

# **Information Society and public ICT policies in the Caribbean: a review of advances and challenges, policy instruments and country experiences**

**Carlos Miranda Levy**



December 2007

This document has been prepared by the consultant Carlos Miranda Levy for ECLAC's Information Society Programme of the Division of Production, Productivity and Management and for ECLAC's subregional office for the Caribbean in Port of Spain. The financial assistance of the United Nations Development Account Project "Capacity-building for ICT policy making" was essential for the elaboration of this report, as well as the collaboration of UN DESA in NY and the former UN ICT Task Force, counting with the assistance of Sergei Kambalov and Robert de Jesus. The coordination of the research project has been designed and carried out by Martin Hilbert and João Carlos Ferraz from ECLAC's headquarters in Santiago, Neil Pierre and Sandra John from ECLAC's Port of Spain office and John Prince, Alvaro Diaz and Christian Nicolai have contributed important comments to various versions of this document.

The views expressed in this document, which has been produced without formal editing or revision, are those of the author and does not necessarily reflect the official opinion of ECLAC, of the coordination team of this project, the interviewed experts and contributors or any of the other organizations involved in its preparation.

The electronic version of this document can be found at: <http://www.eclac.org/SocInfo> and <http://www.eclac.org/PortofSpain>

United Nations Publication

LC/W.155

Copyright © United Nations, December 2007. All rights reserved

Printed in Santiago, Chile – United Nations

Applications for the right to reproduce this work are welcomed and should be sent to the Secretary of the Publications Board, United Nations Headquarters, New York, N.Y. 10017, U.S.A. Member States and their governmental institutions may reproduce this work without prior authorization, but are requested to mention the source and inform the United Nations of such reproduction.

# Contents

Introduction .....	5
I. Public ICT Policies and Human Development .....	11
1. Information Society and Human Development .....	11
1.1. The Quest for Human Development.....	11
1.2. Envisioning the Information Society .....	12
1.3. A Multidimensional Model.....	12
II. Policy Instruments.....	15
1. Overview of the Caribbean Region .....	15
1.1. Caribbean Diversity .....	15
1.2. The Caribbean as a Unique Region .....	16
1.3. Caribbean Governance .....	16
1.4. Human Development in the Caribbean .....	17
2. Policy Coordination and Cooperation Framework .....	18
2.1. Key Institutions and Mechanisms and ICT .....	18
3. Sustainable Development Policy Framework .....	23
3.1. Economic Vulnerability .....	23
3.2. Barbados Programme of Action (1994).....	24
3.3. Mauritius Implementation Strategy (2005) .....	24
4. Information Society Policy Framework.....	25
4.1. World Summit on Information Society (2005).....	26
4.2. Main Regional Mechanisms and Initiatives .....	26
5. National ICT Strategies .....	31
5.1. A Second Generation of National ICT Strategies and Implementations .....	32
5.2. A Pragmatic Approach to Public ICT Implementation .....	32
5.3. Formulation and Implementation Processes .....	33
6. Funding and Sustainability .....	35
6.1. Universal Access Funds .....	36
6.2. International Cooperation .....	37
7. ICT Related Legislation.....	37
7.1. Challenges of ICT Legislation in the Caribbean .....	37
7.2. Internet Regulation .....	38

7.3. Internet Governance Awareness .....	38
8. Telecommunication Policies .....	38
8.1. Market Liberalization Process .....	39
8.2. Autonomy of Telecommunications Regulators.....	40
8.3. Regional Telecommunications Regulatory Framework.....	41
9. Top Level Domains Governance .....	43
9.1. National Control.....	43
9.2. Market and Sales.....	43
10. Science, Technology and Innovation .....	45
10.1. Regional Science and Technology Policy .....	45
10.2. Investment on Research and Development .....	45
11. Key Impact Areas for the Advancement of e-Government .....	46
11.1. Mobile Services .....	46
11.2. Data and Systems Harmonization.....	46
11.3. Diaspora Services .....	46
11.4. Disaster Preparedness and Recovery.....	48
11.5. e-Health .....	49
11.6. Potential for Intra-Regional Cooperation.....	49
12. Main Challenges for Public ICT Policies.....	50
12.1. Regional Policy Coordination .....	50
12.2. Formulation and Implementation of Policies at a National Level .....	50
12.3. Budget and Finances.....	51
12.4. e-Government Initiatives.....	51
12.5. Accessibility and Reach.....	51
12.6. Strengthening Local ICT Capacity.....	52
12.7. Research and Information Collection .....	52
12.8. Telecommunication Issues.....	52
III. Access and Infrastructure.....	53
1. Telecommunications Infrastructure.....	53
1.1. International Communications Governance .....	53
1.2. Vulnerability of Communications Infrastructure.....	54
1.3. Reliability of Services .....	54
2. Availability of Data Services.....	54
2.1. Dial-Up Services.....	55
2.2. Broadband Services .....	55
2.3. Wireless Broadband .....	56
2.4. Voice over IP .....	57
3. Community Access Initiatives .....	57
4. Private Sector's Response to Liberalization .....	58
4.1. Reflections on the Penetration of Mobile Phone Services .....	58
4.2. Digicel's Push in the Caribbean .....	59
4.3. Cable & Wireless .....	60
4.4. Cingular Wireless Withdrawal .....	60
IV. Capacities and Knowledge.....	61
1. Education and Capacity Building .....	61
1.1. Literacy Rates.....	61
1.2 Basic and Secondary Education System .....	62
1.3 Tertiary Education in the Caribbean: Deficit and Abundance .....	63
1.4 Distance Learning in Higher Education .....	64
2. Building ICT Capacity in the Region .....	65
2.1 Certification of ICT Skills .....	65
2.2 Main Regional Initiatives.....	66
2.3 The Role of Telecenters in Community Empowerment.....	67

V. Business and Commerce .....	69
1. Regional Economic and Business Outlook .....	69
1.1 Tourism Sector .....	71
1.2 Call Centers .....	71
1.3 Emerging On-line Business to Consumers (B2C) e-Commerce .....	73
VI. Content and Culture .....	75
1. Content Governance .....	75
1.1 Creation of Local Digital Content .....	76
1.2 Intellectual Property, Fair Use and Open Content .....	76
1.3 Multimedia Content and Broadband Content .....	77
Bibliography .....	79
Annex .....	87
1. Chaguaramas Treaty .....	88
2. Barbados Program of Action and Mauritius Implementation Strategy .....	92

### List of Boxes

Box 2.1 Caribbean Civil Society Virtual Communities and Initiatives .....	17
Box 2.2 Structure of CARICOM's ICT/Connectivity Agenda .....	29
Box 2.3 Summary of National ICT Strategies reviewed .....	32
Box 2.4 Phases of Telecommunications Liberalization in Jamaica .....	40
Box 2.5 Success Stories and Potential for Cooperation .....	50
Box 4.1 ICT Community Centers Networks in the Caribbean .....	68
Box 5.1 Existing Collaboration Initiatives with India in the Caribbean .....	72

### List of Tables

Table 2.1. General Country Profile .....	16
Table 2.2. Summary of National ICT Strategies .....	31
Table 2.3. National ICT Strategies and Public Sector Reform .....	33
Table 2.4. e-Government Projects Coordination .....	34
Table 2.5. Public ICT Budget Coordination .....	34
Table 2.6. Nature of e-Government Services .....	35
Table 2.7. National ICT Budgets .....	35
Table 2.8. Public ICT Funds .....	35
Table 2.9. Information Society Relevant Legislation .....	37
Table 2.10. Telecommunications Legislation in the Caribbean .....	39
Table 2.11. Top Level Domain Governance in the Caribbean .....	43
Table 2.12. Commercialization of Domain Names .....	44
Table 2.15. Investment on Research and Development .....	46
Table 3.1. ICT Penetration in the Caribbean .....	55
Table 3.2. Penetration of Fixed and Mobile Phone Services in the Caribbean .....	58
Table 3.3. Monthly Expenditure on Mobile Phone Calls in Saint Lucia .....	59
Table 4.1. Literacy and Education .....	62
Table 5.1. Sectoral Participation and Trade Openness .....	70
Table 5.2. Tourism and Trade Balance .....	71
Table 5.3. Caribbean On-line Gambling Industry .....	73

### List of Figures

Figure 1.1. Human Development in the Knowledge Society .....	12
Figure 1.2. Horizontal Layers, Vertical Sectors and Diagonal Areas of the Information Society ..	13
Figure 2.1. Regional Information Society Stakeholders .....	22
Figure 2.2. Eastern Caribbean Telecommunications Regulation and Policy Framework .....	42



## Introduction

The Caribbean region has an exceptional potential for becoming an international hub of Information and Communications Technologies (ICT) services hosting, outsourcing and delivery. Its strategic location, similar time zones and relative short distances to North, South and Central America major trading centers, make it an ideal choice for the establishment of “near-shore” business operations connected to business and economic activity throughout the continent.

Native domain of English and Spanish languages, cultural compatibility with the rest of the American continent and even Europe, its cultural ties with Bottom of the Pyramid (BOP) markets across the world, and the eagerness of its people to embrace new technologies and learn new skills are major competitive advantages the Caribbean has over other regions competing in the global race for ICT markets.

### **Intraregional Cooperation**

The CARICOM Single Market Economy, and its shared trade and economic policy framework, is a first step towards regional business integration and a special opportunity for other regional organizations, such as the Association of Caribbean States (ACS), to join forces and increase the region’s capacities and attractions.

Countries like Barbados, Jamaica and Trinidad and Tobago have undertaken significant Public ICT initiatives and amassed an important array of lessons learned. The region could leverage this expertise and enable mechanisms for cooperation, technical assistance, knowledge transfer so that other countries could benefit from these experiences.

### **Policy Instruments and National ICT Strategies**

But at the same time they look at the global scenario and the importance of regional integrated policies, Caribbean nations look inward and engage in multi-tiered national processes of capacity building, infrastructure strengthening, public transparency and accountability, investment in research, development, science and technology and enabling of conducive environments for entrepreneurship and innovation.

The positive experience, in countries like Jamaica and Trinidad and Tobago, suggests that the rest of the region can benefit from participative formulation of National ICT Strategies to facilitate buy-in, understanding and awareness among stakeholders, identification of priorities and goals and harmonization of ICT initiatives throughout the public sector and other development policies.

Lack of such National ICT Strategies has created significant challenges for the coordination of ICT projects and hindered the true potential impact of ICT in human development. In addition, the unavailability of detailed information on government spending on ICT, often prevents an efficient allocation of resources and creates the conditions for redundant and duplicated efforts and initiatives.

The often cited positive impact of ICT on social and political processes has yet to be felt in the region and its immense potential to increase transparency and accountability of public authorities, facilitate local governance and civil society participation are key areas that should be prioritized in any local and regional strategy.

While a handful of Caribbean nations have enacted adequate legislation to support the development of ICT activities, most territories have yet to deliver enabling environments where such legislations can be properly enforced and stakeholders acknowledge and take advantage of their incentives. Such environments depend from awareness activities to trigger the engagement of the business sector, availability of local capacity and the designation of formal figures for the enforcement of ICT legislations and policies with real decision making capacity, autonomy and budget allocated.

### **Telecommunications Infrastructure and Access to ICT**

In order to compete for becoming a recognized hub for ICT services, the Caribbean has to face the reliability, redundancy and affordability of telecommunications infrastructure, in particular reducing the costs of international communications and interconnection among competing providers. The goal is to make this infrastructure universally accessible, increasing the penetration of ICT - access to computers, narrow and broadband Internet included – to all citizens.

There is an urgent need of increasing the availability of facilities and programs for social access to ICT, including ICT community centers, cybercafés, universal access to ICT in schools and access points at public service offices such as libraries, post offices and municipal government spaces. Such existing initiatives currently struggle with providing an adequate response to the demand for assistance, training and relevant content from its actual and potential users. Promoting communication, collaboration and sharing of experiences among community service initiatives through national and regional networks of telecenters could greatly alleviate

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_2088](https://www.yunbaogao.cn/report/index/report?reportId=5_2088)

