

Development of an  
Information and Communication  
Technology (ICT) Policy for the  
Commonwealth of Dominica

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August 29, 2005

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## **1. Introduction**

The use of ICT in Public Administration can have a positive impact on levels of efficiency, effectiveness and overall productivity. Over the past two decades, there has been a tremendous increase in the adoption of computer technology in the Public Sector, in both developed and developing nations. More recently, such initiatives have been implemented under the 'banner' of electronic government.

Electronic government can be defined as the effective processing and utilization of data, information and knowledge, through the use of the enabling information technologies (relational databases, local and wide area networks - LANs and WANs, the Internet, mobile devices, etc.). The purpose is to transform relations with citizens, businesses, and other arms of government, in order to achieve:

- timely provision of information to businesses and citizens through a variety of electronic channels;
- enhanced delivery of online services, from basic information provision, to improved online interaction, communication, distribution of services and transactions;
- standardization and consistency of services, processes and procedures;
- seamless integration of cross-departmental functions and processes aimed at more effective and efficient delivery of government services; and
- expanded business opportunities and improved interactions with the private sector.

This report is based on discussions with key stakeholders in the Commonwealth of Dominica in June, 2005. The main findings are outlined, followed by recommendations on the way forward.

## **2. Background**

The undersigned was requested to undertake an assignment from June 1-2, 2005, to provide technical assistance with respect to the development of an ICT Policy for the Commonwealth of Dominica. The initial outputs of this technical assistance are as follows:

1. The conduct of diagnostic reviews to determine the status of development of ICT strategies/policies within the public service;
2. Provision of advice on a coherent approach to ICT policy development in the public service;
3. Development of Terms of Reference for an ICT specialist who can provide support for a specified period for implementation of the policy and strategies;
4. Any other related technical advice considered necessary to achieve the stated objectives and priorities.

The execution of the assignment entailed the following:

- Meeting with the National IT Policy Committee, comprising the following persons:
  - Mr. Sylvester Cadette - Director of Telecommunications;
  - Mr. Vernon O'Brien - Manager, Computer Centre;
  - Ms. Jermaine Jean-Pierre - Senior Systems Analyst, Establishment;
  - Mr. Abraham Durand – Instructor, Vocational Schools and
  - Mr. Phillip Brade - Dominica State College.
- Meeting with the Public Sector Reform Management Unit:
  - Ms. Ruth Allport - Coordinator;
  - Mr. Claude Lamshead - Private Sector Development Advisor;
  - Mr. Chelliah Arunachalam -Legal Draftsman, and
  - Ms. Arlette Vidal - Administrative Cadet.
- Presentation to the Committee of Permanent Secretaries. In attendance were:
  - Ms. Edwards - Acting Chief Personnel Officer/Chairperson;
  - Dr. Joseph Bannis - Health & Social Security;
  - Ms. Rhoda Celaire - Legal Affairs and Immigration;
  - Ms. Celia Joseph - Foreign Affairs, Trade, Labour and the Public Service;
  - Mr. Davis Letang - Information, Community Development, Culture & Gender Affairs;
  - Ms. Marcella Powell - Housing, Lands, Telecommunications, Energy & Ports, Public Works and Public Utilities;
  - Dr. Colomore Christian - Agriculture, Fisheries and the Environment;

Ms. Jennifer Lafond - Education, Human Resource Development, Sports & Youth Affairs;  
Mr. Irwin Larocque - Tourism, Industry and Private Sector;  
Mr. Clarence Christian - Audit Department.

The following topics were covered in the presentation and subsequent discussions with the Committee:

- Overview of E-Government
- Policy & Strategy Formulation Process
- Process Analysis: Redesign/Reengineering
- Information Management
- Human & Organizational Issues
- Legislative Framework
- ICT & Education

### **3. Findings:**

#### **3.1 Use and Impact of ICT in the Public Sector**

Computer technology is deployed primarily at the operational levels within the Public Sector. Several IT related initiatives are at various stages: from conceptualization to post-implementation, within Government Ministries and Departments, including:

- Legal Affairs: Eastern Caribbean Supreme Court computerization;
- Foreign Affairs: Plans for the Development of a Website;
- Education: Implementation of computers and internet access in Primary Schools, in collaboration with Cable & Wireless;
- Finance: Standardized Integrated Government Tax Administration System (SIGTAS), the Standardized Integrated Government Financial Information System (SIGFIS), Automated System for Customs Data (ASYCUDA); and plans for the development of a website;
- Community Development: Establishment of Community Telecenters under the UNDP Community Internet Resource Centers (CORIC) Project;
- Tourism: Upgrade of the website operated by the National Development Corporation to include online booking;

For the most part, however, the implementation of information technology as a basis or enabler of process redesign and organizational change has been absent, and at best minimal. Moreover, the introduction of Information and Communication Technology in the public service is characterized by an ad hoc, sporadic and disjointed approach. Consequently, notwithstanding the relatively widespread adoption of ICT, the key features have been:

- A lack of coordination and integration in the planning and implementation of ICT initiatives;
- Minimal changes to related business processes, procedures and workflows;
- Limited evaluation and measurement of the extent of success of ICT implementations; and
- Absence of a Policy and Strategy for the adoption and utilization ICT resources.

The Government is currently implementing a Medium-term Public Sector Reform Strategy which requires a focus on, among other things, public sector modernization with improved service delivery through the use of information technology.

### **3.2 Institutional Framework**

While some attempts have been made to develop ICT policies and strategies at the sectoral level, attempts to co-ordinate the development of such a policy for the public service in-house through an ad hoc inter-ministerial committee have proved to be challenging. This was attributed to the demands of operational responsibilities, particularly those brought about by the Fiscal Stabilization and Economic Recovery Programme being implemented by Government.

The development of an ICT Policy, as well as the effective coordination of the ICT function in the Public Service, is adversely affected by the absence of a suitable Institutional framework.

## **4. Recommendations**

### **4.1. ICT Policy Formulation Process**

The guiding principle in the development of the Information Technology (and e-Government) Policy and Strategy for Dominica should be evidence-based policy formulation. It has been noted that: “whichever part of the public sector one is concerned with, one observation is clear: the current state of *research-based knowledge* is insufficient to inform many areas of policy and practice<sup>1</sup>”. This statement is certainly relevant to Dominica.

The development of the ICT Policy and Strategy, in the context of scarce resources and the need to make targeted, strategic interventions that would enhance and support overall social and economic development, must be done on the basis of an empirical and systematic assessment of the current situation.

The merit of this approach is not only advocated by academics, but in the political arena as well: “good government is thinking government... rational thought is impossible without good evidence...*social science research* is central to the development and evaluation of policy<sup>2</sup>”.

In this regard, there are four key areas in which empirical research: data collection and analysis, should be conducted: Central Government/Public Sector, Private Sector and Non-Governmental Organisations, Citizens and the Education sector.

#### **4.1.1 ICT in Public Administration**

Expanding and integrating information technology in Public Administration requires a clear understanding of the present situation with respect to the deployment and utilization of hardware, software, networks and IT personnel across the Public Service. This would require the completion of a comprehensive Information Technology Audit for the Public Sector.

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<sup>1</sup> Davies, Nutley & Smith (2000) What Works? Evidence-Based Policy and Practice in Public Services, Bristol: The Policy Press.

<sup>2</sup> David Blunkett (2001) UK Minister for Education, Influence or Irrelevance: Can Social Science Research Improve Government? Secretary of State’s ESRC Lecture Speech.



#### 4.1.2 Private Sector and Non-Governmental Organisations

A survey to assess the use of Information Technology (IT) in businesses and non-governmental organizations would be the basis for the formulation of Policies and Strategies to increase the adoption and integration of computer technology in the non-governmental sectors. In addition, these findings would inform the policies and strategies for the online delivery of information and services to businesses in Dominica.

The specific objectives of the survey would be to determine:

- The extent of adoption and use of Computers/IT;
- The level of Internet penetration;
- The level of Electronic Commerce: online buying and selling;
- The extent of web presence and e-mail usage;
- Barriers to use of Computers; the Internet & Electronic Commerce; and
- Priority areas for Government to Business (G2B) online services, Business to Consumer (B2C) and Business to Business (B2B) e-commerce activities.

#### 4.1.3 ICT & the General Population

The impact of ICT on socio-economic development has been the source of debate and the subject of much analysis in many countries around the world. An assessment of the main issues clearly indicate that the impact of ICT in the context of a developing state is, to a large extent, dependant upon the ability and willingness of persons to use the technology in various aspects of their lives. It is essential, therefore, that the level of penetration of computers and the internet among the general population be assessed and used as the basis for Policy formulation. This would increase the likelihood that ICT would have a meaningful impact on socio-economic development and help address any existing disparities in access to information, services and ultimately to opportunities for income generation and wealth creation.

#### 4.1.4 ICT and the Education Sector

In terms of the traditional factors of production - land, labour and capital -, small island developing states in the Eastern Caribbean rely primarily on the labour component of this mix as the basis for competitiveness. Indeed, our very survival in this emerging era of trade liberalization and expansion at the regional level (CSME) and the relentless forces of globalization will be inextricably linked to the *quality* of our human resources and ability to adapt and innovate. Consequently, the role of *intellectual* capital will become much more significant in this new environment.

In this regard, the role of the education sector in preparing the foundation for the human resource capacity that is required for national development and growth is critical. The development of cutting-edge *knowledge and capabilities* required for the Information Society and Knowledge Economy can only be achieved with a workforce and populace equipped with the basic levels of *education and skills* acquired from the education system

Knowledge-based industries require an educated labour force of computer-literate individuals who themselves understand and can harness the power of ICT. In response to the demands for producing such a labour force, many countries have changed the objectives of their education system and have directed much of their attention to the development of ICT skills in schools.

In this regard it is important that Dominica adopts a coherent approach to the integration of ICT in the education system. A policy framework and action plan for the use of Information Technology in the education sector is critical. A model policy for the Integration of Information and Communication Technology (ICT) in the Education System was developed by the OECS Education Reform Unit (OERU). The tailoring or customization of this document for Dominica would have to be based, not only on an extensive consultation process at the National level, but also on empirical research.

The objective of this research would be to examine the use of Computers and the Internet in the Education Sector in Dominica, and in particular to determine:

- the extent of adoption and use of Computers/IT by teachers at home and at school;
- the level of Internet penetration among teachers and students;
- the extent of use of computers and the Internet by teachers for: creating instructional material; administrative record keeping; communicating with colleagues; accessing information for lesson planning; multi media classroom presentations; accessing research and best practice for teaching and accessing model lesson plans;
- barriers to the adoption and use of Computers and the Internet by teachers;
- perceived benefits to the use of Computers and the Internet by teachers.

The results of this survey will be extremely useful in the preparation of Strategies and Action Plans for the implementation of “Policies for the Integration of ICT in the Education System” as well as the curriculum and pedagogical changes in the teaching of ICT as a subject and the integration of ICT in the teaching and learning of all subject areas. Findings will also be useful in the formulation of national initiatives aimed at increasing the use of computers by teachers and students.

## **4.2 Institutional Framework for ICT in the Public Sector**

International best practice suggests that increasingly the overall management and coordination of ICT in the public service and the implementation of electronic government initiatives is assigned to a specific Unit or Department, located within a Central Agency. One of the key recommendations of the OECS/GOPA ICT Policy Report was as follows:

“It is recommended that... (the) country have a national ICT Executing Unit with linkages to the ICT sections of the Ministries as well as with other ICT-related organizations in the public and private sector. Such a body will among other things have the responsibility for coordinating National ICT initiatives and projects; and facilitating the implementation of ICT related programmes...the agency will also have the responsibility for developing National ICT Standards and Guidelines and will have an ICT consultancy role as well as a public awareness and education role in the area of information and communications technologies”. (*OECS Consulting Services in ICT: Pilot Project Proposals Report, June 2002*)

The location and structure of such a Unit also needs to be carefully considered:

‘To forestall departmental intransigence and proprietary implementation, governments should appoint a lead agency responsible for implementing e-government initiatives. This agency should report to the highest levels in the government, usually the office of the Prime Minister or President. It should have the authority to ensure that agreed upon approaches and standards are followed. Examples of such agencies include MAMPU in Malaysia.’  
*Guidelines for Sectoral ICT Policy and Planning, Commonwealth Network of IT for Development (COMNET-IT) and the Commonwealth Secretariat, 2002.*

It is recommended that this Central Unit be located within the Establishment, Personnel and Training Department, based on the following:

- The level at which the Head of the Department, the Chief Personnel Officer, falls within the structure of the Public service is significant, being next in line to the Cabinet Secretary in terms of the Chairing of the Committee of Permanent Secretaries.
- The lead IT resource in the Public Service, the Senior Systems Analyst, is already located within the Department.
- The requisite structural and institutional changes to facilitate the establishment of the Central ICT Unit would be the responsibility of this very Department. As well as the recruitment and training of suitable personnel, two of the most critical success factors for the ICT function, with respect to the Central Unit, and across the Public Sector.

### **4.3 Other Critical Success Factors**

#### **4.3.1 Process Redesign & Public Sector Reform**

Overlaying technology, no matter how up-to-date and powerful, onto inefficient processes and workflows, without due attention to business process analysis and the requisite redesign/reengineering/reform of organizational processes, procedures and workflows where necessary, will result in minimal benefits from the deployment of ICTs, as well as significantly reduce likelihood of the successful implementation of electronic government initiatives.

The key issues noted with regard to business processes and workflows are as follows:

- Information systems implementation primarily focused on the automation of existing procedures and workflows in public sector;
- Limited change to underlying processes and workflows, which may be resulting in minimal efficiency and productivity gains, with respect to the implementation of computer-based information systems;

It is recommended that the level of collaboration between the IT function and the Public Sector Reform Management Unit be strengthened. Specific focus should be placed on the process analysis and process reengineering of key Public Sector operations: in particular those already employing Information and Communication Technology at the operational level and those processes that add value and directly impact on the level of citizen and business satisfaction with public sector services.

#### **4.3.2 Data, Information & Knowledge Management**

There is a pressing need to develop and enhance Data, Information and Knowledge Management Policies and Practices and specifically the work towards the implementation of ISO Standard 15489-1 and 15489-2 on 'Information and Documentation - Records Management' across the Public Service.

### 4.3.3 Connectivity & Systems Integration

The following areas represent the key areas for attention:

- Review and upgrade of databases/systems and back-end processes, in the Public Sector, including:
  - extensive systems auditing of key databases and systems;
  - design and build of databases and other back-end systems to support the data and information requirements of Agencies;
  - implementation of standards & policies for: data storage and information sharing; Data Integrity; Disaster Recovery; and Data Warehousing & Archiving.
- Develop a website or portal for the Government of the Commonwealth of Dominica. It is also critical to link back-end systems to government websites so as to enable the creation of dynamic, interactive online services, with access to real time data and processing capabilities.
- Implementation of a wide area network for the Public sector, exploring several options, including, but not limited to: fibre, frame relay and wireless.

### 4.3.4 Public Awareness & Capacity Building

The main objective of this component would be to increase awareness of the possibilities of the ICT and the Internet and increase capacity for the use and adoption of the same among the general populace. Emphasis must be placed on the business sector, with respect to the use of the Internet and ICT in their operations, and in particular the ICT sector, by providing opportunities for the exposure of their products and services. Particular attention should also be paid to schools and the youth, by hosting activities at Schools and Community Centers around the island. The hosting of an annual Internet Fiesta, in conjunction with ongoing capacity building initiatives such as the CORIC programme at the Ministry of Community Development are key mechanisms by which this could be achieved.

## **5. Conclusion**

It is recommended that assistance be sought for the implementation of the specific recommendations outlined in Section 4 above. In light of the imminent establishment of the CARICAD Regional E-Government Facility, such support may be available to the Commonwealth of Dominica in a timely and cost-effective manner.