



Caribbean
Telecommunications
Union



Evidence for Caribbean ICT Policy Development

*Caribbean ICT Policy Rapid Response Initiative
Executive Summary*

November 2011

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The Caribbean Telecommunications Union is a regional intergovernmental organisation dedicated to facilitating the development of the Caribbean ICT sector



This work was carried out with the aid of a grant from the Canadian International Development Agency and the International Development Research Centre, Ottawa, Canada

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Message from the Secretary General of the Caribbean Telecommunications Union

In 2009, the International Development Research Centre (IDRC) invited the Caribbean Telecommunications Union (CTU) to conduct policy research designed to provide evidence to support the formulation of sound policy for Caribbean ICT development. Funded by the IDRC, the Caribbean ICT Policy Rapid Response Initiative (RRI) was the first project of its kind for the CTU. It represented a new phase of widened activity and an increased thrust by the CTU to advance its mandate of helping the region foster ICT development.

The Caribbean faces many threats and challenges to its social and economic stability. Exposure to the effects of climate change, increasing criminal activity, contracting agricultural sectors and the effects of global economic crises are eroding the region's global competitiveness and threatening social and economic viability.

Fully cognisant of these threats, Caribbean Governments have committed to building competitive advantage on the basis of knowledge and information. They have acknowledged that the ability to create, share and use knowledge must become the driving force in shaping future development. Most have espoused the need to move their countries to knowledge societies and economies, but, in spite of the large expenditures on ICT in the post-liberalisation period of telecommunications markets, the region has not been able to make significant progress in advancing its ICT-based development agenda.

It has been agreed by many that a fundamental component in addressing this issue is the need for evidence-based policy development. This in turn requires the execution of relevant regional research. The Caribbean ICT Policy Rapid Response Initiative (RRI) is a cogent response. The CTU envisions that the RRI will form a part of a greater regional thrust towards evidence-based policy development in the Caribbean ICT sector. As such, it is our hope that the results of this Initiative, whether adopted in their entirety or in part, will serve to inform the process of policy development in the subject areas addressed.

The CTU recognises that this Initiative would not have been possible without the gracious support of our many partners and stakeholders. I would like to express my deep gratitude to the IDRC for the opportunity to conduct the project, by giving their substantial financial and other support. I would also like to extend our appreciation to the regional stakeholder community for their input and my sincere gratitude and appreciation to the members of the Review Committee, whose efforts were pivotal in ensuring that this Initiative was of the highest standard. Finally, I extend my heartfelt thanks to the Project Coordinator, Mr. Renique Murray, and to the members of the CTU staff, whose tireless efforts have brought this stage of the Initiative to a successful conclusion.

The current global climate necessitates a regional response that moves beyond discussion, one that takes us to meaningful action. The CTU therefore urges members to earnestly consider these findings and strongly advocates for action to be taken. We look forward to seeing the results used to formulate and implement sound policies that advance the region's ICT-based development agenda. The CTU stands ready to assist its members in implementing the recommendations of each project.

Bernadette Lewis

Secretary General, Caribbean Telecommunications Union

Overview of the Caribbean ICT Policy Rapid Response Initiative

The Caribbean ICT Policy Rapid Response Initiative (RRI) is a policy research project that was conceived by the International Development Research Centre (IDRC) and refined and executed by the Caribbean Telecommunications Union (CTU). Funded by the IDRC and designed to provide quick, expert advice to regional policy makers, regulators and other groups in relation to specific areas of interest, the Initiative forms part of the IDRC's wider Caribbean ICT Research Programme. In particular, the Initiative sought to address specific subject areas in which the absence or lack of properly formulated policies, was resulting in significant challenges to the implementation, adoption and/or operation of ICTs and ICT-related development.

In undertaking the Initiative therefore, the CTU's intent was to develop a body of research for regional decision-makers that would support policy development processes. Critical to this undertaking would be the solicitation of input from the CTU's members for the development of the subject areas to be researched, reporting of progress at regular intervals and ultimately making available the results of the research upon completion of the Initiative.

The CTU was invited to participate in the Programme in the latter half of 2009 but the Initiative effectively commenced in April 2010 with the recruitment of a Research Coordinator. A Review Committee was established to oversee the work to ensure that it would be of the highest standard. The Review Committee consisted of key ICT personnel from across the Caribbean region, the Research Coordinator, and members of the CTU Secretariat. The Committee was officially convened and commissioned in September 2010.

The RRI was conducted in four main phases. In the first phase, the Research Coordinator solicited information from stakeholders including CTU members, operators and regulators across the region to identify some of the more critical areas that are currently challenging ICT development. This was principally done through a survey and telephone interviews. The second phase involved crafting the subject areas to be addressed and issuing a questionnaire to further refine the stakeholder's opinions and to prioritise the subject areas.

During the third phase, researchers were identified and recruited, who executed and completed research in the five subject areas identified, namely:-

1. Implications of Technology and Service Convergence on the Operational and Organisational Aspects of Regulation;
2. Globally Comparable Caribbean ICT Survey Instruments and Baseline Status of National ICT Data Acquisition;
3. Analysis of the Policies Designed to Encourage Development of Business in the ICT-Services Sector;

4. Collaboration Policy for Functional Cooperation through ICT, in the Area of Crime and Security; and
5. The Examination of Prevailing Models for the Evaluation of the Impact of ICT on Development within the Caribbean.

Each research topic was addressed independently by a dedicated researcher and the findings and outcomes were compiled in comprehensive reports, with supporting documents.

The fourth and final phase of the Initiative comprised a thorough review and assessment of the researchers' work by the Review Committee. The dissemination of the research findings and outcomes to the regional CTU stakeholders also forms an integral part of the fourth phase. In keeping with this, the CTU has developed this publication as one of the mechanisms for disseminating the outcomes of this Initiative.

This Executive Summary is supported by more detailed reports for each research project, as follows:

1. A Policy Briefs publication, which provides the results of each project in a concise manner;
2. A Research Summary, which provides a greater level of detail by expanding on the information contained in the Policy Briefs publication; and
3. The detailed reports arising from each project, providing the results of each project in its entirety.

The Policy Briefs document will be accessible via the CTU's main website at www.ctu.int. Additionally, the Research Summary as well as the detailed reports from each project will also be available for download through the aforementioned CTU website.

Key Project Personnel

Review Committee		
Mr. Selby Wilson, Committee Chairman	Telecommunications Strategist	Caribbean Telecommunications Union
Mr. Julian Wilkins, Committee Vice-Chairman	Director	Telecommunications and Public Policy, Digicel Group
Dr. Kim Mallalieu	Senior Lecturer and Leader	Communications Systems Group, University of the West Indies, St. Augustine
Mr. Apollo Knights	Secretary/Director	National Telecommunications Regulatory Commission, SVG.
Mr. Pierre Bowrin	ICT Policy Advisor,	Government of St. Kitts and Nevis
Mr. Renique Murray, Research Coordinator	Researcher and Instructor	University of Trinidad and Tobago, Pt. Lisas Campus
Project Researchers		
Mr. Kwesi Prescod	<u>Project 1</u> Implications of Technology and Service Convergence on the Operational and Organisational Aspects of Regulation	ICT Professional, Prescod and Associates
Mr. Lancelot Busby	<u>Project 2</u> Globally Comparable Caribbean ICT Survey Instruments and Baseline Status of National ICT Data Acquisition	International Consultant in Strategic Planning
Mr. Wayne Butcher	<u>Project 3</u> Analysis of the Policies Designed to Encourage Development of Business in the ICT Services Sector.	
Mrs. Michele Thomas	<u>Project 4</u> Collaboration Policy for Functional Cooperation through ICT, in the area of Crime and Security	ICT Policy Analyst and Research Associate, University of the West Indies, Mona
Mr. Pierre Bowrin	<u>Project 5</u> The Examination of Prevailing Models for the Evaluation of the Impact of ICT on Development within the Caribbean	ICT Policy Advisor, Government of St. Kitts and Nevis

Executive Summaries:

Project 1:

Implications of Technology and Service Convergence on the Operational and Organisational Aspects of Regulation

The broad aims of this research were to:

- Highlight areas of regulatory imbalance in current regulatory practices throughout the region; and
- Identify areas for new regulatory development to address emerging market issues related to the trend of convergence in technologies, networks and services that have evolved in the sector.

The findings revealed that while there are instances of regulatory imbalance in the implementation of the regulatory frameworks established by the relevant Telecommunications Acts passed throughout the region early in the new millennium, many of the existing instances of such imbalance within the telecommunications sub-sector are due to subsidiary regulations, orders or operational mores that can be modified and addressed within the rubric of existing regulatory frameworks. Critically, however, the research found that the broadcasting sector is widely unmanaged across the region and noted that without the appropriate oversight of this sector, there is a significant gap in information to guide the development of policies and systems geared to manage that sector in the context of both:

- (a) Infrastructure roll out; and
- (b) Issues related to management of content broadcast to the general public.

As regards the key question of the model of governance, it is suggested that consolidated regulatory authorities may be the best fit for jurisdictions throughout the region. It is recommended that there should be a consolidation of these functions into one statutory, sector-specific regulatory entity, as this will facilitate better coordination of interdependent systems and services in a converged environment.

In further developing the discussion of a revised governance approach, it is also recommended that the sector regulators consider other human resource

management models to augment the staff complement of the proposed agency. The short term engagement of specialised resources (e.g. consultants) in the completion of specific, one-off activities or the use of an outsourced approach to some aspects of ongoing, personnel intensive operations, may facilitate the sharing of risks and overall costs of effecting key aspects of the mix of functions required for comprehensive regulatory oversight.

From the perspective of regulatory philosophy, it is also recommended that there must be a move to change the regulatory focus from licensing and *ex post* reactionary regulation to a market supportive mix of *ex ante* and *ex post* frameworks that support innovation in service delivery. This will require the entrenchment of licence conditions in defined regulations instead of licensing instruments.

Based on a further review of the operations of regional regulatory agencies, it is recommended that there should be the inclusion of more analytics and market assessment within the operations of these bodies. This approach would require the strengthening of information reporting obligations within the regulatory framework, making it applicable to all similarly-situated service providers in the sector, including telecommunications and broadcasting.

With respect to Internet Governance issues related specifically to Internet Protocol (IP) address scheme migration, it is recommended that the regional administrators do not take statutory action to address this concern. Instead, an approach that encourages the wider market should be applied in order to foster movement in the preferred direction.

In light of the above, it is suggested that close attention be paid to the following points when developing and implementing policy in the region:

1. The harmonising of authorisation approaches to telecommunications, broadcasting and data (Internet) services;
2. The strengthening of regulatory practices as they relate to competition management, spectrum and address scheme management; and non-discrimination and customer protection associated with these functions;
3. The strengthening of the regulatory framework associated with broadcasting content and the protection of intellectual property rights;
4. Including within the policy framework the administrative issues of Top Level Domain administration and Internet address scheme migration; and
5. Endorsing and encouraging the implementation of the programme of activities to facilitate the rationalisation of the regulatory regime (of the particular jurisdiction) in readiness to treat with areas of convergence.

Project 2:

Globally Comparable Caribbean ICT Survey Instruments and Baseline Status of National ICT Data Acquisition

Caribbean countries have recognised the strategic importance of creating knowledge-based societies nationally as well as a knowledge-based Caribbean society. The appropriate application of ICT can improve the quality of life for Caribbean people as they experience a higher level of thinking and improved feelings of self-worth as a result of their intensified and targeted use of the new technologies in their daily lives and in their areas of endeavour.

However, in order to reap the benefits of ICT in the region, appropriate action is required to address existing fragmentation and current and future developments in a liberated and converged environment. As regards the regulatory and institutional framework, an enabling and cohesive environment is needed to attract investment and facilitate competition.

It is well known that lack of information is a major cause of imperfection in the market that leads to monopolies and other forms of restricted competition. A commitment to high standards of data collection and efforts to gather and analyse such data is required. Access to information will contribute to a levelling of the playing field and can create an environment where population size is not a determinant of a country's ability to contribute to world development. The proposed survey of households and individuals, as well as a survey of service providers and regulatory bodies, will bring together information that will benchmark the Caribbean countries in relation to their position in the array of access to and use of ICTs; and indicate the actions needed to increase access across all strata of society.

Data collection requires consistent effort on the part of all stakeholders, including Governments, which should ensure that their Statistical Offices are adequately outfitted with the human resource and with the hardware to embark on relevant fact-finding that will be used to formulate policies.

The research in this project produced a household survey instrument that would collect comparable data on the access to and use of ICTs in Caribbean

countries. Emerging from the body of data collected will be statistics and data that will guide Governments to the policy actions that they should adopt to ensure that access to ICTs is available to all segments and strata of society. By doing so, Governments can provide all their citizens with the opportunity to make their endeavours more productive and increase the chances of the Caribbean making a significant contribution to the development of ICTs worldwide. This will call for policy enactment on matters such as the distribution of lines to all areas of a country, as well as the provision of more and wider broadband access to compensate for the lack of lines in certain areas. It will also call for a study on the current rate structures and some lowering of rates to accommodate those whose lack of use is at present a result of the high rates charged for the provision of service.

The survey instrument proposed should find acceptance among Governments and be supported through the allocation of the required funding to collect the required data at intervals of two or three years. The surveys will enable the calculation of a number of indicators that can locate Caribbean countries in the ICT world. They will also assist in the process of planning to be more effective in the use of the technology for the benefit of the people of the Caribbean.

It is acknowledged that in most Caribbean countries, budgetary constraints pose a challenge to conducting the survey. For this reason, Ministers in charge of ICT development are requested to champion the cause of ICT through support of the collection of the appropriate data as discussed. Ministers should agree to seek international and regional project funding in the first instance to conduct the initial survey in their countries, after which their respective Governments will sustain the data collection activity by conducting the national surveys out of their respective Government's regular budget.

The proposed intervention by international and regional organisations may take the form of the planning and financing of the survey. This would involve training a group of persons, who in turn will become the trainers of the field interviewers who will collect the data. The initial survey must ensure that the processing of the returned data is done with excellence and that tables are produced in the quickest time possible while maintaining the high quality of the results.

The results of the survey would be presented at a meeting of Ministers of participating countries, who will have the opportunity to understand the shape of the distribution of access and barriers to access that exist in their countries. One major desired outcome would be for Ministers to ensure that those barriers are removed. Ministers are asked to intensify their efforts to ensure cross-jurisdictional

collaboration aimed at empowering the people of the region to make meaningful and profitable contributions to the development and appropriate use of ICTs for national economic and social development.

A positive response from Ministers will answer Kofi Annan's call nine years ago for "everyone in a position to make a difference to add his or her energies to this effort".

Project 3:

Analysis of the Policies Designed to Encourage Development of Business in the ICT Services Sector

For the purposes of this study 'ICT-Services Sector' was defined as any business that either produces and markets ICT and ICT-based products and services; uses ICT to support and enhance the effectiveness of other organisations in the economy; or develops significant ICT components and incorporates them into their product and service offerings. The definition excludes those businesses that principally resell or consume ICT products and services.

ICT services have an important dual role to play in national development: as enablers of economic, governance, social and cultural activities or as forming a productive economic sector in its own right, providing employment, revenue generation and hard currency earnings. Almost all CTU Member States have developed ICT strategies. However, apart from the telecommunications sub-sector, these have not yet stimulated the development of vibrant ICT services sectors. A thoughtful, structured approach is needed for the ICT services sector to thrive. The role of the sector must be clearly defined and policies, programmes and incentives must be developed to motivate and support the key stakeholders - the private sector, academia and the public sector - to play their roles.

Member States need to identify desired development roles for ICT services and design implementation programmes to realise their vision. Existing ICT policies and strategies focus on telecommunications and affordable access to ICT, computer literacy and e-Government. However, the success of these initiatives requires an effective ICT services sector, which was identified as a gap in several of the national ICT policies and strategies reviewed. In addition, there is a need for clarity on which area of Government is responsible for the development of the sector.

As a consumer of technology, the region is familiar with ICT as an enabler of organisational effectiveness. In this role, ICT provides vital infrastructure, such as telecommunications and networking; operational and tactical support for organisation's business processes; and strategic support for both innovation and competitive differentiation. If these benefits are to be secured, a vibrant ICT services

sector is critical to providing the necessary products, services and ICT-driven innovations. This is the first strategic opportunity of the ICT services sector.

The research highlighted the importance of good governance as several interviewees expressed the negative effects of delays in ICT services development due to changes in ministerial portfolios and redistribution of responsibilities. Additionally, there is a need to organise the sector so it can develop and make its contribution to the national community by guiding issues on policies in the sphere of ICT. It has been suggested that the liberalisation of telecommunications and the removal of customs duties and value added taxes on computer equipment had assisted the development of the sector. However, a consistent observation was the minimal positive impact of Government policy on the development of businesses. Other negative impacts include Government procurement practices that are disadvantageous to Micro, Small and Medium Enterprises (MSMEs) and that appear to favour foreign suppliers over local ones. Access to funding was identified as a particular difficulty for start-up and MSMEs in the ICT services sector.

Securing the benefits of ICT services requires a development programme for the sector. The programme must define economic targets for the sector, the resources required and the governance structures to manage delivery on objectives. Moreover, the success of the programme will be dependent on and require the committed participation of the state, private sector, education and civil society if it is to succeed.

A regional approach to the ICT services sector can address the challenges of scale and scope faced by Member States and avoid the risk of dissipative intraregional competition. Such an approach would take advantage of common interests in tourism, agriculture and cultural products, health care, education and other service needs. It would also produce common systems throughout the region, which would facilitate higher levels of regional collaboration and integration of the respective sectors. At the same time, it would provide for healthy competition where that would be effective.

This approach is extremely challenging, given the different capabilities and capacities of Member States, their different stages of development, their different developmental needs and their competing interests. Furthermore, while efforts at regional collaboration have not always yielded success, these challenges do not invalidate the underlying logic of the argument. Rather, they define the parameters within which a solution must be found. This will not be achieved overnight, but the benefits offered and the risks of doing otherwise make this approach an imperative.

Project 4:

Collaboration Policy for Functional Cooperation through ICT, in the Area of Crime and Security

There are a number of common characteristics among Caribbean countries that make them particularly vulnerable to threats from crime and security. These include small size, openness, geographic location and reliance on transnational flows. Among the main threats to the Caribbean region are the following types of crime: organised crime, homicide, illegal drugs and guns, electronic crimes and kidnappings. Crime in the 21st century is borderless and, consequently, an integrated and harmonised regional approach to these problems is needed. This has been recognised and actively pursued over the years.

Crime and security is the fourth pillar of the CARICOM Functional Cooperation Framework. A regional governance structure for cooperation has been in operation to, among other things, engage in capacity building through institutional strengthening and other forms of mutual cooperation. In keeping with its mandate regarding functional collaboration, CARICOM has put in place a number of institutions, programmes and projects. The questions that arise, however, relate to:

- The impact and effectiveness of these institutional and operational frameworks from a regional perspective, and
- The role of ICT as an enabler in enhancing the effectiveness of crime management across the region through functional collaboration.

At the national level, crime and security forces have been moving towards the implementation and use of ICT technology to assist in their efforts.

The findings of this research show that while there is an existing framework for cooperation in crime and security in the region, the use of ICTs within the context of a knowledge management framework is a significant requirement for effective functional cooperation. This is applicable in areas such as policy formulation, intelligence gathering and sharing, operations, and capacity building. Such an approach has the potential to transform the operations of national and regional crime and security organisations, leading to better governance systems and more efficiency. It must be noted that effective functional cooperation through ICTs

requires the development of a knowledge management framework, operating at the national and regional levels.

Many ICT initiatives/projects are based on external financing and done on a country basis. There is a concern with regard to the sustainability of these ICT interventions/projects at the end of the funding arrangement, as national governments are often not in a position to provide continued funding. It was also reported that access to funding seems to be an issue for the smaller Caribbean states. This was seen as an avenue for exploration of possible economies of scale to be achieved through regional collaboration in ensuring sustainability of ICT interventions/solutions for crime and security problems.

ICTs do not represent a panacea to the crime and security issues facing the Caribbean, but they do provide a knowledge management tool that can be used to enhance collaborative efforts already in existence in order to effectively tackle regional concerns. Therefore in building a framework, it should be recognised that:

1. Crime Management is knowledge-intensive work requiring a knowledge-based organisation. Traditionally, crime and security establishments throughout the region have operated largely, bureaucratic, paper-based institutions, which have stifled the process of information sharing. It was noted that that while there was some level of bilateral sharing of information, this was predominantly with external partners and among larger countries.
2. Work done on the incorporation of ICT systems at the national level (Mansingh and Stewart Case Study of Jamaica) shows that the systems themselves, while necessary, are not sufficient to foster the efficiencies that would be required to effectively tackle crime and security issues. Translating this upward to a regional level, it must therefore be noted that functional cooperation though the use of ICTs will require much more than the implementation of ICT systems. It requires the fostering of a culture of knowledge and learning, through the effective implementation of knowledge management processes at the local and regional levels.
3. Functional cooperation as envisaged by CARICOM encompasses the notion of benefits to all. However, while it was reported that there is information sharing with respect to new technologies and efforts to use best practices, this was mostly among the larger Caribbean islands.
4. ICT applications for crime and security must also extend to the Justice System and address issues such as prevention. The Annual Report 2008 of the United

Nations Office on Drugs and Crime (UNODC) states that, “Crime thrives in institutional vacuums, flourishing where justice is weak and lawlessness and instability prevail. When countries lack strong institutions of justice — such as forceful criminal legislation, reliable law enforcement, a fair judiciary and a humane prison system — criminals find opportunities to profit.”

Four main areas were identified in which ICTs could be applied to create a knowledge management system. These include policy coordination and implementation; intelligence gathering and sharing; training and capacity building; and operational efficiencies. The implementation of knowledge management processes using ICTs will enhance the level of functional collaboration in crime and security. Some of these systems are already in use in countries across the Caribbean. These include geographic information systems, automated fingerprint systems and ballistic information systems. However, greater collaboration can be achieved by using ICTs to create access by a wider group of countries to these knowledge management systems and also in linking into the knowledge base of judicial frameworks. Furthermore, it is imperative that measures be put in place to ensure the building of knowledge-based learning organisations required to effectively tackle crime and security issues. ICTs can support the building of a network of expertise.

The success of criminal networks may be attributed to, inter alia, their ability to manage information and knowledge. Effective functional collaboration in regional crime and security therefore requires a higher order ability to manage knowledge about criminal networks and activities. As a knowledge management system, ICTs represent the tools that facilitate knowledge management. While institutions both at the national and regional levels currently use ICTs to facilitate functional collaboration, there is greater scope for more use. Importantly, it must be recognised that the systems by themselves will not lead to effective functional collaboration. Institutions at the national and regional levels need to transform themselves into knowledge-based organisations, with the capacity to effectively apply high order ICT knowledge management systems to crime and security management.

Project 5:

The Examination of Prevailing Models for the Evaluation of the Impact of ICT on Development within the Caribbean

During the past decade, regional governments have increasingly invested in ICT-related projects to address public service operational inefficiencies and socio-economic challenges. Adequate project management is critically important if these specific projects are to fulfil their intended objectives and overall, have a meaningful impact. Without personnel who are adequately trained and possessing knowledge of a practical ICT assessment approach, the intended objectives of many ICT projects will remain unrealised. An appropriate methodology or suite of methodologies would be useful to measure the impact that investments in ICT have made, in order to assess their impact.

The key findings of a recent examination has revealed the following:

- Approximately 34% of reported ICT interventions implemented during the period 2001 to 2010 were valued between EC\$1m to EC\$5m;
- Over 33% of reported ICT interventions during the same period were valued over EC\$5m;
- Over 35% of ICT projects are funded from Government revenues;
- Approximately 50% of reported ICT interventions implemented during the period 2001 to 2010 were assessed via a combination of qualitative and quantitative methods. However, the remaining 50% were not formally assessed; and
- Approximately 65% of respondents reported that the impact on the public sector of ICT projects is unclear.

Although there is established guidance on project management such as the PRINCE2 methodology and the Project Management Body of Knowledge methodology, their focus is primarily on project execution and less on impact assessment. The research indicates that impact assessment for ICT projects are conducted about 50% of the time. Therefore, it is important that a policy be developed to mandate the impact assessment of ICT projects.

Three main options are proposed that may be useful in evaluating the impact of projects. One is the development of a 'National Information and Communications Technology (ICT) Impact Assessment Policy' that would mandate that all executing agencies/departments/ministries conduct an ICT impact assessment in an effort to determine the effect of the initiative, in particular on the public service entity and the general public.

Another proposal is a 'Restricted Information and Communications Technology (ICT) Impact Assessment Policy'. Similar to the above option in structure, the restricted ICT impact assessment policy would require all executing agencies/departments/ ministries to conduct impact assessments on ICT projects valued EC\$250,000 and over in order to determine the effect of the initiative, in particular, on the public service entity and the general public.

The third policy option proposed is a 'Participatory Information Communication Technology Impact Assessment' (PICTIA). The PICTIA approach employs an intensive team-based methodology, which permits an effective inquiry to be completed within 4 to 6 weeks. The approach also embraces the view that research efforts conducted in the region have traditionally excluded local constituents from the research process and, because of this, attempts to reverse this practice by proposing a more inclusive, transformative and empowering approach. Heavy emphasis is placed on the PICTIA approach, highlighting that it targets the public service (Government ministry or department, agency, etc.) and the general public (communities or special groups of persons) as its primary stakeholder-focus domain.

As financial resources become increasingly scarce and limits further investment in ICTs, it is imperative that regional Governments adopt a firm position regarding impact assessment in an effort to adequately measure return on investment and overall socio-economic impact. A national ICT impact assessment policy will support this effort.

Regional ICT Policy Development –

Long-term, strategic considerations

The research conducted under the Rapid Response Initiative, identifies some key long-term issues that must be addressed. These issues have been found to span all the major sub-sectors across the region. As such, it is critical that any long term efforts aimed at the development of ICT on the local or regional levels must have strategies for addressing these issues as a fundamental component. The four main issues of sector development will now be discussed.

Developing creative human and financial resource strategies

A key challenge to the ICT sector which recurs across the region is that of limited resources. There are two aspects to this challenge, the first being financial limitations, and the second is limited human resources. Many ICT related projects and/or initiatives are generally supported by external funding, which is generally only available for very limited periods.

The second and more critical aspect is the lack of human resources. In many departments and institutions, e.g. the regional Statistical Offices, there is a scarcity of skilled ICT personnel. Consequently, this limits the functionality of these departments and agencies, and many are unable to execute their stated mandates and missions; and often contributes to the abortion of some projects.

It is therefore evident that a key long-term objective in the development of the sector must be the addressing of this issue. Joint action must be taken by governments and private stakeholders in further promoting careers in ICT and then presenting opportunities for training and capacity building through grants, scholarships and other types of funding. The development of a more robust human resource capacity will better position the regional sectors to negotiate and acquire better external funding arrangements, as well as more effectively utilise national budget allocations.

Proactive and current approaches to ICT

Most of the ICT sectors across the region were birthed during the era of the rapid expansion of Public Switched Telephone Network (PSTN) based telecommunications. As such, this was the context in which development of the

regulatory frameworks and approaches occurred. The subsequent thrust for liberalisation over the past decade and a half has resulted in some amendment to these frameworks and approaches. However, since that time there have not been significant changes to regulatory frameworks and other aspects of ICT development throughout most of the region. This “need to update” is a key requirement across all sub-sectors. The frameworks for regulating the telecommunications sub-sectors are still directed to fixed-line network operations in most instances; in others, the treatment of mobile networks does not properly consider the market dynamics. Similarly, the broadcasting sub-sector has very limited framework. In the ICT-services sub-sector, the current policy frameworks show little in the support of the sub-sector’s development. This prompts the consideration of whether this sub-sector has been considered and planned for, or simply just emerged and was left to grow independently. Furthermore, the statistical data required to inform strategic sector development is often limited. This is a direct consequence of the fact that many Statistical Offices only collect ICT data by means of National Censuses conducted usually every decade.

The attainment of long-term goals and the realisation of sustainable development within the regional ICT sectors necessitate both an updating of existing sector frameworks, as well as proactively embedding measures for dealing with future growth. Proactive approaches will provide avenues for addressing the issues of regulatory arbitrage, data shortage and enterprise development. These are all necessary to ensure properly functioning markets and sub-sectors, which in turn are fundamental aspects of a sustainable ICT sector.

Strategic Implementation and Evaluation Methods

A review and analysis of mission statements, policy documents and legislation of the various sub-sector institutions and agencies across the region, will reflect very clearly-defined goals and objectives, as well as procedures for execution. However, the research has found that in many instances, there are significant discrepancies and gaps in actual operational methods and standards. On the level of regulatory frameworks, it was found that many laws and policies are poorly implemented in day-to-day operations; in some cases, a consequence of limited resources, causing many government agencies to fail in fulfilling their mandate. This is significantly reflected in the area of ICT project implementation, wherein there is a general agreement by all on the absolute criticality of ICT to the region’s development. Nevertheless, it was found that across the region, roughly only half of the projects implemented are ever managed and assessed to determine if the stated goals were achieved.

Long-term strategies for sector growth must include a focus on the development of effective implementation methods; the gap between stated objectives and positions and operational standards must be diminished entirely. Key

to this is the development of the skilled human resource personnel, which is lacking in some instances. In addition, new methods of implementation must be instituted and emphasis must be placed on evaluation and assessment of activity, based on stated objectives. In other cases, institutions must simply muster up the willpower to enforce what has been previously declared.

Continued Movement toward Regional Functional Collaboration

The findings of the various projects have highlighted problems that are regional in scope. For example, there are increasing numbers of crimes that are linked to criminal networks with regional and international scope. The regulatory issues arising from increasing convergence of the sector are similar in many territories across the region, and often involve regional actors. In like manner, there is a growing need across the regional sectors to collaborate in order to capitalise on economies of scale. Conversely however, it was found that there are several instances of bilateral agreements and sharing relationships between countries in the region, with countries external to the region; and very little between the countries of the region itself. It is evident that these two movements are somewhat out-of-step. However, there are areas where efforts are already being taken to adjust this; one being the area of crime and security. This movement towards greater functional collaboration is indispensable to the development of the regional sectors. Furthermore, greater effectiveness of the sector would require collaboration not simply between regional ICT sectors, but also with other sectors across the region. It is expected that this would continue to be a fundamental component of any long-term strategy for regional sector development, as global phenomena continue to make the region a smaller place.

Conclusion

Caribbean Governments have recognised that Information and Communication Technologies (ICT) present opportunities for fostering national development and enhancing competitiveness. However, in order to catalyse the process by which ICTs yield those benefits, it is necessary to establish a sound policy framework, not only to encourage the effective use of ICTs but also to create an enabling environment for investment in ICT and to develop a robust ICT services sector.

The Caribbean ICT Policy Rapid Response Initiative (RRI) was envisioned to provide a body of research or evidence on ICT issues that would be used to formulate appropriate ICT policies. The research therefore was directed towards providing that evidence in areas identified as lacking by Caribbean policy makers, namely ICT Regulation, Data Acquisition, ICT Services Sector Development, Regional Collaboration in Combating Crime and ensuring Security, and Assessment of the Impact of ICT on Development in the region.

The Research was undertaken by Caribbean practitioners who appreciate and understand Caribbean institutional and cultural environments, making this body of work truly relevant to the Caribbean. The research papers provide timely information to Caribbean Governments and, in addition, make recommendations on approaches that, if adopted, will advance policy formulation and, as a result, will advance economic and social development for all Caribbean peoples.



Caribbean Telecommunications Union
3rd Floor, Victoria Park Suites, 14-17 Victoria Square, Port of Spain, Trinidad and Tobago
Phone: (868) 627-0281/ (868) 627-0347 Fax: (868) 623-1523