

Final Report ICT Policy and Strategic Plan

Member States of the Organisation of Eastern Caribbean States (OECS)
Grenada, St Vincent & The Grenadines, St Lucia, Dominica, St Kitts & Nevis,
Antigua & Barbuda, Montserrat, Anguilla and the British Virgin Islands

**Telecommunication Reform & Modernisation Project
Consulting Services in
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Annex: Additional comments to the ICT policy and strategy document

Explanatory note: The Star (*) behind a headline indicates that further information can be found in the Annex
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Abbreviations

ACS	Association of Caribbean States
AID Bank	Agricultural and Industrial Development Bank
ASP	Application Service Provider
ASYCUDA	Automated System for Customs Data (UNCTAD)
ATM	Asynchronous Transport Mode
B2B	Business to Business (electronic commerce)
B2C	Business to Consumer (electronic commerce)
BI	Business Incubator
BLS	Bureau of Labour Statistics (U.S. Department of Commerce)
BTA	Basic Telecommunications Agreement (WTO)
CAGR	Compound Annual Growth Rate
CANA	Caribbean News Agency
CANTO	Caribbean Association of National Telecommunications Organizations
CARICOM	Caribbean Community and Common Market
CDB	Caribbean Development Bank
CET	Common External Tariffs (CARICOM)
CIC	Community Information Centre
CLAA	Caribbean Latin American Action
CMM	Capability Maturity Model (Software Engineering Institute)
C&W	Cable and Wireless
DBMS	Data Base Management System
DOC	U.S. Department of Commerce
DOMELEC	Dominican Electricity Services
DOT Force	Digital Opportunity Task Force
ECCB	Eastern Caribbean Central Bank
ECLAC	United Nation's Economic Commission for Latin America and the Caribbean
ECTEL	Eastern Caribbean Telecommunications Regulatory Authority (Dominica, Grenada, St. Kitts/Nevis, St. Lucia, St. Vincent/Grenadines)
EDA	U.S. Department of Commerce's Economic Development Administration
EDI	Electronic Data Interchange
FDI	Foreign Direct Investment
FTAA	Free Trade Area of the Americas
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
GPS	Global Positioning Systems
GSM	Global System for Mobile Communications
IAS	International Accounting Standards
IBC	International Business Company
ICT	Information and Communications Technologies
IDP	Integrated Development Plan
IDB	Inter-American Development Bank
IEEE	Institute for Electronics and Electrical Engineers
IESC	International Executive Service Corps
-IFC	International Finance Corporation (WB)
IMF	International Monetary Fund
IPO	Initial Public Offering
IPR	Intellectual Property Rights
ISDN	Integrated Services Digital Network

ISO	International Standards Organization (e.g., ISO 9000)
ISP	Internet Service Provider
IT	Information Technology
ITIO	International Tax and Investment Organization
ITA	Information Technology Agreement (WTO)
IT&C	Information Technology and Communications
ITG	Information Technology Group at Center for International Development at Harvard University
ITU	International Telecommunications Union (UN)
Km	Kilometres
LAN	Local Area Network
Mbps	Mega bytes per second
MOC	Ministry of Communications, Works, and Housing
MOE	Ministry of Education, Sports, and Youth Affairs
MFP	Ministry of Finance and Planning
MHz	Mega (million) Hertz (cycles/second)
NTRC	National Telecommunications Regulatory Authority
NDC	National Development Corporation
NDFD	National Development Fund of Dominica, Ltd.
NGO	Non-Government Organization
OECS	Organization of Eastern Caribbean States
PC	Personal Computer
SME	Small and Medium Enterprise
TA	Technical Assistance
TRIPS	Trade Related Intellectual Property System (WTO)
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Commission on Trade and Development
UNDP	United Nations Development Program
UPS	Uninterruptible Power Supply
U.S.	United States
USAID	U.S. Agency for International Development
UWI	University of the West Indies
VAT	Value Added Tax
VSAT	Very Small Aperture Terminal
WB	World Bank
W.I.	West Indies
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

0 Executive Summary

This is the final of three reports comprising the output of the Consulting Services in Information & Communication Technology project. It presents the results of the regional and national consultations and lists a set of recommendations for the proposed ICT Policy for the OECS region.

The proposed policy and strategy attempt at combining short term requirements for spreading the application of ICT in order to sustain development within the global "digital economy" and long term commitment toward the building of a knowledge society.

Success factors in such an endeavour are:

- ✓ Strong and lasting commitment by the Governments and all segments of society
- ✓ Leadership
- ✓ Broad-based participation
- ✓ Flexibility and experimentation
- ✓ Continuing and participatory assessment
- ✓ Systematisation
- ✓ Dissemination of experiences

Nine policy arenas have been identified:

- ✓ Human resources
- ✓ Infrastructures
- ✓ Enabling environment for E-Business, with particular attention to the legal and regulatory framework
- ✓ Leading role of Government

to name the primary areas of the ICT development, and

- ✓ Business competitiveness and development
- ✓ Financial services
- ✓ Culture and national identity
- ✓ Citizenship and participation
- ✓ Quality of life issues

as an associated result of the successful implementation of the primary areas.

A number of key strategic actions are suggested for implementing the respective policies.

1. The first step will be the official endorsement of the overall policy and strategy.
2. The second and critical step is to initiate actions leading to appropriate IT investments in public administration and embarking into E-Government developments that can streamline interaction with the business sector and boost the growth of internal ICT markets.
3. In parallel one should initiate a long term effort toward ICT and information literacy and an innovation and learning culture among all segments of the population what is both a requirement and an ultimate goal.
4. One should also widen the effects of the telecommunications divestiture by enforcing interconnectivity, expanding universal service and catering for competition.
5. Not less critical is the creation of an enabling environment for E-Business in particular through adaptation or adoption and continuing adjustment of appropriate legal and regulatory frameworks.
6. This ground work will facilitate the implementation of further policies geared at encouraging business competitiveness and development through ICT investments in all sectors and the development of ICT industries.
7. The financial services should themselves fully incorporate electronic transactions in their operations as well as adjust their loans practices to the nature of digital economy.
8. Furthermore ICTs should be harnessed with a view to promote national cultures and identities, expand citizenship and democratic participation and support the enhancement of the quality of life, especially for disabled persons.
9. For the governance and management of these endeavours at the local, national and regional levels it is suggested to rely upon open structures, tentatively called round table where all stakeholders can meet in order to co-operate in observing and analysing the situation and needs, making propositions, joining forces in their implementation, assessing the results.
10. In the mean time one Cabinet Minister should become responsible for the implementation of these actions and participate in a standing regional conference that will seek widest possible harmonisation.
11. In the public administration a network of ICT officers in all entities will work under a national co-ordinator toward the implementation of the related activities.

1 Introduction

The OECS states, like other developing countries, cannot control the winds of globalisation, but they can surely learn to adjust their sails.¹

In recent years the member states of the Organisation of Eastern Caribbean States (OECS) have been subject to numerous studies about the level of penetration of Information and Communication Technologies (ICT), the potential benefits of ICT for regional and national economies and the necessary policies to foster development of the sector.

The studies have been conducted on a national level and on a regional OECS and CARICOM level. The results of most of the studies indicate the great potential of the Caribbean states to become valuable members of the global knowledge society. The studies also suggest that without a proper regional architecture for policy and planning any national efforts could lead to isolated and vulnerable successes without sustainable impact on the national economies and thus on the regional economy. Hence the Terms of Reference for this project specify a clear rationale and objective:

Background:

The Organisation of Eastern Caribbean States (OECS) Secretariat and the stakeholders have agreed on the need for development of the Information and Computer Technology (ICT) sector and urgency in the preparation of ICT Policies. A broad policy is required to address the requirements of the OECS as a sub-region to become competitive in ICT and another five (5) policies for the Member States of Grenada, St Vincent & The Grenadines, St Lucia, Dominica and St Kitts & Nevis to deal with their particular peculiarities and implementation issues.

Objective:

The development issues and options in the Member States of the OECS are to be analysed and the framework provided for Information & Communication Technology (ICT) to become a lead sector of their economies, as part of their economic diversification strategies. The services to be provided will lead to the development and implementation of a policy framework and related strategic plans for ICT in the Project

¹ Modified from A Rainbow Technology for a Rainbow People: E-Business Capacity Development for the CARICOM, Alwyn Didar Singh

States (Grenada, St Vincent & The Grenadines, St Lucia, Dominica and St Kitts & Nevis).

There is no need to duplicate the excellent work already delivered to the islands of the OECS. The approach taken in this study is to capture available information regarding previous studies and initiatives, to extract “best practices” regarding the development of Regional and National ICT Strategic and Tactical Plans and to turn that information into a realistic implementation plan.

More critical than just the assessment of the current status of each of the five project states is the method to implement the elaborate recommendations on a regional and a national level. The experience of the Consultant in other countries shows that the best momentum can be achieved when the development of the ICT sector has been identified as a national priority and both public and private sector collaborate. Furthermore it is critical to highlight that top officials of each involved government must take ownership and support the policy, strategy and tactical plan.

Accordingly the Consultant looked for existing best practice in the available documentation and evaluated current and ongoing ICT-related projects in the five project states and the remaining OECS member states. That work, together with the Consultant’s experience of similar processes in other developing countries, builds the foundation for the policy recommendations to be provided in this document.

The implementation of the policy is expressed in pilot projects for each of several policy sub-sectors. These pilot projects must be taken as the practical expression of a theoretical policy and strategy framework. The Consultant has identified several pilot projects applying to particular individual areas of recommendation. These pilot projects are available in the second report “Pilot Project Proposals”. Consequently the OECS needs to set priorities and identify national champions to drive the implementation of the priority pilot projects. Each island should also identify at least one area where they can be the champion for the whole region.

If the policy and strategy and the selection of pilot projects are consistent with an overall ICT development architecture, the successful

implementation of the pilot projects becomes the implementation of the policy. Thereafter the stimulation of public and private investment and thus the regional and national economies should follow naturally.

This Report serves as Phase II of a two-phase effort being coordinated by OECS. Phase I of this effort was launched in February 2002 and is being carried out by the CARANA Corporation (under contract with USAID). It sets out to compile and assess ICT-related information for input and recommendations. The integration into a two-phase approach of two individual projects of different donor organisations must be credited to the farsighted effort of the OECS secretariat and ECTEL. The CARANA reports have been a valuable source of information and show directions to be investigated further by the Consultant.

This report is the final report of three deliverables. Report 1, *Pilot Project Proposals*, describes ten ideas for specific projects to give practical expression to the proposed *ICT Policy and Strategic Plan* for the OECS region lined out in this report. Report 2 puts forward an Investment Strategy for OECS member states. The ideas described in all three reports are blends of international best-practise and ideas that have emerged from a study of existing ICT activities, projects and project proposals within member states in the region, as well as the formal regional and national consultation processes and informal discussions with leading role-players. Complementary to the reports the Consultant has provided additional information in the annex of each report as a source of information for the successor of this project.

As already mentioned, each OECS member state has in one way or the other already formulated ICT initiatives. At the policy level, the most advanced work has been achieved on Grenada and St. Kitts. The Consultant has analysed both strategies and has used the provided material for the development of the this version of the Policy and Strategy.

Finally, with regard to human resource development and especially ICT training in schools, the OERU (OECS Education Reform Unit) has created a policy and strategy entitled "*Model ICT Policy Document for the Education System.*"

In summary it may be said that the coordination of planned, ongoing and finalised initiatives in the ICT sector will be the greatest challenge the OECS faces in the near future.

Through the OECS ICT Investment Forum at the Royal St. Lucian Hotel on 26 June 2002 it became clear that

- ✓ The institutionalisation of both regional and national ICT management and governance structures as described in this document was recognised and endorsed by all participants
- ✓ The ICT policy formulation must be a continuous process of revision and adjustment
- ✓ Human resource development must be seen as a top priority

2 Framework for a set of ICT policies and Strategy²

2.1 Vision*

The vision statement below is intended to encapsulate in as few words as possible the main features of the desirable state of society which the policy and strategy are geared at.

The member States of the OECS form a community where Information and Communication Technologies are used to the widest possible extent and in an harmonised fashion by all segments of society with a view to fostering, accelerating and sustaining their long-term social, cultural and economic development.

2.2 Mission

The mission statement articulate the goals that need to be pursued in order for the vision to become a reality.

Overarching goals

- ✓ Shape a learning, knowledge and information culture across all segments of society in the OECS member countries
- ✓ Enable and mobilise local knowledge-creating and knowledge-application capacity in all spheres of economic and social life
- ✓ Stimulate sustainable and comprehensive development of the OECS member nations
- ✓ Stimulate economic growth and employment through investment in and the production of information and communication technology services

Associated goals

- ✓ Achieve efficiencies and enhance competitiveness through the massive use of ICT in the production of goods and services

² Further explanations and comments may be found in Annex 3 whose structure is aligned with the one of this chapter; items for which comments are presented in the annex are marked with an asterisk.

- ✓ Increase the beneficial linkages of the society with the information resources and flows available in the world

2.3 Actors & GOVERNANCE*

The contemplated transformation is not one that can be achieved by acts of authority nor by investments alone. It requires the understanding, support and commitment of all stakeholders in all sectors of society and their effective interaction through formal and informal mechanisms. The stakeholders include all entities in the public sector, private sector and civil society.

Mechanisms are required in order to streamline the continuing interaction among the all the stakeholders at the local, national and regional level. These mechanisms should consist of the following.

a) In the overall society sphere:

- ✓ Ad-hoc groups freely formed in response to local or subject interests or called upon by the ICT co-ordinators;
- ✓ National Round Tables as a standing open forum, meeting at least once a year on the occasion of an ICT fair, co-ordinated by a small elected board;
- ✓ A Regional Round Table formed by the members of the boards of the National Round Tables, as a standing regional forum.

b) In the public administration sphere:

- ✓ Within the central government administration, a senior officer should be appointed as co-ordinator of ICT programmes. He/She should be attached directly to the Cabinet Minister in charge of ICT policy and programmes.
- ✓ ICT officers should be appointed in each entity of the central government, parastatals and local governments. They will maintain standing interaction with the ICT co-ordinator.
- ✓ At the OECS level the national ICT co-ordinators will form a regional committee.

c) In the policy sphere:

- ✓ Within the member States government, a senior member of the Cabinet should be made responsible for the

continuing implementation of the policy and programmes. Given their broad, long term and far reaching scope, this responsibility entails a high level of leadership and direct access to the Prime Minister, all Ministers and senior officers in all concerned entities.

- ✓ The Ministers in charge of ICT policy and programmes will form an OECS Ministerial Conference on ICT.

The following table tentatively represents the proposed overall governance structure and functions of its main components:

	OVERALL SOCIETY	POLICY MAKING	PUBLIC ADMINISTRATION
OECS LEVEL	Regional Round Table	OECS Ministerial conference on ICT	Regional ICT co-ordinators committee
NATIONAL LEVEL	National Round Table	Cabinet Minister for ICT	National ICT co-ordinator
LOCAL/TOPIC LEVEL	Ad-hoc task forces		ICT officers in Ministries and entities
FUNCTIONS	1. Observation 2. Analysis, Reflection 3. Proposition 5. Implementation (private sector and OCS) 6. Assessment	4. Decision	5. Implementation

The role of the organisations under the first category is to observe the situation, analyse existing features and needs, formulate propositions, participate in their implementation assess the outcome. They should also facilitate the formation of smart partnerships among public sector, private sector and civil society organisations. The role of the entities in the policy sphere is to dialogue with those of the overall society sphere, especially about their propositions, to make decisions about them, catalyse energies among all stakeholders and ensure smooth and speedy implementation of the decisions. The role of the entities in the public administration, in addition to their participation in the Round Tables, is to implement activities that rest with the public sector demonstrating the pro-active attitude that will indeed turn the public sector into the driving force for ICT applications.

3 Preliminary Assessment—Feedback from the national consultation workshops

The following overview is combined of the preliminary assessment of what has already been done within the OECS region and is based on comments and findings during the national consultations and the national workshops in particular. The comments expressed during the workshops and mentioned here are the opinion of the participants and do not necessarily correspond with the opinion and recommendations of the Consultant. However they correspond to the voice of the people and as such are relevant to understand particular areas of policy recommendations.

The preliminary assessment was prepared in order to achieve a rather quick overview on the ICT sector within the region. The used material was:

a) Desk research into several prior reports, some of which were mentioned in the previous section:

- ✓ *Caribbean Policy Response to the Information Age: A Review of Government Information and Communications Technology Policy and Services in Selected Caribbean Countries*, 30 November 2001: <http://www.eclacpos.org/> (Includes Grenada, St Lucia and St Vincent & the Grenadines)
- ✓ ICT Assessments by the CARANA Corporation prepared early in 2002 (Draft reports for Dominica and Grenada, preliminary notes for St Vincent and the Grenadines, and St Lucia.)
- ✓ *A Rainbow Technology for a Rainbow People: E-Business Capacity Development for the CARICOM*, Alwyn Didar Singh, for the Commonwealth Fund for Technical Cooperation, September 2001 (Includes all member states of the OECS)
- ✓ ICT Strategy and Action Plan for Grenada, August 2001 (abridged version for OECS Secretariat).
- ✓ Initial interviews in Dominica, Grenada and St Lucia.
- ✓ Feedback from attendees at Project Launch.
- ✓ It is evident that each study of the nature found in the above reports has its own boundaries, objectives, sources of information and interpretations. There are sometimes discrepancies and omissions. It must be stressed, therefore, that the findings in the tables below are preliminary and intended for careful review by the

project team in conjunction with knowledgeable informants on the upcoming National consultations.

- ✓ We have used the “Rainbow” classification since it affords a useful breakdown that has been applied to all CARICOM members. In close collaboration with the focal points of each OECS member state assigned to this project we have carried out some consolidation of the categories. The final version of the ICT policy reflects those changes. However the classification was used as a reference for the following table.

We have used each project countries international airport abbreviation in order to make the table more readable. Due to the fast moving nature of the ICT business and in particular in combination with an active regulation of telecommunication some of the initial findings are outdated and do not reflect the current situation in the named countries. This issue was discussed during the workshops. Where possible the clarification was added to the Comments column.

3.1 Policy Framework: E-Leadership and Participation	
Initial findings after Desktop-studies	Comments in national Consultations
a) Is E-Readiness a national priority ?	
<p>SLU: Not yet, but e-commerce committee is in place.</p> <p>SVG: Appears to be a priority as per several statements, e.g., strong emphasis in Unity Labour Party manifesto.</p> <p>DOM: Recognised to be important but not yet a national priority.</p> <p>GRD: Yes</p>	<p>SLU: Through NDC and Ministry for Commerce, Ministry of Education and a large number of ICT companies are the driving forces to recognise ICT as a national priority. Consensus developing on a national ICT roadmap.</p> <p>GRD: Vision proclaimed by the Prime-Minister: Knowledge-based society until 2010</p> <p>Driving agency: Central information management agency attached to the PM-office</p>
b) Is there a national IT/E-Commerce plan or strategy existing	
<p>SLU: A draft policy is under consideration.</p> <p>SVG: Not yet. Awaiting ICT strategy from OECS.</p> <p>DOM: Not yet formalised</p> <p>GRD: Draft has been finalised and announced. Printed version will be available in May 2002</p>	<p>SLU: A draft policy could not be obtained. However there is an enthusiastic support of the ongoing ICT policy project.</p> <p>GRD: Printed version not yet published due to missing "success" stories</p>
c) Is there an agency leading the initiative	
<p>SLU: There is a Government Information Service.</p> <p>DOM: Ministry of Communications (with Telecom Advisor as focal point). An Inter-ministerial committee for co-ordination also exists</p> <p>GRD: Office of Prime Minister leading initiative and implementing agency (Central Information Management Agency) will be instituted.</p>	<p>SLU: NDC, OPSR, Ministry for Commerce ("incentives are coming", IT trade fair planned for September) and the Ministry for Education are spearheading the process.</p> <p>DOM: During the workshop a discussion regarding the Inter-ministerial committee indicated that the Group only meets rarely and that the efficiency is improvable.</p>

d) Progress with e-Government and promotion of participation of citizens	
<p>SLU: Though a government WAN exists it is not fully or effectively being utilised. There is an official government website and a comprehensive National Statistics site. There are no e-Government services though there is a committee looking into it.</p> <p>SVG: IT projects in Treasury and Inland Revenue. Computerisation of government registries underway. Government documents being digitised. Electronic Govt. Financial Mgmt. System in place. Tourism and Broadcasting Ministry sites online. Green Paper on modernising the Public Sector emphasises ICT.</p> <p>DOM: Some departments computerising and establishing LANs. Efforts need coordination</p> <p>GRD: Presently a national backbone project proposal in place and a project to establish a government WAN is on-going. Computerisation of Police Force criminal records underway to be followed by immigration data.</p> <p>Treasury is fully computerized as well as the WAN extends to all district offices including Carriacou via Frame Relay for connectivity, Inland Revenue is also fully computerized, and in place for over a year.</p>	<p>SLU: OPSR has engaged the Computer Centre Limited (wholly owned by the Government) to start developing e-Government applications. Details about the applications are not available.</p> <p>DOM: One of the private sector representatives was of the opinion that: "Preparation of Deregulation is to slow" He has lost already a license because of slow OECS-policy.</p> <p>GRD: PM-office is responsible for science and technology on a CARICOM level. "Should therefore be the prime user of ICT". "Permanent secretaries object usage of email as communication medium" IT-awareness of high-officials rather low Gov. of Grenada does not have its own website. Even NTRC/ECTEL does not correspond on emails.</p>
e) Digitisation of trade infrastructure and procedures	
<p>SLU: Customs has ASACUDA presently but no EDI.</p> <p>SVG: Customs with ASACUDA but not linked to customers or trade network.</p> <p>DOM: Not available</p> <p>GRD: Customs has ASACUDA but no EDI.</p>	<p>SLU: The company UNIT Corporation has developed a system to utilize shops as duty free facilities. Now it is possible to offer duty free throughout the country. The system is linked to the customs office</p> <p>GRD: "Communication with inland revenue is mainly on a personal level with exchange of hardcopy handwritten forms." "Records are not stored properly, due to a high risk of data loss"</p>

f) Partnerships between industry and government**SLU:** No structured consultation.**DOM:** Not formal but improving**SLU:** During the workshop an interim ICT steering committee was formed.**GRD:** Situation is difficult due to high administration and bureaucracy. The concern was mentioned that without proper support by the high officials of the government no progress or improvement of the communication can be achieved.

3.2 Infrastructural Framework: Connectivity and Cost

Initial findings after Desktop-studies	Comments in national Consultations
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a) Availability of communication services, access centres and networked computers

<p>SLU: Good services but some concern about capacity. There are 4500 Internet connections (1 per 35 people).</p> <p>DOM: Very good tele-communications network with fibre covering all populated centres.</p> <p>3500 Internet subscribers (1 per 21 people).</p> <p>GRD: Services and access centres are available and Grenada has had a fibre ring around the island in place since 1995 and microwave to Carriacou and Petite Martinique.</p> <p>There are presently 50 leased circuits and 3200 Internet connections (1 per 31 people).</p>	<p>SLU: "Service decreased since liberalisation". C&W has moved most of its services to Barbados and it is now very difficult to get any service or technical support. The decrease in service is manifested in dropped lines or blocked access to the Internet.</p> <p>DOM: No governmental backbone, i.e. link to all governmental buildings. A new telephone infrastructure is under construction in the main Government building. CIDA is funding a feasibility study: Broadband fibre cable around the island, The study has been delivered to the NTRC, the result was not accessible.</p> <p>GRD: Regardless of the infrastructure laid out by C&W the Government has no Intranet facility which links all public building. The Ministerial complex has isolated LANs but not a centralized infrastructure.</p>
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b) Existence of effective competition among communication and information services providers

<p>SLU: Though liberalisation process has started and applications for ISPs received, presently only C&W ISP.</p> <p>DOM: Second ISP <i>Marpin</i> (other than the monopoly Cable & Wireless) since 1997 and today after much legal battle, well and strong.</p> <p>GRD: Presently there is only one ISP as the process of liberalisation of the sector as per the OECS agreement with C&W is still to be made operational.</p>	<p>SLU: <i>CARIACCESS</i> is still waiting for the license. Therefore C&W is still the only Internet Service Provider.</p> <p>SVG: <i>CARIACCESS</i> is still waiting for economical viable rate for a T1 leased line to Barbados.</p> <p><i>KellCable</i> is providing Internet services over TV cable. Rates are very attractive since a cable modem is always connected.</p> <p>SKN: <i>TheCable</i> is the second ISP on St. Kitts and provides Internet via cable modem. They upgrade their existing infrastructure to full fibre optic around the islands. Basically who ever has access to the cable TV can have access to the Internet at high speed.</p> <p>GRD: <i>BlueStream</i> has been granted a</p>
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	<p>ISP license. They also want to operate a microwaved network facility, but face difficulties in licensing the radio band. The UN has described this radio band as free band where not license would be required. However the NTRC on GRD requires a license to operate a radio wide area network (WAN).</p>
<p>c) Affordability and reliability of network access, including the cost of service (against per capita/average wage)</p>	
<p>SLU: Dial-up 56K unlimited is EC\$129 plus 0.75c per access. Against EC\$ 2500-3000 as average wage. 64K lease is EC2400p.m. and T-1 at EC 18,000.</p> <p>DOM: Probably one of the cheapest services available. Dial-up 56K unlimited at EC\$50, against avg. wage at EC\$2000 p.m.</p> <p>GRD: 56K dial-up unlimited is EC\$120 (against. avg. wage EC\$1500-2000). Lease line 256K is US\$3,000. High speed net access with ADSL has been in place for over a year to residential and business.</p>	<p>C&W has introduced new rates for telephone communications in June at the time of writing this report it was unclear how this would effect the Internet access rates.</p>
<p>d) Reliability of electrical supply for e-Business-critical operations</p>	
<p>SLU: Some concerns at stability and cost.</p> <p>DOM: Power from the private monopoly provider is an issue for reliability and cost.</p> <p>GRD: Okay but expensive</p>	<p>SVG: Some concerns at stability and cost.</p>
<p>e) Existence of any incubator facilities/IT Parks</p>	
<p>SLU: None for the moment though a private sector initiative is under consideration.</p> <p>DOM: Not yet but planned.</p> <p>GRD: None at the moment but GIDC planning an IT Park over the next two years.</p>	<p>SLU: NDC has developed a concept plan and according to NDC there might be some interest from National Insurance Corporation (NIC) to build an ICT Park at Col-du-Sac Valley.</p> <p>DOM: Planned are three industrial parks which could easily be turned into an ICT-Park. However no incubator facility is foreseen.</p> <p>GRD: GIDC requested from the project clear guidelines on what business concessions and telecom licenses are required as an information for potential investors. They are missing a commented version of the telecom act.</p>

3.3 Legal Framework: Security and Privacy	
Initial findings after Desktop-studies	<p>Comments in national Consultations</p> <p>SVG: Waiting for Caricom draft, SVG would support a regional framework</p> <p>SKN: Policy paper handed over to Minister of Telecom</p> <p>GRD: The relevance of proper legislation was clearly stated during the workshop. It should have the highest priorities.</p>
a) Legal support for e-Commerce transactions	
<p>SLU, SVG, SKN & DOM: Not available</p> <p>GRD: Not yet but will be part of the policy/strategy.</p>	
b) Strength of legal protections for processing and storage of networked information	
<p>SLU: In the proposed draft Criminal Code, computer fraud including misuse of data, distribution etc. is being addressed</p> <p>SVG, SKN, DOM % GRD: Not available</p>	
c) Strength and effectiveness of the legal and regulatory framework to address and prosecute cyber crimes, authorize digital signatures, and enable public key infrastructures etc.	
<p>SLU, SVG, SKN & GRD: Not available</p> <p>DOM: Not available yet. Propose it to be on regional basis.</p>	
d) Progress in protecting intellectual property rights	
<p>SLU: Trademarks and Patents regulations in place</p> <p>SVG: Old law</p> <p>SKN: Acts in place but updating to latest requirements proving to be difficult.</p> <p>DOM: Trademark and patent</p>	

<p>legislation proposed to be updated</p> <p>GRD: Existing IPR laws need to be made compatible with WIPO recommendations.</p>	
<p>e) Measures of consumer protection and extent of efforts to protect privacy</p>	
<p>SLU: Consumer Protection regulation is under consideration.</p> <p>SVG: Old law</p> <p>SKN: Presently not available for Internet.</p> <p>DOM & GRD: Not available yet</p>	

3.4 Human capacity framework: E-enabled Human Capital

Initial findings after Desktop-studies	Comments in national Consultations
	DOM: Impact of technology on society (first step to go: from a cash to a check-society...)

a) Availability of e-professionals for e-business

<p>SLU: Presently there is availability.</p> <p>SVG: Severe shortage</p> <p>SKN: Availability fairly good</p> <p>DOM: Very few available.</p> <p>GRD: Not enough for current and future needs</p>	<p>SLU: A lot of trained students leave St. Lucia due to lack of employment and business opportunities. A need for programmers was identified in particular to support an Open Source Software initiative.</p> <p>Additionally it was mentioned to train five to ten people in high end programming, which then could be the nucleus of a new generation of ICT businesses.</p> <p>SVG: Shortage CARIACCESS: job-assessment: could not find more then two IT-Professionals</p> <p>SKN: Fairly good C&W: Difficult to find Skilled staff Attitude of college-graduates (IT) not business-like, salary-requests to high, Skilled people go for fast cash (Call-centres), without adding any knowledge to themselves</p> <p>DOM: The representative of <i>Delphi Ltd.</i> mentioned: "There are a number of people available, and if there would be enough job-offers, Dominicans from abroad would definitely come back." (His job-offers are read mainly by people from abroad!)</p> <p>GRD: Students have no way to experiment and offer non-profit services to other students because of the need to require a license. Thus the skills development does not take place.</p> <p>One computer maintenance service has employed two persons from India in order to keep track with his growing business.</p>
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b) Skills and efficiency of the workforce	
<p>SLU: Already high computer literacy in work force.</p> <p>SVG: Computer friendly and could be trained</p> <p>SKN: Govt. and private sector office staff eminently trainable; most computer literate.</p> <p>DOM: Fair.</p> <p>GRD: Easily trainable, but process needs to start with basic awareness and exposure.</p>	<p>SVG: Possible Co-operation with Martinique regarding "E-Training"</p> <p>Government plans national IT-Institute to train basic IT-Skills</p> <p>(one Head-Centres (National Institute of Technology) in Kingston and five satellites, 3 mainland and two on the Grenadines) MSC1, A+, C/SCO (together with Dominica), should later become part of the community college, planned start in July this year</p> <p>want to offer certifications within the OECS</p> <p>SKN: The cable: Fairly good, if not, in-house training. Look for electronic engineers e.g. electricians Mentality sometimes counterproductive</p> <p>DOM: Good trainable</p>
c) Levels of ICT teaching in the education system, including private initiatives	
<p>SLU: Similar status to other OECS states with some more extensive level of private training. There is an Educational Development Plan and a National Technical Training Fund administered by the Bank of St Lucia.</p> <p>SVG: Little ICT teaching or training available in public or private sector. C&W providing free Internet access to schools. There is a sponsored programme for MCSE training in place.</p> <p>SKN: Computer labs established in schools. The one college at tertiary level has some 25 students doing ICT education. Some private basic computer training being offered.</p> <p>DOM: Only school level and Community college basic computer courses. Education Dept. working on increasing both quantity and quality of IT teaching.</p>	<p>SLU: The Ministry for Education is about to release its policy of ICT in Education. The Ministry for Education is also offering IT courses for adult education which have received broad interest.</p> <p>Between Sir Arthur Lewis Community College and the private company ISIS exists a collaboration to offer professional training.</p> <p>SVG: C&W unlimited internet access for schools</p> <p>SKN: Technical College (Engineering) National Cable Training Institute (NCTI) takes over relevant training C&W: Not business-orientated</p> <p>GRD: Some years ago C&W offered lessons, equipment and training facilities to government officials, but government did not respond to the offer.</p> <p><i>BlueStream</i> is training six persons on LINUX. They have also tried to educate</p>

<p>of IT teaching.</p> <p>GRD: Little ICT in public sector but there is a National Employment and Skills Training Programme with an ICT component. Many private initiatives in place.</p> <p>20 secondary schools have fully operational computer labs with 25 PC's per lab with Frame Relay Internet connections, this has been so for about 3 years.</p>	<p>more students in LINUX/UNIX but are about to stop this effort due to lack of interest.</p>
<p>d) E-literacy amongst citizens</p>	
<p>SLU: Estimated at 30% and rising.</p> <p>SVG: Low</p> <p>SKN: Presently low but growing fast.</p> <p>DOM: Not very high yet.</p> <p>GRD: growing.</p>	<p>SKN: policy paper: 8 % internet users, 20% households with computers</p> <p>Governmental high officials not e-literate enough to understand impact of knowledge-based society.</p> <p><i>CfB-College</i> runs evening courses in ICT in rural schools, utilize school-labs for public</p> <p>100 EC\$ per student for three month programme</p> <p>DOM: Plans are prepared for a Dominica-College which includes wire or radio connection for five public-buildings including three colleges.</p> <p>At least five internet-cafes are available on Dominica.</p>
<p>e) Does the institutional framework foster a culture of local creativity and information sharing within the society?</p>	
<p>SLU: No policy towards this and therefore tradition of closed systems and secrecy in corporate culture especially continues.</p> <p>SVG: No</p> <p>SKN: Secrecy and non-sharing of information still traditional way of business. No institutional change underway.</p> <p>DOM: Not in any organised fashion.</p> <p>GRD: Educational system does not foster creativity and traditional business characterised by secrecy.</p>	<p>SKN: New teaching methods needed to create entrepreneurial spirit . Currently people intend more likely employed then start their own business ("slavery-mentality", "living in a comfort-zone" "unable to work in teams because of strong-ego-mentality")</p> <p>DOM: There is a need to have "Leaders to live the policy"</p> <p>GRD: People driven processes stifle the timeless execution of tasks. For instance if an administrative persons knows the name on an application form and if he/she has something against that person then the application might not be processed in a timely manor. Solution is only the paradigm shift to process driven processes.</p>

3.5 *E-Business Environment: Enabling Seamless E-Commerce*

Initial findings after Desktop-studies	Comments in national Consultations
a) Present status of IT industry and IT in industry	
<p>SLU: Some good IT companies with good track record in existence. Most established enterprises have high computerisation and using Internet and websites. Government e-commerce committee in place.</p> <p>SVG: Hardly any IT industry and IT in existing industry usually limited to some computer use and Internet access.</p> <p>SKN: Some IT services being run in St. Kitts including Internet gaming. Financial services also hosting services locally. Also most businesses computerised and using Internet for email and websites but not doing e-Commerce online transactions.</p> <p>DOM: Very few IT companies and not much of IT in traditional businesses</p> <p>GRD: Local IT industry is small but growing. Existing industry is quite computerized and using the Internet but very few have IT integrated systems or their own websites.</p>	<p>SKN: Min. 3 Internet –Cafes 3 Computer-stores 1 Hosting Services 4 Internet Gaming (sports-betting over telephone) 3 Web-Design 1 Software Development 2 ICT Training Institutes</p> <p>DOM: The workshop showed some very active ICT companies, like <i>Delphi</i>, <i>C&W</i>, <i>Marpin</i> (long-Distance connections and Cable-TV), <i>SAT</i> and others. <i>Financial Data Systems, Ltd.</i> Software-product for Development Bank (DPAC)</p> <p>Government should support more local business</p>
b) Existence of e-enabled financial framework to support electronic transactions	
<p>SLU, SVG, SKN & DOM: Does not exist.</p> <p>GRD: Merchant accounts for credit card transactions possible.</p>	<p>SKN: The National Bank of St. Kitts offers a variety of services related to merchant accounts and credit card processes. The biggest hindrance to e-business is the need of the bank to guarantee 35 MioUS\$ as deposit in order to get accepted by the VISA network. Consequently they ask their customers also for high deposits if credit card processing is involved.</p>

c) Availability of venture capital for e-Business	
<p>SLU: Not available. One attempt did not work out.</p> <p>SVG: Not available</p> <p>SKN: Not available. Though availability of small loans for small businesses exists.</p> <p>DOM: Not available. (AID Bank did attempt to offer but unsuccessfully). Cost of capital high.</p> <p>GRD: Not available. Capital scarce and interest rate 11.5 percent.</p>	
d) Transparency and predictability of regulatory implementation, openness of government, rule of law, etc.	
<p>SLU: Some issues of transparency raised by industry.</p> <p>SVG & SKN: Fairly good</p> <p>DOM: Fairly okay</p> <p>GRD: Reasonably good environment though some concerns about transparency.</p>	<p>SLU: Most concern centred around granting of telecomm and ISP licenses. Some private sector representatives have raised the issue of revising the telecomm act in order to reflect the experience of the last 1.5 years.</p> <p>SVG: NTRC: not really transparent, process of licensing not transparent Number of licensing only publicised after licensees have filled the application</p> <p>SKN: <i>The CABLE:</i> Until today no physical document handed over which proofs granted licences <i>C&W</i> has introduced a discussion about the term interconnectivity <i>The CABLE</i> wants to buy other bandwidth on the ECFS, but are blocked by "somebody"</p> <p>DOM: Not transparent enough, thus the impression of the public that processes are too slow. NTRC website soon available</p> <p>GRD: Due to missing communication between the NTRC and the applicants the impression has manifested that the NTRC is not performing according to the needs of the industry. <i>BlueStream</i> can not start the operation of their radio wave network. Although in the possession of a license they still have not been granted to use the necessary radio band.</p>

e) Climate and policy for participation by foreign investors in ICT businesses	
<p>SLU: Policy encourages investment.</p> <p>SVG: No documented policy but encouraged.</p> <p>SKN: Favourable</p> <p>DOM: Encouraged</p> <p>GRD: Policy of encouragement with a Fiscal Incentives Act in place in which ICT sector will be included.</p>	<p>SLU: NDC is redefining its mission and is now targeting the ICT sector with incentives etc.</p> <p>SVG: Tourism and IT are hot buttons by the Government</p> <p>SKN: Knowing the right people necessary No transparent investment policy available</p> <p>DOM: WTO: Banking-sector was blacklisted. Therefore the banking sector is currently extremely causes about developing new business models and expanding their services.</p> <p>GRD: Currently no incentives targeting the ICT sectors are in place according to the GIDC.</p>

3.6 <i>The International and Regional Framework</i>	
Initial findings after Desktop-studies	Comments in national Consultations
a) Negotiating stand on E-Commerce at the WTO, FTAA etc.	
<p>SLU & SVG: Would depend on RNM.</p> <p>SKN & DOM: St. Kitts and Nevis will go along with the CARICOM position, which is still under study</p> <p>GRD: Will depend on OECS and RNM recommendations.</p>	<p>SLU: Would depend on RNM.</p> <p>SKN: No investment regime established due to WTO</p>
b) Regional and sub-regional collaboration	
<p>SLU: For cost efficiencies and economies of scale, regional and sub-regional collaboration encouraged.</p> <p>SVG: Expect assistance from OECS.</p> <p>GRD: Recommend CARICOM/OECS should help create awareness. OECS should expedite ICT policy recommendations</p>	<p>SLU: For cost efficiencies and economies of scale, regional and sub-regional collaboration encouraged.</p> <p>GRD: Procurement for the governments regarding Computer, accessories and part should be done on a regional level to receive high volume discounts. However this process should be established without administrative overhead to keep short delivery times.</p>

4 OVERVIEW OF POLICY ARENAS AND SUCCESS FACTORS

Moving into the "knowledge society" may be regarded as another industrial policy confined to investments in the ICT sector, computer literacy of the work force and supporting legislation. Such a short term approach misses the breadth and depth of the transformation brought by ICT in all aspects of society and its dependence on deep socio-cultural factors. A realistic and concrete results driven approach calls on the contrary for a broad, long term and multi-faceted effort geared at the continuous increment of the intellectual capital of the nations.

The accomplishment of the above mentioned vision and goals requires the dynamic interplay of a series of success factors:

- ✓ Strong and lasting commitment by the Governments, concretised by appropriate legislative, regulatory and fiscal support.
- ✓ Strong and lasting commitment by all segments of society that will result from unbiased explanation, participation and realisation of the expected changes
- ✓ Leadership: Innovative processes related to information and knowledge must have leaders among all segments of society who are prepared to take the risks involved in innovation and who are aware of the greater benefit these risks may bring to a nation which has decided to partake of such an experience.
- ✓ Broad-based participation: Secure fullest participation by all sectors, so that all interests are represented, without hegemony by any particular social, economic, or political segment of the population.
- ✓ Flexibility and experimentation: Stimulate an environment that encourages innovation and the sharing of experiences, that invites proposals from the grass-roots and support them.
- ✓ Continuing and participatory assessment: Evaluate the initial situation prior to any undertaking, establish the appropriate indicators of measurement, maintain permanent monitoring of variables, in order to assess the effectiveness of the initiatives and secure their scalability
- ✓ Systematisation and dissemination of experiences: Systematise and disseminate the initiatives with a view to

promote emulation, replication, and/or broadening of good practices.

The set of policies should primarily be geared at the combined development of

- ✓ Human resources
- ✓ Infrastructures
- ✓ Enabling environment for E-Business, with particular attention to the legal and regulatory framework
- ✓ Leading role of Government

Progress in these four areas, especially the 2 first ones, is laying the ground work for the success of the policy and strategy in all domains. To a large extent the pace and significance of actions taken in these four areas are also likely to condition the credibility of the policy and the dynamics of stakeholders' involvement.

Development in the other areas namely:

- ✓ Business competitiveness and development
- ✓ Financial services
- ✓ Culture and national identity
- ✓ Citizenship and participation
- ✓ Quality of life issues

will to a large extent be supported by achievements in the first four ones. This does not imply that related initiatives have to wait for most of the objectives to be attained in the former to begin implementing those considered under the latter, especially if good opportunities emerge.

4.1 Priority Arena 1: HUMAN RESOURCES:

Beyond ICT literacy, shaping an information and learning culture

The absolute priority is a continuing struggle towards a smarter society. To that end one should first seek the widest possible level of ICT literacy through inclusion of ICT in formal and informal education and the training of teachers and instructors. One should further seek that all citizens are given the chance to achieve the highest possible level of education, develop their skills and talents throughout their lives, have their innovative and creative capabilities encouraged, be in a position to actively contribute to the production of local content for the electronic resources. This requires deep changes in curricula, teaching methods, operation and management of formal and informal educational programmes and institutions, provision of teaching and learning materials as well as supporting lifelong learning through a combination of face to face, distance and open education.

Related strategic moves include:

- 1.1. Develop a sensitisation and training programme about the opportunities and challenges of the effective use of ICT in organisations and society geared at senior and middle managers and decision-makers in all sectors.
- 1.2. Call for and support vocational training (e.g. with a professional education levy or incentive, subsidies, study loans, etc.) with a view to upgrade the ICT skills of the present workforce.
- 1.3. Call for and support learning and information oriented lifelong education programmes to be initiated by community organisations.
- 1.4. Expand on-going computer literacy efforts in primary and secondary schools into information literacy and culture in the formal education system through appropriate curriculum and pedagogic changes.
- 1.5. Initiate the building of a training and support capacity in the use of open source software in order to sustain generalised use of open source software in parallel with proprietary ones.
- 1.6. * Support the creation of a regional consortium for education that can negotiate licenses for access to learning material and courses, serve as a hub for the distribution of these materials, facilitate sharing of efforts in the use of Internet based distance education, support the development of national and regional interlibrary loans and digital libraries, back up the efforts undertaken by the various national schools, colleges, technology colleges and the University of the West Indies and possibly evolve into an open university.

1.7. Call for and support pedagogical experiments in formal and informal education with a view to test culturally acceptable practices that take fullest advantage of ICT.

4.2 Priority Arena 2: INFRASTRUCTURE*

Beyond privatisation: Enforce affordable universal access and interconnectivity, reliability and technological neutrality

Important steps have already been taken through the Telecommunications Acts to achieve affordable and universal access to telecommunications facilities. Steady efforts towards their actual implementation and improvement by the Governments and ECTEL should boost market forces and compensate for their imperfections in order for all citizens and organisations, irrespective of their location, to have access to state of the art ICT facilities at an affordable cost. In addition it is essential for effective competition to bear fruits, to guarantee the reliability and technological neutrality of the ICT infrastructure.

Related strategic moves include:

2.1. * The Universal Service Fund should be amplified, or complemented by an ICT development fund, with a view to use it for the provision of public access at socially acceptable cost of all the most advanced services available in the region for all citizens, and support the related training, technical back stopping, maintenance and replacement expenses. The fund should be supported by a contribution based upon a small percentage, e.g. 1%, of their total turnover paid by all telecommunication operators, except non-profit community ones.

2.2.* A programme for supporting the creation of Community Access services should be developed so that all citizens can access within an appropriate distance of their home, if they cannot be connected or cannot afford individual access, to the full range and quality of ICT facilities available in the country. These facilities can be hosted by existing public services such as public libraries, schools, post offices, town halls, or by Community development organisations operating a telecentre.

2.3. Governments should enforce the provision of immediate interconnection at a standard rate when within the delay imparted by the telecommunications acts the main operator and the entrants have not come to an agreement on fair conditions. The conditions of the connection shall apply until final terms have been set by the litigation or

judiciary procedures. In addition any evidence of obstruction or attempt at abusing of dominant position by one operator should entail penalties to be paid into the Universal Service Fund.

2.4. Governments should take action with a view to secure the effective implementation of the deregulation of the telecommunications, especially with regard to the provision of effective and reliable alternative routes to the Internet at the international level.

2.5. Rural, isolated or ill favoured communities for which commercial operators are not willing to offer within the year following their introduction in the market all the variety and quality of services available in more densely populated and easily accessible areas should be granted the right to use any suitable alternative for local and wide area networking and obtain for themselves or their providers all required licenses.

2.6. An annual audit of the implementation of the deregulation of the telecommunications sector should be conducted in conjunction with the National Round Tables, its results made public and appropriate adaptations brought into the Telecommunications Act and their implementation.

2.7. Governments should enforce regulations that allow for providing services judged essential at a socially acceptable cost e.g. by compensating users for prices differences resulting from localisation constraints or abuse of dominant situations.

2.8. Governments should jointly pursue the efforts underway with a view to reclaim the administration of the Internet Top Level Domain Names for the OECS countries and establish suitable and effective registrar and registry operations.

2.9. Governments should develop plans by which all citizens can obtain a free electronic mail address and organisations a domain name address at an appropriate cost under the countries top level domain name, with a view to expand the visibility of OECS countries on the Internet.

2.10. The combined use of open source software and proprietary software should be pursued and open source software systematically applied whenever appropriate, especially in the public sector.

2.11. The current legislation should be revised in order to exempt value added and not-for-profit services from the need to obtain telecommunications licenses.

2.12. The regulations authorities should be required to constantly review the range of services that are available or could become available under normal economic conditions in the countries with a view to update the definition of those services included under universal service and ensure that access to high quality ones is not de facto reserved to certain categories of citizens and organisations.

4.3 Priority Arena 3: ENABLING ENVIRONMENT FOR E-BUSINESS

Keeping legislation attuned to ICT and ICT use

One should ensure that legal rules and procedures be adapted and kept up-to-date as ICT brought significant transformations to transactions in all aspects of society and are continuing to do so, in order for individual and organisations to be able to use ICT to the fullest possible extent. This effort is a fundamental requirement for all other policies to bear effect. However a number of E-business activities can in fact begin before the new legislation has been passed. The more legislation of the individual OECS countries will be harmonised, the higher the chances of a beneficial impact on their economies. Due attention ought also to be paid to securing the fullest possible compatibility with internationally accepted standards and regulations (e.g. UNCITRAL model laws) as well as those of major partner countries. Major topics requiring attention are the legal force of electronic documents and contracts, authentication of parties, protection of intellectual property and privacy, definition of the legal responsibilities of participants in electronic communications, prevention of new forms of crime and protection of pluralism and democracy.

Related strategic moves include:

3.1 A thorough inventory of all existing legislation and regulations related to the use of ICT should be conducted with a view to identify inadequacies and gaps and to draw a programme for legislative revision.

3.2. Existing legislation should be revised with a view to provide that an electronic record information would not be denied legal effect, validity, admissibility or enforceability, that a legal requirement for "writing", or a description of something as being "in writing", and that the requirement for information to be presented or retained under "original form" is satisfied by an electronic record if the integrity of the information can be reliably assured

3.3. Legislation should be put in place with a view to authorising certification service providers to issue accredited certificates that confirm the veracity of an electronic signature and ensure authentication of issuers of electronic documents or Internet users when required by administrative or legal provision. A regional electronic signature and authentication agency, with due control of all governments and private sector (e.g. financial institutions) should be put in place as soon as possible. This legislation should be technology neutral

3.4. Legislation should be adapted or established in order to define the conditions of the formation of contracts and provision of contractual documents in electronic form, including the protection of the legitimate interests of vendors and buyers and the provision of legal evidence to the administration and jurisdictions. Provisions should be made in order to give legal force to agreements between partners in business-to-business electronic commerce regarding the appropriate technological and business methods of authentication.

3.5. Legislation should be established for the protection of privacy and personal data in all forms of electronic transactions in the private and public sector. This includes the establishment of an independent agency, led by representatives of the public sector, private sector and civil society organisations with powers to take quick action in order to correct infringements. The OECS member countries may further wish to follow the specifications that may turn the region into a "safe harbour" in North American and European Union terms.

3.6. Legislation should be established in order to allow for the lawful acquisition, use, import and export of encryption programs or other encryption methods with due provision for national security and justice prerogatives.

3.7. Legislation should determine the taxation rules applying to the various forms of electronic commerce. These rules should to the extent possible be harmonised across the OECS if not the CARICOM countries.

3.8. * Legislation should make provision for clear definition of the liabilities of Internet Service Providers, owners of Internet based resources, providers of Internet based services and Internet users at large, for information transmitted or transactions carried out over the Internet. It should adapt existing basic democratic, social and human rights to the new environment. It should put in place a regulatory and arbitration body representing all categories of stakeholders, that can take immediate action in order to correct a situation pending final judiciary decision when appropriate.

3.9. Legislation needs to be developed with a view to prevent or punish the new forms crime that global ICT networks facilitate. This "cybercrime" legislation would better be harmonised if not unified among OECS member countries. It should further seek to be aligned as appropriate with comparable legislation in other countries. Since this is a domain in continuing transformation, a regional commission should be entrusted with its monitoring and proposing required adaptations.

3.10. Existing legislation regarding intellectual property rights should be revised and adapted to the globalised ICT environment. Due account should be taken of the similar developments in other countries as well as of the need for protecting the natural and cultural heritage of the Caribbean nations. Appropriate provisions should be made for all materials essential for the citizens or produced with public funding to be made accessible in open archive systems.

3.11. Legislation should be adapted in order to allow for an OECS wide business registration process that will allow ICT services, especially in the area of hardware and network maintenance to operate across the region.

3.12. Legislation would need to be devised with a view to facilitate the establishment and activities of virtual companies operating mainly from physical installations in an OECS country and/or owned by a majority of individuals or companies of these countries, or owned by foreign interest, as well as those operating mainly from physical installations outside of the OECS countries but having a domain name from these countries.

3.13. Standards and regulation bodies representing all categories of stakeholders, including civil society organisations, should be put in place with a view to guarantee pluralism and prevent over-concentration in the information and communication sector at large and especially digital media.

4.4 Priority Arena 4: LEADING ROLE OF GOVERNMENT*

Government as a catalyst and example of best practices

The credibility of any ICT policy is to a large extent dependant on the government sector's own efforts toward an effective deployment and use of these technologies. As a major employer, service provider and consumer Governments are also in the best position to initiate and sustain the spread of ICT applications in the other sectors and the subsequent growth of ICT industries. This requires the application of ICT in all administrative procedures and the related reengineering of the latter with a view to turn them more cost-effective and customer oriented, overcoming when necessary existing boundaries and prerogatives. A significant training effort and jobs requalification should go at pace. The definition and actual construction of a public information domain accessible to all citizens now and in the future is also an important aspect of this effort. The introduction of knowledge management practices is furthermore a natural complement to the above endeavours.

Related strategic moves include:

4.1. Undertake a stepwise and thorough revision of all procedures involving direct transactions between the public, individual and corporate, in any area, on the one hand and government offices on the other hand, with a view to simplify and streamline them and install these new procedures on E-government sites.

4.2. Design and implement a stepwise program for installing computer networks in public administration agencies and related training of all civil servants with a view to support the deployment of Government to Government and Government to Public, including E-procurement, electronic transactions through Intranets, Extranets and Internet sites. Priority might be given to transactions between businesses and public administration.

4.3. Determine what documents and transactions form part of the public domain and should remain available to the general public at no or nominal cost.

4.4. * Set up Web based resources providing basic official information for the citizens of OECS countries, especially information related to main circumstances of life.

4.5. * Set up Web based services and other appropriate electronic resources (e.g. CDROM versions of the web sites) providing practical

information and advice on natural disaster preparedness and emergency situations in conjunction with alert and rescue programmes.

4.6. Establish a country portal providing basic information about the country, its administrative organisation, investment and migration regulations and procedures, etc. targeted at economic partners and customers in other countries.

4.7. * Establish fixed and/or mobile administrative service points that will allow the public to accomplish administrative formalities related to basic social and economic events at a single point; while using ICT based transactions these points should allow cater for the needs of the persons who cannot use ICT as well as provide the required advisory services.

4.8. Establish a phased program with a view to allow for electronic payment to the public administration.

4.9. Establish a phased programme aiming at making the public sector as a whole an example of best practices in ICT applications, knowledge management and learning.

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4.5 Complementary Arena 5: BUSINESS COMPETITIVENESS AND DEVELOPMENT

Promoting and supporting initiatives of the enterprises towards ICT use

In view of the extensive transformations that ICT use calls for, the market structure and enterprises' size might be an obstacle until ICT have become common place. Since the objective is to be among the early adopters rather than laggards, targeted support is required. It should be directed in first place at small and medium enterprises, tourism industry and agri-businesses. The development of E-commerce further requires appropriate logistics to be in place as well as quality of service standards and consumer protection mechanisms.

Related strategic moves include:

5.1. * Support the formation of service centres, especially as co-operatives, joint ventures or as part of trade associations, that can provide ICT based services (such as e.g. accounting, clients data bases and CRM, billing., Internet market places, E-shops, etc.) for the Small and Medium Enterprises, offer training in the use of ICT, support the transfer of these functions into the individual enterprises or trade associations when feasible.

5.2 Include in the programmes for promotion and support of Small and Medium Enterprises incentives and services for training in ICT applications, ICT investments, formation of users groups and appropriate fora for sharing of experience among SMEs managers.

5.3. Establish a scheme for encouraging firms to invest in ICT and train their staff, e.g. through low rate loans to be administered by commercial banks with a consolidation or guarantee from the government. Such schemes should apply to existing companies as well as new investors.

5.4. * Establish a consumers' information and protection service related to E-business transactions by companies operating in the OECS countries to be jointly operated by public sector, private sector and civil society organisations. It should offer an arbitration procedure and benefit from fast judicial action procedures.

5.5. Support the participation of enterprises of the tourism sector and tourism authorities in portals that can provide a variety of information and inquiry services as well as on-line reservations and auctions.

5.6. Support the creation and/or development of agri-business portals that can provide to the farmers and enterprises of the sector, with their active participation, when appropriate, directly or through their organisations, a variety of technical, commercial and administrative information and inquiry services as well as support co-operative commercial services

5.7. * Encourage and support efforts geared at strengthening of logistics (e.g. warehousing facilities, packaging, transportation, courier services, customs clearance, contracting distributors, marketing, contracting intermediaries for payments and transfers, etc.) required by E-Commerce, in the countries as well as abroad, including the formation of co-operative or joint ventures.

5.8. Promote the establishment of standards about quality of service by e-commerce providers and put in place appropriate regulation mechanisms to ensure compliance .

5.9. * Develop IT parks that can offer state of the art wired premises, call centre, industrial and warehousing space, training facilities, incubator facilities, business development support, accommodation, catering and entertainment facilities that can attract and host external investors and host temporary events (such as staff training and leisure packages, professional meetings, etc.)

5.10. Establish an employment portal to be jointly operated by public sector, private sector and civil society organisations that would compile professional profiles, labour regulations, notices of training opportunities, job offers and demands, etc. The contents shall also be made available to communities in CD-ROM or print form.

5.11. Explicitly include ICT activities in the investment promotion packages and adjust the latter when appropriate.

4.6 Complementary Arena 6: FINANCIAL SERVICES

Switching progressively toward electronic payments and financial transactions

The implementation of E-business rest with adaptations of the financial system so that electronic payments become a standard feature. The deployment of ICT also requires that the financial sector adjust its practices to an economy that relies upon services and intangible assets with a view to offer attractive packages especially for the creation of new enterprises.

Related strategic moves include:

6.1. Assign priority to ICT investments, including manpower development, and creation of ICT activities by existing or new business in the loans policies of the financial sector and adapt existing regulations and business rules to the particular requirements of this type of business.

6.2. Establish mechanisms for the consolidation or guaranteeing of loans made by banks to ICT investments, enterprises or activities under appropriate conditions e.g. recruitment and training of nationals.

6.3. Establish a package that includes access to study loans, access to incubators and access to employment or business creation loans, with a preferential regime for women. This package would be operated by commercial banks but be supported by government incentives (e.g. co-financing or guarantees).

6.4. Encourage the establishment of micro-finance or credit unions by community organisations that can take advantage of Internet banking to channel remittances of expatriates to their relatives in the home country. These transactions might enjoy reduced rates and charges and at the same time contribute to the funding of community projects through a small percentage perceived on the transactions.

6.5. Encourage and support the introduction of electronic banking, including Internet banking, and electronic payment technologies for domestic, international and inter-bank transactions.

4.7 Complementary Arena 7: CULTURE AND NATIONAL IDENTITY*

Promote the systematic use of ICT by organisations of the cultural sector

Projecting cultural activities of the OECS countries in the Internet will enhance the image of the region as an ICT savvy one. It will also contribute to a balanced long term cultural transformation by ensuring the preservation and visibility of national cultures. In the short term, many cultural activities are also likely to contribute to income generation.

By creating a critical mass of ICT savvy actors in the various cultural associations and activities and supporting the development of exemplary products one might initiate a dynamic process of expansion.

Related strategic moves include:

7.1. Design a program for training a nucleus of members of local musical groups in the use of ICT for production, marketing and distribution of musical recordings.

7.2 Design and implement a program to demonstrate electronic publishing and E-book techniques, train an initial nucleus of instructors or resource persons and build a demonstration collection of original literature from the OECS member countries

7.3. Design and implement a program for the training in each country of a nucleus of specialists that can assist the cultural associations and local artists in producing quality web sites to be hosted on the co-operative cultural web site under construction.

7.4. Initiate a program for the systematic recording and presentation on quality web sites of cultural events, historic, cultural and natural heritage (e.g. museums, remarkable places, etc.)

7.5. Ensure web streaming and if possible live diffusion on the Internet of major cultural events in the region.

4.8 Complementary Arena 8: CITIZENSHIP AND PARTICIPATION*

Extending democracy in the electronic environment

Sustained development of innovation and initiative will be strengthened by the fullest use of interaction capabilities offered by ICT giving all actors a practical experience of the reality of the transformations taking place and their involvement therein. To that end effective interaction and consultation procedures should progressively be incorporated in E-Government applications.

Related strategic moves include:

8.1. Include in all E-Government programs the provision of effective interaction mechanisms for enquiries, suggestions and complaints.

8.2. Systematically organise public debates, combining traditional and electronic means, about new programmes and initiatives.

8.3. Ensure that Government sites not only provide effective access to all the legal and regulatory information of interest to the citizens but also provide regular reports on the status of programmes and projects.

4.9 Complementary Arena 9: QUALITY OF LIFE ISSUES

Harnessing ICT for making everyday life easier

Segments of society or particular problems do require special attention and measures which ICT application can possibly turn more effective. In the mean time ICT application should from the inception cater for the particular requirements of persons with disabilities either directly or through the use of intermediaries.

The provision of practical information and guidance or special services to cope with the particular situations such as gender discrimination, illness, disabilities, Diaspora families, etc. in conjunction with related civil society organisations are among the contemplated activities.

Related strategic moves include:

9.1. Promote compliance of electronic resources with internationally recognised standards for accessibility by persons with disabilities.

9.2. * Establish or expand public information and advice resources with related Internet based resources for women (e.g. about health, social benefits, child care, prevention of abuses, etc.).

9.3. Liberalise the use of Internet telephony by individuals and its provision by all operators, at a reasonable cost, with a view to strengthen the interaction among families and social groups with members abroad.

9.4. * Establish or expand public information and advice resources with related Internet based resources on common public health issues

9.5. Establish a regional tele-medicine network among hospitals, health centres and practitioners for exchange of information, access to medical information resources world-wide, preliminary diagnosis and assistance for treatment.

9.6. * Establish or expand public information with related Internet based resources for persons with disabilities and train personnel from the organisations of the civil society that are supporting particular groups of disabled persons to act as intermediaries in the gathering and diffusion of electronic information..

3 ICT Strategic Plan: Roadmap

Effective interaction and formation of pro-active partnerships among public sector, private sector and civil society will command the implementation of the policy and strategy. Even though one might specify a logical sequence among the various actions, the willingness and readiness of the partners cannot be decreed. In such a process it is essential to encourage and support all viable initiatives.

Four phases might be considered: Start up, Groundwork, Extension and Consolidation. One may try and earmark in which of these it would be appropriate to initiate the various activities. It is more difficult to determine when they might be completed, given the many factors that may interfere. Ideally Start up should last a few months, and each of the following phases between 12 and 24 months.

The table below suggests a possible allocation of the strategic actions across the four steps, based on the logical importance and sequence of each item. The actual distribution has to be earmarked on the basis of the consultation of the National and Regional Round Tables.

Activities	Start up	Ground-work	Extension	Consolidation
Affirmation of commitment by OECS and member countries toward making ICT a top priority	X			
Formation of the National Round Tables (NRT)	X			
Initiating a continuing observation of existing resources, initiatives and needs	X			
Formulation of the policies in consultation with the National Round Tables	X			
Enactment of the policies	X	X		
Appointment of ICT co-ordinators	X			
Appointment of ICT officers in the public sector agencies		X		

1.1. Sensitisation and training programme for managers and decision-makers		X		
1.2. Vocational training to upgrade the ICT skills of the present workforce		X		
2.1. Universal service fund amplification		X		
2.2. Programme of Community Access services		X		
2.3. Enforcing immediate interconnection at a standard rate pending results of litigation		X		
2.4. Provision of effective and reliable alternative routes to the Internet at the international level.		X		
2.6. Annual audit of the implementation of the deregulation of the telecommunications sector		X		
2.8. Reclaim the administration of the Internet Top Level Domain Names for the OECS countries and establish suitable and effective registrar and registry operations.		X		
2.10. Combined use of open source and proprietary software		X		
2.11. Exempt value added and not-for-profit services from the need to obtain telecommunications licenses.		X		
3.1. Inventory of all existing legislation and regulations related to the use of ICT		X		
3.2. Legal effect, validity, admissibility or enforceability for electronic record		X		
3.3. Certification and authentication service		X		
3.4. Legal force of electronic contracts		X		

3.5. Protection of privacy and personal data in all forms of electronic transactions		X		
3.6. Legislation on encryption programs and methods		X		
3.7. Taxation rules for electronic commerce.		X		
3.8. Liabilities of Internet Service Providers, owners of Internet based resources, providers of Internet based services and Internet users at large.		X		
3.10. Adapt legislation on intellectual property rights.		X		
3.11. OECS wide business registration process for ICT services		X		
4.1. Revision, simplification and digitisation of all procedures involving direct transactions between the public, individual and corporate		X		
4.2 Government to Government and Government to Public electronic transactions through Intranets, Extranets and Internet sites.		X		
4.4. Web based resources providing basic official information for the citizens		X		
4.6. Country portal targeted at economic partners and customers in other countries.		X		
5.1. Service centres for ICT services to SMEs		X		
5.2. ICT training, applications, investments etc. included in SMEs promotion programmes		X		
5.3. Special loans for ICT investments and training by companies.		X		
5.4 Consumers' information and protection services		X		

5.5. Portals for the tourism sector		X		
5.6. Agri-business portals		X		
5.11. Including ICT activities in the investment promotion packages and adjust the latter when appropriate.		X		
6.1. Priority to ICT investments, including manpower development, and creation of ICT activities by existing or new businesses in loan policies of the financial sector		X		
6.2. Consolidation or guaranteeing of loans made by banks to ICT enterprises or activities		X		
6.5. Electronic banking, including Internet banking		X		
7.1. Training members of local musical groups in the use of ICT for production, marketing and distribution of musical recordings.		X		
7.4. Web sites of cultural events, historic, cultural and natural heritage		X		
7.5. Web streaming and if possible live diffusion on the Internet of major cultural events in the region.		X		
9.1. Compliance of electronic resources with internationally recognised standards for accessibility by persons with disabilities.		X		
9.2. Public information and advice resources for women.		X		
1.5. Create a training and support capacity in the use of open source software.			X	
1.6. Regional consortium for education moving toward open university			X	

2.5. Rights for rural, isolated or ill favoured communities to use alternative for local and wide area networking and obtain required licenses.			X	
2.7. Providing essential services at a socially acceptable cost			X	
2.9. E-mail and domain name address under the countries top level domain name			X	
2.12. Updating the definition of services included under universal service and ensure that access to high quality ones is not de facto reserved to certain categories of citizens and organisations.			X	
3.9. Cybercrime legislation.			X	
3.12. Legislation for the establishment and activities of virtual companies.			X	
3.13. Standards and regulation to guarantee pluralism and prevent over-concentration in the information and communication sector at large and especially digital media.			X	
4.3. Determine public domain information			X	
4.5. Web based services and other appropriate electronic resources providing practical information and advice about emergency situations.			X	
4.7. Fixed and/or mobile administrative single points for the public to accomplish all administrative formalities.			X	
4.8. Electronic payment to the public administration.			X	
5.7. Strengthening of logistics required by E-Commerce, in the countries as well as abroad,			X	
5.8. Standards and regulation mechanisms about quality of			X	

mechanisms about quality of service by e-commerce providers				
5.9. Develop IT parks offering state of the art facilities and combined services.			X	
6.3. Package that includes access to study loans, access to incubators and access to employment or business creation loans, with a preferential regime for women.			X	
6.4. Micro-finance or credit unions by community organisations that can take advantage of Internet banking to channel remittances of expatriates			X	
7.2. Demonstrate electronic publishing and E-book techniques			X	
7.3. Training in producing quality web sites for cultural associations and local artists			X	
9.3. Liberalise the use of Internet telephony by individuals and its provision by all operators.			X	
9.4. Public information and advice resources with related Internet based resources on common public health issues			X	
9.6. Public information and advice resources for persons with disabilities.			X	
1.3. Learning and information oriented lifelong education programmes by community organisations				X
1.4. Curriculum and pedagogic changes to support information literacy and culture in formal education				X
1.7. Pedagogical experiments in formal and informal education of culturally				X

acceptable ICT uses				
4.9. Programme to make the public sector as a whole an example of best practices in ICT applications, knowledge management and learning.				X
5.10. Employment portal				X
8.1. Effective interaction mechanisms in all E-Government sites.				X
8.2. Public debates using traditional and electronic means about new programmes and initiatives.				X
8.3. Regular reports on the status of programmes and projects on E-Government				X
9.5. Regional telemedicine network				X
9.6. Establish or expand public information for persons with disabilities and train personnel from OSC to act as intermediaries in the gathering and diffusion of electronic information..				X

Annex

**Additional comments to the
ICT Policy and Strategy document**

ADDITIONAL COMMENTS TO THE DRAFT ICT POLICIES AND STRATEGY DOCUMENT

VISION & POLICY

A number of items in this document have been adapted from the draft ICT policies for the State of Grenada and for the Federation of St Kitts/Nevis (2002).

To be competitive in today's world, a nation must learn not only how to produce and sell better, but also –and urgently– how to manage its wealth of knowledge, how to generate new knowledge, how to translate knowledge into information that is useful for development goals and business competitiveness, and how to capture external information and apply it locally to enhance progress towards its goals. It is impossible to participate adequately in today's global economy without proper information and knowledge management as a fundamental part of all productive and commercial activity. The comparative advantages of nations can no longer be sustained by the low cost of their labour and/or natural resources. At the same time, the interconnected world has huge implications for developing nations in social, cultural, and political terms. Many even speak of the danger of particular customs, values and languages being superseded by a single "global culture" derived from the one of the dominant countries, and the consumer products which accompany them.

The new forms of world interconnectedness offers two special opportunities for small and emerging nations: 1) connectivity is interactive, and traditional barriers to commercial and cultural entry are reduced, thereby facilitating local participation on the world stage; 2) thanks to rapid and constant technological evolution, the costs of which are principally borne by industrialised nations, the cost of entry and participation for less advanced countries is steadily declining in many respects. There is also a threat, however, which presses to act as quickly as possible: due to the rapidity of technological change, the cost of *not* participating is also rising daily, thereby widening the gap between the "connected" and the "disconnected" and increasing the difficulty of closing that gap as time goes on.

Three related trends are especially pertinent to the growth prospects of small and increasingly open developing economies like those of OECS member countries:

- ✓ an apparent explosion in the volume of knowledge being created globally in the form of patents, new products and processes, scientific and technical publications, databases, etc., and which circulates in networks world-wide;
- ✓ continuing trends of declining costs in the processing and transmission of information (codified knowledge) through modern information and communication technologies; and
- ✓ increasing openness to trade and capital flows within regional and global markets; greater access to growing stores of global knowledge.

Yet these trends alone do not ensure that connectedness nor even knowledge can contribute to enhancing and sustaining economic growth and welfare. Even though

they are fundamental there is a need to go beyond connectivity, beyond education, beyond scientific and technological innovation. In any historical period, what makes the difference is the ability, willingness and readiness of the people. A learning society can be characterised as one in which all stakeholders, and especially authorities, give top priority to establishing or enhancing and supporting all social and institutional mechanisms that offer incentives for the continuous creation, absorption, sharing, diffusion, application and systematisation of knowledge by ALL segments of society.

Actors & GOVERNANCE

The stakeholders include:

- ✓ Legislature
- ✓ Central government
- ✓ Local governments
- ✓ Public administration
- ✓ Regulation agencies
- ✓ Enterprises
- ✓ The media
- ✓ Civil society organisations (e.g. trade associations, farmers associations, co-operatives, unions, charities, non governmental associations and all grass-roots initiatives).

The following table tentatively represents the proposed overall governance structure and functions of its main components.

	OVERALL SOCIETY	POLICY MAKING	PUBLIC ADMINISTRATION
OECS LEVEL	Regional Round Table	OECS Ministerial conference on ICT	Regional ICT co-ordinators committee
NATIONAL LEVEL	National Round Table	Cabinet Minister for ICT	National ICT co-ordinator
LOCAL/TOPIC LEVEL	Ad-hoc task forces		ICT officers in Ministries and entities
FUNCTIONS	1. Observation 2. Analysis, Reflection 3. Proposition 5. Implementation (private sector and OCS) 6. Assessment	4. Decision	5. Implementation

Appropriate funding should be secured by the central government in order to support a small permanent secretariat for the National Round Table, its current operation and the support to the functioning of the task forces when required. This is especially critical in the early years. The role of the Round Tables is in particular to

- ✓ Support an on-going monitoring of the broad ICT scene
- ✓ Facilitate interaction among the actors
- ✓ Support the formation and operation of ad-hoc groups when appropriate and facilitate the interaction among these groups
- ✓ Facilitate the formulation of policy, legal and program proposals that meet the consensus of most if not all actors
- ✓ Maintain a permanent liaison with the IT co-ordinators
- ✓ Participate in the activities of the Regional Round Table

A major activity of the National Round Tables will be to convene an annual conference and exhibit where all actors, ICT providers and users may meet and discuss their needs and appropriate responses to them. This event might progressively become self-sustainable. A regional event may be organised in one of the States on a rotating basis.

Ad-hoc groups to examine specific topics may be formed as appropriate and include people who are not participating in the Round Table for any reason. One representative of each ad-hoc group should be appointed to the board of the Round Table to ensure smooth two-way interaction.

Members of the National Round Table should elect a board consisting of no less than 3 and no more than 5 members ensuring equal representation of the private, public and civil society organisations. The Round Tables can operate as virtual organisations and the resources needed for their operation contributed by, or channelled through certain members, like for instance the Chambers of Commerce. However, giving such a partnership a formal specific identity under an appropriate legal status, that can take responsibility of certain activities like the annual conference and exhibit, special trade shows, training programmes, publications, etc. might prove more effective in the long run.

The boards of the National Round Tables will form the Regional Round Table. The latter will be a permanent structure meeting once or twice a year and conducting joint business on a continuing basis by electronic means. The Regional Round Table will seek to achieve maximum possible harmonisation and cross-fertilisation among the initiatives of the National Round Tables. For the same purpose, whenever appropriate and feasible, national ad hoc groups dealing with a particular issue will be encouraged to form a regional body, interacting mostly through electronic means, The Regional Round Table will make recommendations to the OECS Ministerial conference.

The Ministerial Conference on ICT will meet at regular intervals. It will review progress in the implementation of the related policies and programmes and determine measures that can enhance regional harmonisation and combined struggle toward the achievement of the goals.

4.10 Human resources

The capacity and quality of the ICT infrastructure is not likely to make any difference as long as people are not willing and ready to make the best possible use of it. This is a stepwise and long term process. After more than half a century of fight against illiteracy it still noticeable in many countries of the world. It would be foolish to expect quick results on a large scale with computer literacy.

Computer literacy defined as skills to use basic functions of computer systems and the Internet are being introduced into the school curriculum in OECS countries. Training of teachers is also underway.

However there is a need to move much farther with plain information literacy that is the ability to critically appraise information presented under the various media, especially audio-visual ones, the knowledge of information resources and tools to find, search and evaluate them, the ability to create information resources that will be available to an open public world-wide, the understanding of the individual of collective discipline in work and social relations that is required to make effective use of networked information systems, the awareness of legal, ethical and social constraints that apply to networked communication. As a matter of fact what is to be contemplated here is initiating a process toward the formation of an information culture.

Not only do information culture and literacy require special theoretical and practical education, but the latter cannot yield results if they are not deployed as part of profound revision of teaching methods, curricula and the entire educational practices. At all levels and in all types of education, what ICT permits and require is far more than their application to the teaching of the various subjects, when feasible and as designed for an non ICT-based environment. It is a thorough redefinition of the respective roles of the teachers, mentors, tutors, learners, peers and their relationship to one another, to knowledge, to information resources, to learning. Once again this is a long-term effort for which there are no predefined maps, recipes or else. These are new territories to be explored and appropriated, by trial and error, by learning from everyone's experiences.

While it is obviously of paramount importance to prepare the future workforce and citizens to live in an ICT based environment, it is no less critical to prepare the actual ones to become proficient with ICT and pro-active learners.

This calls in first place for partnerships with the private sector with a view to impart the knowledge and skills required to operate the systems and services actually in place or in preparation, as well as the broader understanding of new forms of organisation and operation in public and private entities. As ICT is up to now experiencing unprecedented rates of change this is also a standing and long term requirement. Furthermore by so to speak "upgrading" the actual work force, one might hope for a dynamics to be created that will make room for less skilled workers while increasing overall productivity. At the same time it might enhance prospects for new businesses to take off.

Furthermore, when it comes to a broad range of socially useful applications, all countries face the challenge of providing for the learning and information culture and education of the population at large. This is best taken care of through informal

education schemes carried out by community groups using community development and access services such as telecentres. It is also important to bear in mind the need to expand the scope of this education beyond mere information literacy and learning skills. While hands on experience of computer applications is essential, there are also many aspects of education that can be taken care of by other means, including print and more importantly community radio and television that can now be integrated into Internet services. The community organisations that are in a best position to provide informal education do need public support in most instances. Though hardly quantifiable, building the image of an ICT savvy and learning prone community may have far reaching pay off for a country.

In order for the significant efforts toward ICT literacy and building an ICT workforce to be spoiled through emigration trends it is of utmost importance to combine them with parallel efforts toward support, e.g. by means of special loans, of hiring of ICT employees or creation of ICT activities in existing or new firms.

Even though applications by dominant companies might be more appealing to companies and the public, the fact that a broad base of computer applications and ICT education are at an early stage offers an unique opportunity to undertake in parallel a special effort toward building skills and expertise in the use of open source software. In spite of the present uncertainties and controversies there is no question that the open source software is from many respects, such a security and freedom of choice, a requisite in the medium if not even short term.

1.6. Support the creation of a regional consortium for education that can negotiate licenses ...

Such kind of arrangements have been successfully implemented already by OECS for instance in the area of procurement of pharmaceutical products

4.11 Infrastructure

The creation of telecommunications regulation commissions at the regional and national levels and the passing of standardised telecommunications acts in the OECS member countries already constitute a decisive step toward the continuing development of the infrastructure. It is too early to see the relative strengths and weaknesses of the regulations and their application. By necessity, regulations are presented in a language whose generality often allows for contradictory interpretations. Local and international experience shows that there are multiple ways to apparently adhere to the words of regulations while contradicting them in practice, especially when market size and competition do not exert sufficient pressures upon major incumbents. Thus the need for Governments and regulation commissions to take a clear and firm stand that intended competition and interconnectivity will be enforced and action will be taken in order to enforce them without delay when necessary.

Another key consideration is the need to alleviate the lack of resources that prevent large segments of the population to have access to ICT at the individual household level. This can be addressed by fiscal incentives (e.g. tax deduction over several years for purchase of ICT equipment). It can and should also be addressed by the creation of collective access and support services through community development organisations

operating telecentres. As a matter of fact initial learning and appropriation of the technology is better achieved through group interaction while many activities also benefit from the latter, what is not restricted to computer games.

Avoiding the construction of de facto monopolies with regard to software is another major concern throughout the world. Furthermore economic and security consideration lead to promoting the use of open software in parallel to commercial one. Open software users enjoy a high level of interaction and mutual help. However a minimum acquaintance with computer technology is often required to benefit from it. It is therefore useful to build a group of technicians that can provide effective support and training to the lay users. The same is true for commercial software whose support by the owners' companies is often more theoretical than actual, but this fact does not seem to attract the attention it deserves.

Particular care should be taken that the main lines linking essential public services between them and with the public are absolutely secure and could not be interrupted by natural disasters or any other human, social or economic event. It is also essential that ICT investments in the public sector do include appropriate provision of resources to secure the technical backstopping, maintenance and replacement of the equipment.

2.1. Universal Service Fund

The current regulations do have provisions for such a fund. However its definition, to the extent the language is to be interpreted from the text rather than actual decisions or judicial rulings, makes it more a mechanism for compensation of extraordinary charges imposed to telecommunications operators by universal service requirements than an instrument for direct investment in the under-served communities whether on connectivity, training or other support measures.

2.2. Community access services

The concept and practice of "telecentres" is subject to much debate, often based upon hidden agendas. Up to now the technological aspect of providing affordable access to ICT has been emphasised by many proponents, actors and observers. However, what a true telecentre is about is primarily social development activities engaged by grass root civil society organisations that can find in the use of ICT a useful tool. More often than not, telecentres are dealt with as isolated endeavours when it is in fact a network of telecentres, interlinking communities in a given geographic area, that is required in order to obtain the contemplated benefits of connectivity, especially economic ones. More information can be found on the site of the association of telecentres of Latin America and the Caribbean [Somos@Telecentros \(http://www.telecentros.org\)](http://www.telecentros.org); the site presents a state-of-the-art in the region and a collection of actual stories

3. Enabling Environment; Legal and Regulatory framework

3.8. Liabilities of Internet Service Providers, owners of Internet based resources, providers of Internet based services and Internet users at large, for information transmitted or transactions carried out over the Internet.

Special attention is to be paid in this respect to Freedom and responsibility of expression, the protection of minor children, the prevention of racism, hatred and other forms of violence.

4. Role of Government

The government should adopt “best practices” in information and knowledge management in its specific areas of competence, as part of an overall effort to rationalise and modernise the public sector, to increase its internal and societal efficiency and cost-benefit. This implies in particular to:

Design and implement a national public information policy, in order to:

- ✓ promote governmental transparency and citizen participation;
- ✓ stimulate a national culture of information and communications;
- ✓ promote transparency around those norms which govern public information resources and conditions of access; and
- ✓ reduce the actual costs of obtaining important information.

2) Develop knowledge and information management tools and procedures to improve the efficiency of public operations in the context of public sector modernisation, including the dissemination of systematised knowledge throughout the process. Some specific activities are:

- ✓ Ongoing training for public officials in knowledge and information management in their agencies, as well as the effective use of intra- and inter-institutional networks.
- ✓ Continuous co-ordination among the individuals in charge of information management within government agencies.
- ✓ Provision of sufficient resources and infrastructure for sharing information and systematising knowledge in an ongoing fashion throughout government agencies.
- ✓ A government-wide effort to create a store of information in each public agency which represents its institutional memory, as well as simple means of broad access to this resource for all concerned government agencies and the public at large when appropriate.

3) Design and implementation of a national policy governing the acquisition and distribution of ICT infrastructure within central and local government agencies, including:

- ✓ Overall and agency-by-agency permanent analysis of the current situation and needs
- ✓ Rational distribution of existing resources among agencies
- ✓ Plans for the acquisition, distribution, maintenance, upgrading, and training in the area of ICT infrastructure should be an integral part of the planning carried out at the beginning of each fiscal period.
- ✓ More rational acquisition of ICT resources through foreign aid programmes and funds.

- ✓ Appointment of ICT co-ordinators in all agencies
- ✓ Ongoing liaison among ICT co-ordinators in the different agencies.
- ✓ Creation of ICT committees in all agencies allowing the operators to share their experience among them and with the ICT co-ordinators.
- ✓ Creation of an inter-agency technical back stopping facility.
- ✓ Establishment of agency wide ICT physical capabilities in all agencies and interconnecting them.

A major source of wastage and frustration can be found in the traditional way of implementing administrative procedures that affect the public such as all types of registration, declarations, payment of dues, submission of applications, tendering, etc. Transposing these formalities into an electronic environment is often perceived as an effective way of cutting cost, increasing effectiveness and responsiveness, securing transparency, etc. This however is dependant on the quality of the procedures themselves. Computerisation of ineffective procedures is more likely to add to the burdens of civil servants and the public alike. From the general public stand point another vexing aspect is the need to navigate across a variety of offices and process in order to comply with a particular formality. As long as Internet access is not available in each household and business, E-Government should cater for alternative means of access, what is also required for serving people with disabilities. Finally the effectiveness of any E-government program does not rest only with the web interface but also, if not primarily with the ability of the administration to secure back office support to the transactions. Moving toward E-Government practices thus requires:

- ✓ A long-term permanent commitment
- ✓ A stepwise approach
- ✓ A thorough re-engineering of existing processes
- ✓ The provision of adequate back office support
- ✓ A cultural change

It is thus suggested that the movement could be initiated with a joint effort among all OECS member countries toward the transposition in electronic form of all the transactions associated with the administration of telecommunication licenses and the registration of ICT businesses.

4.4. Set up Web based resources providing basic official information for the citizens of OECS countries, especially information related to main circumstances of life.

Circumstances of life are typical events such as moving, job seeking, marriage, divorce, death, birth of a child, obtaining unemployment benefits, etc. Usually a number of transactions are required involving different services and imposing repeat visits in order to obtain the relevant information, forms and complying with the procedures.

4.5. Natural disasters preparedness

This would include the mapping of environmental risks at neighbourhood, parish, national and regional levels using Geographic Information Systems, the building of Internet based resources (interactive web sites, electronic discussion lists, hot lines, etc.) for environmental education and advice on the conservation of natural resources, recycling, environmental “best practices”,

appropriate technology developments and applications, relevant legislation and rights, emergency plans and procedures, protection against natural calamities, first help, prevention of post-disaster troubles, etc.

4.7. Establish fixed or mobile administrative services that will allow the public to accomplish any formality for any administration in a single point.

An example of such a facility could be found in the citizen's shops of Portugal (Lojas do cidadão : www.lojadocidadao.org) and in the U.K. Citizens advice bureaus

5. Business competitiveness and development

Support the formation of service centres, especially as co-operatives, joint ventures or as part of trade associations, that can provide ICT based services

e.g. accounting, clients databases and CRM, billing, Internet market places, E-shops, etc.

5.4. Establish a consumers' information and protection service

e.g. access to relevant legislation and rights, price and quality comparisons, information on weights, measures, and labeling, complaints, consumer education, information on products prohibited in other countries.

5.7. Encourage and support efforts geared at the strengthening of the logistics required by E-Commerce

This include for instance, warehousing facilities, packaging, transportation, courier services, customs clearance, contracting distributors, marketing, contracting intermediaries for payments and transfers, etc.

5.9. Develop IT parks

Granting to these IT parks a "free zone" status under appropriate conditions of durable job creation and compensation in case of default might be worth considering. A number of projects of this kind are currently contemplated that may require coordination at the regional level with a view to begin with a trial in one or two locations rather than overall competition.

7. Culture and national identity

In the context of culture and national identity, the ICT offers an unprecedented opportunity to develop them in a participatory fashion, project them to the world, and enrich other cultures with local contributions. A learning society must make special efforts to translate into information its history, languages, music, literature, dance, popular arts and values, as well as its uniqueness and diversity, and to disseminate them. Targeting the national audience is just as important as dissemination abroad, since many are unaware of cultural wealth and variety which exists in their own country.. In addition, citizens of the OECS States who live abroad have relatively widespread access to the Internet and maintain a fervent desire to preserve cultural links to their homeland. The promotion of all aspects of national culture should further more be regarded as an essential ingredient in strengthening the self-esteem which is a key leverage for the learning society. Cultural promotion is furthermore likely to have

indirect effects over economic prospects, and possibly direct ones in the music industry and possibly other domains.

8. Citizenship and participation

ICT provides a unique opportunity for encouraging a pro-active two-way interaction between authorities and citizens. Such a dialogue should be regarded as an important tool in transforming social relations toward the learning society because it concretises change and broadens the sense of ownership and participation. The ease by which information can be presented and opinions gathered and disseminated is drastically lowering the onus born by earlier modes of interaction. The latter are not to be superseded by new electronic forms but on the contrary, reinforced and made more effective.

9. Quality of life issues

9.2. Establish public information and advice resources for women

This would include public and private information resources and community groups assistance through electronic and face-to-face discussions, hot lines, anonymous emergency call services, etc. about legislation, procedures, entitlements, pregnancy, nursing, women's health, divorce and widowhood, violence and abuse, etc.

9.4. Public information and advice resources on common public health issues

e.g. on prevention and treatment of illnesses and other problems; information on immunisation campaigns or emergency measures during epidemics; education on essential medicines and natural remedies; virtual first-aid courses; preventive health; consumer rights; environmental health; shared medical research; anonymous access to information on reproductive health, family planning, sexually transmitted diseases, and sexuality).

9.6. Establish a public information service for persons with disabilities

Interactive web resource (with appropriate softwares and interfaces to cope with the different types of limitations) and advisory services about legislation and entitlements, support in locating public and private assistance services, employment opportunities and support and rehabilitation programmes. These services would be best offered by civil society organisations focused on specific disabilities. They would further be in a better position to widen the diffusion of the relevant information and facilitate social networking and sharing of experiences.