



*Connect the Caribbean – Connecting the Caribbean's Unconnected by
2015*

Caribbean Contribution to Connect the Americas Summit 2012

July 10, 2012

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Executive Summary

Introduction

The countries of the Caribbean are characterised by diversity and face threats and challenges to their social, economic and environmental stability. Caribbean Governments, being fully cognizant of these threats, are committed to building competitive advantage and fostering social and economic development on the basis of information and communications technology (ICT).

Many public and private sector initiatives have been undertaken in the region to advance ICT-enabled development. However, there is still a need to create a comprehensive ICT platform to foster a functionally, seamless, integrated Caribbean - the goal of the Caribbean Single Market and Economy. This requirement creates numerous opportunities for ICT investment in the Caribbean.

The International Telecommunication Union (ITU) has embarked on an initiative - Connect the World - that aims to mobilize human, financial and technical resources for the implementation of the connectivity targets of the World Summit on the Information Society (WSIS). The ITU's initiative also encompasses the Regional Initiatives adopted by ITU Member States at its 2010 World Telecommunication Development Conference. It is clear that the Caribbean's connectivity and development goals can benefit from the ITU's wider initiative. As a consequence, the Caribbean has embraced the ideals of the ITU's vision and will participate fully in the ITU's Connect the World's regional programme - Connect the Americas (CTA).

The Purpose of the Document

The Purpose of this Caribbean contribution to the CTA Summit Position Paper is to:

- I. demonstrate the widespread commitment of Caribbean leaders to ICT driven development;
- II. identify relevant organisations in the Caribbean with a focus on and mandate for ICT-centred development;
- III. detail the development oriented objectives of the region's ICT-centred organizations;
- IV. detail, with the help of research data, the status of ICT development in the region, along with recommended strategies for the accomplishment of regional goals; and
- V. illustrate the opportunities for and potential benefits of investment in ICT development projects in the Caribbean.

ICT initiatives in the Caribbean

Many public, private sector and academic organisations and institutions have been working in the area of ICT policy formulation, public awareness, education and skill development, mobile applications production, e-government, spectrum management reform, internet governance, innovation and entrepreneurship, network infrastructure, disaster mitigation and recovery, and cyber security. These areas are elaborated upon in the document.

The Caribbean Community Secretariat has developed an ICT4D Regional Digital Development Strategy (RDDS) that presents a comprehensive view of the principles that should guide investments in ICT to spur Caribbean development.

Although, many of the ICT projects and activities undertaken thus far in the Caribbean have been done in isolation, nonetheless, they have contributed to establishing the basis for a connected Caribbean. The RDDS provides insight into how these activities may be complemented and integrated to provide a platform for seamless integration across the region. Caribbean countries are indeed using it to guide further development.

Connect the World – Connect the Americas – Connect the Caribbean

As noted above, Caribbean organisations have been identifying ICT projects and actively engaging public and private sector institutions to muster resources for achieving a connected Caribbean. Recognising the fundamental differences between the Caribbean, Latin America and North America, these activities have been held under a Connect the Caribbean Project, but as an integral part of the ITU's Connect the Americas regional programme,

The ITU has organized a series of regional Summits to mobilise resources and forge partnerships for the Connect the World initiative. The Connect the Americas Summit will take place in Panama City, Panama, from 17 to 19 July 2012, and will bring together proposers of ICT projects and potential investors from the Americas. It is anticipated that there would be wide participation of Caribbean governments, the private sector and other Caribbean institutions and stakeholders.

Caribbean ICT Projects

In accordance with the ITU's thematic areas in its March 2012 Call for Projects, proposals have been formulated in each of the following project areas identified for Connect the Americas:

- **Emergency Communications**
Development of national emergency communications networks that are integrated as a regional network and supported by a Broadband Satellite repeater system. It is envisioned that the system would also address the issues relating to climate change.
- **Digital Broadcasting / Spectrum Management)**
The execution of a comprehensive regional Spectrum management programme, which addresses harmonization of policies and procedures for the administration of spectrum, the process for digital switchover and the equitable use of the digital dividends.
- **Broadband Access and Uptake In Urban And Rural Areas**
Development and implementation of harmonized Broadband Plans for Caribbean countries.
- **Reduction of Internet Access Costs**
Proliferation of Internet Exchange Points (IXP) in the Caribbean, through the establishment of at least one IXP in each country.

- **Human Capacity Building on ICT with Emphasis on Persons with Disabilities and People Living In Rural and Deprived Urban Areas**

Sustainable and systematic programmes and activities to raise public awareness and educate citizens on ICT and its potential to transform every sphere of human activity. The programmes seek to promote innovation and entrepreneurship and focus on youth, and disadvantaged communities and individuals.

- **Other**

Projects that provide institutional support, facilitate Public and Private Sector reform, facilitate access to all types of information, and addresses security issues.

As at June 1, 2012 over 50 project proposals were received from the Caribbean in response to the ITU's CTA March 2012 Call for Projects. These project proposals totaled approximately USD 52 Billion dollars. The most updated version of specific project proposals received may be found at the ITU's CTA web site at <http://www.itu.int/ITU-D/connect/americas/projects.asp?Language=en>, which is being consistently updated.

Conclusion

Caribbean ICT stakeholders recognize that ultimately the lives of the citizens of the region can be transformed through the effective application of ICT and that the Connect the Americas programme presents a unique opportunity for attracting investment for ICTs in the Caribbean.

1. Welcome to the Caribbean!

Strategically nestled between the Atlantic Ocean and North and South America, the Caribbean region represents a wide variety of destinations and has all the necessary attributes for mixing business with pleasure. With a population of 40m people of European, African, Asian, South American and native Amerindian descent, this tropical paradise is a unique destination with rich history and culture. English, Spanish, French and Dutch speaking territories coexist and local creole languages or dialects are also used.

The name "Caribbean" is derived from the Caribs, the indigenous and most prevalent Amerindian tribe on the islands when they were first discovered. Another common term for the region is the "West Indies" which is said to be derived from Christopher Columbus's mistake in believing he had reached the "Indies", namely, Southeast Asia. After discovery of Columbus's mistake, Southeast Asia was then referred to as the "East Indies" and the new area of the world as the "West Indies."

The geography varies from country to country with flat, hilly or mountainous terrain accentuated by some of the world's most magnificent waterfalls and rain forests. Some even have beautiful caves lined with stalagmites and stalactites. Out of the 851 UNESCO World Heritage sites, over 18 are located in the Caribbean, the most recent being Barbados' capital city Bridgetown and its Garrison.

While the Caribbean is a popular tourist destination and a holiday home for the rich and famous, the individual countries which are now mostly independent states, have developed a strong business environment supported by world class infrastructure, first class hotel accommodation and services and investment opportunities for local and foreign investors. A major plus is the location of the region, which is within easy reach of North and South America and Europe, and through these regions, access to the rest of the world is easily facilitated.

The Caribbean has a proud reputation for successfully hosting major sporting and business events from high profile gatherings such as the Fifth Summit of the Americas hosted by the Government of Trinidad and Tobago in February 2009, to the ICC Cricket World Cup held in 2007. This creates a strong demand for excellent communications.

The Caribbean is home for world class sports heroes such the reigning 100 and 200 metres track star Usain Bolt from Jamaica and cricket legend Brian Lara, from Trinidad. In addition Caribbean nationals Derek Walcott and Sir V.S Naipaul were Nobel Laureates for Literature in 1992 and 2001 respectively, and Sir Arthur Lewis was a Nobel Laureate in Economics in 1979. Further, the Caribbean is home to the only musical instrument to be developed in the 20th Century, being the Steel Pan out of Trinidad and Tobago. It is also home to Reggae and Calypso music, two types of scintillating musical sounds which have captured the hearts and minds of many, across the globe.

The Caribbean has developed a strong regional unity with the creation of the Caribbean Community (CARICOM) aimed at promoting economic integration and cooperation among its members. The CARICOM Single Market and Economy (CSME) treaty signed on January 1, 2006 by 12 member countries, established deeper regional integration through harmonized tariffs and duty free trade. In 2008, the CARICOM member countries, the EU and the Dominican Republic signed an Economic Partnership Agreement (EPA) establishing a comprehensive and development oriented trading agreement. The countries have a good history of political and economic stability and are served by a number of international financial institutions, some of which are domiciled within the individual countries.

In terms of investment, the Caribbean is open for business with investment friendly incentive packages available in several countries. The countries of the Caribbean are stable and secure, enjoy transparent regulations, sound financial systems and a skilled workforce making the region ready and inviting for investments.

2. Introduction: Seeking to Connect the Caribbean

The requirements for access to the Information Economy are ever more accessible now for the people of the Caribbean than they ever were. As stated in Zaballos and Medford's November 2011 position paper *Broadband Development – Future for the Caribbean*, "Critical considerations when assessing the Internet's effectiveness as a medium of connectivity include transmission speeds and prices. The ITU ICT Price Basket¹ shows that between 2008 and 2010, ICT services globally have become more affordable and relative prices reduced by an average of 18%. The most significant price decrease occurred in developing countries, where fixed broadband prices dropped by 52.2%. The report reveals that countries with the relatively cheapest broadband prices are high-income economies and include Monaco, Macau (China), Liechtenstein, the USA and Austria."

Today's Caribbean economy is experiencing a major shift from manufacturing to knowledge services which render human capital and knowledge-based work key resources in the quest for sustainable development. Global statistics show productivity gains in all sectors resulting from the use of ICT, and further evidence shows the relationship between productivity and broadband availability.² ICT infrastructure underpins the knowledge economy of the so-called 'Information Society'. It is important to note however that various unique approaches will be needed to make the leap to 'Information Societies' within the Caribbean as, though a single regional block, there are multiple languages, socio-economic challenges and political influences.

The many countries in the region display varied levels of ICT development and broadband infrastructure. With respect to the latter, many of the countries which have this infrastructure offer broadband service at rates that are prohibitive in the context of the country's Gross National Income (GNI) per capita.

¹ www.itu.int/ITU-D/ict/ipb

² See www.euklems.net

Additionally, when compared to GNI per capita, ICT equipment remains expensive throughout most of the region. For these and other reasons, though the region reports high levels of mobile connectivity penetration, access to fixed-broadband and in some cases, Internet connectivity, remain low. This low broadband rollout necessitates greater investment in this regard. Further, in most countries there are two service providers so true competition might not exist. Hence, despite the awareness of a need for increased levels of ICT use across Caribbean economies, the use of e-commerce and other such 'e-activities' is not as pervasive as one would like and the region trails behind other regions.

It is now globally well established that access to broadband plays an important role in bridging the digital divide and enhancing a country's competitiveness. Communication has always been a human need. At the ITU it is believed to also be a human right. Countries like Finland, Spain, Estonia and France have already declared access to the Internet a human right³. The region must also seek to safeguard this right for its inhabitants. Access to ICTs, which is instrumental in giving the masses access to enhanced communication and to the global economy, is absolutely pivotal and consequently, there has been a concerted push worldwide to implement initiatives to accelerate the rollout of broadband. Inter alia, this will assist in the achievement of the Millennium Development Goals (MDGs). Indeed, only one third of the world's population of seven billion people, uses the Internet.⁴ The previously mentioned Zaballo and Medford report draws us to the United Nations General Assembly Resolution 56/183 which recognises:

'the urgent need to harness the potential of knowledge and technology for promoting the goals of the United Nations (UN) Millennium Development Declaration and to find effective and innovative ways to put this potential at the service of development for all.'

There is a great need for improving ICT uptake through strategic activities that facilitate broadband connectivity. Initiatives to connect the Caribbean support the ITU's objective to Connect the World by 2015.

2a. Connect the Americas in the Context of ITU's Connect the World Initiative

ITU's Connect the World (CTW) initiative aims to mobilize human, financial and technical resources for the implementation of the connectivity targets of the World Summit on the Information Society (WSIS) and the Regional Initiatives adopted by ITU's Member States at the ITU World Telecommunication

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1. ³ [Estonia, where Internet access is a part of human rights](#), Colin Woodard, Christian Science Monitor, 1 July 2003
 2. ["Top French Court Declares Internet Access 'Basic Human Right'"](#), *The Times of London*, 12 June 2009
 3. [Sarah Morris \(Tue Nov 17, 2009 1:26pm EST\). "Spain govt to guarantee legal right to broadband"](#). Reuters.
 4. ["Finland makes 1Mb broadband access a legal right"](#), Don Reisinger, *CNet News*, 14 October 2009

Source: http://en.wikipedia.org/wiki/Internet_access#Access_as_a_human_right

⁴ Zaballo and Medford (2011) Position Paper on Broadband Development – Future for the Caribbean

Development Conference (WTDC) held in October, 2010. Further information on the CTW initiative may be found in Appendix 1.

The ITU within the Connect the World initiative and in collaboration with its many partners has been organizing a series of regional Summits to mobilize resources and forge partnerships. Most of the globe is represented with 5 regional areas: Connect Africa, Connect the Arab States, Connect Asia-Pacific, Connect CIS (Commonwealth of Independent States (former Soviet Union)) and Connect the Americas. Each region hosts a Summit as a key part of its work within its Connect Agenda. The purpose of the Connect the World Summits is to identify priority ICTs for socio-economic development oriented projects, foster cooperation, engage partners, mobilize resources, and gather all stakeholders during a three-day event, to address the priorities identified for a specific region. Following the Summits in Kigali, Rwanda (Africa - 2007), Minsk, Belarus (CIS - 2009), and Doha, Qatar (Arab Region - 2012), Connect the Americas will be focusing on the priorities as first expressed by the Americas during ITU's World Telecommunication Development Conference in 2010 in Hyderabad, India.

The Connect the Americas Summit encompasses both an event (the Summit itself), and an extensive preparatory process, which is key in ensuring that the Summit is a success with regard to political and financial support, resource mobilization, project identification, and partnership commitment. As at June 23, 2012, the preparatory process has involved a March 22 – 23, 2012 in-person meeting in Trinidad and Tobago for Caribbean stakeholders, an April 20, 2012 in-person meeting in Mexico for the entire Americas, a June 1, 2012 Skype meeting and a June 20, 2012 in-person meeting in Barbados for the Caribbean. The objectives of all three regional meetings have been to sensitize the ICT4D stakeholder group throughout the region to the *raison d'être* of the Connect the Americas initiative; report on the the Caribbean's preparation for the summit; discuss updates on the Summit; review the region's contribution document to the CTA Summit and desired outcomes from the Summit; develop a strategy for promoting the region's participation in the Summit; identify and encourage project submitters to take the initiative to identify potential investors and sponsors for the Summit and examine projects from Member States that will be submitted at the Summit. The first preparatory meeting in particular, provided the opportunity for projects submitted to date to be showcased to the other ICT4D stakeholders present.

In order to enable the achievement of these objectives, member states and organizations were expected to be fully participative in all aspects of the preparation as requested, submit project ideas and assist in ensuring that the Caribbean speaks with "one voice" at the upcoming CTA Summit. The Connect the Americas Summit holds much promise for the region because by bringing together key global and regional players in the sector, the Summit will help mobilize human, financial and technical resources needed to support ICT growth, widely recognized as the engine of future economic prosperity and sustainable development.

2b. Connect the Americas Regional Initiatives and Priority Development Thematic Areas⁵ as adopted at WTDC-10 in Hyderabad, India

Regional Initiatives

I. Emergency communications:

- Identification of suitable technologies to be used for emergency communications
- Creation of common databases to share information on emergency communications
- Design of national and subregional emergency communication plans and early-warning systems, taking into account the impact of climate change
- Development of appropriate policy, regulatory and legislative frameworks on emergency communications at national and regional level
- Increased human capacity skills on emergency communications.

II. Digital broadcasting:

- Policy and regulatory frameworks for digital terrestrial broadcasting, including mobile television
- Digital broadcasting master plans for the transition from analogue to digital broadcasting, including mobile TV and IPTV
- Appropriate mechanisms for conversion from analogue to digital archives
- Provision of assistance in the field of interactive multimedia services to broadcasters
- Enhanced human resources skills in the area of digital broadcasting technologies
- Comprehensive guidelines on the transition from analogue to digital broadcasting
- Creation of the compendium of public policies on the transition to digital terrestrial radio and television.

III. Broadband access and uptake in urban and rural areas:

- National ICT master plan to meet the requirements of developing countries
- Improved broadband infrastructure and access to affordable ICT services in urban and rural areas

⁵ Connect the Americas Concept Paper written by the ITU (www.itu.int) for the 2012 Connect the Americas Summit
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- Promotion of access to ICTs in public social service institutions such as educational centres, health centres and social rehabilitation centres, and of the use of ICTs by the population to access these social services
- Development of ICT applications that address local needs
- Enhanced human resources skills in the area of broadband communication networks
- Support to non-profit cooperatives that provide services in underserved rural and suburban areas
- Provision of used computers to educational institutions in rural areas.

IV. Reduction of Internet access costs:

- Study of the policy and regulatory aspects of Internet exchange points (IXPs)
- Establishment of national and regional IXPs
- Promotion of cooperation and regulatory information sharing.

V. Human capacity building on ICTs, with emphasis on persons with disabilities and people living in rural and deprived urban areas

- Human capacity building programmes especially tailored for the needs of persons with disabilities and people living in rural/remote areas
- Identification of training centres to deliver the programmes at the community level
- Promotion of technical cooperation between telecommunication/ICT training institutions in regard to capacity building and resources for sustainable delivery of the special programmes
- Increased availability of public access to knowledge for people with special needs (such as the mentally and physically challenged).

Further Development Themes

I. ICTs and Climate Change

ICTs can play a key role as an enabling technology to reduce GHG emissions in other sectors. It is vital to set priority areas for action, such as smart buildings and smart electric grids. Dematerialization enables ICTs to replace travel and reduce GHG emissions. Governments and the private sector each have their role to play in deploying ICTs in other sectors to maximum effect.

It is recognized the special characteristics and needs of Latin America and the Caribbean to combat climate change. Latin countries are only minor contributors to GHG emissions (4% of global total) but are often victims of extreme weather events and other negative impacts of climate change, such as rising oceans, changes in rainfall, species migration, harm to farmers, degradation of the Amazon regions, melting of glaciers in the Andes, and human displacement due to changes in the climate, among others. Within this framework, Americas Regional Initiative 1, “Emergency Communications” calls for strong actions to provide assistance to Member States at all phases of disaster management; sea level rise, earthquakes, flooding and drought, being of particular concern to the Caribbean.

There is awareness of the critical importance of the successful outcome of the pending talks on new global agreements on climate change, and the urgent need in any future agreements to fully address the adaptation needs of developing countries and to recognize the importance of the significant contribution of ICTs in tackling this global challenge.

It is necessary to promote and publicize the importance of ICTs in combating climate change to all relevant actors: governments, citizens, and business and to establish collaborative partnerships. Also to sensitize people in order to ensure that cultural, administrative, academic, scientific and economic activities serve to mitigate the effects of climate change.

II. Internet and Cyberthreats

The challenge of connecting the unconnected remains great. While mobile coverage has improved significantly across all regions, high speed broadband connectivity required for key business and government applications and services in many developing and least developed countries is either not available or prohibitively expensive. Traditional business models, especially in rural and remote areas often do not support the needed investment.

Americas Regional Initiative 4, “Reduction of Internet Access Costs” aims at identifying ways and means to reduce the cost of Internet access and interconnection, through the study of the policy and regulatory aspects of Internet exchange points (IXPs), the establishment of national and regional IXPs and through the promotion of cooperation and regulatory information sharing.

Cybersecurity touches on the security of the digital and cultural wealth of people, organizations and countries. Obtaining a level of information security that is sufficient to meet technology and information risks is essential for the proper functioning of governments and organizations. To set up a cybersecurity process, it is important to identify correctly the assets and resources that need to be protected, so as to accurately define the scope of security needed for effective protection.

3. The Need for Regional Specificity

The Americas Region is diverse, having a wide variety of geographic, cultural, economic, and political profiles representing countries in varied stages of development. Further, the issues, governance structures, cultures and economies of the Caribbean region in particular are sharply different from those

of Latin America and consequently, an assessment of that which is needed to Connect the Caribbean must, of necessity, be a separate analysis.

In this regard, CANTO, CTU and CARICOM, alongside the Caribbean ITU Area Office, have led a Caribbean-centric preparatory process to address the particularities of this sub-region. This Caribbean Contribution to the CTA Summit, thus presents views from this sub-region to the wider Connect the Americas regional base.

4. Purpose of the CTC Caribbean Contribution to the CTA Summit Document

The Purpose of this Caribbean Contribution to the CTA Summit Paper is to:

- I. demonstrate the widespread commitment of Caribbean leaders to ICT driven development
- II. identify and detail the development oriented objectives of the region's ICT-centred organizations
- III. detail, with the help of research data, the status of ICT development in the region along with recommended strategies for the accomplishment of regional goals, and
- IV. illustrate the opportunities and potential benefits for investment in ICT development projects in the Caribbean.

5. Objectives of Caribbean Participation in the Connect the Americas Summit.

The following benefits are anticipated from Caribbean participation in the CTA Summit:

- Access to advisory services from the internationally accessible network of domain experts
- Access to funding possibilities through partner donor institutions
- Tools to strengthen and expand Caribbean ICT for development project implementation capabilities
- Opportunity for participation in wider hemispheric/Americas/regional initiative
- Opportunity to contribute to establishment of regional best practices
- Opportunity to identify and utilize support resources open to doing business with the region
- Opportunity to network and bring greater awareness to regional organizations/causes.

The region must make all efforts to strive towards a Connected Caribbean in which its people, institutions and systems are connected through the strengthening of

- a. Social and cultural ties (local content, cultural activities, etc.),
- b. economic ties (trade, industry, commerce), and
- c. knowledge sharing (education, experience, research and development, expert networking)

A Connected Caribbean also implies pervasive affordable ICT technologies that enable the application of ICTs in every sphere of human activity such as, inter alia:

- facilitation of robust research-based regional networks in the Caribbean
- regional security and

- healthcare and education

The above areas have been identified by the CARICOM Secretariat in their 2010 Regional Digital Development Strategy as key potential growth areas.

6. The Role ICTs can play in the achievement of certain MDGs in the Caribbean

ICTs can contribute greatly towards the development of at least two of the eight MDGs. The first is **MDG # 1: Eradicate extreme poverty and hunger**. ICTs can provide opportunities for job creation, offering an effective way out of poverty. “Grameen Phone” and its amazing micro-credit based success in Bangladesh stands as a staunch reminder of this fact.

The second MDG to which ICTs is relevant is **MDG 8: Develop a global partnership for development**. One of the targets within this MDG, being target **MDG 8.C**, is to *address the special needs of landlocked developing countries and small island developing States (SIDS)*. Numbering amongst these *special needs* within the SIDS of the Caribbean is effective involvement in the global information society, which, can be aided in part by the rollout of broadband. The ITU and all its partner organizations are committed to effecting pervasive broadband rollout in the shortest time possible. As stated by Dr. Hamadoun Touré, ITU Secretary-General, on September 15, 2011, upon the release of the *2011 Measuring the Information Society* report, “The ‘mobile miracle’ is putting ICT services within reach of even the most disadvantaged people and communities. Our challenge now is to replicate that success in broadband.”

Also of pertinence to this discussion is **MDG 8.F: In cooperation with the private sector, make available benefits of new technologies, especially information and communications**. As stated at <http://www.un.org/millenniumgoals/global.shtml>, the major factors at play within an assessment of this target are that the:

- demand has continued to grow for information and communications technologies
- access to the World Wide Web is still closed to the majority of the world’s people
- a large gap separates those with high-speed Internet connections, mostly in developed nations, and dial-up users

Given that most Caribbean countries are defined as SIDS, **MDG 8** provides a strong basis for underscoring the importance of connectivity, and access and ability to use ICTs as a critical success factor for sustainable development in the Caribbean Region. This in turn supports a need for Broadband.

ICTs as a Pillar of National Competitiveness

There are many determinants which drive national productivity and competitiveness. It is critical that Caribbean countries have a robust understanding of these determinants and the factors they hinge

upon. The World Economic Forum's (WEF) 2011 – 2012 Global Competitiveness Report⁶ lists *Technological Readiness* and *Innovation* as two of twelve pillars of national competitiveness.

Zaballos and Medford share the following data and table: “Barbados is the highest ranked Caribbean country in the WEF's Global Competitiveness Index rankings, placing forty second up from being forty third last year. One hundred and forty-two countries were assessed. Barbados's ranking places them ahead of Panama (49), South Africa (50), Brazil (53) and India (56). The other Caribbean countries in the report are shown in Table 1.0.

Edited results from World Economic Forum Global Competitiveness Report 2011-12

Country	GCI '11- '12	GCI '11- '12	2011/12 rank against 2010 countries	2010/11 rank
	Rank	Score		
Barbados	42	4.44	42	43
Trinidad and Tobago	81	4.00	81	84
Jamaica	107	3.76	107	95
Guyana	109	3.73	109	110
Dominican Republic	110	3.73	110	101
Suriname	112	3.67	n/a	n/a
Belize	123	3.52	n/a	n/a
Haiti	141	2.90	n/a	n/a

Table 1.0: The Global Competitiveness Index 2011–2012 rankings and 2010–2011 comparisons

The WEF's GC 2011 – 2012 report further indicates: “In order to keep the positive momentum going, Latin America and the Caribbean will need to address some of the persistent challenges that constrain its competitiveness. While the region is vast and heterogeneous as a whole, four main key challenges that affect each country differently can be highlighted: **(1)** weak institutions with high costs associated with a lack of physical security; **(2)** poor development of infrastructure; **(3)** an inefficient allocation of production and human resources; and, increasingly, and **(4)** a lag in innovation visà- vis more developed,

⁶ http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf

but also emerging, economies.” Making serious strides to mitigate these issues in the next 5 – 10 years will be critical the shore up the socio-economic development of the Caribbean.

With regard to the metric of technological readiness, we can further see from the Zaballos and Medford’s report that Barbados is the highest ranked Caribbean country placing 29th with 4.9 points out of a total score of 7. They detail the key indicators which each country in the region must seek to bolster in order to improve their technological readiness, these are - availability of latest technology, firm level technology absorption, FDI and technology transfer, Internet users (100/population), Broadband Internet subscribers (100/population) and Internet bandwidth (KBs/capita).

The Zaballos and Medford report concludes their discussion by stating the following: “Today various technologies are being used in the region to deliver broadband such as ADSL, WiMax, HSPA+ in Cayman Islands; ADSL, CDMA, EVDO, WiMax in Trinidad and Tobago and DSL and wireless in Suriname. However it is worth noting that Johan Wibergh, executive vice president and head of business unit networks at Ericsson, in his keynote speech at the 2011Broadband World Forum in Paris, expressed the view that current networks worldwide are not capable of handling the pressure of the future networked society and will need to be replaced:

“Today’s networks are not up to it, they won’t scale. We will need to move to fourth generation of IP networks..... We need to bring the Internet to five billion people and it won’t happen unless we simplify things,” he said. He made the point that Ericsson expected up to 50 billion devices to be connected to the Internet by 2020 and that it would be necessary to move to a fourth generation network to be able to deliver the services demanded.” Operators in the region must respond to the growing need of our people to have available networks match up with the capabilities of the tools that are now globally available to thrust the region into the realm of further development.

7. The Development of Broadband Policy for Developing Countries⁷

The extent to which developing countries can realize the economic benefit of broadband is limited and a broadband divide exists between emerging economies and the developed world. As the region is only too aware, low- and middle-income countries lag significantly behind high-income countries in broadband diffusion. This lag is due to high-cost and/or low-quality infrastructure, low perceived demand, high Internet costs or restrictive policies and regulations. Consequently, an increasing number of Caribbean countries looking to realize the benefits of broadband are held back by low diffusion of their broadband networks, as well as slower speeds and higher prices.

Without accelerating the supply of and demand for broadband, Caribbean country markets might take a long time to develop, making the broadband divide wider. Studies on the diffusion of innovations theorize that innovations spread through society following an “S-curve.” Early-adopters lead to accelerated mass-market diffusion, decelerating to ultimate saturation in a variety of ICT applications.

⁷ Sections 7 and 8 taken from a Concept Note entitled: “Broadband Policy for Developing Countries” Economic and Sector Work, The World Bank, August 10, 2010

Typical diffusion models predict much slower penetration rates in rural and remote areas relative to urban zones.

In order to avoid a widening broadband divide, the Caribbean will have to accelerate their broadband markets to expand faster than the “S-curve.” This will need:

1. A push in early adoption, in order that the broadband market has a faster transition to mass-market.
2. A fast take-off in the mass-market, with both adequate supply and demand.
3. Programs for universal access to broadband—even for remote or high-cost subscribers—when the market begins to reach its limits.

8. An Evolving Role for Government

To spur growth and overcome the broadband divide, the Caribbean must now look to formulate and implement policies to spur the diffusion of broadband. However, there is no “silver bullet,” and developing countries have different implementation capacities. Hence, they require knowledge on the range of policy options and their implementation to create an enabling environment for broadband, encourage supply-side growth, and expose latent or create new demand.

Indeed, a government will have to enact different policies as the market grows. Consequently, the role of the government will have to evolve from market promotion to regulation and finally move towards universalization of service provision.

Early on, **promotion** policies will have to focus on the development of a national broadband backbone network, demand creation, and creating an enabling environment for competition and investment. When broadband reaches mass-market status, **regulation** may be necessary to ensure competition and support supply growth in the access segment. Finally, **universalization** will cover access gaps through universal service policies that will drive networks into rural and high-cost areas.

9. The Status of ICT Development and Development Plans in the Caribbean

The countries in the Caribbean region are characterized by small size and the attendant constraints of economic, social, and environmental vulnerabilities. Such vulnerabilities are manifested as fiscal deficits and high debt to Gross Domestic Product (GDP) ratios, unemployment, increasing crime and social deviance, susceptibility to natural disasters (hurricanes, earthquakes, volcanic activity), a high reliance on international trade, and economies that do not respond with flexibility to changes in domestic and international circumstances.

Caribbean Governments, being fully cognizant of these threats, are committed to building competitive advantage on the basis of knowledge and information. They have acknowledged that the ability to create, share and utilize information must become the driving force in shaping future development. Most have been espousing the need to move their countries to knowledge societies and economies and

have been actively investing in information and communication technologies (ICT) and embracing the opportunities for incorporating them into their governance processes.

The countries having recognized that application of ICT solutions, can be to their advantage, have invested a significant amount of time and financial resources in this regard. Isolated development gains have been cited in Member States like Jamaica, Trinidad and Tobago and Barbados, but the expectation that there would be positive impact on the region as a whole, has not materialized as the return on this investment continues to fall below regional expectations. In addition, the absence of verifiable indicators of success, and a general lingering disconnection between the development policy of countries in the region and their respective ICT strategies, have made it difficult to properly measure gains at a regional level.

9a. General Broadband Development Statistics

A key metric for the region is whether fixed-broadband connectivity is being prohibitively priced. Table 1.0 shows that though as a percentage of Gross National Income (GNI), the price of fixed-broadband decreased from 2008 to 2010 for all assessed countries in which statistics for each year were available, the price of broadband is still quite prohibitive throughout the region. Only Trinidad and Tobago registered fixed broadband prices that are less than 1% of their monthly GNI per capita. In contrast, in 2010 countries like Dominica and Guyana were registering fix-broadband costs that represented 11.7% to 15.7% of their monthly GNI respectively. Therefore these costs still need to be driven down in order for broadband access to finally become as pervasive as is required for needed development gains.

Rank	Economy	Fixed-broadband sub-basket as % of GNI /capita		Fixed-broadband sub-basket	Fixed-broadband sub-basket	GNI per capita, 2009 (or latest available year)
		2010	2008	USD	PPP\$	USD
27	Trinidad and Tobago	0.9	1	\$ 12.50	20.3	\$ 16,700.00
50	Bahamas	2	N/A	\$ 35.00	N/A	\$ 21,390.00
75	Antigua and Barbuda	4	N/A	\$ 40.50	58.8	\$ 12,130.00
78	St. Kitts and Nevis	4.3	N/A	\$ 36.70	48.5	\$ 10,150.00
80	Barbados	5	6.4	\$ 38.80	63.9	\$ 9,330.00
83	Dominican Rep	5	7.6	\$ 19.00	35.4	\$ 4,550.00
95	Grenada	6.3	6	\$ 29.30	40.6	\$ 5,580.00
96	Jamaica	6.5	11.9	\$ 24.70	41.4	\$ 4,590.00
97	St. Lucia	6.8	12.2	\$ 29.30	51.1	\$ 5,190.00
99	St. Vincent & the Grenadines	7.9	12.9	\$ 33.60	57.7	\$ 5,130.00
103	Suriname	10.6	N/A	\$ 42.10	58.2	\$ 4,760.00
105	Dominica	11.7	12	\$ 47.80	82.7	\$ 4,900.00
114	Guyana	15.7	40.6	\$ 19.00	38	\$ 1,450.00
157	Cuba	379	380.6	\$ 1,752.70	N/A	\$ 5,550.00

Table 2.0: Caribbean economies and Fixed-Broadband Prices

Source: ITU's *Measuring the Information Society 2011* publication⁸

⁸ http://www.itu.int/ITU-D/ict/publications/idi/2011/Material/MIS_2011_without_annex_5.pdf

Though not addressed in Table 2.0, it should be noted there are also a few territories, which are not independent states, that have also expressed strong interest in being a part of and have already implemented efforts towards transitioning the Caribbean to a knowledge economy, making full use of the potential of ICTs. These territories featured strongly at the CANTO 2011 Conference and Trade Show and demonstrated their commitment to connecting the Caribbean. Counted amongst their number were Anguilla, Bonaire and Montserrat.

10. CARICOM SECRETARIAT

The CARICOM Secretariat is the principal administrative and technical organ of the Caribbean Community and is headed by a Secretary General who is the Chief Executive Officer of the Community.

Members of the Caribbean Community are:

Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago.

Associate Members are:

Anguilla, Bermuda, British Virgin Islands, Cayman Islands and Turks & Caicos

Mission Statement of the Secretariat: To provide dynamic leadership and service in partnership with Community Institutions and groups, toward the attainment of a viable, internationally competitive and sustainable Community, with improved quality of life for all.

Other Community institutions include (but are not limited to):

- ❖ Caribbean Disaster Emergency Management Agency (CDEMA);
- ❖ Caribbean Telecommunications Union (CTU);
- ❖ Caribbean Knowledge and Learning Network (CKLN);
- ❖ Caribbean Meteorological Institute (CMI);
- ❖ Caribbean Meteorological Organisation (CMO);
- ❖ Caribbean Environmental Health Institute (CEHI);
- ❖ Caribbean Agricultural Research and Development Institute (CARDI);
- ❖ Assembly of Caribbean Community Parliamentarians (ACCP);
- ❖ Caribbean Centre For Developmental Administration (CARICAD);
- ❖ Caribbean Food and Nutrition Institute (CFNI),
- ❖ Caribbean Community Climate Change Centre (CCCCC)

The following entities with which the Community enjoys important functional relationships which contribute to the achievement of the objectives of the Community are recognised as Associate Institutions of the Community:

1. Caribbean Development Bank (CDB);
2. University of Guyana (UG);
3. University of the West Indies (UWI);
4. Caribbean Law Institute / Caribbean Law Institute Centre (CLI/CLIC);
5. the Secretariat of the Organisation of Eastern Caribbean States

The past ten years have seen dramatic changes in the ICT sector within the Caribbean, as Member States become increasingly aware that gaining a strategic competitive edge in a global knowledge-based economy is increasingly dependent upon access to ICTs. Such technologies are deemed as beneficial to improving the quality of life, enhancing innovation, sharing knowledge, increasing productivity, and providing a competitive advantage in sectors such as tourism, agriculture, finance and knowledge based industries.

Several CARICOM Member States have implemented their own National ICT Policies, and have made progress in the implementation of national ICT strategic plans. For some of these member states, the period of implementation of the Action Plan has lapsed.

At the regional level, identified goals and objectives of CARICOM Single Market and Economy can be or have already been facilitated by the use of ICTs. Raising awareness of the CSME, coordinated information systems at ports of entry, the development of a common system for registration of companies and businesses, the development of harmonised legislation, and ready access to regional information are goals that have been supported by the use of ICT at the regional level. These goals have been recognised by the CARICOM Heads of Government over the past years and have been further articulated in Regional declarations such as the Georgetown Declaration on ICT and the Declaration on Functional Cooperation. These are attached at Appendix 3

The CARICOM Secretariat has been instrumental in promoting the use of ICT through its Information and Communication Technology for Development (ICT4D) programme. The ICT4D Programme seeks to provide more effective support for regional development imperatives and priorities with a particular focus on regional coordination and policy development in the integration of ICT for socio-economic development in the CARICOM region.

In 2009, the CARICOM Heads of Government mandated a Regional ICT4D Strategy which would help guide the many planned and programmed activities in the Region. The Secretariat commissioned the document – now tabled as the Regional Digital Development Strategy (RDDS) in 2009 and which was approved in 2011. The RDDS is expected to bolster the activities of the CARICOM Secretariat which was given the mandate by ICT Ministers in 2004: to facilitate coordination of ICT4D and Information Society (IS) issues in the Region.

10a. CARICOM ICT4D Regional Digital Development Strategy (RDDS)

CARICOM has identified ICTs as an important pillar for development. The RDDS gives background for this identification and offers strategies intended to allow the region to exploit this technology. Overall, the broad regional strategic objectives are to:

- fully establish modern regional regulatory and open telecommunications infrastructures with affordable networks using converged technologies, to provide affordable and ubiquitous access.
- build a digital Community culture and increase the value and volume of the regions trained ICT workforce that can create with, develop and use ICT to improve life style and otherwise add personal and economic value.
- manage and use ICTs to demonstrate good governance and increase efficiency in operations
- establish a culture of innovation and quality, and to enable sustainable production of Regional digital goods and services, the development of cultural industries and the inclusion of local content in delivery of information.
- guide businesses and governments to use ICT for sustainable growth and support social development objectives through partnerships that use networked technologies.

It will be necessary for CARICOM to direct the Regional Strategy and Planning function, which will, as Secretariat of the RDDS Committee, be responsible for

- coordination with governments to support development of the national ICT plans,
- budgeting
- measuring and following up on progress,
- encouraging Member States to use the Regional ICT Strategy to reform and develop their ICT infrastructure.

The existing ICT4D Steering Committee will guide implementation of the Regional Strategy and Plan, through interventions at the national level, as it is expected that every Member State will expand their National ICT plan in accordance with the RDDS.

Two of the strategies identified in the RDDS are detailed below.

10b. Developing the CARICOM Single ICT Space

Key Objective 1: To fully establish its modern regional regulatory and open telecommunications infrastructures with affordable networks using converged technologies, to provide affordable and ubiquitous access.

Regional benefit: Region as single Caribbean space, to deepen market and competition, reduce cost of access (single broadband market; single numbering plan; no mobile roaming charges or termination for data and voice; common regional spectrum space);

Affordable access to quality information and knowledge through a regional infrastructure which is managed to achieve measurable digital inclusion and enable universal, sustainable, ubiquitous and affordable access to mobile communications and smart technologies.

Key Objective 2: To guide businesses and governments to use ICTs for sustainable growth and support social development objectives through partnerships that use networked technologies

Regional benefit: ICT is an enabler across all sectors and collective action in finding solutions and proving 'home grown' ICT applications can support sustainable development, in the fields of public administration, business, education and training, employment, health, environment, agriculture and science.

More than ever the RDDS is sorely needed as after more than a decade of limited deregulation and market liberalization, establishment of an ICT sector has been slow within the region. Institutional capacity in the public sector remains under-developed; and both technical capacity in the private sector, and IT-entrepreneurship is low. The slow development of a cadre of ICT professionals; high costs of electrical power, Internet connectivity and computer maintenance, and slow ICT adoption, make the establishment of a targeted ICT for Development strategy such as the RDDS, most necessary. The CARICOM Secretariat has been charged with being the coordination agency regarding implementation of the RDDs.

Regional Stakeholder Institutions

11. Role of CANTO in Connecting the Caribbean and Ongoing Relevant Activities

CANTO

The Caribbean Association of National Telecommunication Organisations (CANTO) is the regional trade association for the ICT sector. CANTO's *raison d'être* is *to facilitate the development of ICT solutions for the benefit of members and other stakeholders in the Caribbean Region*. The comprehensive role that CANTO plays throughout the CTC initiative will contribute to the goals of Connect the World and will:

- facilitate relationships with relevant intermediary agencies to promote the development of a framework for the Caribbean Single Market Economy (CSME) to develop universal telecommunications capability by 2015.
- aid with the building out of working relationships with CARICOM to establish the framework which would enable delivery of the WSIS goals for Caribbean Development.

The CANTO brand is now synonymous with leadership in telecommunications policy, regulation and building a network of regional industry leaders. CANTO has one signature annual event, a region-wide

conference and exhibition which has been developed into the premier telecommunication event of the region. Through that event CANTO has been able to attract ministers of government, regulators, heads of telecom organisations, operators, suppliers and other related persons in the industry. With that reach, CANTO is well positioned to articulate and execute a vision which seeks to connect the Caribbean through ICTs.

CANTO has an important role to play in ensuring its members, i.e., the operators, do not lag in terms of technology and infrastructure development. The operators can also report to the CANTO Board and Secretariat, any issues faced in the delivery of telecoms in the region, either with respect to outdated laws or onerous regulation. Through its close collaboration with ministers and regulators, CANTO can highlight these issues, encourage dialogue among the parties and make recommendations. As an example, one of the governments present at the CANTO 2011 Conference and Trade show asked that CANTO develop a database of issues/goals open or resolved by Governments including explanations where relevant for how resolution was achieved. These recommendations were tabled by the Secretariat for consideration. The reputation CANTO has developed over the years allows it to get the necessary audience with the ministers and regulators.

CANTO has developed a CTC agenda to link in with the ITU's Connect the World programme. Analogous to the intended regional footprint of CARICOM's RDDS, CANTO's role is to look for those areas where specific action can be undertaken at a regional level for the betterment of the Caribbean as a whole. There are several areas of interest to ITU which are also of interest to CANTO. These are infrastructure, policy, applications and usage/capacity building.

- *Infrastructure development* is the purview of the operators with some build out guidance from government/regulators through licences or USO policies. CANTO has, over the years, encouraged operators to share their plans and creates a forum where ministers can directly raise concerns with operators, for example, if build out is too slow. CANTO thus acts as a catalyst in getting the dialogue going.
- *Policies* are the responsibility of government. CANTO through the regulatory committee generates discussion among members about changes needed in policy or legislation. CANTO then seeks to present these changes, supported by international experts, in a non-confrontational neutral manner.
- *Applications*. CANTO strives to show operators how they can drive their revenues through supporting development of applications and local content. The *Icreate Competition* is a prime example of this.
- *Usage /Capacity building* - through its relationship with UWI and strategic partners, CANTO has an opportunity to use its members to raise the visibility of ICT and enhance capacity and knowledge in the region. Such enhancement will make businesses more competitive to generate increased economic growth and improve the quality of life for all our citizens.

CANTO's on-going activities in the Connect the Caribbean initiative are as follows:

The CANTO Secretariat currently has plans to implement the following project initiatives and is welcoming partners to ensure their realization.

1. Regional e-Marketplace

2. Community and Social Investment Initiatives
3. Advancement/Sustainability of Caribbean Centers of Excellence
4. Developing Apps for National Development

12. Role of the CTU in Connecting the Caribbean and Ongoing Relevant Activities

The Caribbean Telecommunications Union (CTU) is a treaty organisation which was established in April 1989 by CARICOM to be the inter-governmental telecommunications policy development instrument for the region with a mandate to address issues relating to the development of the telecommunications sector.

In 2004, the CTU's General Conference of Ministers, recognising the rapid convergence of information technologies and telecommunications, expanded the CTU's mission to incorporate all aspects of the development of information and communication technologies (ICT) in the Caribbean.

Since that time, the CTU has radically transformed its working methodologies to maintain its relevance in the evolving environment and to be responsive to the needs of its stakeholders. The CTU developed specific mechanisms for effective execution of its leadership role in the Caribbean by forming strategic alliances and by engagement, collaboration and consensus building among different stakeholders in its core areas of activity. Because of its proactive and innovative leadership, the CTU has been delivering tangible benefits to the Governments and peoples of the Caribbean and has become:

- *The primary facilitator for the formulation of Caribbean ICT policy and best practices,*
- *The preferred source of ICT advice for regional Governments,*
- *A major contributor to the development of ICT capacity within the region, and*
- *The designated advocate for Caribbean ICT positions at international fora.*

The CTU's on-going activities in connecting the Caribbean are as follows:

Public Awareness and Education

The CTU has a consistent and on-going programme for the delivery of ICT training to Caribbean stakeholders. However, as Caribbean countries seek to migrate to knowledge economies and societies, there is a requirement for a critical mass of citizens who understand and are able to use ICTs effectively. As a result, the CTU has embarked on a Caribbean ICT Roadshow initiative designed to raise public awareness of the role of ICT in fostering development and the need for innovative approaches when employing ICT.

At the level of Government Ministers and their senior technocrats, the CTU has also instituted Ministerial Seminars that are designed to inform policy direction in ICT for national and economic development. These seminars lay a common foundation of understanding for Ministers responsible for ICT and telecommunications of the evolution

of technology and its impact on policy and regulatory frameworks, industry and national development. The Seminars also explain the potential of ICTs to support functional Caribbean integration.

- **Innovation and Entrepreneurship**

The CTU provides a forum for indigenous ICT innovators who have world-class ideas but no support for creating sustainable revenue-generating businesses. The CTU has developed an Innovation and Entrepreneurship (I&E) Framework for assessment of ideas, training, mentorship and exposure. Many Caribbean Innovators have received tremendous benefits from participating in the I&E programme.

- **Promoting and Supporting the Development of Network Infrastructure**

The Proliferation of Caribbean Internet Exchange Points

Through its Roadshow and other initiatives, the CTU has been actively promoting the proliferation of national Internet Exchange Points (IXPs) in Caribbean countries and educating on the possibilities for spawning new types of bandwidth-intensive and content-related businesses. As a direct result of these interventions and through the support provided, 4 Internet Exchange Points have been established in the region, 2 in the Dutch Antilles and 2 more recent additions in the Anglo Caribbean. The CTU is currently working with other Caribbean countries towards establishing local IXPs. As an example, the establishment of an IXP has been a policy objective of the Government of Jamaica (GOJ) and is included in the ICT Policy approved in the Parliament of Jamaica in March 2011, in section 10.1 (c), bullet four.⁹ These activities, throughout the Caribbean, are collectively facilitating connectivity and greater efficiency in use of network resources.

Facilitating the Development of Government Integrated Communication Networks

The CTU has been supporting member governments in ensuring that their Government Communications Networks are properly designed to deliver 21st century government services. To this end the CTU has been assessing Caribbean Governments' existing communication networks and assisting in the design of integrated IP-based Communications infrastructure to enable connectivity within Governments between the Governments, their internal and external clients and citizens.

- **Policy Harmonisation**

Caribbean Spectrum Management Policies

The CTU has established the foundation for rationalising approaches to spectrum management by developing a policy framework for harmonisation of spectrum management practices and procedures for the Caribbean. The Caribbean Spectrum Management Policy Framework document was ratified by the 10th General Conference Implementation of the policies and recommendations of the Framework began in 2008 and are continuing in member countries.

⁹ As detailed by Mr. Cecil McCain, ITU Focal Point, Ministry of Science, Technology, Energy and Mining in the Government of Jamaica.

Given the opportunity for promoting wireless broadband connectivity, the Policy Framework is to be updated and special emphasis will be placed on the use of frequencies to support wireless Internet access.

Caribbean Internet Governance

In January 2005, the CARICOM Secretariat requested the CTU to address the issues of Internet Governance on behalf of the Caribbean. The CTU created the multi-stakeholder Caribbean Internet Governance Forum and has made significant progress in raising the awareness of Caribbean stakeholders of the Internet, its institutions and resources. In 2008, the CTU completed a Caribbean Internet Governance Policy Framework which is being implemented across the Caribbean. The Policies relate to 5 strategic areas, namely physical and logical infrastructure, indigenous content development, public awareness and education, cyber security and research. A number of projects are being undertaken in these 5 areas.

13. Role of CARICAD in Connecting the Caribbean and Ongoing Relevant Activities

While the various "Connect" initiatives seem substantially aimed at society outside of government, CARICAD's mandate is in the realm of public sector transformation thus from that point of view connected government is extremely important to the organization. The emphasis on being "connected" exists to facilitate governments having the capability to offer seamless services to firms and individuals (whether citizens, residents or visitors).

In support of "connected government" CARICAD is currently pursuing a programme aimed at getting governments to re-engineer service processes with an emphasis on backend consolidation and integration of key data sets to reduce data duplication and rework. This consolidation and integration naturally drives a need both for physical connectivity and for various protocols and models for data sharing and re-use within government. This is an area within which CARICAD presently requires significant funding input.

With respect to other project suggestions, most of the areas of concentration fall outside of e-government and are dealt with under the theme of "Access and Connectivity" under the Regional ICT4D programme.¹⁰ Within this realm of access and connectivity, CARICAD has had a small part to play in outfitting telecentres especially in underserved areas in an attempt to give citizens the means for accessing government information and services which are offered online. From the point of view of sustainability, the actual availability of services plays a large role in the survival of telecentres.

Another specific project that CARICAD is pursuing is a regional portal for government procurement. The organization notes however that CANTO is also pursuing the development of an "e-marketplace" under CTC, and believes it would be worthwhile to bring these two initiatives together on a suitable basis.

¹⁰ As detailed by Mr. Andre Griffith from CARICAD

14. Role of the CBU in Connecting the Caribbean and Ongoing Relevant Activities

The point of view of the CBU is that apart from Trinidad and Tobago and Jamaica, which intend to conduct their Digital Switchovers by 2015, other islands have not yet begun to consider the issue as a key priority. The Secretary General of the CBU emphatically stated that a harmonized regulatory approach and regime is necessary across the region. There is concern however as it is felt that at the country level if the political cost of making the switchover decision is high then no one will want to act.

Work remaining to be done regarding Digital Switchover is as follows:

- Choice of Digital Standards is key
- A full interoperability decision needs to be made by the regulators.
- The US model of issuing set up boxes to the citizenry in order that they may convert from analogue to digital is well known. If we are to follow this model the cost to the region's broadcasters and the means of financing such a system would be key questions for consideration.

15. The Role of the University of the West Indies in Connecting the Caribbean

The University of the West Indies is the largest and longest-standing higher education provider in the English-speaking Caribbean, with residential campuses in Barbados (Cave Hill campus), Jamaica (Mona campus) and Trinidad and Tobago (St. Augustine campus), and Open Campus sites in Anguilla, Antigua & Barbuda, The Bahamas, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Jamaica, Montserrat, St Christopher (St Kitts) & Nevis, Saint Lucia, St Vincent & the Grenadines and Trinidad & Tobago, serving over 17 countries in the Anglophone Caribbean including Bermuda. The UWI is seeking to establish a SINGLE VIRTUAL UNIVERSITY SPACE (SVUS) that would enable students and other stakeholders to equally access its best teaching and learning resources at ANYTIME from ANYWHERE among its four campuses. The SVUS is a technical platform that will seamlessly connect, in a sustainable manner, the campuses of the University across the Caribbean to provide increased, viable, efficient, cost-effective and enhanced service.

The SVUS will enable the UWI to be more responsive to the demands of its constituents in the 16 Commonwealth Countries with:

- easier communication among students, faculty and staff members;
- increased opportunities to equally accessible (able and disabled) learning resources and programmes;
- advanced technology driven teaching and learning approaches and student mobility;
- enhanced research collaborations and effectiveness;
- improved services to all member states, especially the underserved populations in urban and rural locations;
- efficient administrative processes that permit a student focused institution, and ultimately,
- enhanced opportunities for international linkages and regional and international competitiveness.

16. Status of ICT4D initiatives and future plans at the Caribbean Disaster and Emergency Management Agency (CDEMA)

The Caribbean Disaster Emergency Management Agency (CDEMA) is an associate institution of CARICOM, established and supported by Caribbean Governments as a specialized regional disaster management agency. Recognizing the threat which disasters pose to sustainable development, CARICOM countries have embraced a Comprehensive Disaster Management (CDM) approach lead by CDEMA, emphasizing risk reduction and resilience building at all levels in addition to developing and maintaining sound response and recovery mechanisms. Under the Comprehensive Disaster Management Framework (CDM), ICT has been identified as a cross cutting theme. The enhanced CDM Strategy noted that ICT is essential to facilitating development and management of the multi-faceted databases required for information dissemination germane to building resilience.

The Caribbean Disaster Emergency Management Agency (CDEMA) Coordinating Unit (CU) has sought to advance ICT programming through various projects at the community, national and regional level to enhance information capture and dissemination. The following brief focuses on CDEMA's present and future ICT initiatives (and where relevant a reference to past accomplishments) in disaster management.

ICT has been utilized as an information sharing mechanism throughout the life of CDEMA. In the early 1990's the focus was on building the basic capacity of the National Disaster Offices (NDOs) through the provision of computers and software. This was facilitated by the UNDP sponsored Disaster Emergency Response Management Systems (DERMS) project. CDEMA was formerly known as Caribbean Disaster Emergency Response Agency (CDERA) and a CDERA web presence was also established for information sharing during the early 1990's.

Within recent years, CDEMA has incorporated ICTs in Disaster Management initiatives in the following programme areas:

- ICTs for Operations
- ICTs for Decision Making
- ICTs for Monitoring, Evaluation and Reporting
- ICTs for Information Sharing and Gathering

The utilization of ICTs for Operations at CDEMA

Present Initiatives:

- **Comprehensive Disaster Management Harmonized Implementation Programme** (Funded by AUSAID, CIDA and DFID). Under this project grants were given to each Participating State in the sum of \$10,000 USD to facilitate the upgrade of emergency telecommunications equipment. A total of fourteen (14) of the eighteen (18) participating states have since upgraded their equipment as a result.

- **Disaster Risk Management Sub-Regional Programme** (Funded by ACP-EU). Under this project, the disaster response capabilities of communities were further developed within the participating states by enhancement of their Emergency Telecommunications equipment, e.g. handheld two-way radios to improve communication in the event of a natural disaster

The utilization of ICTs for Decision Making at CDEMA

Future Initiatives:

- **Geographic Information Systems (GIS) Technology for disaster Early Warning Systems (EWS)**

There is increasing awareness that total reliance on structural measures to mitigate the impacts of natural hazards is risky since these measures are subject to fail with increasing intensity and frequency of natural hazards. Non-structural measures, attempts to ensure a more holistic approach to reducing the impact of natural disaster. The focus is on improving human capacity to cope with the impact of natural hazards e.g. land use planning, hazard mapping, vulnerability assessment, public awareness programme, early warning systems etc. Improving human capacity to cope with the incidence of natural hazards and the development of physical infrastructure will provide communities with adequate protection from perennial loss from the incidence of natural hazards.

A study undertaken on the use of GIS Technology for disaster Early Warning Systems (EWS) found little evidence of the integration of EWS with GIS in the Caribbean. The Juno mobile handheld computer and ArcPad mobile GIS software are tools that can be used to support the aforementioned non-structural activities. CDEMA is exploring funding sources for this project.

The utilization of ICTs for Monitoring, Evaluation and Reporting at CDEMA

Past Initiatives:

- **The Development of a Monitoring, Evaluation and Reporting Framework for the Enhanced Comprehensive Disaster Management (CDM) Strategy.** (Funded by CDM-HIP and DFID).

The utilization of ICTs for Information Sharing and Gathering at CDEMA

Future Initiatives:

- **Implementation of Enterprise Content Management Platform**

To further enhance IT capabilities within the CDEMA Coordinating Unit there is a need to:

- a) **Increased storage capacity:** There is need for further improvement in the mechanism for managing the storage of information within the CDEMA CU, to provide more comprehensive management of a centralized storage platform. There are also several ICT applications proposed for CDEMA with data requirements and these applications may benefit from having a common core of data.

b) Improvement of the Management of information: The importance of the information resource in a knowledge-driven organization such as CDEMA can hardly be overstated. As the organization and its information base increases, it will become imperative that more efficient methods are implemented for managing this information.

Towards this end CDEMA is moving towards the implementation of an Enterprise Content Management System (ECMS) within the CU. This system will provide integrated management of various types of information and will serve as a core system for managing CDEMA's data, with interfaces to other key ICT applications. This will allow for rationalization of the way in which documents are created, captured and stored and accessed within CDEMA. CDEMA is exploring funding for this project

17. Status of ICT4D initiatives and future plans at the Caribbean Knowledge and Learning Network (CKLN)

As an Agency of the Caribbean Community, CARICOM, the CKLN shares the goal of CARICOM - a viable and internationally competitive and sustainable Community. CKLN's strategic objective is to enhance global competitiveness of the Caribbean by upgrading and diversifying the skills and knowledge of human resources in the region through greater regional collaboration and connectivity.

CKLN also coordinates and manages the development of C@ribNET, the regional Research and Education Network that will connect CARICOM institutions for greater collaboration and functional cooperation. The Project Purpose is to improve the relevance of tertiary education and training institutions in the Caribbean, by increasing the number of relevant accredited tertiary education courses and programs supported and offered to a significantly increased numbers of Caribbean students.

CKLN Project Components:

Institutional Strengthening - Building capacity in the Tertiary Education Institutions in the Region, necessary for the successful adoption of new approaches to learning and the sustainable and strategic management of the host institutions

Connecting the Caribbean - Harness state-of-the-art communications technologies to provide a virtual learning network between tertiary education institutions in the Caribbean

Enabling Regional Mechanisms - Facilitate the success of the Tertiary Institutions, particularly as these relate to training, accreditation, quality assurance, standards, financial transactions, learning management and technical support.

Summary of CKLN ICT4D Projects in train

- The C@ribNET broadband fiber optic Network
- Continuing to work with the Caribbean's tertiary educational institutions, amongst others, to act as a catalyst for the development of National Research and Education Networks¹¹

CKLN's Future Plans for Development of ICT4D Initiatives

One of the most critical areas of future work for the CKLN is completion of the C@ribNet project. The final phase of installation for the backbone of the Caribbean's dedicated research and education high-speed fiber optic network, C@ribNET is scheduled to be completed by March 14, 2012. Once installed, the network will be available for use in the Phase 1 countries being Jamaica, Trinidad and Tobago, Dominican Republic, the OECS (Organisation of Eastern Caribbean States) and Barbados, with connections to Europe, USA and South America. The CKLN will be working with these countries to implement the first applications to use the network. The formal launch of the network is scheduled for May, 2012.

18. Eastern Caribbean Telecommunications Authority's Viewpoints on Current Pressing Issues re: Connecting the Caribbean

At present, in the ECTEL Member States (Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines), the most pervasive and highly developed communications services are voice telephony for individual communications and broadcasting for the mass communication of information. The use of the Internet as a technology of communications and information management is increasing in popularity, but levels of penetration fall behind voice telephony.¹²

In a recent study undertaken by ECTEL, small businesses in the eastern Caribbean acknowledged the critical importance of ICTs but noted that cost of both basic telephony and advanced services are factors which hinder their expanded usage in business.¹³

The Telecommunications Act established in 2000 in the five ECTEL Member States, regulates the primary transport and transmission technologies used to deliver voice, Internet and broadcasting services.¹⁴ This regulatory framework does not cover the content of the transmissions.

A wide range of new pieces of legislation are under various stages of development for ECTEL. These address issues and functions which are critical for the development of the ICT sector – e-Commerce, Data Protection and Freedom of Information.

The following are some regulatory approaches identified by ECTEL, which would promote ICT for Development in the Eastern Caribbean:

¹¹ <http://www.ckln.org/home/news>

¹² The following table provides some indicators of the ICT sector in the ECTEL Member States - http://www.ectel.int/pdf/annual_electronic_communications_sector_review_2009-2010.pdf

¹³ (<http://www.ectel.int/pdf/currentpublications/survey/SME-Survey-Report-Oct-2009.pdf>)

¹⁴ <http://www.ectel.int/actsandregulations.htm>

- (a) Integrated regulation of ICTs through new legislation which will give the traditional telecommunications regulators a broader mandate over ICTs. This will provide “converged” regulation of the converged service platforms.
- (b) Introduction of additional regulations which are aimed at ensuring that the policy goals of open entry, the expansion of ICT usage and introduction of new technologies are achieved. These regulations include the sharing of facilities by providers and number portability.
- (c) The management of the Universal Service Fund according to the established regulations.
- (d) Competition legislation which will strengthen the specialized functions of the ICT regulator to facilitate open entry and guard against anti-competitive behaviour in the ICT sector.
- (e) The introduction of quotas for the provision of local content as a condition of special licences, particularly in broadcasting. This will result in the greater use of digital technologies for the production, transmission and consumption of information.

Mr. Embert Charles, Managing Director of ECTEL, stated in August 2011 in a report on the status of ECTEL for the CTC Caribbean Contribution Document, that the two areas which could benefit from support in all the countries would be the establishment of INTERNET EXCHANGE POINTS (IXP) and the development of Content and Applications for the Caribbean region. He further moved on to say that the move towards greater connectivity is fraught with the issues of managing bandwidth for those citizens who cannot afford even the basic offerings.

19. Support of Telecommunications Operators towards Connecting the Caribbean

19a. Digicel

Digicel has supported the CTC project directly through its membership and active participation with the CTU and CANTO. They have also sponsored a number of CTU Road show initiatives around the Caribbean. The activities of these Digicel-partnered projects are collectively facilitating connectivity and are developing capacity, supporting entrepreneurs and strengthening business in the Caribbean ICT sector. Both the CTU and CANTO are convinced that a public private people partnership approach is the best way to ensure that the use of ICT becomes pervasive in the Caribbean.

Under the Broadband Projects Digicel also supports research into the current state of broadband and recommendations from operators as well as strategies to facilitate the wider adoption and deployment of ICT by SMEs. A number of projects are planned or on stream to further the objectives of CTC.

Digicel’s future direction with regard to facilitating connectivity in the Caribbean

Working through the CANTO and CTU organizations - a number of project ideas are currently being discussed with IADB, CDE and CDB

i. Regional e-Content Network

Strategically position the region's abundance of creative capital to shape how indigenous content will be accessed, leveraged, monetized and sustained. CANTO has developed the i-Create e-Content competition to unearth the creativity in the region and raise awareness among young entrepreneurs.

ii. Business of Content Conference

The Conference will capitalize on i-Create's unique platform and will be a gathering of innovators, angel network investors, key professionals, experts and public officials in the digital media, telecommunication, culture and ICT sectors, as well as businessmen and investors in the content trade. The inaugural i-Create e-Content competition aimed to seek and reward the most creative and innovative e-Content developers in the Caribbean. i-Create is in its final stage and winners was announced on 30th June 2011. It promotes creativity and innovation through the showcasing of mobile & web content products that meet domestic, Diaspora and international needs.

iii. Regional e-Marketplace

The E-Business Facilitation Programme will promote online trading and business transactions in Business to Business (B2B) and Business to Citizen (B2C) applications. The initial focus will be on documenting and sharing best practises in e-business applications across the Region. The programme will also include convening stakeholder consultations on the subject, preparing and distributing reports from these consultations as well as providing assistance in strategy formulation and business case development for E-Business projects.

iv. E-commerce

To enhance the establishment of e-commerce regimes and the adoption of e-commerce by small and medium enterprises (SMEs) in CARIFORUM countries as well as capacity building for CANTO to play its role more strongly and effectively in the Region. Getting regional businesses online and increase (from 2%) online business transactions with Caribbean Governments.

v. Community and Social Investment Initiatives

Converting communities towards digital life:

- a. Youth and Community Empowerment Programs through ICT
- b. Training and Enterprise
- c. Environment, Action and Awareness including raising awareness on being environmentally responsible with old phones and batteries and other telecoms related obsolete equipment.

vi. Regional Broadband Strategy

Discussions for the development of a regional broadband strategy in conjunction with the ITU Broadband Commission, which should include financing models, return on investment, technology choices, and strategies for deployment across a range of different types of economies in the Caribbean.

vii. Network Connectivity

An analysis of the current connectivity situation and requirements, an assessment of constraints and methodology needed to improve tracking of progress, as well as the development of roadmap of activities to facilitate the improvement of connectivity within the Caribbean is necessary. Next steps will be:

- a. Preparation of a report on the current connectivity status of the Caribbean
- b. Detailed overview of success stories of connectivity
- c. Roadmap for increasing connectivity within the Caribbean

19b. Columbus Communications

Columbus Communications provides digital cable television, broadband Internet and digital landline telephony to consumers under the brand name, FLOW and corporate connectivity and IT services to the business sector under the brand Columbus Business Solutions and operate in Trinidad, Jamaica, Grenada and Curacao. Flow is largest triple play service provider in Jamaica, Trinidad and Tobago, Grenada and Curacao. The company is always looking for ways to improve redundancy and enter into new markets.

The company reports that “Flow is actively looking at the direction in which our customers are looking for us to develop new services and solutions. Cloud Services is a major focus and will see a mix of our own investments and partnerships with existing providers where that makes sense. We are also constantly reviewing the ways in which we deliver services and content to our customers and you will see a number of new developments in that area (in the near future).”

Through its wholly owned subsidiary, Columbus Networks, the Company provides capacity & IP services, corporate data solutions and data center hosting throughout 22 countries in the greater Caribbean, Central American and Andean region.

Columbus has supported a vast number of social projects and together our investment in such initiatives approximates \$US 2.5M per annum and impacts the life of thousands of citizens across Jamaica, Trinidad, Grenada and Curacao.

- Across all Flow territories, all public schools passed by our network benefit from free Cable and Broadband services. More than 250 schools have benefitted from this program to-date

- Flow partners with various service groups to improve the teaching and learning environment of schools through computer donations, access to educational software, mentoring and capacity building. To date, more than 10,000 children have benefitted across the region. Some of the main initiatives include,
 - Hop Along Learning - Trinidad
 - iLearn – Trinidad
 - Community Hub - Trinidad
 - Go GSAT - Jamaica
 - YUTE Programme - Jamaica
 - Knowledge Bowl - Grenada
 - Junior Achievement – Grenada
 - Strategic Alliance with Idoodles Software – All Territories
- Columbus Business Solutions provides backup solutions for ODPEM in Jamaica
- Columbus Business Solutions in partnership with the Jamaica Ministry of Health, National Telemedicine Project and National Health Fund, and in association with private sector partners Telegens and MC Systems, implemented a telemedicine trial, to support the application of video conferencing between health institutions to better utilize specialist medical services where these may not exist.
- Columbus Business Solutions Jamaica as a stakeholder under the Government-led Universal Access Partnership, completed 100 Mbps of Internet at 61 sites (schools and post offices) across the island
- Flow Jamaica supports Youth Development through the World Bank's Digi Jam Initiative, aimed at exposing the potential of new technologies and trends in the virtual marketplace
- More than 150 free Wi Fi access points across all territories to promote Internet usage
- Flow Trinidad supports, CANTO - Women in ICT conference for young girls.
- Columbus has been the platinum sponsor of the CTU Caribbean ICT Roadshow since 2009

19c. LIME

LIME is making a number of investments in line with the objectives of CTC. These are as follows:

- CKLN Project¹⁵ – Connecting the Institutions of Higher Learning in the Caribbean to each other and with the rest of the world
- Expanding Footprint with acquisition of BTC (Bahamas)¹⁶
- Upgrading Mobile Backhaul to improve Mobile service across its territories¹⁷
- Creating Wi-Fi access in Bridgetown¹⁸
- Building in coalition with FLOW a National Broadband Network for the Government of Jamaica¹⁹
- Delivering Internet to Schools in St. Vincent and the Grenadines²⁰
- Laptops and Internet Access to Teachers and Students in Antigua²¹
- Launch of Video Conferencing Solution for Caribbean²²
- Launching of 3G Service in Jamaica²³
- Delivery of world's first 100% Next Generation Network (NGN) in St. Vincent²⁴
- Launching Wholesale Broadband Service in the Dominican Republic²⁵
- Partnering with Cuba and Venezuela for new Fibre Systems²⁶
- Launching of East-West Cable System linking Jamaica, BVI and Dominican Republic²⁷
- Launching of iPhone in the Caribbean²⁸

LIME's Key Future Activity:

¹⁵ <http://www.barnaclegrenada.com/content/view/1967/38/>

¹⁶ http://www.lime.com/ai/news/press_release.jsp?view=RG.170

¹⁷ <http://callcenterinfo.tmcnet.com/news/2011/07/07/5620939.htm>

¹⁸ http://www.lime.com/bb/news/press_release.jsp?view=BB.198

¹⁹ <http://www.mspnews.com/news/2011/05/13/5508610.htm>

²⁰ <http://www.cwc.com/assets/uploads/files/Press%20Releases/2011/LIME%20provides%20Internet%20to%20St.%20Vincent%20schools%2029611%20.pdf>

²¹ <http://www.antiguaobserver.com/?p=63116>

²² <http://www.cwc.com/assets/uploads/files/Press%20Releases/2011/Videoconferencing%20services%20launch%20Orel%20FINAL%20Intranet.%20130411.pdf>

²³ <http://www.cwc.com/assets/uploads/files/Press%20Releases/3g%20launch%20in%20jamaica.pdf>

²⁴ http://www.cwc.com/assets/uploads/files/Press%20Releases/St%20Vincent%20NGN_061010.pdf

²⁵ http://www.cwc.com/assets/uploads/files/Press%20Releases/2011/Dom%20Rep%20contract%20UK%20FINAL_180511.pdf

²⁶ http://www.cwc.com/assets/uploads/files/Press%20Releases/2011/CWC%20-%20Cuba%20Cable_FINAL_140211.pdf

²⁷ <http://www.lightwaveonline.com/fttx/news/LIMES-East-West-cable-enters-service-115297059.html>

²⁸ http://www.lime.com/ai/news/press_release.jsp?view=RG.192

- Delivering 4G Access across the Caribbean - already deployed in the Cayman Islands, and installing in Barbados²⁹

20. Establishment of a Computer/Cyber Emergency Response Team (CERT)

The number of computer and Internet security incidents around the globe has been increasing rapidly as a result of increased access to the Internet. Incidents include intrusions, denial of services attacks, botnets, hacking, economic frauds, and other types of targeted attacks. To this end a Computer/Cyber Emergency Response Team (CERT) is viewed as an appropriate mechanism to respond to such targeted attacks.

The Government of Jamaica is in the process of implementing an Islandwide Broadband Network as well as the establishment of a government wide communication network to be termed GovNet. While both developments will result in significant benefits to Jamaica at large, by facilitating greater access to government services via the Internet, the same network will also leave the GoJ more vulnerable to cyber threats. In fact, various ITU professionals in Government suggest that GoJ systems are already under attack by individuals with nefarious intent within and outside of Jamaica.

It is in this context that a CERT is proposed for Jamaica to serve as the GoJ's cornerstone for cyber security coordination and preparedness. The CERT will have access to the International telecommunications Union (ITU) IMPACT Initiative through which there would be access to the world's leading researchers and cyber security applications developers all united in the cause to mitigate against Cyber Attacks.

The CERT's role would be to protect the Jamaica's Internet infrastructure, coordinates defense against and responses to cyber attacks. In many countries where CERTs have been established it also provides a way for citizens, businesses, and other institutions to communicate and coordinate directly about cyber security.

The establishment of a CERT has been identified as one of the Policy strategies identified in Jamaica's ICT Policy approved in 2011 (see Section 9.1 (c) fifth bullet).

21. An Example of a Universal Access Fund and the CTC Initiative

The Government of Jamaica wishes to provide universal access to data and the Internet in order to support commerce, government services and education. The initial nationwide network will provide the interconnection of all public high schools, public libraries and post offices. LIME and FLOW were awarded the contract for interconnecting these institutions. The terms of agreement between the Government of Jamaica and these companies was signed on April 6, 2011. As at August 2011 the signing of the contracts was to follow in short order.

²⁹ http://www.lime.com/bb/news/press_release.jsp?view=RG.178

The Universal Access Fund (UAF) will have overall responsibility for the implementation of this nationwide broadband network. The type of technology that will be used by both LIME and FLOW is called Metro ethernet and will utilize a fibre backbone. Flow will provide a speed of 100 Mb for each of its nodes. LIME will provide a speed of 12 Mb for each of its nodes.

In addition to the implementation of the broadband network, the UAF has been installing Community Access Points (CAPS) across a number of communities. The CAPS will allow for the ordinary citizen to have quick and easy access to the Internet.

Initially CAPS were installed in Jamaica where there was available Internet access (land based), however the availability of CAPS will increase to close to full islandwide coverage once the aforementioned national broadband network is installed. Ninety-five CAPS have been installed to date across all 14 parishes with 34 more approved as at September 9, 2011.

21a. Projects Funded through this Universal Access Fund

e-Learning Jamaica Limited

The e-Learning Jamaica Company Ltd (eLJam) was established in March 2005 as a limited liability company to implement e-Learning projects in collaboration with the Ministry of Education (MOE). The Company is managed by a Board of Directors appointed by the portfolio Minister.

An amount of US\$50 million was approved by the Jamaican Cabinet in June 2005 to be accessed from the Universal Access Fund, to implement the initial e-Learning Jamaica project targeted at the country's high schools. The primary goal of the project is to utilize ICTs to contribute to an improvement in the quality of education in Jamaica's high schools, to enhance the learning experience and to improve the level of passes in the school-leaving CXC CSEC examinations.

A full update on the e-Learning Jamaica initiative inclusive of details of future work planned may be had by contacting e-Learning Jamaica Limited at info@e-ljam.net.

22. Broadcasting Commission of Jamaica and the CTC

Jamaica's Broadcasting Commission stands committed to a regional approach and so have advocated for same via major initiatives from which the entire region could benefit. Two initiatives of promise with which Jamaica's Broadcasting Commission is involved are the Regional Digital Television Switch-Over Project and the Digital Media Literacy Project for Jamaican Primary and Junior High School Students.

22a. Regional Digital Television Switch-Over Project

A Digital Transition workshop, sponsored by the ITU, was held from August 8 – 9, 2011 in Barbados. The recommendations emanating from this sitting are manifold and if implemented would augur well for the

successful transition from analogue to digital broadcasting for the region. Some of the most significant recommendations coming out of the meeting are as follows:³⁰

22a.i. Excerpt of Recommendations from August 9 – 11, 2011 Digital Switchover Workshop Held In Barbados³¹

1. Digital Switchover (DSO) strategy should be devised based on local/internal circumstances such as number of broadcasters, Terrestrial TV coverage and state of the economy;
2. Size of Caribbean countries and homogeneity of type of broadcasting justify a one-time switch over rather than a phased approach as was done in the USA to facilitate different planning for high power and low power broadcasters;
3. cost/benefit analysis of DSO must be done. This is an important exercise of the decision making process (e.g. age of equipment, additional revenue streams for operators);
4. There should be a regional plan to assist countries to meet any agreed cut-over date
5. DSO strategy should focus on TV and not radio. Digital TV will contribute to spectrum efficiency whilst digital radio would have limited spectrum benefit
6. Regional approach to planning is the way to go, even if different formats and phases of implementation will result;

22b. Digital Media Literacy Project

The Jamaican Broadcasting Commission in its role as regulator of the electronic media in Jamaica recognises that media literacy is a critical component of its work in a media environment that is dynamic, expanding and challenging conventional methods of regulation. A necessary response is a citizen who is empowered in the true sense of the word, including the ability to deal with opportunities and challenges presented by the plethora of sources of media content. As such the Digital Media Literacy Project was envisioned. It is part funded by UNESCO and in need of further funding support to carry out the project objectives.³²

23. Efforts in Haiti towards Connecting the Caribbean

Efforts are afoot to transform the Haitian society into an information society. However Haiti faces unique challenges in her quest for ICT development. Chief amongst these, as detailed by the Chef de Cabinet of Haiti's CONATEL are:

³⁰ A Digital Switchover Feasibility Study for Jamaica may be accessed from Cordel Green, Executive Director, Broadcasting Commission, cgreen@broadcom.org, Tel: 876-929-1998, Kingston 5, Jamaica.

³¹ Access to the complete meeting report may be had by contacting Ayanna Samuels at ayanna.samuels@gmail.com

³² A full report on the Digital Media Literacy Project For Jamaican Primary And Junior High School Students may be gotten from Karlene Johnson, KJohnson@broadcom.org, Assistant Executive Director, Broadcasting Commission (www.broadcom.org), Kingston 5, Jamaica.

- a) Enough time has not been spent planning through the best path the country should take to transform to an information society, rather, significant amounts of time and money have been spent on the “knee jerk reaction” of the purchase of equipment.
- b) Regretfully, the process of transforming the Haitian society is out of the hands of Haitians. The January 12, 2010 tragedy saw this phenomenon peak to previously unforeseen levels. The Chef de Cabinet of CONATEL bemoaned that on the contrary, Haitians should be at the helm of putting ICTs to task in this present reality and should play a stronger role, in general, in helping in the advancement of the their society.
- c) The argument for ICT investment is hampered by the absence of measurable goals such as the number of ICT direct and indirect jobs or enterprises created.

An ICT development plan for Haiti dated September 2011, and prepared by Joses JEAN-BAPTISTE, Directeur Technique, CONATEL is included in Appendix 2.

24. Caribbean Submitted Projects in response to the ITU’s CTA March 2012 *Call for Projects*

The ITU had a call for projects in March 2012 for which, as at Jun 1, 2012 over 50 project proposals were received from the Caribbean. These project proposals totaled approximately USD 52 Billion dollars. The most updated version of projects received may be found at http://www.itu.int/ITU-D/connect/americas/projects_home.asp, which is being consistently updated. These projects represent regional and national projects, with which the region seeks to attract public and private sector investments as well as funding from International Development Partners. Specific projects may be accessed on the aforementioned website by searching via the following metrics:

- projects which fall under the five ITU themes: *Emergency Communications; Digital Broadcasting; Broadband Access and Uptake in Urban and Rural Areas; Human Capacity Building and ICTs with Emphasis on the Marginalized*
- a keyword from the project title
- the project online ID or
- the Beneficiary Country(ies).

A summary of the project submissions, as at June 27, 2012, is provided in Appendix 4.

25. Future Work/Recommendations

- a. There is a need for **greater cooperation and collaboration between various UN Agencies** especially UNDP, UNESCO, UNICEF, PAHO, UNWOMEN, etc. for joint activities towards the exploitation of ICTs for Development.
- b. **Create Comparable ICT Indicators which will facilitate tracking of progress towards the MDGs**

There is currently a lack of ICT indicators for comparison, available across the Caribbean. Our aim should be to strengthen the capacity of statistical agencies in all Member States to develop, collect and report on a core set of regionally comparable ICT statistics so that we can better track progress towards achieving the MDGs. To this end, interested Governments and partners should commit to putting plans in place to create these regionally comparable ICT indicators.

As suggested in Zaballos and Medford's November 2011 Broadband paper, "there should be a consistent agreed set of indicators measured at least quarterly, including:

- a. Percentage of households and enterprises with broadband access
- b. Amount of time spent on the Internet by individuals and for what purpose – for example, email, social media, browsing, research, work and e commerce,
- c. Number of persons employed who use computers in their normal work routine
- d. Number of enterprises engaged in e-commerce
- e. Number of enterprises using ICT in their business processes and
- f. Impact of broadband usage in all key sectors and GDP"

c. Facilitate Broadband Penetration

This could be affected through the development of strategies to facilitate the wider adoption and deployment of ICT and use of ebusiness/ecommerce across SMEs and large businesses in order to increase competitiveness, efficiency and productivity, and to promote innovation in the countries involved. In addition, emphasis will be placed on enhancing the social inclusion of less favored social strata through the development of specific services and applications as well as capacity building programmes.

Reference is also made to the many key recommendations laid out in the Zaballos and Medford November 2011 Broadband paper as enablers to realize the development potential of ICTs in the region.

d. Forge strong and long lasting partnerships at the July 17 – 19, 2012 CTA Summit.

The Connect Americas Summit aims to mobilize the human, financial and technical resources required to close Information and Communication Technology gaps in the region. The Summit is expected to attract leaders from the public and private sectors as well as international and regional financing and development agencies. Efforts should be made by all Caribbean representatives present to network face-to-face and solidify new partnerships.

e. Realize the objectives of the viable, creative, cross-cutting regional and national development projects submitted in response to the ITU's CTA Call for Projects

Project submitters should seek to form win-win partnerships with potential partners and investors, in order to ensure the realization of their projects. There will be a “match-making” exercise during which project experts and/or holders, discuss and possibly adapt their projects to the requirements of potential partners, to facilitate their engagement and contribution to the projects. Once a potential partner has agreed to provide resources to a project, the ITU will prepare the corresponding documentation in the form of a partnership agreement (Memorandum of Understanding, Cooperation Agreement, Contribution Agreement, etc.) depending on the type of project and the scope of engagement agreed by the parties (a partnership agreement might cover several projects).

The above future steps/recommendations will go a far way in securing socio-economic and sustainable development through ICT for the region.

26. Conclusion

One of the major objectives of the CTC initiative, as a subset of the CTA, is to realize further rollout of Broadband in the Caribbean. Investing in Broadband is not simply an investment in infrastructure, but primarily an investment in people which should start at the school level. As such, the Caribbean sees investment in ICTs and Broadband rollout as an *enabler of development* and not as an end in itself. Investment in ICTs:

- represents a platform for the mating of ideas
- enables individuals to solve their own problems, create their own opportunities
- promotes and extends significant cultural/historical events
- creates independence, risk taking and global involvement
- reduces isolation; the “community” becomes extended on multiple levels, without physical barriers

Ultimately, connecting the Caribbean is all about exploiting the technology to better the lives of the people in the region, allowing for empowerment of people and fostering economic development and prosperity in the region.

As stated by the ITU Secretary General in his foreword address to the Americas region in preparation for the Summit, the Connect the Americas initiative provides a unique opportunity for the region to articulate strategies on how best to harness the potential of ICTs to promote the development goals of the Millennium Declaration, and the targets of the World Summit on the Information Society. The CTA Summit provides a platform for discussion and partnership building by governments, international organizations, private sector, development banks, and non governmental organizations. The cornucopia of projects presented by the Caribbean, and the Americas at large, represents the fulcrum of a strong and functional Information Society. If implemented, the projects would contribute to the eradication of extreme hunger and poverty, the achievement of universal primary education, the promotion of gender equality and empowerment of women, the reduction of child mortality, the improvement of maternal health to combat the fight against HIV/AIDS, malaria and other diseases, ensuring environmental

sustainability, public safety and the creation of global partnerships for sustainable development. With such high potential for the realization of an array of important goals which resonate with the priorities of the region, the Caribbean intends to capitalize on the immense opportunities presented through the CTA initiative .

This paper presents the Caribbean Contribution to the CTA Summit, within which the development oriented objectives of the region's ICT-centred organizations were reported. With the support of research data, the status of ICT development in the region along with recommended strategies for the accomplishment of regional goals were discussed.

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28. GLOSSARY OF ACRONYMS

ACCP Assembly of Caribbean Community Parliamentarians

ACP-EU Africa, Caribbean Pacific- European Union

ADSL Asymmetric Digital Subscriber Line

AUSAID Australian Agency for International Development

B2B Business to Business

B2C Business to Citizen

BTC Bahamas Telecommunications Company

BVI British Virgin Islands

C@ribNET Caribbean Research and Education Network

CANTO Caribbean Association of National Telecommunications Organizations

CAPS Community Access Points

CARDI Caribbean Agricultural Research and Development Institute

CARICAD Caribbean Centre For Developmental Administration

CARICOM Caribbean Community

CARIFORUM Caribbean Forum of African Caribbean and Pacific States

CBU Caribbean Broadcasting Union

CCCCC Caribbean Community Climate Change Centre

CDB Caribbean Development Bank

CDEMA Caribbean Disaster Emergency Management Unit

CDERA Caribbean Disaster Emergency Response Agency

CDM Comprehensive Disaster Management

CDMA Code Division Multiple Access

CDM-HIP Comprehensive Disaster Management Harmonized Implementation Programme

CEHI Caribbean Environmental Health Institute

CERT Computer/Cyber Emergency Response Team

CFNI Caribbean Food and Nutrition Institute

CIDA Canadian International Development Agency

CIGF Caribbean Internet Governance Forum

CIS Commonwealth of Independent States (former Soviet Union)

CKLN Caribbean Knowledge and Learning Network

CLI Caribbean Law Institute

CLIC Caribbean Law Institute Centre

CMI Caribbean Meteorological Institute

CMO Caribbean Meteorological Organization

CONATEL Conseil National des Télécommunications, Haïti

CSEC Caribbean Secondary Education Certificate

CSM Caribbean Single Market

CSME Caribbean Single Market and Economy

CTA Connect the Americas

CTC Connect The Caribbean

CTU Caribbean Telecommunications Union

CTW Connect the World

CU Coordinating Unit

CXC Caribbean Examinations Council

DFID Department for International Development (United Kingdom)

DM Disaster Management

DSL Digital Subscriber Line

DSO Digital Switch Over

ECMS Enterprise Content Management System

ECTEL East Caribbean Telecommunications Authority

EPA Economic Partnership Agreement

EVDO Evolution Data Optimized (also Evolution Data Only).

EWS Early Warning System

FDI Foreign Direct Investment

GDP Gross Domestic Product

GHG Greenhouse Gas

GIS Geographic Information System

GNI Gross National Income

GOJ Government of Jamaica

HIV/AIDS Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome

HSPA+ Evolved High Speed Packet Access

I&E Innovation and Entrepreneurship

IADB Interamerican Development Bank

ICC International Cricket Council

ICT Information and Communication Technology

ICT4D Information and Communication Technology for Development

ID Identifier

IGF Internet Governance Forum

IP Internet Protocol

IP Intellectual Property

IPTV Internet Protocol Television

IT Information Technology

ITU International Telecommunications Union

IXP Internet Exchange Point

LIME Landline, Internet, Mobile and Entertainment

MDG Millenium Development Goal

MOE Ministry of Education

NDO National Disaster Office

NGN Next Generation Network

OECS Organisation of East Caribbean States

PAHO Pan American Health Organization

RDDS Regional Digital Development Strategy

SIDS Small Island Developing States

SVUS Single Virtual University Space

TV Television

UAF Universal Access Fund

UG University of Guyana

UN United Nations

UNDP United Nations Development Programme

UNESCO United Nations Educational Cultural and Scientific Organisation

UNICEF United Nations Children’s Fund

UNWOMEN Fund for Gender Equality Economic and Political Empowerment

US United States

USO Universal Service Obligation

UWI University of the West Indies

VOIP Voice Over Internet Protocol

WEF World Economic Forum

WSIS World Summit on the Information Society

WTCD World Telecommunication Development Conference

APPENDICES

APPENDIX 1

Background to Connect the World

Connect the World is a global multi-stakeholder initiative set up within the context of the World Summit on the Information Society.

Designed to showcase, consolidate and scale-up existing development activities and stimulate new partnerships, its aim is to accelerate and strengthen efforts to bridge the digital divide.

Connect the World has identified three key areas of activity that, together, constitute the primary building blocks needed to reach the goal of connecting the unconnected worldwide by 2015.

Building Block 1

ENABLING ENVIRONMENT

- good governance
- fair, technology-neutral policy & regulatory frameworks
- intellectual property protection
- consensus building / dispute resolution mechanisms
- national e-strategies
- national business and social development models
- standardization

Building Block 2

INFRASTRUCTURE & READINESS

- network infrastructure development
- capacity building
- national ICT awareness raising
- funding of universal service / access
- local content development

Building Block 3

APPLICATIONS & SERVICES

- e-governance
- e-health
- e-learning
- e-business
- e-employment
- e-environment
- e-agriculture
- e-science
- disaster preparedness and response systems
- child and youth initiatives
- cultural and linguistic diversity and local content

APPENDIX 2

ICT Development Plan in Haiti

By Joses JEAN-BAPTISTE | Directeur Technique, CONATEL

September 2011

The telecom sector in Haiti is growing fast since the liberation in 1995. There are now 4 operators:

- NATCOM (former TELECO, State monopoly). This company launched 3G services in August 2011 at a national level. NATCOM is also developing DSL services. Three thousand kilometres of fibre have been installed all around the country.
- DIGICEL, who started in 2006, has developed a GSM mobile network. The company has amassed more than 2 million subscribers. They also have acquired a 3G licence with service launch scheduled for December 2011.
- COMCEL is also a GSM operator with 1.5 million subscribers. The company is presently developing their 3G network in order to compete with NATCOM.

- CONATEL has already received demands for 4G licences for the 700 MHz band. However some cleaning in the spectrum is necessary before launching a call for bids. Indeed, the 700 MHz band is used actually by Ultra High Frequency (UHF) analogue broadcasters.
- Two companies have won licences for DTV. Haiti has adopted the Advanced Television Systems Committee³³ ATSC standard. It is a natural move since the analogue system in force in Haiti is the National Television Systems Committee (NTSC)³⁴. The first company is expected to launch services in December, 2011.
- Wimax service is commercially available in Haiti. The island has 5 licensed operators : ALPHA COMMUNICATION NETWORK; ACCESSHAITI, HAINET, MULTILINK and HAITI DATA NETWORK.

APPENDIX 3

3a. DECLARATION ON FUNCTIONAL COOPERATION, ISSUED BY CARICOM HEADS OF GOVERNMENT

A COMMUNITY FOR ALL

DECLARATION ON FUNCTIONAL COOPERATION, ISSUED BY CARICOM HEADS OF GOVERNMENT ON THE OCCASION OF THE TWENTY-EIGHTH MEETING OF THE CONFERENCE,

1-4 JULY 2007, BARBADOS

WE, the Heads of Government of the Caribbean Community (CARICOM), meeting at Needham's Point, Barbados, 1-4 July, 2007 on the occasion of the 28th Regular Meeting of the Conference of Heads of Government of CARICOM;

Determined that the goal of our regional integration process is, first and foremost, to enhance the well-being of all of the citizens of our countries;

Recalling the 1989 Declaration of Grand Anse in which we recognised the deepening of the regional integration process as critical to the Community's ability to respond to the challenges and opportunities presented by the changes in the global economy;

Having signed the 2001 Revised Treaty of Chaguaramas, which established the CARICOM Single Market and Economy (CSME), and, so doing, giving impetus to the creation of new institutional arrangements designed to implement the provisions thereof;

³³ http://en.wikipedia.org/wiki/Advanced_Television_Systems_Committee

³⁴ National Television System Committee (1951–1953), [Report and Reports of Panel No. 11, 11-A, 12-19, with Some supplementary references cited in the Reports, and the Petition for adoption of transmission standards for color television before the Federal Communications Commission, n.p., 1953], 17 v. illus., diags., tables. 28 cm. LC Control No.:54021386 Library of Congress Online Catalog.

Reaffirming Article 6 (i) of the Revised Treaty of Chaguaramas, which identifies enhanced functional cooperation as one of the fundamental objectives of our Community;

Recalling the immense contribution that functional cooperation has made so far to the regional integration movement and that these purposeful, collaborative, coordinated actions have yielded significant and tangible benefits to the people of the Community, especially in areas such as education, health, sport, culture, sustainable development and security;

Recognising the shortages of skills in key areas, occasioned by continuous migration and the negative effect this poses for development;

Determined also to ensure the equitable distribution among the peoples of CARICOM of the gains realised specifically through the implementation of the CARICOM Single Market and Economy (CSME) and generally through the regional integration process;

Fully convinced that functional cooperation, conceived as the body of actions and activities that integrate the Community's political, economic, security and social policy goals with its cultural, scientific, technological and environmental objectives, offers great opportunities for the future and therefore must permeate the work of every council and institution of the Community and in this regard, contribute to the increase in the welfare and security of the Community's citizens;

DECLARE:

1. That improvement of the quality of life of CARICOM citizens is the paramount objective of our region's integration process;
2. Our determination to make functional cooperation a priority within the Community as one of the principal means by which the benefits of the integration movement are distributed through the length and breadth of the Community, including its Associate Members, and among all its peoples, thereby engendering a "Community for All";
3. That we will achieve this objective primarily using regional institutions, organisations and other entities whose mandates support our efforts and in this regard, pay specific attention to strengthening the capacity of the CARICOM Secretariat and in particular its legal division;
4. Our commitment to take action, at the national level, in support of regional cooperation, particularly through the establishment of appropriate complementary mechanisms
5. That the Task Force to review the status of functional cooperation should be constituted as soon as possible and provide a full report, through the Community Council, to the next meeting of the Conference;

6. That we mandate, in this regard, a comprehensive review of regional institutions with a view effectively to rationalising their functions, funding and structures better to provide common services and coordination of national policies and programmes within the Community;

7. That we will pursue these objectives, as a priority, in the areas outlined below and review, on a regular basis, the progress achieved.

With regard to

8. Health – “The Health of the Region is the Wealth of the Region”

Recalling the Nassau Declaration on Health, which stated, inter alia, that “the health of the region is the wealth of the region”, as well as the recommendations of the Caribbean Commission on Health and Development,

We:

Emphasise the intrinsic and instrumental value of the health of our people;

Agree to establish the areas of functional cooperation to enable health to contribute to the other fundamental objectives of the Treaty of Chaguaramas, utilising our regional health institutions and partner agencies;

Commit ourselves to working towards creating the conditions for equitable access, by every Community citizen, to adequate health care in each CARICOM Member State.

9. Human and Social Development

Appreciating that the effective development and deployment of our skilled human resources are critical to the achievement of competitiveness and our economic objectives and confident that social development is a precondition for sustainable prosperity,

We:

With regard to –

(i) Social Welfare

Commit ourselves to establishing effective modalities to ensure the portability of pensions and other social security benefits for our citizens as they move across the Community;

(ii) Culture

Recognise the central role of culture in forging regional identity and in this regard are determined to foster greater collaboration among national cultural entities and ensure that CARIFESTA plays its critical role in developing the region’s cultural industries;

(iii) Education and training

Commit ourselves to working towards creating the conditions for equitable access for every CARICOM citizen to the necessary education and training that will allow them to realise their full potential as productive and creative members of our society;

Acknowledge the potential of information and communication technologies to support distance education initiatives and, in that context, continue to support the CARICOM Knowledge Learning Network (CKLN) which will assist in providing the infrastructure necessary to amplify the broad educational opportunities for our citizens;

Also welcome the imminent introduction of the Caribbean Vocational Qualification which will provide a credible, fair and transparent assessment of skills and competencies of Community nationals as they move and work within the region;

(iv) Labour

Welcome the new employment opportunities which have arisen from the establishment of the Single Market and Single Economy and reaffirm our determination to increase them further;

Agree, in this regard, to work towards the creation of regional labour market information systems to facilitate the identification of employment opportunities across the region;

Also agree that where appropriate, the skills and experience of retired citizens of the community and members of the Caribbean Diaspora be tapped and made available for the region's development.

(v) Youth and Development

Acknowledge the importance of the Caribbean Commission on Youth and Development in helping to chart a strategic vision and action programme for the empowerment of our youth.

10. Communication – "Bridging the Divide"

Recognising that the establishment of efficient communication links is critical to community building and is a prerequisite for the unfettered movement of information, goods and people throughout the region.

We:

With regard to-

Transportation

Resolve to develop and implement a regional air and maritime transportation policy designed to create affordable, reliable and safe intra-regional transportation services;

Information and communication technology

Stress the importance of adopting a coordinated approach to the development of and access to information and communication technologies and networks by the populations of the region as a means of achieving greater social cohesion and as a platform for further economic development and participation in the global economy;

Telecommunications

Resolve to establish a framework for the coordination of telecommunications policy and to develop within the Community a single domestic space for telecommunications.

Public Education

Commit ourselves to intensify public education with a view to further involving citizens of the region in the integration process.

11. Crime and security – „Securing our Community“

Aware that the security of our people is our highest responsibility and deeply committed to reducing vulnerability to crime and other threats to security within national borders and in our shared economic space, as well as to those emanating from beyond,

We:

Agree to build on the security arrangements successfully implemented for Cricket World Cup 2007 in order to enhance the well-being of the region’s citizens and preserve the safety and security of our countries;

Further agree to accelerate the process of intelligence-sharing and human resource development and to develop other relevant bilateral and multilateral security arrangements to supplement limited national resources;

Resolve to develop regional law enforcement instruments which will facilitate a coordinated approach to the scourge of organised crime, international terrorism and financial crimes.

12. Environment –“Preserving and Protecting our Patrimony”

Convinced that the quality of life of our people and the sustainable development of our countries are reliant upon the conservation and protection of our natural environment and the maintenance of our precious biodiversity,

We:

With regard to

Climate change

Fully support the Caribbean Community Climate Change Centre (CCCCC), a recognised Centre of Excellence, in pursuit of its mandate to coordinate the region's response and adaptation to climate change, which constitutes a real threat to the viability of our states;

Disasters

Welcome the imminent establishment of the Caribbean Disaster Emergency Management Agency, which is to replace CDERA, as a critical institution for mitigating the impact of natural and man-made disasters on our Member States within the broader framework of the region's sustainable development agenda;

Caribbean Sea

Reiterate our support to the initiative to have the Caribbean Sea recognised as a Special Area in the context of sustainable development so as to protect and preserve this essential and vulnerable shared natural resource.

13. Energy

Recognising the necessity of a sustainable, stable and affordable supply of energy for the development of our societies,

We:

Support the work of the Caribbean Renewable Energy Development Programme in the implementation of its mandate and give urgency to the development of renewable energy options to reduce the region's dependence on fossil fuels;

Agree to complete the elaboration of a regional energy policy which will address, among others, issues relating to cost, sustainability and security of supply, bearing in mind the special role of CARICOM net energy-exporting countries;

Instruct the Ministers responsible for Energy urgently to meet in order to address these and other energy-related issues and report, through the Community Council, to the next meeting of the Conference.

14. Agriculture

Underlining the significance of agriculture, not just as an economic sector, but as an expression of a distinctive Caribbean way of life,

We:

Reaffirm our commitment to realising the objectives of the Jagdeo Initiative which seeks to revitalise the agriculture sectors and stimulate entrepreneurial capacity among the agricultural communities across the region.

15. WE PLEDGE, THEREFORE, TO INVEST IN FUNCTIONAL COOPERATION FOR THE FURTHER DEVELOPMENT OF OUR REGION'S HUMAN AND SOCIAL CAPITAL, WHOSE GREATEST DIVIDEND IS THE CREATION OF A COMMUNITY FOR ALL.

3b. GEORGETOWN DECLARATION ON ICT DEVELOPMENT

GEORGETOWN DECLARATION ON ICT DEVELOPMENT

by CARICOM Ministers responsible for ICT | February 7, 2003

1. Whereas the Conference of Heads of Government of the Caribbean Community, at their Twenty-Third Meeting in July 2002 in Georgetown, Guyana, agreed that the formulation of policy in relation to Information and Communication Technologies (ICTs) requires attention, direction and promotion at the highest level;
2. We the Ministers of the Caribbean Community (CARICOM), responsible for Information and Communication Technology,
3. Conscious of the technological revolution, which is largely underpinning the forces of globalisation and rapidly defining a new liberalised world economy that is based on capacity to access knowledge, far reaching connectivity and improved flows of information;
4. Conscious also of current international trade arrangements and processes existing at the global and hemispheric levels, at the World Trade Organisation (WTO) and the Free Trade Area of the Americas (FTAA) respectively, international cooperation and collaboration for the exploitation of digital opportunities and strengthening efforts for the information society;
5. Bearing in mind disparities in cost and access to ICT, within and between CARICOM countries, the challenge of widening divisions between those states, enterprises and persons that are able to take advantage of opportunities in the use of digital technologies and those states that are not so able, the expanding digital divide, exploitation of digital opportunities and strengthening efforts for the information society;
6. Aware that the right of all persons to communicate and to have access to information and the means of communication, including telecommunication and networks, co-existing with respect for life, private property, privacy, intellectual property, confidentiality and security are fundamental to the general welfare of the Community;
7. Mindful of the role of Information and Communication Technology (ICT) in sustaining the mission of regional integration, success in the creation of a vibrant CARICOM Single Market and

Economy (CSME), new employment opportunities, encouraging the development of our content industries, promoting and protecting all of our cultures and their rich diversity, generally securing future regional prosperity and the transformation of our societies;

8. Recognising the CARICOM mandate for development of trade, the services sector in the Region, including the development of micro-enterprises, the utilisation of E-Commerce, and development of the appropriate statistical frameworks to support that work;
9. Recognising too the need for an agenda that is concerned with ensuring a comprehensive CARICOM Connectivity regime that strives to achieve maximum benefits of ICT for the Region's peoples, and for sustaining economic growth and social
10. development, especially in areas of governance, empowerment, poverty reduction, investment and resource support and widespread access to training and resources;
11. Noting the progressive liberalisation of telecommunications in the Region and also that in an increasingly liberalised and globalised environment, the requirement that telecommunication be provided on a competitive and fair basis;
12. Noting further the interests and concerns of various stakeholders within the new and traditional ICT sector, and the efforts of various public and private sector bodies in the Region;
13. Taking into account initiatives already being taken by individual Member States, by the Organisation of Eastern Caribbean States (OECS) sub regional group, and initiatives of other regional and international bodies;
14. HEREBY AGREE AS FOLLOWS:
15. That CARICOM States adopt a coordinated approach to conceptualisation and development of ICT policies, and development of structural, legal and regulatory frameworks, to stimulate and promote broader access to and use of information and communication technology by the populations of the Region, and the transfer of technology;
16. That there be established a specialised Group charged with responsibility for ICT within the CARICOM Working Group on Services, established under the aegis of the Council for Trade and Economic Development (COTED);
17. That the CARICOM Secretariat, in conjunction with partner institutions and agencies in the Region, including relevant tertiary institutions, provide technical support for the Working Group to enable it to fulfill its mandate, especially in relation to the development, adoption and maintenance of global standards, regulations and the facilitation of development of efficiencies of small, medium and micro enterprises;

18. That the ICT specialised Group report to and advise the Council for Trade and Economic Development (COTED) of CARICOM, and the Conference of Heads of Government, on the facilitation of training, research and technological transfer supported by the work of the CARICOM Secretariat;
19. That over the next two (2) years, commencing the 7th day of February, 2003 the CARICOM ICT specialised Group shall work in collaboration with the appropriate regional and sub regional agencies and organisations and consult with international bodies and organisations, to ensure the development and maintenance of a programme to support the CARICOM ICT/Connectivity Agenda 2003, and adherence to the principles of universal access, for the benefit of the Region, with a mid-term review to assess progress and guide further action.
20. Dated this 7th day of February, 2003
21. Signed at CARICOM Secretariat, Georgetown, Guyana.

APPENDIX 4

CTA PROJECT SUBMISSIONS AS AT JUNE 27, 2012

Thematic Areas	Caribbean or Latin America & Caribbean Submissions or Beneficiaries	Latin American Beneficiaries Only
Emergency Communications	1. Resilient National Emergency Communications Network (<i>UWI St. Augustine</i>) 2. Jamaica National Emergency Telecommunications Network 3. Caribbean Regional Emergency Broadband Satellite Repeater System 4. Emergency Telecommunications and Climate Change 5. Establishment of a GIS-based public interface System for dissemination of Air Quality Data as a means for building public awareness for Climate Change	1. Assistance to the Establishment of a System of Emergency Regional Integrated Communications
DIGITAL BROADCASTING (Incl. Spectrum Management)	1. Support for Transition from Analogue to Digital Broadcasting in the Caribbean 2. A Funding Proposal to Establish the Digital Switchover Programme Management Office 3. Support for Harmonization of the ICT Policies in the Caribbean (HIPCAR-II) 4. Caribbean Spectrum Management Harmonization 5. Caribbean Spectrum Management Project	1. Digital Television and the Impact on Citizens
Broadband	1. Developing a Broadband Plan/Strategy for Jamaica	1. Broadband National Plan

Access And Uptake In Urban And Rural Areas	2. Jamaica Intelligent Transportation System 3. Creating Jamaica's First Smart Town: Digital Falmouth as an ICT Hub for Entrepreneurial and Civic Enterprise 4. The National Health Information Network Jamaica 5. Digital City Barbados - Jobs Creation Pilot Project 6. Deployment of Broadband in the Caribbean Region 7. Regional G2B/B2B e-Marketplace 8. Broadband Networks in the Americas Region 9. Single Virtual University Space Project 10. Facilitating Improved Public Sector Service through Increased Access to Government Records and Information Management (RIM) 11. Low-cost computing devices and e-educational content for Schools 12. Development of the Broadband Backbone Infrastructure in Trinidad and Tobago 13. Broadband Infrastructure Development - a) New Submarine Cable System 14. Broadband Infrastructure Development - b) Second Landing Point and Carrier Hotel	2. Fiber to the Node (FTTN) 3. Broadband Access for Central American Universities 4. Broadband Development in Latin American Countries
Reduction Of Internet Access Costs (Ixp)	1. Internet reduction cost through IXPs in the Americas region	
Human Capacity Building On Icts W/ Emphasis On Persons W/ Disabilities And People Living In Rural And Deprived Urban Areas	1. Transitioning the Caribbean into a Digital Future: an integrated programme of media literacy and public education 2. Caribbean E-Learning Project Proposal 3. Developing apps for national and economic development 4. Building Capacity in the Caribbean through Knowledge Management 5. Digital Society Jamaica "Youth Employment Opportunities in ICT" 6. GreenTech Caribbean 7. National CIRT Establishment in Americas Region 8. The Enhancement of the Capacity and Capability of the Communication Forensics and Cyber Unit 9. Caribbean Women Resources Portal 10. Implementation of the Programme for the inclusion of women and girls in ICTs in the Americas Region 11. e-Accessibility for Persons with Disabilities in the	1. Promoting Capacity Building on Policies and Regulations to Promote School Connectivity Including Those in Rural, Urban, and Isolated Areas with a Particular Focus on Disadvantaged and Vulnerable Groups 2. Demand Based Policy Approach to Provide Accessibility to Telecommunications Services and ICT for persons with disabilities and age related disabilities

	Americas Region 12. Course on Tele-health in the Americas 13. Enhancing IT access and skills towards meaningful employment in local communities 14. Excellence In Education Powered by Video Collaboration and Training 15. Caribbean Internet Policy & Governance Capacity Building Programme (IGCBP) with a Specialisation in ICT and Climate Change	
Other	1. Geo-referenced information system on international roaming rates 2. Institutional Support on the ICT Dispute Settlement Mechanisms in the Caribbean 3. Free Open Source Software ("FOSS") Policy Framework for Jamaica 4. Caribbean Export Development Agency 5. Market Intelligence System 6. Telemedicine Services Caribbean 7. Entry of 3rd Mobile Provider in Trinidad and Tobago 8. The Child Online Protection (COP) 9. Connecting Government for the CSME 10. Pan Caribbean Radio News and Current Affairs System	1. Non - Ionizing Radiation (NIR) and Health protection 2. Connecting Schools in Underserved Areas of Countries of the Americas Region: Connecting the Unconnected Communities 3. Pan-American Telemedicine Network (PATN) 4. Disseminating Cybersecurity Culture and Combating Cyber Threats in Latin America 5. The Impact of Telecommunications on Security 6. Mesoamerican Information Highway 7. Telecommunications and the Environment

NOTE: This list excludes approximately six (6) projects for which summary information was absent on the ITU's Connect the Americas web site as at June 27, 2012.