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**AN OVERVIEW OF WORK COMPLETED AND PROPOSED WORK
2010/2011**

**DEVELOPMENT OF STATISTICS ON
INFORMATION COMMUNICATION
TECHNOLOGIES**

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**DEVELOPMENT OF STATISTICS ON INFORMATION COMMUNICATION
TECHNOLOGIES – AN OVERVIEW OF WORK COMPLETED AND PROPOSED WORK
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LIST OF ACRONYMS

AGS	Advisory Group on Statistics
BPM	Balance of Payments and International Investment Position Manual
CARICAD	Caribbean Centre for Development Administration
CPC	Central Product Classification
CSICT	Caribbean Specific Information Communication Technologies Indicators
EBOPS	Extended Balance of Payments Services (classification)
HS	Harmonised Commodity Description and Coding System
ICT4D	Information Communication Technology for Development
ISCO	International Standard Classification of All Occupations
ISIC	International Standard Industrial Classification
NSOs	National Statistical Offices
OECD	Organisation for Economic Co-operation and Development
OSILAC	Observatory for the Information Society in Latin America and the Caribbean
SCA/ECLAC	Statistical Conference of the Americas of the Economic Commission for Latin America and the Caribbean
SCCS	Standing Committee of Caribbean Statisticians
SITC	Standard International Trade Classification
TWG	Technical Working Group
UN/ECLAC	United Nations Economic Commission for Latin America and the Caribbean
UWI	University of the West Indies

1. INTRODUCTION

The development of Statistics on Information Communication Technologies dates back to one of the first regional meetings held in 2002 in Antigua and Barbuda, ICT Seminar: Towards the Caribbean Information Society – Awareness, Accessibility, and Affordability. The presentation at this and successive meetings served primarily to sensitise on the need to compile ICT statistics, to outline approaches that can be utilised in data collection and to inform on efforts being put in place to measure the contribution of ICT to production and trade. Presentations were therefore made at meetings of officials and ministers; meetings of the Standing Committee of Caribbean Statisticians (SCCS) and a CARICOM/United Nations (UN) meeting.

Some achievements which arose out of these presentations were:

- the presentation at the 28th SCCS Meeting by the Director of Statistics of the Belize Central Statistical Office (now the Director-General of the Statistical Institute of Belize) of an outline approach to measuring the ICT sector's contribution to GDP utilising the OECD definition of the scope of ICT;
- initial efforts at defining the scope of ICT in terms of Production; Trade in Goods; Trade in Services and Employment;
- the recognition of the need to develop and monitor indicators in the context of the Caribbean experience in addition to the internationally recommended indicators;
- Identification of a draft set of ICT indicators;
- the need for a CARICOM/UN Technical Working Group (TWG) to develop ICT Statistics;
- the inclusion of Statistics on ICT in the common Regional Statistical Work Programme which was approved by the Community Council of Ministers in 2005.

The above issues form the backdrop of the current developmental work being put in place on a framework to collect, compile and disseminate ICT statistics.

With the establishment of a Regional ICT Steering Committee, a statistical sub-committee was one of six sub-committees which were identified to focus on respective areas of development of ICT issues. As a consequence the proposed CARICOM/UN TWG was subsumed under this sub-committee which comprises five Member States, one Associate Member, the CARICOM Secretariat, and the University of the West Indies, CARICAD and UN/ECLAC. The statistical sub-committee provided a mechanism for focused and structured development of the ICT Statistics framework that can lead to the compilation of relevant and harmonised statistics and indicators for policy formulation, monitoring and decision-making throughout the Region.

Section 2 addresses the Importance of Statistics on ICT and related Contextual Issues; Section 3 presents the Status of Work put in place by the ICT Statistics Sub-committee; and Section 4 discusses Challenges in the Compilation of ICT Statistics. The Proposed Work plan 2010/2011 and Conclusions and Recommendations follow in Sections 5 and 6 respectively.

2. IMPORTANCE OF ICT STATISTICS AND RELATED CONTEXTUAL ISSUES

Statistics mirror events that have taken place in the world, measuring incidents at a particular point in time or trends over time. Statistics provide evidence for decision-making and present objective criteria through which these decisions can be made or judgements pronounced. Timely, reliable and comparable statistics are prerequisites for formulating and monitoring policies for national and regional development, and ultimately in improving the levels of living of peoples of the Community. The CARICOM Secretariat and Member States/Associate Members fully recognise the pivotal role of ICTs in a number of areas which include service delivery in sectors such as Health, Education, Public Administration; online access to information; availability and access to newspapers, radio, television channels etc; use of ICT by businesses and individuals; facilitating trading arrangements in goods and in services and in pursuits such as music, social and cultural entertainment and

other related activities. The Regional ICT4D strategy recognises the importance of statistics to formulating and monitoring policy; a brief synopsis of the draft strategy is at **Annex I**.

Of importance is the need to examine and identify themes and contextual issues that are of relevance in the use of ICTs in regional development. Because of its pervasive linkages across a myriad of daily activities ICT Statistics are perhaps everywhere. The area of ICTs is an emerging aspect of work to be measured by statisticians in the region so that decision-makers, policy-makers and other users can get clear insights into its contribution to the development of the Community. Availability of statistics on ICTs can therefore lead to better utilisation of resources to enable the achievement of numerous international, regional and national developmental goals, justifying its importance as an activity to be undertaken.

3. STATUS OF WORK PUT IN PLACE IN DEVELOPING ICT STATISTICS

The ICT statistical sub-committee focused attention on the following areas in its work plan in 2007:

- Defining the Scope of ICT;
- Identification of an Indicator Framework comprising all the International Indicators as well as themes and corresponding indicators that are of relevance to the region;
- Conduct of special surveys and studies;
- Establishment of regional benchmarks, best practices, review of work already put in place and the exchange of information

The following are the achievements to date:

- **Definition of the ICT Sector:** the sub-committee has reached consensus on the definition of the Scope of ICT, the documentation of which would be shared with the other sub-committees of the Regional Steering Committee for feedback. The definition is based on the OECD definition but incorporates specific retail trade activities not included by the OECD. In addition measurement of external trade in

goods and in services and employment as it relates to ICTs were incorporated in the definition.

- **Indicator Framework Development:** It was also agreed by the sub-committee that the international indicators identified by the Partnership¹ are to be incorporated in the indicator framework. The sub-committee however is in the process of identifying **Caribbean Specific ICT Indicators** incorporating those performance indicators of all the sub-committees and indicators based on themes thought relevant to the region. These themes include: Governance, ICT Sector Liberalisation, e-Commerce/e-Business, Local Content, Information Literacy, e-Learning, Health, Poverty Alleviation/ Social Inclusion, Agriculture, Security, Legal and Regulatory framework, Culture and Disaster Management. Some of these themes overlap with the performance indicators identified by the sub-committees.
- **Recognition of the Social Impact of ICT:** the definition of the ICT sector is essentially in economic terms. The sub-committee however recognises that the broader impact of the reach of ICT goes far beyond the economic impact to include empowerment of all sections of society; long distance education; tele-medicine; disaster management etc.; in the context of the broader impact of ICTs, the Statistics sub-committee has reviewed terms of reference for the conduct of a study on the social impact of ICT which would complement the work put to be put in place in the measurement of the economic contribution of ICT.

4. CHALLENGES IN THE COMPILATION OF ICT STATISTICS

¹ The Partnership on Measuring ICT for Development is an international, multi-stakeholder initiative to improve the availability and quality of ICT data and indicators, particularly in developing countries. Current partners include ITU, OECD, UNCTAD, the UNESCO Institute for Statistics, the UN Regional Commissions (UNECLAC, UNESCWA, UNESCAP, UNECA, the World Bank, and EUROSTAT. The most recent member is UNDESA, who joined the Partnership in May 2009. The UN ICT Task Force was a member of the Partnership until the end of its mandate in 2005. The Partnership Steering committee is composed of ITU, UNCTAD and UNECLAC.

The major challenges faced by many statistical offices are inadequate resources and an ever-increasing demand for new areas of statistics or for increased details or profiles of existing areas. The availability of adequate resources in statistics dedicated to the development of ICT statistics should be addressed by countries of the region without which measurement would be almost impossible.

From a measurement perspective the main challenge would be the implementation of the updated classifications including the following: the International Standard Industrial Classification (ISIC) Rev 4 (for Industry measurement); the Harmonised Commodity Description and Coding System (HS) 2007 and Standard International Trade Classification (SITC) Rev 4 (Merchandise Trade); Balance of Payments and International Investment Position Manual (BPM) 6 and Extended Balance of Payments Services (classification) (EBOPS) Rev 1 (International Trade in services/Investment); and the International Standard Classification of All Occupations (ISCO) 08 and the ISIC Rev 4 (Employment). Most of the classification systems have been recently revised at the international level.

The implementation of the updated classification systems is critical to measuring the contribution of the ICT sector since many of the changes in these updated classifications took into consideration ICTs. Therefore the coding of the industries, goods and services can enable selection of the various activities or categories required to facilitate measurement.

A two-week training workshop in classification systems was conducted by the CARICOM Secretariat in 2009 under the Ninth European Development Fund (9th EDF) - Caribbean Integration Support Programme (CISP) and supported by other UN-based international organisations. . A sub-group (to an umbrella Technical Working Group) on classifications is being proposed to generate discussions on this area and to provide a forum to facilitate the implementation of the updated classification systems.

Measurement of product level classifications is particularly weak in countries since efforts to implement the CPC have been unsuccessful by the countries that have attempted this classification system.

The area of trade in services still poses a challenge despite work put in place on previous projects. Currently there is a new project in this area that seeks to strengthen capacity building on work put in place on past projects.

Other challenges include the conduct of the 2010 Round of Population and Housing Censuses, which will take resources away from the traditional or new areas of work of the National Statistical Offices (NSOs). Additionally, there is the issue of respondent burden, since you are basically asking the same persons/institutions for various types of data over and over again.

Given the cross-cutting nature of ICTs there are many instances where there is real difficulty in articulating a measurable indicator; This very almost “all-encompassing” nature of ICTs also means that the number of indicators necessary to measure the impact and to inform relevant policy is quite large. These factors present a challenge in developing and maintaining a priority list of indicators that would remain current in the fast pace of changes in this area. It also means that ICT statistics are required in a shorter time frame than most NSOs are able to accommodate. Constant monitoring and revision is therefore essential to keep abreast of the needs in ICT statistics and to facilitate its relevance in the formulation of policy.

5. PROPOSED WORK PLAN 2010/2011

Fundamentally efforts in the Work plan 2010/2011 would focus on activating by the Statistics Programme actual compilation of indicators from all available sources- censuses, surveys, and administrative data. It is recognised however that some of the indicators identified in the framework require refinement and work would be directed in this area. Based on the workload considerations and evidently the need to prioritise, further work on the indicators would focus on identifying core and perhaps minimum core in keeping with the

recommendation of the Advisory Group on Statistics that has identified a Minimum core data set to be produced by statistical offices.

The issue of benchmarking is also to be addressed in order to consolidate existing targets from all the sub-committees as well as international, regional and national targets that may exist or new targets that can be identified. This would serve to better refine the indicators.

As mentioned the Central Statistical Office of Belize, now the Statistical Institute of Belize, conducted exploratory work to develop the framework for the ICT sector measurement utilising the OECD definition. It is therefore the intention to conduct a pilot measurement of the ICT sector based on the industry/sector-based definition, in a couple of countries, as well as to explore the measurement of ICT with respect to merchandise trade, and to gauge what is possible in the developmental work currently being put in place in the area of Statistics on International Trade in Services.

Therefore key areas recognised to be incorporated in the way forward include the following:

Benchmarking and Refinement:

- Benchmarking and further refinement of Indicators; Inventory Assessment of Indicators, metadata-definitions, sources etc., Role of the Census, special surveys, administrative sources; Prioritising of Indicators; Initial Impact Study; Actual collection of priority indicators;
- Finalisation and dissemination of the documentation on defining the scope of ICTs;

Pilot Measurement:

- Pilot measurement of the Economic Contribution of the ICT sector based on its contribution to GDP;
- Pilot measurement of Trade in Goods with respect to ICT- contribution to total exports and to total imports;
- Exploratory work on Trade in Services at the level of the EBOPS;

- Pilot work on measurement of Employment – identification of ICT occupations and industries to trace the contribution to employment.

Indicator Framework Development/Data Collection:

- Refinement of the Caribbean Specific ICT (CSICT) Indicators;
- Undertaking of an Inventory Assessment relative to data availability, sources and other metadata characteristics;
- Produce metadata documentation;
- Identify draft minimum core and propose data collection;
- Identify surveys already conducted at the national level and obtain data and/or propose/recommend surveys in collaboration with private sector;
- Collaborate with other agencies working in this area of ICT Statistics;
- Compile data already available to produce a regional publication.

Consultancies/Special studies on ICT Impact

- A Study on the social impact of ICTs.
- Other Consultancy to support the pilot measurement of the contribution of ICT.

The work plan 2010/2011 is contained in **Annex II**.

6. CONCLUSIONS AND RECOMMENDATIONS

As a new and emerging area of work there is need to incorporate the measurement of ICT on the work programmes of National Statistical Offices and agencies, which would require training of statisticians, advocacy and most of all dedicated resources. It is anticipated that all countries would be able to get some baseline information from the 2010 Census round since the regional census framework recommended questions to be included at the individual and household levels.

After the completion of the work plan 2010/2011 the statistical sub-committee would accomplish most if not all of the objectives stated in its terms of reference and would provide a foundation for the national statistical systems to build upon and to sustain the production of statistics on ICT.

Fundamentally the support of the governments of the regions to adequately resource the statistical offices and to facilitate the attraction of persons to career paths in statistics would need to be addressed.

Synopsis of the Draft Regional ICT4D Strategy

The ICT4D strategy can be viewed as a key driver for the CARICOM Single Market and Economy, with the vision of creating “**An Inclusive Regional Knowledge Society, driving sustainable development**”. There are five (5) broad objectives, as follows:

1. *To fully establish modern regional regulatory and open telecommunications infrastructures with affordable networks using converged technologies, to provide affordable and ubiquitous access.*
2. *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.*
3. *To manage and use ICT to demonstrate good governance and increase efficiency in operations.*
4. *To 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.*
5. *To guide businesses and governments to use ICT for sustainable growth and support social development objectives through partnerships that use networked technologies.*

There are many opportunities for using ICTs to ultimately improve the quality of life of the populace; the following are a few that were articulated in the strategy:

- ICTs make it easy for information to be collected, stored, manipulated, retrieved and transferred;
- It is an enabler - improving the delivery of social and economic services, such as education, health, government services, e-commerce, etc;
- Information technology is a \$2.5 trillion-plus global industry, and demand continues to grow for skilled IT professionals;

In order to take full advantage of opportunities presented through the use of ICTs, it is necessary to have the relevant “machinery” in place; as such some of the suggested goals to be achieved by 2015 include:

- All Member States classified as being in Stage Two (or greater) in development and at not less than Stage 2 in the defined Knowledge Economy²
- An overall growth rate of not less than twenty percent (20%) towards ubiquitous access and understanding of digital technologies in the Region.
- A thirty percent (30%) increase in the use of ICT and cultural content and images to create information in an acceptable format and manner, to lead to tangible benefits for education, work and everyday life.
- A thirty percent (30%) increase in ICT training at all levels, as evidenced in curriculum development and ICT certifications being offered.
- Fifty percent (50%) of Member States raised to top twenty percent (20%) of countries according to appropriate global networked readiness and digital development indices; with the others increasing in present rank.
- Increase the share of ICT industries to 10 percent (10%) of the average regional GDP.

Some of the areas of cooperation among Member States which are important to the realisation of those goals are:

- A collective regional agreement on projects to be supported in the development plan;
- The establishment of a Regional Centre for ICT research and innovation to support the sector;
- Provision of legislative environment (that meets most of our needs);
- Public education of consumers as a part of the information literacy drive required with greater access to information;
- Addressing environmental issues (dumping, e-waste)

The strategy recognises that rapid technological change requires frequent revision and updating of indicators. Research has shown that countries that have made efforts to collect data on ICT in their society are now in a better position to:

- Assess the impact of ICT on their economies;

² Stage 1: ICT readiness, reflecting the level of networked infrastructure and access to ICT

Stage 2: ICT intensity, reflecting the level of use of ICTs in the society (knowledge based enterprises and inclusion in basic operating principles), and

Stage 3: ICT impact, reflecting the result of efficient and effective ICT use (creation of new knowledge assets (innovation, empowered and participating people), jobs and wealth).

- Benchmark their economies and social situation;
- Identify the type of qualified people needed to advance their country's information economy; and
- Calculate the investment needed to provide businesses and the people with access to different ICTs.

Therefore, one of the recommended strategic areas/goals of the Regional ICT Strategy is to harmonize regional data measurement, collection, and classification systems. Additionally, it was stressed over and over again how crucial statistics are to evaluating the other strategic areas/goals of the strategy.

Annex II

Proposed Work Plan Of The Information And Communication Technologies (ICT) Sub-Committee On Statistics 2010/2011

ACTION	TIME SCHEDULE	RESPONSIBLE AGENCY/ ORGANISATION/ COUNTRY	REMARKS
PHASE A			
1. Establishment of regional benchmarks, best practices , review of work already put in place; exchange of information.	Q3 2010	Cross-team of Six Sub-committees to include CCS; UWI, UNECLAC, Grenada, (from Statistical Sub-committee)	Members from other sub-committees to be identified.
2. Refinement/research work as required on definition of the Scope of ICTs.	Q2 2010	CCS , UWI , Jamaica	Definition was accepted by sub-committee – work to be put in place to consolidate aspects of the details of the definition in the paper; to refine correct codes and to re-order the format of the document in general.
PHASE B			
3. Pilot measurement in one or two countries of the Economic Contribution of ICT including the following:			GDP (Gross Domestic Product) ISIC rev 4 (International Standard Industrial Classification revision 4).

ACTION	TIME SCHEDULE	RESPONSIBLE AGENCY/ ORGANISATION/ COUNTRY	REMARKS
PHASE B (Cont'd)			
a. Contribution to GDP - utilising the ISIC Rev 4;	Q3 2010	GRENADA/CCS	CPC Ver. 2 (Central Product Classification Version 2) to be integrated in the statistical systems- prior to use in measurement of ICT contribution at the product level.
b. Trade in Goods HS 2007, SITC Rev 4 (Commodity);	Q3 2010	ANTIGUA & Barbuda/CCS	CPC (product) same as above ; Antigua and Barbuda to confirm; HS (Harmonised Commodity Description and Coding System); SITC (Standard International Trade Classification).
c. Trade in Services EBOPS Rev1 based on the BPM6 and CPC version 2 (Product);	2011	To be advised /CCS	Under the Statistics Programme of the CCS, Work currently being put in place in Member States on Statistics on Trade in Services using the EBOPS rev 1 (Extended Balance of Payments in Services revision 1) and the BPM 6 (Balance of Payments Manual version 6).
d. Employment – Occupation ISCO 08 and Industry ISIC rev 4 and related characteristics of the labour force;	Q4 2010 and Q1 2011	To be advised/GRENADA tentatively from their forthcoming Labour Force Survey/CCS	Work Plan is to be circulated along with all other material to all National Statistical Offices; ISCO (International Standard Classifications of All Occupation 2008).

ACTION	TIME SCHEDULE	RESPONSIBLE AGENCY/ ORGANISATION/ COUNTRY	REMARKS
PHASE B (Cont'd)			
e. Alternate Aggregation / draw out from existing classifications alternate groupings;	2011	To be advised /CCS	
f. Consultancy to support (a) to (e); possibility of computerising the codes to generate the various classifications re the various sources of data/measurement of Social Impact of ICT.	2010/2011	CCS	
PHASE C			
<p>4. Refinement/research work as required on the indicator framework and efforts at data collection:</p> <p>Module 1</p> <p>a. Review and refine all Indicators - Caribbean Specific ICT (CSICT) Indicators and other International Indicators, MDGs/Partnerships; incorporate indicator relevance/justification for inclusion;</p>	Q3 2010	BRITISH VIRGIN ISLANDS; BARBADOS; UNECLAC (to confirm); CCS	<p>Other countries to be advised.</p> <p>To complete the early part of Q3 say end of July.</p>

ACTION	TIME SCHEDULE	RESPONSIBLE AGENCY/ ORGANISATION/ COUNTRY	REMARKS
PHASE C (Cont'd)			
b. Identify Core and Minimum core of the CSICT Indicators, MDGs/ Partnerships and prepare schedule for data collection by countries Immediate, Short-term, Medium Term, Long Term.	Q3 2010		.
<p><u>Module 2</u></p> c. Undertake a comprehensive Inventory Assessment- to design a framework for the indicators comprising: <p>(i) Data Availability by country, frequency of collection, sources of data etc.</p> <p>(ii) Prepare meta data - document on concepts and definitions; method of computation/ measurement if required; data sources; document potential data limitations; indicator relevance/justification for compiling.</p>	<p>Q4 2010</p> <p>Q4 2010/ Q 1 2011</p>		<p>Early part of Q4, say October 2010.</p> <p>Where Concepts/Definitions etc. are available for the MDGs/Partnerships indicators these can be accepted to avoid duplication of effort, except in cases where it is thought that adjustments are required to suit our context, taking into consideration the implications for comparability. However, for the CSICT indicators work would be required on these.</p>

ACTION	TIME SCHEDULE	RESPONSIBLE AGENCY/ ORGANISATION/ COUNTRY	REMARKS
PHASE C (Cont'd)			
d. Propose Compilation of Minimum Core to AGS and based on decisions, to SCCS;	Q4 2010		Outside of the developmental mode the collection of these statistics would have to be routinised or institutionalised by the Statisticians and the Statistics Sub-programme hence the AGS (Advisory Group on Statistics) and the Standing Committee of Caribbean Statisticians relative to insertion in the work programme and in-country coordination of the ICT agencies/departments that produce statistics.
<p><u>Module 3</u></p> <p>e. Identify surveys conducted by ICT service providers such as regional and national telecommunications agencies etc. and obtain the detailed data that have been collected;</p> <p>f. Propose/recommend the activation of surveys in collaboration with other agencies at the national, regional or sub-regional levels and also add-on to existing surveys such as business and household surveys.</p>	<p>Q4 2010/Q1 2011</p> <p>Q4 2010/ Q1 2011</p>		

ACTION	TIME SCHEDULE	RESPONSIBLE AGENCY/ ORGANISATION/ COUNTRY	REMARKS
PHASE C (Cont'd)			
<p><u>Module 4</u> g. Undertake collaborative work with other agencies working in this area such as OSILAC/UNECLAC; SCA TWG/UNECLAC</p> <p>h. Compile data already available from all sources into regional publication.</p> <p><u>Module 5</u> i. Apply Consultancy to support (a) to (h)</p>	<p>Q4 2010</p> <p>Ongoing</p> <p>Q 3/Q 4 2010</p>		<p>CCS and OSILAC (Observatory for the Information Society for Latin America and the Caribbean)/ (UNECLAC) United Nations Economic Commission for Latin America and the Caribbean) are already in discussions. Also the TWG of the Statistical Conference of the Americas of which work was already put in place on compiling data from the ITU website and also gathering data from the 2000 Census. The former can be updated.</p>