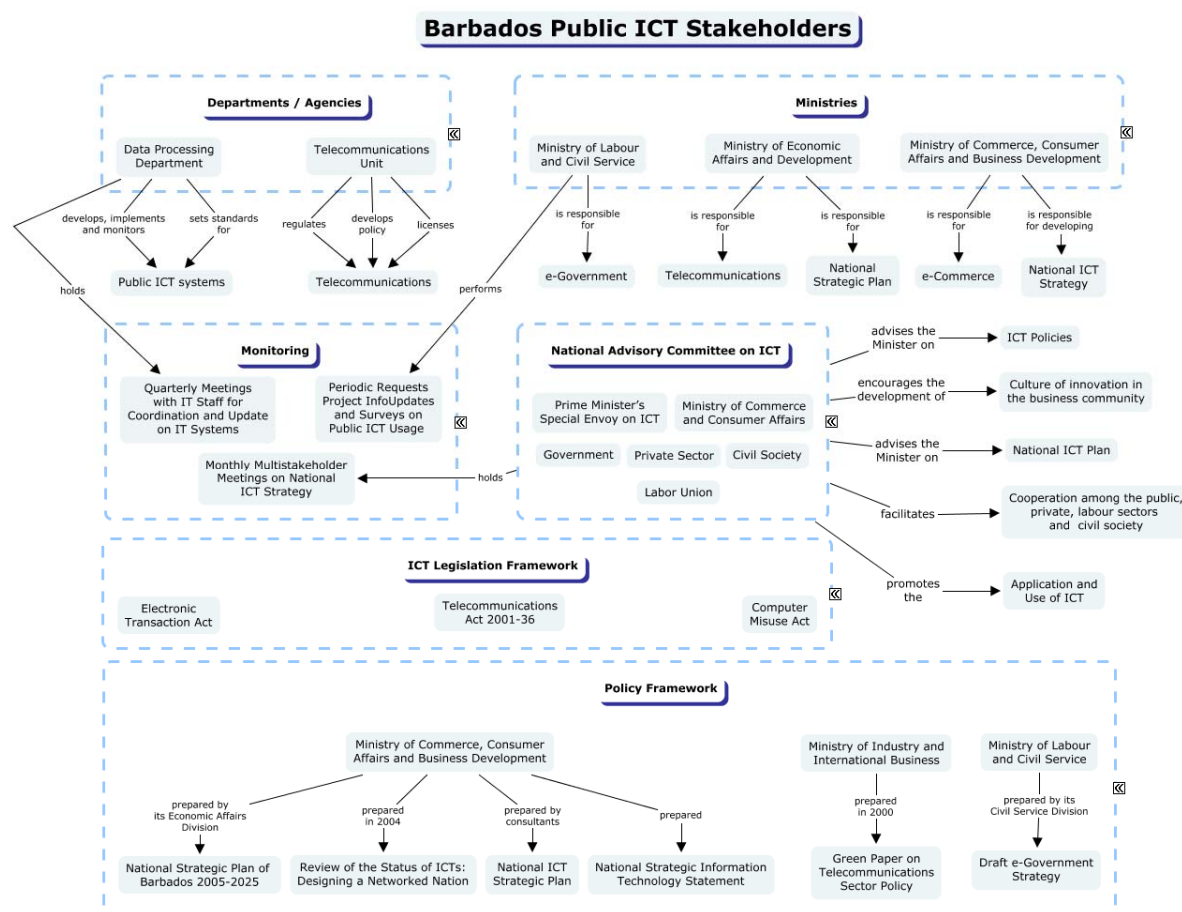


Figure 2. Barbados Public ICT Framework

## 5.3. IT Budget and Funding Sources

There is no central or coordinated budget for ICT development or ICT projects within the government. The Data Processing Department advises on investment decisions and provides standards and guidelines to follow, but each government agency is responsible of funding its respective IT projects.

The implementation of e-government programs and the use of their funds are monitored under the Government's planning and budgetary process.

The approximate IT budget for last year was \$5,559,668.43. This figure is for Central Government (CG) only.

## 5.4. National ICT Policy Framework

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The comprehensive set of research, assessment and policy documents completed by the Barbados government to support national development provides a solid ground for a formal National Information Society Strategy that not only includes, but extends beyond a coordinated e-government strategy:

- The National Strategic Plan of Barbados 2005-2025 produced by the Economic Affairs Division.
- The draft National ICT Strategic Plan prepared by consultants for the Ministry of Commerce, Consumer Affairs and Business Development.
- National Strategic Information Technology Statement for Barbados - Ministry of Commerce, Consumer Affairs and Business Development.
- The Review of the Status of ICTs in Barbados: Designing a Networked Nation prepared in 2004 for the Ministry of Commerce Consumer Affairs and Business Development.
- The draft e-Government Strategy prepared by the Civil Service Division, Ministry of Labour and Civil Service.
- The Green Paper on Telecommunications Sector Policy prepared in 2000 by the Ministry of Industry and International Business.

### National Strategic Plan of Barbados 2005-2025

The Government of Barbados has recently developed a National Strategic Plan of Barbados 2005-2025. While this is a national development plan that covers all sectors, it includes strategies specific to the development of ICT:

- To create the information architecture, infrastructure and human resources capacity for the information economy.
- To ensure the information services sector (public and private) is knowledge driven, and has an improved capacity to identify and analyse global opportunities for, and threats to, the information economy in Barbados.
- To establish the legislative, fiscal and training framework to stimulate the development of information industries.
- To integrate modern information and communication technologies into the operations of government to facilitate maximum operational efficiency.
- To continue the educational initiatives of the educational enhancement programme (EDUTECH) to ensure that everyone enjoys the right to be educated to his or her full potential.
- To increase access to and enrolment in tertiary education using distance and e-learning modalities.
- To encourage the use of public libraries and community technology centres as avenues to access distance education and web-based learning.

## ICT Legislation<sup>21</sup>

Barbados successfully approved legislation necessary to develop the ICT and telecommunications sector, support business transactions, enable legal accountability and cyber crime prosecution and punishment at around the same time of opening its telecommunication sector reform (2001).

- Electronic Transaction Act: Provides a legal environment for e-commerce.
- Computer Misuse Act: Covers the protection of computer systems and information contained in those systems from unauthorized access by individuals or from abuse by individuals with authorized access and for related matters.
- Telecommunications Act 2001-36 and Regulations: Enables competition in the telecommunications sector and regulates licensing and operation.

In addition, two other pieces of legislation are under development:

- Data Protection Bill: presented on March 29, 2006 with an invitation for comments<sup>22</sup> open until April 21, 2006.
- Freedom of Information Act: Currently under development.

## 5.5. Lessons Learned

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### The Limitations of a Gradual Approach

Although the Barbados government recognized the need for public sector reform, there was no clear consensus on what this meant, particularly when it came to ICT. To a large extent, the reform process was based on automating the way things were being done and gradually improving the existing structure and business processes through incremental changes.

While the former would appeal as a logical and adequate approach, it actually meant that often the government computerized paper based systems rather than creating new methods of working to maximize the effectiveness of ICT projects. This prevented fundamental changes in the way the government operates from happening and limited the anticipated improvement in efficiency expected from the investment in ICT.

The implementation and proliferation of IT systems was not tied to the communication needs of government organizations and the government as a whole. Networking and online interaction between offices, departments and ministries were not a priority and, even though IT systems were in place, they could not communicate with each other and often data had to be transfer physically.

On the other hand, and apart from the lack of coordination of ICT projects, the computerization of the governments' financial and human resources functions is working quite well according to government's assessments and evaluations.

### The Need for Coordination

The government acknowledges the fragmentation of management and responsibility between three (3) different government agencies as the main factor affecting the success in the definition and implementation of ICT public policies, services and projects.

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<sup>21</sup> Complete set of Barbados commerce related legislation available at <http://www.commerce.gov.bb/Legislation>

<sup>22</sup> Note posted by the Ministry of Commerce, Consumer Affairs and Business Development is available at <http://www.commerce.gov.bb/fji/news00a.asp?artid=165>

## Success Elements Identified

In short, the Government of Barbados highlights five (5) elements as key for the future success of its Public ICT Policies:

- Leadership: Commitment from those steering the change process and identification of champions to lead it.
- Structure for effective implementation of programs: Both institutional and logistical.
- Reengineering of government processes, rather than automation.
- Allocation of Resources: money, people, technology.
- Change Management: Providing support and careful planning for all issues involved in the transformation of processes and institutions.

## 5.6. Next Steps: A new e-Government Structure

Despite the existence of active government bodies planning and advising on the development of public ICT systems, there is no formal e-Government structure or coordinating mechanism for implementing e-Government.

The many e-Government projects being undertaken by Ministries and Departments are managed, monitored and evaluated at the ministry and department level. Each agency's technical/projects units are responsible in full for their implementation.

The draft e-Government strategy developed by the Ministry of Labour and Civil Service proposes a strategic alliance between the Office of Public Sector Reform and a yet to be created Central Information Management Agency (CIMA). This new agency would be responsible for ICT development in the public sector, and teams comprising officers from both agencies would analyze and re-engineer the various processes in government.

### Proposed e-Government Structure

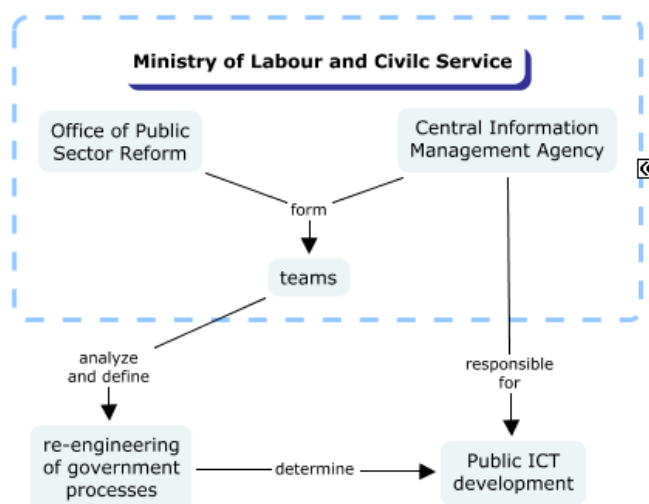


Figure 3. Barbados Proposed e-Government Structure

## 5.7. Selected e-Government Initiatives

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### Current Government portal

Developed by the Data Processing Department, it serves as a central access point to government services. It aims to facilitate increased collaboration and communication among departments and to provide members of the public with easier and continuous access to Government services at any time and date.

### The New e-Government Portal

In 2006, work on a new, transaction-enabled version of the e-Government portal was started by Illuminat, a regional IT solution provider native to the Caribbean. With a budget of five (5) million Barbadian dollars (US\$2.5 million), development is expected to last four (4) years and a full set of government services is planned to be available on-line by the end of 2008.

On the administrative side, the project includes interconnection, data sharing and web conferencing tools among the ministries. On the “client” side, the system will enable on-line transactions and electronic payments of government services by citizens. On a public statement early in 2006, the country’s Prime Minister criticized<sup>23</sup> the national financial sector’s lack of interest and support for the initiative, with only one institution agreeing to provide merchant banking services to the Government, a necessary component for on-line payment of services.

As with earlier government ICT projects in Barbados, the development of the Government Portal is following a phased approach, deploying early pilots before attempting a complete rollout of on-line government services.

#### Box 3. Barbados Government Portal Implementation Phases

##### First Phase

Barbados Primer Minister announced early in 2006 that by September of the same year, the first agencies to offer on-line transactions to citizens will be:

- The Land Tax Department.
- The Land Registry Department, and
- The Registration Department.

##### Second Phase

A year later, by September 2007, those agencies would be joined by:

- The Customs Department, and
- The Inland Revenue Department.

##### Subsequent Phases

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<sup>23</sup> *Economic and Financial Policies of the Government of Barbados, presented by Hon. Owen Arthur, Minister of Finance, January 16, 2006.* <http://www.barbados.gov.bb/Docs/Budget2006.pdf>

Other services scheduled for on-line delivery and transactions before 2008 are:

- Applications for passports, and
- Renewal of drivers' licenses.

## Outsourcing Development of the Financial and Human Resources Information System

Rather than designing and implementing its own financial IT system, the government of Barbados hired an existing software solution from Canadian developer Geac Computer Corp. Ltd. SmartStream is an extensible Enterprise Resource Planning (ERP) client/server comprised of different products and modules, from which the Barbados government hired:

The Ministries selected three series comprising eight software modules which were:

- Financials (Ledger, Funds Control, Accounts Receivables and Budget Modules);
- Human Resources (Payroll, Personnel Modules);
- Procurement (Payables, Purchasing Modules).

These systems should provide more control over public spending and information for better planning.

Table 5. Barbados Public ICT at a Glance

| Internet Penetration                                     |                | ICT Legislation                    |                |
|--|----------------|------------------------------------|----------------|
| Population with Internet Access                          | 55%            | Electronic Transactions            | ●              |
| <b>National ICT Strategy</b>                             |                | IT Misuse and Cybercrime           | ●              |
| Strategy formulated and published                        | ◐ <sup>1</sup> | Data Protection                    | ◐ <sup>3</sup> |
| Coordinating Agency appointed                            | ◐ <sup>2</sup> | Consumer Protection                | ●              |
| Backed by Strategy Specific ICT Budget                   | ○              | Freedom of Information             | ◐ <sup>4</sup> |
| Being Implemented  | ○              | <b>e-Government Services</b>       |                |
| <b>Public Expenditure on ICT</b>                         |                | Access to Information              | ●              |
| Central ICT Budget                                       | ○              | On-line Transactions               | ●              |
| Specialized Budget:                                      |                | On-line Payment of Services        | ●              |
| ○ National ICT Strategy & Coordination                   | ○              | Interconnection of Agencies        | ●              |
| ○ E-Government Projects                                  | ●              | To Support Business Sector         | ○              |
| ○ To Promote Universal Access                            | ○              | <b>Top Level Domain Governance</b> |                |
| ○ To Promote IT Industry Development                     | ○              | Country Code                       | .bb            |
| Universal Access Fund Mechanism                          | ○              | Price                              | US\$57/yr      |
| Info on Total Govt. ICT Expenditure                      | ●              | On-line Commercialization:         |                |
| <b>Coordination of Public ICT Initiatives</b>            |                | ○ Info request                     | ●              |
| National Coordination Mechanism                          | ●              | ○ Availability check               | ●              |
| Coordination among ICT Strategy and public institutions? | ●              | ○ Order placement                  | ●              |
| Coordination influences budgets                          | ●              | ○ Payment                          | ●              |
| Periodic evaluation of ICT projects                      | ●              | Sponsoring Organization            | Local          |
| Public Sector Reform Program                             | ●              | Administrative Contact             | Local          |
| Coordination among ICT and Public Sector Reform Projects | ●              | Technical Contact                  | Local          |
|  |                | DNS Servers                        | Local          |

1. There is a draft National ICT Strategy. There is also a section on ICT on the National Strategic Plan 2005-2025.
2. There are several coordinating agencies. A new centralized structure has been proposed.
3. Under development, in Bill form.
4. Under development, early stage.