

Use of Public Broadcasting in the Caribbean for Open/Distance Learning

Feasibility Study Report

By

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Table of Contents

Acknowledgements	iv
List of Tables	v
Executive Summary	1
I. Introduction	5
The Caribbean Broadcasting Union (CBU)	6
The Caribbean Development Bank (CDB)	6
The Commonwealth of Learning (COL)	7
This Consultancy	7
II. Goals	9
Specific Objectives	10
Scope	10
III. Methodology	11
IV. Analysis and Findings	15
Document/Literature Review	15
Responses to Questionnaires/Interviews	16
Feedback on Phase One Report	20
Feedback on Phase Two Report	22
Expertise Available	24
Student Enrolment Data	26
Accreditation	27
V. Educational Broadcasting Models	29
Bates' Model	29
Programming	33
VI. Models for the Caribbean	37
Proposed Educational Broadcasting Models for the Caribbean	39
Model One	40
Model Two	44
Model Three	49
VII. Recommendations	54

Appendices

1. Questionnaire for Broadcasters	57
2. Questionnaire for Ministries	63
3. Questionnaire for Post-secondary Educational Institution	67
4. Questionnaire for Regional Development Agencies	73
5. List of Respondents	79
6. List of Interviewers	85
7. Questionnaire Sheet	87
8. Country-Wise Summary of Interview Findings	89
9. National Charts: Summary of Findings	97
10. Criteria for Decision Making	109
11. Programming Survey	111

Glossary	113
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Sources List	117
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List of Tables

1. Directions from the Feedback	17
2. Issues Identified	18
3. Area Priority	19
4. Components for an Effective Broadcasting System	20
5. Persons with M.A. in Distance Education	25
6. Student Enrolment: DEC, UWI	26
7. Student Enrolment in DE: Faculty of Social Sciences, UWI, St. Augustine	26
8. Student Enrolment: Guyana Institute of Distance and Continuing Educations	27
9. Student Enrolment: Commonwealth Youth Programme: Caribbean Centre (Guyana)	27
10. Student Enrolment: University College of Belize	27
11. Bates' Model: ACTIONS	30
12. Educational Broadcasting Models	31
13. Educational Programming Available from CBU Members	33
14. Educational Broadcast Networks/Programming	34
15. Educational Broadcasting Models	39
16. Implementation Timeline	55

EXECUTIVE SUMMARY

The purpose of this study was to determine the feasibility of using broadcast media for open/distance education and training to promote socio-economic development in the Caribbean Region.

The study, supported by the Caribbean Development Bank (CDB), and executed by the Caribbean Broadcasting Union (CBU) in partnership with the Commonwealth of Learning (COL), involved the countries of Antigua and Barbuda, the Bahamas, Barbados, Belize, Grenada, Guyana, Jamaica, the Republic of Trinidad and Tobago, and St. Lucia.

A combination of qualitative and quantitative approaches was used to gather the range of information that formed the basis of the report. This included fifty-four interviews with post-secondary institutions, broadcasters, government ministries and regional development agencies across the region, a document/literature review, and an analysis of distance learning enrolment statistics. As information was gathered, it was simultaneously tested by participant feedback to ensure accuracy and relevancy. Those interviewed received copies of the initial findings, and oral presentations were made in Barbados, Jamaica, the Republic of Trinidad and Tobago and St. Lucia at mid-point of the study. A discussion seminar based on the study-results was also conducted at the *Tel-isphere '99 Conference* in Barbados.

The findings showed that currently a few institutions in the region offer courses by distance education. The largest provider is the University of the West Indies that has more than tripled its enrolment in distance education courses in the past ten years. The study revealed a consensus across the region for the need to expand distance education and identified both radio and television as possible components of this expansion. There was little consensus regarding the type of content that should be offered by educational broadcasting. A wide range of programming was recommended including both formal educational courses and programs of interest to the general public.

However, to be effective, it was expressed, broadcasting would have to be combined with emerging Internet systems, and provide high quality programming reflective of the region. Some concerns were expressed regarding availability of skilled producers and technicians to develop quality products and the need to build a system that could expand to integrate new technologies and delivery systems.

The study found broadcasters in the Caribbean to be very supportive of educational broadcasting. Many television stations identified available time in their schedules to accommodate educational programming and were well equipped to undertake local production of programs. The study also found that educational broadcasting has strong support within the region and is viewed as having the potential to be an important feature of the growth of open/distance education in the Caribbean. The study revealed that the region has a well established television and radio infrastructure that is willing to support educational broadcasting, and that a key organization, the CBU, can take a lead role in establishing and operating such a system.

Based on the information collected and feedback from survey participants, the study identifies three educational broadcasting models for consideration. Each model focuses on educational television supported by radio programming and Internet services. But, each differs in the extent to which these components are implemented. The differentiating factors are the capacity requirements, complexity, and cost of the three models.

Model One involves a modest amount of television programming (one hour per weekday) broadcast by member stations of the CBU, Model Two recommends a block of daily programming (3 hours per day), and Model Three proposes a full educational channel. As the television component increases, the radio programming and on-line services that are part of each model also expand and become more complex.

The three proposed models are not mutually exclusive. A decision can be made to start with Model One with the intention of moving to Model Two, or to begin at Model Two with the intention of moving to Model Three. Each model can act as a starting

point to prepare for the next model. This provides the flexibility and scalability needed to ensure that educational broadcasting has the opportunity to grow and change.

The report, however, favours Model Two and proposes that Model One be used as a starting point with the intention of implementing Model Two in year 2 or 3 of the initiative. While Model Three was identified by some as the long-term strategy, the report notes that the estimated costs to implement and operate a full channel may be prohibitive and will be risky at a time when technology is changing so rapidly. Model Two is flexible enough to allow the Caribbean to use broadcast systems effectively and to expand the use of new technologies, as they become available.

Based on the results of the study, this report affirms that it is feasible to use broadcasting media for purposes of open/distance education in the Caribbean and strongly recommends to proceed with a plan to implement Model Two. The report also recommends an administrative structure that involves participant groups at the regional and local levels. This includes a central steering committee with representatives from educational institutions, regional agencies, and the CBU, plus local working groups in participating countries. The CBU is in the best position to implement and operate the recommended model, according to the guidelines established by the steering committee.

I. INTRODUCTION

A reform agenda for Latin America and the Caribbean (LAC) observes:

Despite substantial progress in expanding the coverage of education and health services in LAC, the quality of these services remains dismal in comparison to that of other regions, such as East Asia, Central Europe, and the industrialized OECD countries. Moreover, inequality of opportunities in health and education is one of the main determinants of current income distribution and poverty. Improving the quality of educational and health services is essential both to foster medium- and long-term competitiveness and productivity growth, and to enhance the poverty-reducing effect of economic growth. (*The Long March*. World Bank, 1997).

In essence, many have to be educated and within a shorter period. Countries of the world have been and are increasingly turning to open/distance learning to increase the access to, and improve the quality and cost-effectiveness of education.

Through the use of information and communication technologies (ICTs), open/distance learning addresses itself to the needs of a wide variety of target clientele, ranging from top-notch technocrats to small farmers in the rural areas and many others in between. Identifying appropriate technologies and media, in terms of availability, affordability and accessibility, therefore, is of paramount importance for knowledge dissemination. For teaching/learning purposes, no single media is more or less important than the other, each having its own strengths and weaknesses as a pedagogical/andragogical tool. Marrying of the emerging technologies, and media thereof, to those of the existing ones gains significance in this context. More so, in developing economies.

It is against this backdrop that this study was carried out to determine the feasibility of using public broadcasting in the anglophone Caribbean for open/distance learning. At a meeting in 1997, the Association of Caribbean Chief Education Officers expressed its strong support for a project of this nature.

The Executing Agency for this study was the Caribbean Broadcasting Union (CBU), with the Commonwealth of Learning (COL) assuming a facilitating role. The Caribbean Development Bank (CDB) supplemented the COL's seed money for the study. All the agencies involved also made in-kind contributions.

The Caribbean Broadcasting Union (CBU)

Founded in 1970, the CBU is a company incorporated under the Companies Act 1910, and continues under the Companies Act Cap 308 of the Laws of Barbados as a non-profit company. Its mandate includes widening Caribbean programming, improving Caribbean broadcasting and contributing to the regional integration process. By acquiring an uplink earth station in 1994, CBU augmented its capabilities for the distribution of programs throughout the Caribbean region. Its shareholders comprise 34 Caribbean private and public sector media houses.

To further widen its strategic horizons, the CBU is examining ways in which its capacities and capabilities can be most effectively employed to assist new development initiatives which are consistent with the mandate and emerging needs of its constituent public within the region. It recognizes open/distance learning as a major growth-area, an area that demonstrates enormous potential for the optimal exploitation of the broadcast media in the Caribbean.

The Caribbean Development Bank (CDB)

The CDB is a regional financial institution established by an Agreement signed in Kingston, Jamaica on October 18, 1969 and entered into force on January 26, 1970. Its purpose is to contribute to the harmonious economic growth and development of the Member Countries in the Caribbean and to promote economic cooperation and integration among them, having special and urgent regard to the needs of the less developed countries of the region.

Members include all the Caribbean countries and the UK dependencies in the region, as well as non-regional donor nations: Canada, France, Germany, Italy, People's Republic of China, the UK and the USA.

The Commonwealth of Learning (COL)

Located in Vancouver, Canada, the COL was established in 1988 by the Commonwealth Heads of Governments to increase the access to quality open/distance education throughout the Commonwealth. This mission is being achieved essentially by promoting co-operation among universities, colleges and other educational institutions, and applying widely-available information and communication technologies for the delivery of open/distance education programs throughout the Commonwealth.

The COL's activities, among others, aim to strengthen the capacities of its Member Countries (MCs) to develop the human resources required for their economic and social development, giving priority to those developmental needs to which Commonwealth co-operation can be applied. The COL works in a flexible manner and is capable of responding effectively to changing needs. In performing these functions, the COL seeks to ensure the appropriateness of programs and of open/distance education techniques and technologies to the particular requirements of the MCs.

This Consultancy

This study began in April, 1999. Betty Mitchell served as the *external-to-the-region* consultant and Professor Badri Nath Koul and Dr. Krishnapillai Murugan, the *in-region* consultants. The work started with the preparation of survey instruments for data collection, and pilot testing of the instruments and submission of an Inception Report to the participating agencies (CBU, CDB and COL). However, the actual field-work began towards the close of July, 1999 with interviews conducted in the nine participating countries. The consultancy ended in November, 1999 with the consultants' presentation of the draft report at the *Tel-isphere '99 Conference* in Barbados and the resulting follow-up changes to the document.

II. GOALS

As set out in the Terms of Reference, the general goal of the consultancy was to determine the feasibility of using broadcasting media for open/distance education and training to promote socio-economic development in the Caribbean region.

The tasks for the study, cited in the Terms of Reference, were consolidated into the following categories for actual work:

- **Program and program priorities**

Issues pertaining to acquisition and production of programs need to be identified through survey instruments.
- **Available expertise and resources**

Open/distance education, as it has obtained today, is relatively new to the Caribbean. The available expertise, however small in volume, both in this field and in educational technology, more specifically broadcasting, is to be identified.
- **Existing distance education programs**

Some institutions in the region have past experience in offering programs at a distance, a few institutions are currently offering programs, while some others are contemplating or embarking on open/distance education. Their experience, in terms of student enrolment, subjects offered, etc., is to be documented.
- **Certification and copyright issues**

The CBU's capacity to plan and coordinate distance education programs using the broadcasting media needs to be assessed. (Though currently there is no autonomous regional apex body for accreditation of programs/courses, initiatives are being made. Deliberations made in this context are likely to provide some background knowledge for establishing norms for partnerships, educational broadcasting and subsequent recognition through certification.)
- **Educational broadcasting models**

On the basis of the survey conducted, three models are to be suggested with cost implications.
- **Feasible model for implementation**

On the basis of the feedback collected and its analysis, one preferred model is to be identified.

Specific Objectives

The specific objectives of the consultancy were:

- (i) to present to the Caribbean Broadcasting Union three broadcasting models;
- (ii) to recommend at least one preferred model.

Scope

The study was based on a sample survey conducted in nine (9) countries constituting a representative sample of the Caribbean Development Bank's Borrowing Member Countries (BMCs): Antigua and Barbuda, the Bahamas, Barbados, Belize, Grenada, Guyana, Jamaica, the Republic of Trinidad and Tobago, and St. Lucia.

The study was envisaged in *two* phases:

Phase I: Initial testing of the survey instruments in two (2), of the nine (9) countries participating in the study, (viz. Barbados and St. Lucia), reviewing the instruments on the basis of the feedback collected and administering them in the remainder of the countries.

Phase II: Presentation of the initial findings in four (4) countries (viz. Barbados, the Bahamas, Jamaica, and St. Lucia) and at the *Tel-isphere '99 Conference*. It may be noted that consequent on the hurricane in the Bahamas during this period of the study, the in-person presentation was instead made in the Republic of Trinidad and Tobago.

III. METHODOLOGY

To accomplish the specific tasks set out in the Terms of Reference of the consultancy, the following methodologies were employed to carry out the study:

- **Document/Literature Review:** This includes relevant reports of the World Bank, UNESCO, COL-sponsored studies in the Caribbean, as well as some UWI documents such as reports of the meetings of the Board for Non-Campus Countries and Distance Education (BNCC&DE) and internal circulars of the Distance Education Centre (DEC), accreditation workshop report jointly prepared by the Tertiary Level Institutions Unit (TLIU) and the Association of Caribbean Tertiary Institutions (ACTI), and annual reports of the School of Continuing Studies (SCS). A limited review of educational broadcasting models was also done.
- **Questionnaires (with open-ended and structured question-items):** A sample population, representing Ministries, Regional Development Agencies such as UNESCO, UNDP, OAS, etc., Post-secondary Educational Institutions and Broadcasting Agencies, was identified through various sources. To elicit responses unique to these four primary respondent groups, four different questionnaires were prepared (See Appendices 1-4). After contacting the respondents over phone and/or by fax for their consent in responding to the questionnaires and in meeting with the consultants, relevant questionnaires were posted/faxed to them in advance. (See Appendix 5, for the list of respondents).

Questionnaires were prepared with reference to the target respondents and program areas identified in the Terms of Reference. The target population was that listed above, and the program areas included both *academic* and *non-academic* areas. (The original terms used were, respectively, “formal education” and “non-formal education”. As open/distance education by itself is considered non-formal, the terms referred to above were interpreted to mean, respectively, credit and non-credit subject areas.)

- **Piloting of the Questionnaires:** As set out in the Terms of Reference, the questionnaires were piloted in Barbados and St. Lucia, and on the basis of the responses a few minor corrections were carried out in the questionnaires.
- **In-person Interview Protocols:** The respondents representing the four primary agencies identified for this study were met in-person on the dates and timings pre-arranged. Where allowed, the interviews were audio-recorded. During the interview schedules, where facilities were readily available, three video clippings of three different models of educational programs were shown. This was to provide a concrete background to the respondents to answer a few question-items in the questionnaire.

It may be noted that as it was felt that there was inadequate time for the consultants to travel and meet with the respondents in all the countries, the DEC identified a few more people to carry out the interviews, besides the consultants. (See Appendix 6.) They were thoroughly briefed of the intent and purpose of the study in order to ensure that the required data were collected.

- **Telephone Interviews:** In some instances, telephone interviews were conducted to supplement the responses to the questionnaires/interviews.
- **In-person Presentation of Initial Finding:** During the 3rd and 4th weeks of October, as directed in the Terms of References, both consultants visited four countries (viz. Barbados, Jamaica, the Republic of Trinidad & Tobago and St. Lucia) and presented their initial findings to a moderate audience. Prior to this presentation, the members contacted were sent the work-in-progress report in order to facilitate active participation in the presentation meetings. Their responses were recorded, and where necessary incorporated into the report. The updated draft report was sent to key functionaries (representing the four primary agencies), including those who participated in the meeting, in the nine (9) countries. They were also supplied with a questionnaire sheet for purposes of feedback (See Appendix 7).

- **Presentation at the meeting of the Chief Education Officers:** A presentation of the draft report was made to the Chief Education Officers of the region. Their responses were noted, and where applicable, used to enrich the final report.
- **Presentation at the *Tel-isphere '99 Conference*:** On 27th November, at the close of the *Tel-isphere '99 Conference*, a two-hour plenary session was allotted for this presentation and subsequent activities. Ms. Tony Pilgrim, CDB, Barbados, chaired this plenary session. After the consultants presented the report, the audience was asked to form groups to look into the report and make suggestions for improvement, where necessary. Four groups were formed, each of which had a leader and a presenter. The groups reviewed the draft report and presented their suggestions to the open house.

VI. ANALYSIS AND FINDINGS

Document/Literature Review

The World Bank's reform agenda for the Latin America and the Caribbean (LAC) identifies the following five broad policy areas for improved growth and poverty reduction:

- i) Quality investment in human capital;
- ii) Efficient financial markets;
- iii) Enhanced legal and regulatory environment;
- iv) Quality public sector and governance;
- v) Fiscal strengthening.

The thrust of the first of these is on institutional, incentive-based reforms of the educational and health systems with a view to improving "the quality and efficiency of basic education and health services" and removing the "present-day biases against the poor. The agenda for education reform is particularly important to accelerate growth and reduce poverty. ..." (*The Long March*. World Bank, 1997)

Reforms in terms of educational delivery are being taken up in the Caribbean, particularly in Barbados and Jamaica, through the introduction of computer technology in the classrooms, and in the Republic of Trinidad & Tobago through, among others, the establishment of a Ministry for Distance Learning and Training. These developments can also be seen in conjunction with the framework of the regional objectives set during the UNESCO's regional conference - a precursor to the World Conference in Paris - in Havana, Cuba on 22nd November, 1996. The regional conference was seen as an instrument to:

- "mobilize the corresponding politicians, universities and scientists towards ensuring the pertinence of higher education;
- ensure the quality of higher education in order to foster the appraisal of human resources and the development of endogenous capacities;
- improve higher education management and promote new financial strategies;

- promote knowledge and the use of new information and communication technologies; reformulate the international co-operation process to increase the transfer and exchange of knowledge.” (*Regional Conference on Higher Education in Latin America and the Caribbean*, UNESCO, 1996)

Along these lines, the World Declaration of Higher Education states that “The potential of new information and communication technologies for the renewal of higher education by extending and diversifying delivery, and by making knowledge and information available to a wider public should be fully utilized. Equitable access to these should be assured through international co-operation and support to countries that lack capacities to acquire such tools. Adapting these technologies to national, regional and local needs and securing technical, educational, management and institutional systems to sustain them should be a priority.” (www.unesco.org)

Notwithstanding the fact that these statements have been made in the context of higher education, for obvious reasons, they do gain relevance in the present context of this study. Distance education and the use of telecommunications and technology to increase access to learning has been identified as a key priority for development in the Caribbean. This priority is echoed by the strong support for distance education by those interviewed for the study.

Responses to Questionnaires/Interviews

From the total of 79 contacted for the Study, 54 responses (68%) were received by hand. No formal interview protocols was designed, as it was felt that it would limit the flow of the discussion. Instead, the interviews were conceived as a sequel to the questionnaire responses. In other words, interview questions were framed from the respondents’ responses to the questionnaires.

Directions

In the analysis of the interview data, key themes or directions emerged across the region. These are presented in Table 1.

Table 1

Directions from the Feedback

Directions	Remarks
Expand distance education.	Interviewees in the nine countries included in the study indicated strong support for distance education. Although only a limited number of organizations have been involved in offering programs by distance education, all expressed their interest in using this method in the future.
Use both radio and television for educational broadcasting.	The majority of those interviewed indicated support for both the use of radio and television to deliver educational programming. Radio was seen as the most accessible medium, as most people have a radio and access to reliable radio reception. However, television was seen as more attractive to potential learners, although some locations in more remote parts of the countries under study needed additional capability for television reception. Cable was seen as having a low penetration rate.
Integrate various technologies.	Countries identified the need to link educational broadcasting with local initiatives to implement computers in schools. Broadcasting should not be treated as a stand-alone system but should be integrated with on-campus activities, e-mail, computer conferencing and use of the Internet.
Combine external and local programming.	A wide range for priority groups and program needs were identified among the various countries. There was some consensus on the need for programs on information technology, especially targeted at teachers. Strong support also emerged for regional programming that dealt with the culture of the Caribbean. In several cases, mention was made that the Caribbean is "swamped" with external programming but needs more programs that tell about its own culture, literature and heritage. Different countries in the Caribbean have different local educational priorities. It was suggested that local needs should be dealt with through local production while more broad-based needs could be addressed through acquired or regionally produced programming. A mechanism would be needed to facilitate program sharing and collaborative production. Credit and non-credit educational programs were seen as equally important. (See Table 3, for area priority).
Use existing production and distribution systems.	Many of those interviewed identified opportunities to use local facilities for the production and distribution of educational programs. (In some cases local broadcasters are required to reserve time for public or educational broadcasting, which is usually provided by the government information services departments). Many broadcasters, particularly in television, indicated that additional room could be made available in their schedule for educational programming. Some broadcasters and institutions were already taking this a step further through discussions with their governments concerning the creation of separate educational channels.
Develop local and regional partnerships.	The support of both regional and local groups was seen as necessary for educational broadcasting to succeed. Many indicated the need for a local committee involving educators, government, and broadcasters to oversee the implementation and guide the progress of educational broadcasting in their respective countries. (A local champion will be needed to ensure that timelines are met). The initiative must also be tied to groups at the regional level such as the association of Chief Education Officers, the CARICOM group of Chief Information Officers, etc.
Build incrementally.	'Start small and build on success' and 'begin the implementation and grow incrementally' were mentioned frequently across the region. Many advised to begin with a pilot.

Issues

A number of issues emerged from the interviews that would need to be addressed in the implementation plan. These are presented in Table 2 below:

Table 2
Issues Identified

Issues	Remarks
Production/acquisition funding.	Production of quality educational programming should be expensive. Those interviewed indicated that 'talking head' formats would be insufficient to attract and serve the needs of a wide-ranging audience. On-going funding to support program production and/or acquisition was considered necessary for educational broadcasting to succeed.
Program sponsorship.	In some cases existing broadcasters could allot time to educational broadcasting within their existing schedules. No broadcaster indicated that they would be willing to pay for educational programming, but many did indicate that they would accept free programming. To guarantee access to radio and television schedules, broadcasters mentioned the need for program sponsorship. This was especially true for radio, which tended to follow a commercial format. Most radio programs would be limited to 5 minutes or less unless without sponsorship.
Production expertise.	Quality programs would require people with experience in educational broadcasting. Existing personnel must be trained to work with new production formats, which would be different from commercial television, and to work with new specialists such as instructional designers and content experts.
Instructor training.	All those interviewed mentioned the need to ensure that teachers and post-secondary faculty must be trained to effectively participate in educational broadcasting. This would include working as on-camera personalities, members of the production team, or simply using educational broadcast programs in their classrooms or as part of distance education courses.
Equipment requirements.	Many indicated the need for upgrading the available production capability at local broadcasters, government agencies and educational institutions. Equipment and telecommunications reception should be made available at schools and learning centres for students to access programs. (Put differently, it was felt that it is not enough to simply purchase equipment. Processes must be put in place to ensure that equipment is maintained, upgraded and replaced on a regular basis.)

Priority of subject area/level

There is little consensus in the type of programming required, as respondents in different countries identified different priorities, owing to their unique socio-economic situations. When asked to rank the areas of need listed on the questionnaire, different people gave a different ranking to different areas. When the results of the rankings were averaged, the following areas emerged as having the highest priority of those listed:

Table 3
Area Priority

Areas	Priority
Health education	1
Early childhood education	2
Agriculture education	3
High school completion	4
Technical/Vocational education	5
Environment education	6
Maths/Sciences/Technology	7
Life skills for youth/old	8
Sports education	9

In addition to the items listed on the questionnaire, those surveyed also mentioned the following areas as a high priority:

- Caribbean Studies
- Informatics and Information Technology
- Special Education
- Teacher Education

In terms of needs, Information Technology, Caribbean/Cultural Studies and Teacher Education emerged as the key needs across the region. However, the data also showed that educational broadcasting should be structured to serve a wide range of regional and local needs.

Components for an effective system

An analysis of the responses to the questionnaires and in-person interviews showed that to put in place an effective broadcasting system for open/distance education in the Caribbean, a few crucial components should be paid serious attention and these are listed in Table 4:

Table 4
Components for an Effective Broadcasting System

Components-category	Remarks
Quality programming	<ul style="list-style-type: none"> • Interactive, innovative and creative. • Relevant to local and regional needs. • Promotion of cultural issues.
Cost-effectiveness	<ul style="list-style-type: none"> • Built on existing structures.
Collaboration	<ul style="list-style-type: none"> • CBU to take a regional coordinating role. • Local partnerships between educators, governments, and broadcasters. • Production teams involving producers and educators. • “Buy-in” by regional groups.
Media mix	<ul style="list-style-type: none"> • Radio and TV broadcasting. • Computers and on-line systems. • Video- and audio- cassettes.
Timely implementation	<ul style="list-style-type: none"> • Implementation plan with firm timelines. • Well trained educational and production staff.

The questionnaire/interview data showed support for two different levels of broadcast use. Some suggested that an educational broadcasting system should begin small and grow over time while others recommended the establishment of a customized full educational channel to meet regional needs.

Programs could come from a variety of sources including those acquired from external sources and those produced regionally or locally. In many discussions CBU was seen as having a central role in facilitating the implementation and operation of educational programming but countries also wanted to develop groups that could support local development. The key concern centred on funding to acquire and/or produce quality programs, while other concerns included the need to train instructors and producers. (For an in-depth summary of the data by country, see Appendices 8 & 9).

Feedback on Phase One Report

Following the interviews a Phase One report was completed and feedback was obtained from follow-up sessions held in Barbados, Jamaica, the Republic of Trinidad & Tobago and St. Lucia. The responses received at the presentations of the work-in-progress report are summarized below:

Barbados

- Governments should list broadcasting media for educational funding.
- Piloting a program/a few programs is necessary to work out the details.
- Partnerships, within nations, across the region and with international bodies, are to be explored for program production/acquisition. This will reduce costs and improve cost-effectiveness.
- Additional studies are necessary to involve common people and list out the existing programs (of educational quality) that may be available in the archives of Radio/TV stations.
- Serious attention should be paid to articulation arrangements. For example, the CBU is not an educational institution, and therefore certification has to come from elsewhere.

Jamaica

- The report is a fair assessment of the existing situation in the Caribbean (as regards educational broadcasting and its problems).
- Radio is more useful in a scattered community (For example, in the Bahamas).
- Collaboration among various agencies is a key to success (For example, for a course on Tourism, Government Ministries, Tourism Boards, etc., should work in tandem with educational institutions and media houses).
- Community radio stations are very popular and there should be a way to strengthen them in terms of information storage and dissemination.

The Republic of Trinidad and Tobago

- Policy issues need to be addressed.
- The Caribbean should not be viewed as a homogeneous entity. Different territories may require different approaches.

St. Lucia

- Political will is necessary to implement educational broadcasting in the Caribbean and also for social acceptability.
- The possibility of piloting should be explored.
- When implemented, disparity in educational access can be reduced.

Feedback on Phase Two Report

Feedback from the *Tel-isphere'99 Conference*

The collective response of the groups (four in total) at the *Tel-isphere'99 conference*, which looked into the report with particular reference to the broadcasting Models presented by the consultants, was that there should be a “natural transition from Model 1 to Model 3” (See Sections V and VI for the Models). It should be noted that members from the Caribbean, as well as those from Canada, India, South Pacific and the USA constituted these groups. In other words, this mixed representation helped in removing bias elements, if any, in reviewing the draft report. More importantly, the consensus that emerged during this group meeting endorsed the feedback received earlier from the nine individual territories that were involved in the study.

The consensus simply was that Model One should serve as a precursor to Models Two and Three. At a later stage, with the experience gained and lessons learned through the implementation of Model One, an expansion towards Model Three could be implemented, or different models could emerge along the way. This should not be construed to imply that there was a certain amount of scepticism regarding Models Two and Three. Far from this, the groups were equally enthusiastic about them, provided appropriate systems and policies were in place. The reasons given for exercising cautionary measures include the limited exposure of the region to the use of distance education, in the use of broadcasting media for educational purposes, and more so, the cost implications and the mindset.

Feedback on the Draft Report by Fax

Of the total copies (# 89) of the draft reports sent out with a questionnaire sheet (See Appendix 7) for feedback on the draft report, only 7 were returned. With minor editing, these are presented below:

1. “The respondent groups for the study could have included some private sector agencies and the demands of the public, as these groups can play an integral role in such an initiative, i.e., using broadcasting media for open/distance education. Postgraduate qualifications in professional specialized areas to be included, besides the ones listed. Model 1 offers foreign existing programs, but locally produced culturally rich programs be designed to meet the region’s needs.”

2. "Include also NGOs that may be concerned with the subject, particularly community development NGOs, and private sector agencies (eg. broadcasters). My approach would be to begin with Model 1 with a view to attaining Model 3. Radio remains the cheapest and most effective medium in the Caribbean for all educational broadcasting activities. Radio broadcasts from national stations, however, such as those that are usually members of CBU tend to be highly inaccessible to listeners, particularly in rural and remote areas of mountains and peninsular countries of the region. Take into account the role of community radios and their increasing popularity in the Caribbean. Furthermore, when we speak of radio and accessibility, we may need to take into account the availability of radio sets to the listeners we wish to reach, be they small transistors or otherwise. This pressing dynamic is yet to be addressed by the CBU and all reflecting on the question of access to broadcasting, be they for distance education or any other purpose.

The Model 2 approach appears impractical at the moment and could be even counter productive from the start, particularly in view of its focus on more foreign programs as opposed to the Caribbean-specific genre. A prerequisite to this exercise must be well thought out research and inventorying of what are, where, and the usage of already existing Caribbean programs (and there are many), that may be used for distance education and educational broadcasting purposes. Unlike similar exercises previously attempted in this regard, this must lead to establishment of a bank of such resources that may be easily available for regional use.

Model 3 may be seen as a viable long-term goal and needs more time to be carefully researched and formulated. This may be undertaken on a wider partnership basis to include the national and regional Telecommunications Agencies (to ensure satisfaction on the question of access) as well as strong, independent community groups."

3. "Model 2 [is the preferred model]. Let us not reinvent the wheel."
4. "Model 3 is the preferred model. There exists in T&T a government sponsored 'learning channel', which can be used for broadcasting purposes. The present government seems committed to the promotion of distance education and although this model is expensive, we seem to be prepared to go this way, which, for me is most effective."
5. "Model 1 is the preferred model. It provides the flexibility that allows the programs/users to integrate broadcast materials with on-campus activities. It is not limited to one medium as model 2 and model 3, but includes a variety of delivery modes."
6. "The idea is feasible, but the stakeholders need to be educated on the benefits of distance education. Then we must program what is essential to the region, not replicas of existing effective programs. There are educational messages that certain international/regional organizations would like assistance in distributing e.g., the Caribbean Epidemiology Centre, CAREC, and the UN agencies of the Caribbean- ILO (Worker Education), PAHO (Health Education), UNIC (UN Information), and CFNI, then there are CARICOM, CRIMAC (UWI), CEPAC, CEPAT, CARDI, etc. The first phase of your project could involve all of these agencies in preparing programmes that they will fund. The second phase can then bring on existing educational institutions that are accredited"
7. "Model 1 is the preferred model. It can make use of both radio and television for broadcasting and allows for an incremental approach."

As is evident from these responses, Model One is preferred with evolution over time to Models Two and Three.

Expertise Available

Open/distance learning is still an emerging phenomenon in the Caribbean, although different forms of this system of education are available and have been used in the past. The University of the West Indies (UWI) started Extra-mural Studies, which was to be later upgraded as the School of Continuing Studies, in the late 50s. This was followed by *Challenge* programs, and programs through the University of the West Indies Distance Teaching Experiment (UWIDITE). The term 'Enterprise' later replaced 'Experiment', and the system of UWIDITE was upgraded to form the Distance Education Centre (DEC) in 1996. Currently, the DEC offers the following programs:

- Advanced Diploma in Construction Management
- B.Ed. in Educational Administration
- B.Sc. in Agribusiness Management
- B.Sc. in Management Studies
- Certificate in Adult Education
- Certificate in Business Administration
- Certificates in Education
- Certificate in Public Administration

Besides the UWI, as a regional educational provider, there are now about 107 tertiary level institutions in the region. In the countries, where the study was carried out, less than 10% of these institutions have practised or/and are practising distance education.

The crux is that the expertise available in open/distance learning *per se* is limited in the region. This gap in expertise may affect the region's ability to launch larger scale distance education programs (i.e., distance education as a discipline), and/or appropriate training programs, especially those that use communication technology.

However, the region has a group of professionals that can assist in the growth of distance education. During the study, it was indicated to the consultants that there are people pursuing off-campus Masters' programs in distance education being offered by

overseas institutions. However, no recorded information on these people and the type of programs that they pursue was available. Nevertheless, those who completed the M. A. program in Distance Education (MADE) of the Indira Gandhi National Open University (IGNOU), India are listed in the following table:

Table 5
Persons with M.A. in Distance Education

Guyana	St. Vincent & the Grenadines	The Republic of Trinidad and Tobago
Ms. Carol J. Clarke	Ms. Edlena B. Adams	Sister Annetta Juliana Alexander
Ms. Aileen Grainger	Ms. Sonja Lewis	Mr. Nizam Ali
Mr. Fitzroy N. Marcus	Ms. Elaine M. Olliveirre	Mr. Hollis C. Sankar
Ms. Elaine D. Thomas		Mr. Michael L. Thomas

Information on those who completed the Postgraduate Diploma in Distance Education (PGDDE) from IGNOU was not available at the time of writing this report. (Both the PGDDE and MADE were made available to 14 Commonwealth countries through a joint-initiative of the Commonwealth of Learning, Vancouver, Canada and the Rajiv Gandhi Foundation (RGF), India.)

The following agencies can also act as a resource for open/distance learning in the region at varying levels and in varying areas:

- Audio/Visual units in the Ministries of Education.
- Adult/Continuing Education Unit at the T.A. Marryshow Community College, Grenada.
- Caribbean Institute of Media and Communication, University of the West Indies.
- Commonwealth Youth Programme: Caribbean Centre, Guyana.
- Continuing Education Unit at the Sir Arthur Lewis Community College, St. Lucia.
- Distance Education Centre, University of the West Indies.
- Learning Resource Centre/Instructional Design Unit, University of the West Indies.

- School of Continuing Studies, University of the West Indies.
- University of Guyana Institute of Distance and Continuing Education, Guyana.
- CBU's members (particularly for production and distribution).

Student Enrolment Data

Tables 6-10 provide student enrolment in programs at a distance. Increasing interest and growth in distance education in the region can be seen in the statistics provided in these tables. For example, over a ten-year period, distance education enrolment at the Distance Education Centre, the University of the West Indies, has increased over 300%.

Table 6
Student Enrolment: DEC, UWI

Academic Year	Enrolment*
1990/1991	582
1991/1992	669
1992/1993	1564
1993/1994	1475
1994/1995	1353
1995/1996	917
1996/1997	1934
1997/1998	1944
1998/1999	1974

(* Gender, age, etc., break-ups are not available)

Table 7
Student Enrolment in DE:
Faculty of Social Sciences, UWI, St. Augustine

Program/Course	Media used	Enrolment				
		'94	'95	'96	'97	'98
(First Degree)						
Sociology I & II	Print & Teleconference	19	23	16	64	32
Politics I & II	Print & Teleconference	25	20	18	68	14
Micro/Macro Econ.	-do-	32	44	38	45	61
Computer	-do-	16	27	16	52	35
Statistics	-do-	22	23	31	60	38
Accounting	-do-	17	15	18	18	33
Maths	-do-	34	32	55	43	104
History	-do-	16	14			39
Pre-Calculus Maths.	-do-	7	6			
MIS	-do-			24	48	
C'bean Busi. Dev.ment	-do-					28
Business Law	-do-					23

Table 8
Student Enrolment:
Guyana Institute of Distance and Continuing Education

Program/Course	Media used	Enrolment					Completion rate (%)		
		'94	'95	'96	'97	'98	'96	'97	'98
Pre-Uni. English & Mathematics	Print & Teleconference	100	113	119	492	204	V.	44.9	
Supervisory Management	Print & Teleconference				37	68		94.5	

Table 9
Student Enrolment
Commonwealth Youth Programme: Caribbean Centre (Guyana)

Program/Course	Media used	Enrolment				Completion rate (%)				Gender							
		93-95	95-97	97-98	95-99	93-95	95-97	97-98	95-99	Male		Female					
										93-95	95-97	97-98	95-99	93-95	95-97	97-98	95-99
Dip. In Youth & Development	Print	187			36	59			42	82			24	105			12
Cer. In Youth Work	Print		219	107			24	53			94	49			125	58	
Cer. In Small Business Development Skills	Print			10				40				4					6

Table 10
Student Enrolment: University College of Belize

Program/Course	Media used	Enrolment				
		'94	'95	'96	'97	'98
M.Ed	Print			65	64	63

To reiterate, Tables 6-10 show that distance education is new to the Caribbean in that only a few institutions, other than the UWI, have actually offered and/or are currently offering programs at a distance.

Accreditation

In each of the proposed models (see Section VI), it is assumed that educational institutions that offer courses using the broadcast system would provide credit for those courses. However, in the past, some distance education programs have been offered by off-shore organizations that have not been properly accredited resulting in scepticism in the region for this type of delivery and the credit received.

In 1988, Ministers of Education in the region mandated the Caribbean Community (CARICOM) Secretariat to develop a Regional Mechanism for Equivalency, Articulation and Accreditation. The Association of Caribbean Tertiary Institutions (ACTI), established in 1990, now works with the CARICOM Secretariat to set up a regional accreditation system to facilitate movement of students and of qualified persons within the region, among other aims. The governments in the region are also concerned to provide some assurance to potential students of off-shore distance education providers who are now proliferating in the region, either on their own account or in collaboration with local private agencies.

With funding provided by the Canadian International Development Agency (CIDA), two Standing Committees of ACTI, which included representation from the CARICOM Secretariat, developed a proposal for accreditation which Ministers of Education in the region approved at their meeting in St. Kitts & Nevis in May, 1992. Further, ACTI and CXC (Caribbean Examination Council) have been collaborating to develop a functional model for a Regional Accreditation Body under a European Union CXC Project for the development of post-CSEC examinations. This project is funded under the LOMÉ IV convention. Deliberations about a regional system are informed by the experience of Jamaica and the Republic of Trinidad & Tobago, where national accreditation bodies have operated for some time.

The criteria that were, and are being evolved, for obvious reasons, pertain to face-to-face teaching and/or print-based distance education situations. For teaching/learning through broadcasting media, these criteria would need to be revisited and reviewed to ensure that issues relating to accreditation, articulation and equivalence are in line with the work of such regional bodies as the CARICOM Secretariat and the ACTI.

V. EDUCATIONAL BROADCASTING MODELS

Based on the results of the survey there is strong support for proceeding with plans for educational broadcasting in the Caribbean. But, for educational broadcasting to succeed it must produce the intended learning results and be a viable system to implement and operate.

Fortunately, both radio and television have been used for educational purposes for many years and much has been written that can assist the Caribbean in making this decision. Instructional and public education broadcasts began on radio in the 1930s and on television in the 1950s. Most applications were either local experiments or occasional educational broadcasts offered by public broadcasting stations. It wasn't until the emergence of distance education in the 1970s and 1980s that larger scale educational broadcasting began.

Use of educational television is widespread, with examples of educational television networks found in countries such as Canada (TV Ontario, SCN, Access Alberta, and Knowledge Network), the United States (PBS, Star Schools Networks, and state networks), India, and Mexico. Major educational use of existing television systems can be found in Australia, and the U.K. Educational radio broadcasting is used more widely than television but it is concentrated mostly in developing nations.

Bates' Model

Dr. T. Bates has written very extensively on the use and impacts of broadcasting systems in distance education. Although he cautions that, "The appropriate choice and use of technologies will depend on the particular context in which they are used", he suggests that decision making can be guided by the criteria listed in Table 11.

Table 11
Bates' Model: ACTIONS

	Criteria	Remarks
A	Access	<ul style="list-style-type: none"> • Radio is accessible but learners must participate at a certain time. • Television is accessible to most but does not reach some outlying areas. Many have VCRs for taping programs.
C	Costs	<ul style="list-style-type: none"> • Radio programming and production is less costly than TV programming. But costs will be high, unless there are a large number of participants. • Television programming is costly to acquire or produce. Production facilities, transmission and training are the significant costs.
T	Teaching and Learning	<ul style="list-style-type: none"> • Radio has limited interactivity and may be difficult to tape. • Television has limited interactivity but is more instructionally effective due to the combined use of visuals and audio. Many who have television also may have access to VCRs for taping.
I	Interactivity & User Friendliness	<ul style="list-style-type: none"> • Radio is relatively easy to use but still requires preparation and production expertise. • Television requires extensive training and/or expertise for both instruction and production.
O	Organizational Issues	<ul style="list-style-type: none"> • Radio is less intrusive but in many cases there is limited access to radio broadcasting due to the commercial nature of most stations. • Acquisition and production processes can be lengthy and complex.
N	Novelty	<ul style="list-style-type: none"> • Radio is not as attractive as television to many audiences. • Television has a higher profile and offers more scope for programming.
S	Speed	<ul style="list-style-type: none"> • Radio programs can be produced in a timely fashion. • Television programs, depending on the production style may take considerably longer.

The acronym ACTIONS provides a framework for examining the benefits and issues pertaining to the use of radio and television in the Caribbean. For a list of questions under each criterion given in Table 11 above, see Appendix 10.

As Table 11 shows, radio broadcasts are highly accessible but require learners to be available at a particular time. Radio production is cost effective for a large listening-audience but the cost is high to serve niche markets or smaller groups. In comparison with the TV, radio is a less versatile medium for interactivity. Although telephone call-in can be used, this happens rarely in education and actually can interfere with the pacing of the program. The advantage of radio is the relative speed at which programs can be produced and broadcast. Although radio is being used extensively in developing countries its application in education in developed countries has been overtaken by a focus on television and the Internet.

While television is largely accessible, it is neither as accessible nor as portable as radio; but its visual presentation makes it a more effective instructional tool. Interactivity is similar to radio with primarily the use of telephone call-in. Significant differences include the cost and expertise required for effective educational television broadcasting. Acquisition and production costs are high, production schedules more complex and lengthy, and there are extensive training requirements for educators and producers to ensure a good use of the medium. If the goal is to *attract* learners to participate and get involved in educational programs, TV is the preferred medium. If the goal is to serve *existing* learners, then either radio or TV could be used depending on course demands.

A number of educational broadcast models do exist. The ACTIONS framework, however, helps to identify the issues relating to the use of radio and TV. Basically, these issues should determine the choice of technologies that best support the proposed models for educational broadcasting in the Caribbean. Although there are numerous networks operating in different environments, using various telecommunications systems, most can be found within the following classification system:

Table 12
Educational Broadcasting Models

Models	Remarks
Resource Delivery	<ul style="list-style-type: none"> • Selected programs in the regular broadcast schedule of existing channels will be cleared for off-air taping by educational institutions. • This method is used by “Cable in the Classroom” initiatives in both the U.S. and Canada.
Collaboration	<ul style="list-style-type: none"> • Institutions acquire or produce educational programming for delivery on existing networks. • This method is used by the Knowledge Network in Canada for instructional programming from universities and colleges.
Utility	<ul style="list-style-type: none"> • A channel or block of time is made available for use by educational institutions on an as-needs basis. The time can be used for live-to-air programming, broadcasting pre-recorded programming or to download videos to sites or students. • This method is used in many community networks and by the BBC in their broadcast of the British Open University programming.
Channel	<ul style="list-style-type: none"> • An educational channel is created with a set schedule that is programmed by the broadcaster. The channel includes instructional programming and public educational programming. • This method is used by TV Ontario in Canada. • <i>Gyan Darshan</i> (Educational TV) in India
Interactive Classroom	<ul style="list-style-type: none"> • Localized networks are created that use ITFS, cable or videoconferencing to reach selected sites. These networks are usually not available to the general public and in many cases use interactive systems such as ‘terminal response pads’ for audio and data return. Some use interactive video. • This method is used by many institutions in the U.S. to connect remote campuses and for business TV applications for industry training.

While these models can help to inform decisions regarding the development of educational broadcasting they should be viewed in the context of recent changes in the industry.

Once seen as a powerful stand-alone media, educational broadcasting is under increasing pressure from emerging on-line systems and capabilities. These systems provide greater interactivity for more effective instruction, a mix of media to support a greater range of programs and learning styles, and more timely and low cost production capabilities. Learners can access information, participate in discussion groups, and e-mail assignments via the Internet. Increasing bandwidth will also enable a greater use of video and audio streaming. New electronic learning environments (e.g., course templates) are being created that allow instructors to easily organize the information and activities to create new on-line courses.

Internet based educational applications are emerging at a time when the access to, and the capacity of, bandwidth and technology is increasing while the costs are decreasing. Existing educational broadcasters that have extensive facilities and expensive production processes are currently upgrading their systems (from analogue to digital) and addressing the movement of educators to the new on-line environments that will brand the next decade.

Although computers and Internet connections are rapidly appearing in educational institutions and homes, there are still large groups that do not have access to this technology. Further, it will take a number of years to develop the courseware, learning environments and reach so that on-line systems can serve a broad population. Broadcasting is still the most accessible technology and most effective way to reach the largest number of learners. As a result, most broadcasters are moving towards a mixed model where the strengths of broadcasting are being combined with the emerging strengths of Internet based systems.

With these developments in mind, the Caribbean is in an ideal position to plan a distance education strategy using public broadcasting systems. It has the opportunity to draw on a wealth of knowledge and experience on the topic, the ability to examine a range of working models, and insights into how changes in technology are impacting distance

education and educational broadcasting. In order to identify viable and effective educational broadcasting models for the Caribbean the results of the interviews must be examined against criteria such as those listed in the ACTIONS framework, a review of existing models and the implications of technological change.

Programming

What programming is available to support a Caribbean broadcasting initiative? The majority of those interviewed indicated the need for educational programming produced in the Caribbean that reflects the culture and issues of the Caribbean. In order to identify these products a survey was sent to the twenty-six members of the Caribbean Broadcasting Union asking each member to identify programming which they had produced and which could be used across the Caribbean for educational purposes (See Appendix 11.) The following table summarizes the responses of the survey:

Table 13
Educational Programming Available from CBU Members

Country	Station	Program
Jamaica	Television Jamaica	School's Challenge Quiz ½ hour – twice a week, January to May each year age 15-19 years Sing and Learn ½ hour - 13 episodes ages 4-10 Watch and Win Short features used as fill materials
	CVM Television	Tourism Quiz ½ hour – 13 episodes high school level
Trinidad	Caribbean Communications Network – TV6	Energy Alive ½ hour – 23 episodes school quiz show

The results of the survey indicated that a few programs, which could be used as part of an educational broadcasting initiative, are produced in the region. Most of these programs are in quiz style targeted at school students. However, the region can draw upon a wealth of external educational programming. This could be acquired for broadcast straightaway, or adapted to localize the content. Although the goal is to foster more Caribbean production, initially acquisition of off-shore programs is inevitable.

In the Commonwealth, Australia, Canada, India and the U.K. have the most extensive educational broadcasting networks and the largest inventory of educational programs, which would be suitable for broadcast in the Caribbean. While many developing nations in the Commonwealth also produce educational programs, especially for radio, this is usually region specific, and has not been produced in a format, or a technical standard necessary for re-broadcast. Table 14 contains a list of networks/program sources in four countries that may have products of interest to the Caribbean.

Table 14
Educational Broadcast Networks/Programming

Country	Station/URL	Type of Programming Available
Canada	Knowledge Network Based in British Columbia www.knowtv.com	Public education programming and curriculum-based school programs. (television)
	Saskatchewan Communications Network www.scn.sk.ca	Distance education and training programs, public education broadcasts and videoconferencing. (television)
	TV Ontario www.tvo.org/eduprog	Public education programs for both adults and children. (television)
	Canadian Learning Television/Access Alberta Based in Alberta www.clt.ca	Public education and distance learning programs for adults. School curriculum-based programs offered through Access Alberta. (television)
	CJRT Based at Ryerson Polytechnic University, Toronto, Ontario	History of the Caribbean parts 1 & 2. Each part: 12 x 1 hour. Equivalent to two – 2 semester courses at the undergraduate level (including study guide and book of readings). (radio)
WETV Based in Ottawa, Ontario www.wetv.com	A global specialty television network which provides educational programming to over 30 countries on four continents. (television)	
Australia	Australia Broadcasting Corporation www.abc.net.au/learn	Produces and broadcasts a range of educational programs both for the general public and curriculum based programs which can be used by schools. (television and radio)
United Kingdom	BBC www.bbc.co.uk/education	Adult education and schools programs being broadcast on the BBC.
	www.bbc.co.uk/worldservice/education	Radio programs. News, plus adult general education and some instructional programs (English instruction).
India	CEMCA	Data base of audio and video programs produced by agencies in the region. Data base is available on a floppy disc.
	Indian TV/All India Radio	Programs targeting farmers.

Since each network has a full catalogue of programming and this programming constantly changes, the web sites above provide the most up-to-date information on available programs.

In addition, the U.S. is the largest producer of educational broadcast programming. Educational television networks are present in almost every state in the U.S. and in some cases districts and individual institutions operate their own local networks. An example of the types of programs and services offered by these networks can be found on the following sites:

- Corporation for Public Broadcasting
www.pbs.org
- Knowledge TV
www.jec.edu/ktv/index.html
- National Public Radio
www.npr.org
- Kentucky Television
www.ket.org/ket

While each of the above services has a full catalogue of programs available on their web site, the usual practice would be for broadcasters to work through local distributors who would assist them to identify suitable products and facilitate the product acquisition process.

Copyright

Broadcast rights must be cleared for all programming acquired for both educational radio and television purposes. Where programs enhance or form part of a course of study, rights should also be cleared for off-air taping and cassette duplication. When programs are produced regionally for educational purposes contracts should ensure that rights are cleared to allow for international marketing, editing and the use of any footage in multi-media and on-line applications.

Countries in the Caribbean can also explore educational exemptions to local copyright laws. It is not unusual for countries to allow for off-air taping and in-classroom use of broadcast programs. A “Cable in the Classroom” approach could be tried which would enable schools to tape programs from existing over-the-air and cable networks for in-

school use. Further information on the “Cable in the Classroom” model can be found at www.ciconline.com.

Both the Knowledge Network and WETV in Canada have indicated an interest in working with a Caribbean educational broadcasting initiative. This involves, co-production, training, and in the case of WETV, access to free programming to the level of 2-4 hours per day. By linking with existing educational broadcasters, the Caribbean also has an opportunity to market programs produced within the region to off-shore broadcasters thereby supporting the local production industry.

VI. MODELS FOR THE CARIBBEAN

Three educational broadcasting models are being proposed for the Caribbean. The focus of each model is television supported by radio and an on-line service. This approach is consistent with survey results indicating support for television and the ability of the medium to reach and attract learners. Television broadcasters have also indicated a willingness to include educational programming in their schedules.

While there was strong support in the survey for radio, particularly in areas not served by television, radio was seen as not having the same capabilities of television for instructional purposes, and access to commercial radio schedules is limited. Stations indicated that educational broadcasts would have to be formatted in very short segments that would be broadcast randomly within the schedule.

The Internet was seen as an important component of any recommended broadcasting model. Although Internet use and access to computer technology is still limited in the countries studied, the survey indicated that Caribbean countries were engaged in national education programs to expand computer use in education and that use of computers by the general public is increasing quickly.

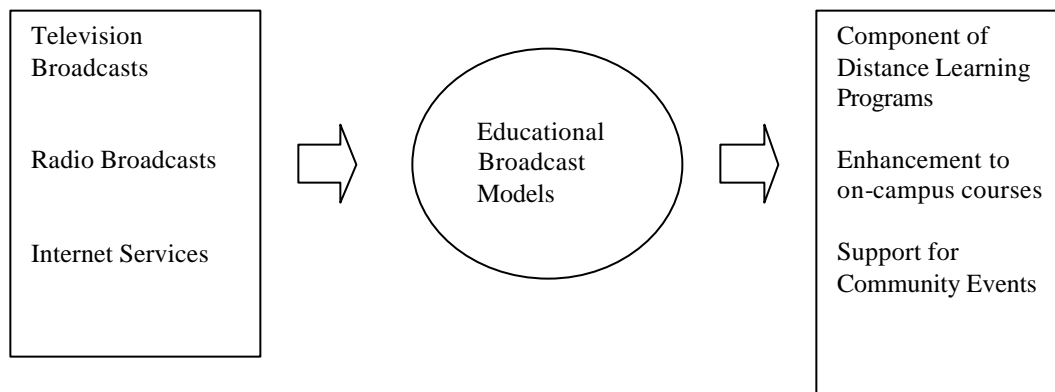
The proposed educational broadcasting models integrate television, radio and the Internet. In each case television programs will be a combination of those acquired from external sources or produced within the region by the CBU or its member stations. The survey found that a few institutions or organizations in the region have the capability to produce broadcast-quality programming. However, overall, CBU member stations are adequately equipped (see Appendix 9), to undertake this production in partnership with these institutions.

Radio programs can be used to promote, or add value, to television programs or could provide a local context for those television programs that have been acquired from external sources. Each model proposed includes an Internet based service to provide viewers with program information and access to program materials and resources.

Put differently, the proposed models involve both the integration of technologies and the integration of broadcast programs into courses offered by educational institutions and community organizations. Where possible, broadcast programs should be used as an enhancement to on-campus courses, or as part of a distance education program involving print materials, and on-line access to information and discussions. Broadcasts can also be used to support on-site seminars and events held by community organizations. The following diagram illustrates this integrated approach:

Technology Integration

Educational Integration



While each model includes the same combination of technologies and supports the same range of educational applications, the models differ in the extent to which these components will be implemented.

Model One responds to those in the survey who advised to start small and to build on success. The model includes up to five hours of educational television programming per week that would be broadcast within the existing schedules of CBU member stations. Selected programs will be supported by radio broadcasts and a web site will be established to provide further information and to support instructional activities. **Model Two** increases the amount of television programming to a block of at least three hours a day, which will be broadcast on CBU member stations at a set time. Radio programming will be increased to correspond with the increased amount of television programming and the web site will be enhanced to support more interaction with students. **Model Three** involves the establishment of an educational television channel, radio programming to support television programs and a media-rich web site that provides a

full range of information and instructional services. Each model represents an increase in capacity, complexity and cost . Although these models can stand alone they can also form part of a continuum that allows the Caribbean to begin at any point and to build incrementally.

Table 15
Educational Broadcasting Models

	→	→	
	Collaboration	Utility	Channel
Television	<u>Schedule:</u> One hour per day Monday to Friday 26 week schedule (2 seasons of 13 weeks) <u>Programming:</u> 130 hours <u>Acquisition:</u> 98 hours <u>Production:</u> 13 hours (1/2 hour per week for 26 weeks)	<u>Schedule:</u> Three hours per day Monday to Friday 26 week schedule (2 seasons of 13 weeks) <u>Programming:</u> 390 hours <u>Acquisition:</u> 260 hours <u>Production:</u> 52 hours (2 hours per week for 26 weeks).	<u>Schedule:</u> 13 hours per day daily 52 week schedule (2 seasons) <u>Programming:</u> 4732 hours <u>Acquisition:</u> Up to 3500 hours <u>Production:</u> 104 hours (4 hours per week for 26 weeks).
Radio	<u>Programming:</u> 13 hours (½ per week for 26 weeks)	<u>Programming:</u> 26 hours (1 hour per week for 26 weeks).	<u>Programming:</u> 26 hours (1 hour per week for 26 weeks).
Web Site	<u>Features:</u> Program schedule and information	<u>Features:</u> Program schedule and information Access to supplementary and resource materials Information links Instructional management software and Discussion groups.	<u>Features:</u> Program schedule and information Access to supplementary and resource materials Information links Instructional management software, Discussion groups and Web-casting applications.

Note: The above acquisition and production figures assume that a percentage of programs will be repeated each season.

Proposed Educational Broadcasting Models for the Caribbean

In what follows the proposed educational broadcasting models for the Caribbean are elaborated.

Model One

Model One is similar to the *collaborative model* described in Table 12. In this model the CBU member radio and television stations will include educational programming in their existing broadcast schedules. According to the survey, the CBU member television stations are willing to provide about an hour per day in their schedules (some indicated more), free of charge for educational broadcasts. Available times will be primarily in the daytime schedule but broadcasters indicated that a quality program with broad appeal may be scheduled during the evening prime time. Although programs will be broadcast at different times across the region, each program will be identified as part of the same Caribbean educational broadcasting initiative.

Television programming will include a combination of centrally acquired/produced materials and programs developed locally. The programs that are centrally acquired/produced will address to needs and themes across the region while local productions will deal with issues impacting one or a small group of countries. The following sample program schedule illustrates how a one-hour per day broadcast could include a mix of acquired and produced programming and meet a wide range of community needs:

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<p>Computer Skills Business <i>(acquisition)</i></p>	<p>Caribbean Studies <i>(1/2 hour international co-production, 1/2 hour tutorial)</i></p>	<p>Computers for Schools <i>(acquisition)</i></p>	<p>Math Skills <i>(acquisition)</i></p>	<p>Focus on Education and Career Planning <i>(acquisition and production)</i></p>
<p>Introduction to Tourism <i>(acquisition and production)</i></p>			<p>Health and Literacy <i>(regional/local production)</i></p>	<p>Special Topics <i>(regional/local production)</i></p>

↑	↑	↑	↑
College Course	University Course	Community Education	Public Education

↓	↓	↓	↓
Continuing Education	Professional Development	Adult Upgrading	Information

Radio programming will support the television schedule. The survey identified that the CBU radio broadcasters would be willing to distribute educational programming, provided that it followed a commercial format. Most stations indicated that segments of less than five minutes could be scheduled randomly. Model One proposes that some radio programming be used to support television broadcasts and that radio programs be produced in a half hour format which can be segmented into shorter topics for broadcast on commercial stations. These short programs would be used to promote or add a regional/local context to television programs. In those countries that have community or non-profit stations the half-hour version could be broadcast and combined with local on-air presentations and telephone call-in. Although some radio programs may be acquired, most programs will be produced and will be used to reflect Caribbean culture and issues.

Internet use is growing in the Caribbean and is an important component of Model One. A web site could be developed to provide on-line program information, access to relevant links, and to support institutions and organizations who are integrating the television and radio broadcasts into courses and programs.

Implementation and administrative structure

It is proposed that Model One be implemented and administered using a centralized and decentralized approach. A regional steering committee will oversee the operation of the educational broadcasting initiative in the Caribbean. This committee will include selected representatives from the educational institutions, government ministries, regional development agencies, and broadcasters. The role of the committee will be to set operational policies and to develop the annual strategic plan. The CBU will play an important role in the implementation and administration of the strategic plan. To support this work a coordinating office, reporting to the steering committee, is to be established at the CBU.

In accordance with the survey which identified the need for local support, Model One proposes each participating country establish a local Working Group responsible for ensuring involvement of local organizations in the educational broadcasting initiative, acting as a catalyst for local production and use of programming, and providing input into

the strategic plan. The educational broadcasting coordinating office will liaise with working groups across the region.

Key components of the administrative structure include:

- Development of a management infrastructure that involves a regional steering committee and working groups at the local level.
- Creation of a centralized coordinating office at the CBU.
- Development of an annual strategic plan.
- Resource/funding development.

Impacts and benefits

Model One will provide direct benefits to both regional organizations and institutions, and broadcasters in a very timely and cost-effective manner. This model is flexible and allows educational broadcasting to begin small and expand according to the demand, and the availability of resources. It provides regional groups with access to a variety of technologies to reach and serve the Caribbean. Instead of each institution and organization creating its own on-line services (which may not link together) the educational broadcasting initiative, with its regional focus, can make use of the concept of 'economies of scale' to develop systems to serve these organizations on the local and regional levels. This includes:

- Centralized acquisition and/or production of programming.
- Facilitating local production projects involving one or more countries to deal with specific issues.
- Seeking agreements with external networks.
- Creating an on-line information system that can be used by institutions and organizations across the Caribbean.

Model One will also benefit broadcasters in the region. For example, the survey indicated that broadcasters throughout the region are seeking quality programming to attract viewers. The success of cable channels such as the Discovery Network that offer public education shows that there is an audience in the Caribbean for educational programming. The educational broadcasting initiative has the potential to draw these viewers to local stations.

Budget

Component	Description (Cost in \$US)	Implementation (\$US)	Recurring Cost (\$US)	Total (\$US)
TELEVISION:				
Program Acquisition	98 hours per year \$450-\$600 per hour		\$58,800	\$58,800
Program Production	Studio based 13 hours per year \$2,500-\$3,000 per hour		\$39,000	\$39,000
Telecom- munications	Uplinking and space segment		\$16,900	\$16,900
Supplies/ Overhead	Tape stock and production supplies		\$15,000	\$15,000
RADIO:				
Production	13 hours \$1,500 per hour		\$19,500	\$19,500
Equipment	Digital audio editing suite	\$20,000		\$20,000
Engineering and installation		\$8,000		\$8,000
Telecom- munications	Satellite audio distribution		\$5,850	\$5,850
Supplies/ Overhead	Tape stock and production supplies		\$5,000	\$5,000
WEB SITE:				
Site development		\$8,000		\$8,000
Site maintenance /administration			\$20,000	\$20,000
Equipment	Additional server capacity	\$5,000		\$5,000
Telecom- munications	ISDN lines from the server to the web		\$50,000	\$50,000
Supplies/ Overhead			\$15,000	\$15,000
Software Licenses		\$6,000		\$6,000
OTHER EXPENSES:				
Administration/ Staff	Additional Coordinator time Administrative Assistance		\$50,000	\$50,000
Administrative Operating	Office supplies Communications Travel Misc.	\$10,000	\$15,000	\$25,000
Equipment Maintenance	15%		\$6,150	\$6,150
TOTAL:		\$57,000	\$316,200	\$373,200

ADDITIONAL COSTS	Description	Implementation (\$US)	Recurring Cost (\$US)	Total (\$US)
Training and Consultancy	Partnership with external broadcaster (See # 1 below)	\$75,000	Should be sustained for first three years of operation	\$75,000
Major Co-production	(See #2 below)		\$200,000	\$200,000

1. Training and consultancy: During the first three years of operation, it is recommended that the Caribbean Educational Broadcasting initiative establish a relationship with an existing educational broadcaster or seek expert help in the areas of programming, educational media production, on-line applications, and accreditation and institutional liaison. (Grants could be pursued to support this activity)
2. The CBU should consider the production of one major series per year related to Caribbean culture and/or issues. This could be a co-production with other educational networks. Funds in the amount of \$200,000 should be sought over and above the annual budget to support this production.

Note: The above figures were supplied by the Caribbean Broadcasting Union. This budget is a guideline only for use in determining the feasibility of Model One.

Model Two

Model Two is similar to the *utility model* mentioned in Table 12. In this model arrangements could be made with CBU member television stations to allocate a specific, three-hour block of time in their local schedules for educational broadcasting. This block of programming would be aired daily from Monday to Friday across the region and would be identified as part of the Caribbean broadcasting initiative.

Although broadcasters who participated in the survey indicated that about an hour per day could be allocated free of charge for educational programming, many mentioned that greater amounts of time need proportional allocation of funding to ensure on-going and uninterrupted access to their broadcast schedules.

Due to the amount of television programming involved in Model Two, it is suggested that a partnership be established with an existing external educational broadcaster. In this way a segment of their schedule could be acquired and could form the basis of the program block with some broadcast time within that block being filled by regional or local

productions. The following sample program schedule illustrates how Model Two could be constructed to capitalize on a partnership with an external network plus meeting the local needs identified in the survey:

Hour	Monday	Tuesday	Wednesday	Thursday	Friday
1	Computers & Business Skills <i>(acquisition)</i>	Caribbean Studies <i>(regional and local production)</i>	Computers & Schools <i>(acquisition with some regional production)</i>	Literacy and Adult Upgrading <i>(acquisition with some regional production)</i>	Health <i>(acquisition with some local production)</i>
2	Tourism <i>(acquisition with some regional production)</i>	Agriculture/ Environment <i>(regional production)</i>	Science & Technology <i>(acquisition)</i>	Self Improvement <i>(acquisition)</i>	Early Childhood Education <i>(acquisition)</i>
3	Mgt & Supervision <i>(acquisition)</i>	Art/ Culture <i>(regional and local production)</i>	Computer Applications <i>(acquisition)</i>	“How To” Programs <i>(acquisition)</i>	Special Topics <i>(acquisition with some regional and local production)</i>

Note: Acquisition refers to programming from an external partner, acquisition plus production refers to development of a few programs as part of a series that has otherwise been produced externally, or producing ‘wraps’ which provide a regional or local context to an acquired program.

In a similar fashion to Model One, radio programming will be used to support the television schedule and will be broadcast free of charge by the CBU members. The amount of radio programming will increase to 26 hours per year and be produced in the half hour format (consisting of 5 minute segments) described in Model One. These programs could promote or enhance programs in the television schedule or be used to regionalize or localize television content.

Model Two proposes that the capabilities of the web site be increased to a web portal which would offer a greater range of on-line services including information, links to regional sites, course materials, and discussion groups. To support educational applications, a student management and course development software package will be acquired. This will provide an on-line learning environment or instructional site that

could be used by the participating institutions and organizations to manage student and course information, and to construct web based activities to support broadcast programs. (For examples, see: www.inukshuk.ca, www.webct.com, www.ecollege.com).

Implementation and administrative structure

Model Two will use the same administrative structure described in Model One involving a regional steering committee and local working groups. In addition to this the Coordinator would work with the CBU to develop and oversee the relationship between the Caribbean Educational Broadcasting initiative and the network partner(s) outside the region.

Key components of the administrative structure include:

- Development of a management infrastructure that involves a regional steering committee and working groups at the local level.
- Creation of a centralized coordinating office at the CBU.
- Development of an annual strategic plan.
- Development of resource/funding.

Key components of the administrative responsibilities involve:

- Developing and managing the relationship with the off-shore network.
- Creating and maintaining a web portal that could be used to support programs and provides an on-line learning environment.
- Overseeing program acquisition, production and scheduling.
- Establishing a contractual relationship with the CBU broadcasters across the region to air the educational block of programming, and managing this relationship on an on-going basis.
- Facilitating local access to the CBU member capabilities for live or recorded production.

The CBU will play a central role in working with broadcasters in the region to access the necessary broadcast time, acquire and/or produce programming that could be broadcast throughout the Caribbean, and to facilitate local production and program sharing.

Educational institutions will have to be encouraged to integrate broadcast programs with on-campus activities, and to use the on-line learning portal as a component, along with broadcasting, in the delivery of distance education courses.

Impacts and benefits

Some who participated in the survey commented that “the Caribbean shouldn’t reinvent the wheel”. Model Two allows the Caribbean to begin a broadcasting initiative with enough programming and activity to make a measurable impact. The partnership with an existing network proposed in Model Two will ensure that the Caribbean is not reinventing the wheel, but is capitalizing on the knowledge and quality products already available. Such a relationship will also provide some economies with regard to acquisition costs and access to expertise.

Local broadcasters will also benefit from Model Two. Stations will have access to quality programming, increasing local viewership, and will benefit from funding to support the program block.

As the data showed selected countries in the Caribbean either have an educational television channel (the Republic of Trinidad & Tobago) or are engaged in discussions about implementing such a channel (Barbados, Jamaica).

The key area of concern for these countries is the lack of access to quality educational programming to deliver on these networks. Model Two will provide a block of programming that could form part of a local broadcast network thereby supporting in-country educational broadcasting initiatives. Model Two could also form part of the schedule of a Caribbean channel that seems to be currently under discussion.

Budget

Component	Description (Cost in \$US)	Implementation (\$US)	Recurring Cost (\$US)	Total (\$US)
TELEVISION:				
Program Acquisition	296 hours per year \$450-\$600 per hour		\$174,000	\$174,000
Program Production	Studio based 52 hours per year \$2,500-\$3,000 per hour		\$130,000	\$130,000
Equipment	Expanded editing and production capabilities	\$160,000		\$160,000
Telecom- munications	Uplinking and space segment		\$50,000	\$50,000
Local Broadcast of programs *	260 hours x \$150 per hour x nine countries		\$350,000	\$350,000
Supplies/ Overhead	Tape stock and production supplies		\$40,000	\$40,000
RADIO:				
Production	26 hours \$1,500 per hour		\$39,000	\$39,000
Equipment	Digital audio editing suite	\$20,000		\$20,000
Engineering and installation		\$8,000		\$8,000
Telecom- munications	Satellite audio distribution		\$11,700	\$11,700
Supplies/ Overhead	Tape stock and production supplies		\$10,000	\$10,000
WEB SITE:				
Site development		\$18,000		\$18,000
Site maintenance /administration			\$60,000	\$60,000
Equipment	Additional server Capacity, digital still camera and capture equipment	\$7,000		\$7,000
Telecom- munications			\$100,000	\$100,000
Supplies/ Overhead			\$20,000	\$20,000
Software Licenses		\$15,000		\$15,000
OTHER EXPENSES:				
Administration/ Staff	Coordinator, Technical support, Administrative Support		\$80,000	\$80,000
Administrative Operating	Office supplies Communications Travel Misc.		\$24,500	\$24,500
Facilities Adjustments	Renovations, rewiring, millwork, and office equipment	\$60,000		\$60,000
Equipment Maintenance	15%		\$28,000	\$28,000
TOTAL:		\$288,000	\$1,117,200	\$1,405,200

ADDITIONAL COSTS	Description	Implementation (\$US)	Recurring Cost (\$US)	Total (\$US)
Training and Consultancy	Partnership with external broadcaster (See # 1 below)	\$100,000	Should be sustained for first three years of operation	\$100,000
Major Co-production	(See #2 below)		\$200,000	\$200,000

* Although television stations indicated that about an hour per day of their schedule could be used for educational programming, time over and above this will have to be sponsored. This figure represents the additional two hours per day at a rate of \$150 per hour required to implement Model Two across the nine participating countries.

1. Training and consultancy: During the first three years of operation it is recommended that the Caribbean Educational Broadcasting initiative establish a relationship with an existing educational broadcaster or seek expert help in the areas of programming, educational media production, on-line applications, and accreditation and institutional liaison. (Grants could be pursued to support this activity)
2. The CBU should consider the production of one major series per year related to Caribbean culture and/or issues. This could be a co-production with other educational networks. Funds in the amount of \$200,000 should be sought over and above the annual budget to support this production.

Note: The above figures were supplied by the Caribbean Broadcasting Union. This budget is a guideline only for use in determining the feasibility of Model Two.

Model Three

Model 3 is similar to the *channel model* mentioned in Table 12. In this model a customized channel is created that meets the specific needs of the Caribbean. This model is the most complex and expensive. The channel itself can include a variety of acquired programs from various sources, and programs produced that meet the regional needs or that address to local issues. Programs will range from instructional programs at the university level to general interest programs for adults and children.

The channel will originate from the offices of the CBU, will be uplinked by satellite to each participating country and then distributed by cable, microwave or fiber optics to homes and institutions. Regional programming would be produced centrally but local productions could also be broadcast on the channel on a taped basis. The program schedule will be segmented into thematic blocks that reflect the identified needs of the region and the best time to reach specific groups of viewers. Weekend times will be reserved for programs that have a broad public appeal and for repeats of high

demand/high quality programs. Model Three allows for the maximum flexibility in scheduling programming for broadcast. While programs in Models One and Two must fit into existing broadcast schedules, the following sample schedule illustrates how Model Three allows programs to be scheduled at the most suitable times:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9:00 am – 10:00 am	Pre-school / Early Childhood Education					Pre-school	
10:00 am – noon	Schools					Children	
noon – 1:00 pm	Health					Literacy	
1:00 pm –3:00 pm	Literacy and Adult Self Improvement					Self Improvement	
3:00 pm – 4:00 pm	Children					"How To" Programs	
4:00 pm – 5:00 pm	Teacher Professional Development					Tele-courses	
5:00 pm – 8:00 pm	Tele-courses / "How To" Programs Drama/Performance						
8:00 pm – 10:00 pm	Community / Public Education					Public Education	

In a similar fashion to Models One and Two, radio will be used to support television programming. The focus of radio will be to provide opportunities for programming that is complementary and provides a local context to regional television broadcasts. The web site will be enhanced to provide a media-rich environment that includes audio and some video streaming. This process will increase the interactivity and resources available to students on-line and provide increased communication between the channel and participating countries. It is anticipated that over time the Internet service will become the key component of Model Three with television and radio supporting this service. The *channel model* is seen as a starting point only. It would be built in such a way that programming will be integrated with Internet based activities and that an increasing amount of programming will be done on the Web with the television (and radio) support. The strategy is to start with broadcasting which has Internet support and over time switch to an Internet application that is supported by broadcasting.

Implementation and administrative structure

Model Three will also operate using a centralized/decentralized structure involving a regional steering committee and local working groups.

Key components of the administrative structure include:

- Development of a management infrastructure that involves a regional steering committee and working groups at the local level.
- Creation of a centralized coordinating office at the CBU.
- Development of an annual strategic plan.
- Development of resource/funding.

Key administrative responsibilities involve:

- Developing and managing relationships with off-shore networks.
- Creating and maintaining a media rich web portal to support broadcast programs.
- Managing a broadcast channel including the program acquisition, production, scheduling, and the technical plant.
- Arranging for signal distribution.

Impacts and Benefits

This model will allow the Caribbean to build a system customized to meet the needs expressed in the survey and to continue to customize over time. An educational broadcasting channel will greatly increase the availability of educational programming in the region. Due to the large amount of programming required to fill a broadcast channel, most programs would be acquired from external sources. However, at least 104 hours of regional/local programming will be produced each year resulting in a growing proportion from the Caribbean. As shown in the report, little educational programming is currently being produced in the region so this model represents a significant improvement in the amount of product available. This level of development would also support the local production industry with the increased need for technicians and producers. The result is the creation of a larger, more skilled talent pool within the region, which could attract other types of production to the area.

By launching an educational TV station, radio programming, and a media rich web portal the region will immediately become more aware of distance education and the benefits of instructional technology. Model Three will also bring immediate international attention to the region with the possibility of increased opportunities for resource development and partnerships with other networks and business/industry. The risk inherent in Model Three is that the broadcasting industry is changing so rapidly due to the increased capabilities of the Internet that by the time the channel is functional the area of educational broadcasting will have changed substantially.

Budget

Component	Description (Cost in \$US)	Implementation (\$US)	Recurring Cost (\$US)	Total (\$US)
TELEVISION:				
Program Acquisition	3500 hours/ year, \$450-\$600/ hour		1,575,000	1,575,000
Program Production	Studio based, 104 hours per year \$2,500-\$3,000 per hour		260,000	260,000
Equipment	Redundancy uplink equipment, upgrade to dual carriage, microwave links, encoders and converters, expanded editing and production capabilities	1,000,000		1,000,000
Engineering and Installation		80,000		80,000
Telecommunications	Satellite transponder lease and uplink support		2,000,000	2,000,000
Local Transmission	Microwave & local signal distribution		160,000	160,000
Supplies/Overhead	Tape stock and production supplies		160,000	160,000
RADIO:				
Production	26 hours, \$1,500 per hour		39,000	39,000
Equipment	Digital audio editing suite	20,000		20,000
Engineering and installation		8,000		8,000
Telecommunications	Satellite audio distribution		11,700	11,700
Supplies/Overhead	Tape stock and production supplies		10,000	10,000
WEB SITE:				
Site development		25,000		25,000
Site maintenance /administration			75,000	75,000
Equipment	Additional server Capacity, digital still camera and capture equipment, video tape recorders	25,000		25,000
Telecommunications	ISDN lines from the server to the web, some broadband capability		160,000	160,000
Supplies/Overhead			25,000	25,000
Software Licenses		20,000		20,000
OTHER EXPENSES:				
Administration/Staff	2 program managers 1 technical supervisor 1 scheduling/acquisition supervisor 3 technical/production positions 2 project officers 2 assistants		420,000	420,000
Administrative Operating	Office supplies Communications Travel Misc.		66,000	66,000
Facilities Adjustments	Renovations, rewiring, millwork, and office equipment	120,000		120,000
Equipment Maintenance	15%		155,000	155,000
TOTAL:		1,298,000	5,116,700	6,414,700

ADDITIONAL COSTS	Description	Implementation (\$US)	Recurring Cost (\$US)	Total (\$US)
Training and Consultancy	Partnership with external broadcaster (See # 1 below)	\$100,000	Should be sustained for first three years of operation	\$100,000
Major Co-production	(See #2 below)		\$200,000	\$200,000

1. Training and consultancy: During the first three years of operation it is recommended that the Caribbean Educational Broadcasting initiative establish a relationship with an existing educational broadcaster or seek expert help in the areas of programming, educational media production, on-line applications, and accreditation and institutional liaison. (Grants could be pursued to support this activity)
2. The CBU should consider the production of one major series per year related to Caribbean culture and/or issues. This could be a co-production with other educational networks. Funds in the amount of \$200,000 should be sought over and above the annual budget to support this production.

Note: The above figures were supplied by the Caribbean Broadcasting Union. This budget is a guideline only for use in determining the feasibility of model three.

Revenue and cost recovery

The budgets provided in this report include the total costs for implementing and operating each model. However, there is the potential to lower these costs through resource development and the sale of products. These activities include the following:

- Alliances with international organizations such as WETV that is willing to provide up to four hours per day of quality educational programming.
- Co-productions with external networks, such as the Knowledge Network, Canada that can assist in obtaining funding for production from international sources.
- Institutions and regional development groups who may cover their own program production costs.
- Sponsorship of programming by business and industry in return for donor recognition
- On air pledge drives to solicit public donations.
- Government sponsored public education programs.
- International development funds and equipment/telecommunications donations
- Advertising sales (Model Three only).
- Sale of programming which is produced in the Caribbean to external networks.

It is estimated that the above activities could lower the costs identified in the above budgets by 10%-15% in the first two years with a substantial rise after this period to about 50% of the budget in year five. This is due to the costs involved in setting up resource development and marketing processes, and the time necessary to build alliances and relationships with key sponsorship groups.

VII. RECOMMENDATIONS

While the data highlighted significant issues related to funding, expertise and access to equipment, these were overshadowed by the overwhelming response to the need for distance education and the enthusiasm for the use of educational broadcasting. Many of those interviewed used words such as “critical” and “imperative” when referring to distance education and almost all saw broadcasting as an attractive and viable method for the delivery of distance education both to students and the general public. But, those interviewed cautioned that this technology should not stand-alone but should be integrated with on-campus activities and emerging new on-line systems. This echoed the direction being taken by educational networks worldwide. The most important aspect is to build a system that can keep pace with technology and needs.

Based on the results of this study the following actions are recommended:

1. Implementation of Model Two

Model Two provides the right blend of capabilities to foster and support the growth of distance learning in the Caribbean. It will have a large enough impact to interest institutions and organizations across the region to participate in the model and to attract the attention of viewers and students. Model Two also provides opportunities for the development of the international alliances and partnerships needed to obtain quality programming and resources while making a significant contribution to regional broadcasters through providing the quality programming needed by their channels. The broadcast industry is in a state of change with the increasing use of the Internet. Model Two enables the Caribbean to make effective use of the current broadcast systems but doesn't restrict the ability of the initiative to change by incorporating other technologies, as appropriate, or to move away from broadcasting in the future.

In order to implement Model Two, it is recommended that Model One be used as a starting point. A pilot should be constructed based on the components of Model One with the understanding that the pilot will lead to the implementation of Model Two in

years 2 or 3. The pilot will provide an opportunity to test components of the model, seek alliances and resources, develop agreements with broadcasters and educational institutions/organizations, and acquire and/or produce the necessary programming.

Table 16
Implementation Timeline

Date	Activity	Description
May - June 2000	Development of pilot project.	Pilot project proposal complete and funding secured.
September 2000	Pilot Project begins.	Pilot project operational in three countries.
September 2001	Expansion of pilot project.	Pilot project operational in remaining countries.
September 2002- January 2003	Implementation of Model 2.	Expansion to Model Two based on the results of the pilot project.

* Possible pilot countries include Jamaica, the Republic of Trinidad & Tobago and St. Lucia.

Note: The above timeline assumes acceptance of the recommendations in this report by April 1, 2000

2. Mandate the Caribbean Broadcasting Union, to work in collaboration with regional agencies, to undertake the establishment of the administrative structure for the educational broadcasting initiative and the development of the pilot.

The CBU has the regional presence, and the links with agencies and broadcasters needed to take a facilitating role in establishing the educational broadcasting initiative. The CBU would be responsible for working with regional organizations to establish a steering committee. This committee would identify a coordinator, establish the administrative office at the CBU, oversee the development of the pilot project, and create the strategic plan.

During the pilot period, the CBU will work closely with the regional steering committee and regional working groups. The coordinator assigned to the initiative will report to the steering committee and be responsible for implementing the strategic plan developed by that committee. Further details of this administrative structure are outlined in Models One and Two, described earlier in the report.

The CBU has a key role to play in the whole venture. While some increase in the technical plant, staffing levels, and skill level of staff to produce educational programming will have to be undertaken, the costs will be significantly higher if use of the existing facility and services of the CBU are not factored in to the budgets.

Appendix 1: Questionnaire for Broadcasters

**BROADCAST ORGANIZATION/MEDIA PRODUCTION HOUSE
PROFILE SHEET**

1. Contact Information:

Name of Organization:

Address: _____

Contact Person (name and title)

Phone: _____ Fax: _____

2. Profile of Organization

Television broadcaster _____ Radio broadcaster _____ Production facility _____

Public sector _____ Private sector _____

Number of full-time staff (or equivalent) _____

Annual Budget

Audience-size and profile (If a production house: identify the type of productions and client base)

Brief description of the organization

3. Background

Are you interested in increasing the amount of regional programming, which you are broadcasting?

No _____ Yes _____

Identify the amount:

Do you currently produce and/or broadcast educational programming?

No _____ Yes _____

If yes, please describe the amount, type and audience/ reach.

If yes, please describe any relationships between your organization and educational institutions or community groups who support these programs.

Are you interested in including, or increasing educational programming in your broadcast or production schedule?

No _____ Yes _____ Why? _____

If yes, how many hours of educational programming per week could you include in your broadcast and/or production schedule?

During which hours of the day could your station broadcast educational programs?

What type of educational programs would best suit your capabilities, broadcast or production schedule and audience profile (e.g. content, target audience, length, live/pre-taped)?

3.1 Broadcast Schedule Information (Broadcaster only)

Number of hours of broadcasting per week _____

Broadcast schedule per day: _____ to _____

Identify any broadcast 'seasons' and their dates: _____

How far in advance is your broadcast schedule finalized? _____

Is your schedule 'blocked' into specific programming areas (e.g. prime time, children)? Explain.

3.2 Program Acquisition and Rights Clearances (Broadcaster only)

Please describe your program acquisition process (e.g. steps involved, number of staff, timing)

Do staff members have the knowledge to clear rights other than broadcast such as taping-off-air, duplication and erasure, and editing rights? _____

How does your organization currently track rights and expiry dates?

3.3 Production and Technical Information (Broadcaster or Producer)

Estimated hours of original production annually _____

% of production done:

In-studio _____ Electronic Field Production _____ Combined _____

In-house _____ Contracted out _____ Co-production _____

If production is done in-house, what % increase in production could your present facilities accommodate without the need to be upgraded or expanded?

Number and size of studios (or production booths)

Number and type of Electronic Field Production (EFP) units__

Number and type of editing facilities (include off-line and on-line)

What capacity does your operation have for duplication and distribution of tapes?

List other production and post-production capabilities: (e.g. digital effects, animation)

Does your organization receive revenue from marketing products/productions?

No _____ Yes _____

If yes, do you market these products/productions yourself or do you sign with a distributor? Identify the process and describe any internal marketing capabilities.

What existing organizational promotional vehicles or activities could be used to also promote educational programming?

4 General

Describe the ideal educational broadcasting system and type of programming for the region covered by this study. Please view the sample video, before answering this question.

What would be required to ensure that your organization was a successful part of this system?

Please comment on any other issues or supply any further information that could assist the feasibility study.

Appendix 2: Questionnaire for Ministries

**GOVERNMENT DEPARTMENT
SURVEY SHEET**

1. Contact Information:

Country _____ Department/Office _____

Contact Person (name and title)

Address

_____ Web address: _____

Phone _____ Fax _____

E-mail _____

2. Background

1. What are the key priorities for your ministry/department for the next two years?

2. Is your ministry/department engaged in any regional developments or strategies related to distance learning or educational technology?

3. Describe your experience or impressions of the value of distance learning or educational technology.

4. Is there support in the government to expand or enhance current distance learning activities?

No _____ Reason _____

Yes _____ Reason _____

If yes, please identify how and at what level of increase.

3. Educational Broadcasting

1. What ministry/department regulates broadcasting?

2. Are broadcasters required to allocate time in their schedule for government and/or public programming? Explain.

3. What is the relationship between your ministry/department and broadcasters? Does your ministry/department currently develop or air programming on radio or television? Describe type, amount and frequency.

4. Does your ministry/department have access to production facilities? Describe capabilities.

5. Do you regard broadcasting as an effective/or potentially effective means of providing educational programs?

Radio:

No _____ Reason _____

Yes _____ Reason _____

Television:

No _____ Reason _____

Yes _____ Reason _____

If yes:

What target group would be best served by educational broadcasting?

What type of programming would be most effective (e.g. instructional, community education)?

The following have been suggested as potential programs for delivery by distance learning. Please rank the programs in each category based on the level of perceived demand:

Formal

Non-formal

- | | |
|--|---|
| ___ Early Childhood Education (pre-service & in-service) education | ___ Health and family education |
| ___ Technical and vocation education and training | ___ Environment education |
| ___ High school completion | ___ Agriculture and small business |
| ___ Mathematics, Science and Technology | ___ Life-skills for youth/elderly |
| ___ Languages | ___ Caribbean literary, performing & plastic arts |
| ___ Sports education | |

Are there other high demand areas not included in this list? _____

6. Are there other technologies that your department is planning to use that could work in a complementary fashion with broadcasting? Describe.

7. If educational broadcasting were available would your ministry/department be supportive?

No _____ Reason _____
Yes _____ Reason _____

If yes, in what way(s)? _____

4. **General**

1. What national or regional mechanisms (groups, strategies and activities) would support collaboration between Caribbean countries in the area of distance education or educational broadcasting?

2. What national or regional mechanisms would hinder collaboration between Caribbean countries in the area of distance education or educational broadcasting?

3. Describe the ideal educational broadcasting system and type of programming for the region covered by this study. Please view the sample video, before answering this question.

4. Please comment on any other issues or supply any further information that could assist the feasibility study.

Appendix 3: Questionnaire for Post-secondary Educational Institutions

INSTITUTION/ORGANIZATION PROFILE SHEET

1. Contact Information:

Name of Institution/Organization _____

Address _____

_____ Web address: _____

Contact Person (name and title) _____

Phone _____ Fax _____

E-mail _____

2. Type of Institution/Organization:

University _____ College _____ School _____ Community Centre _____

Public Institution _____ Private Institution _____ Non-profit Agency _____

Government Agency _____ For-profit Business _____

3. Experience with distance learning:

Is your institution/organization currently offering courses by distance education?

No _____ Yes _____

Has your institution/organization offered any distance learning courses since 1994?

No _____ Yes _____

(If yes is answered to either of the above questions, the attached Form A should be completed)

4. Interest in offering distance learning courses:

Is your institution/organization planning to offer any new courses or additional distance learning courses in the next two years?

No _____ Yes _____

If yes, please specify which courses will be offered, the media to be used, the rationale for choosing that particular course, and any partnership/development/marketing arrangements or agreements.

If no, is your institution/organization interested in offering distance learning courses in the next two years?

No _____ Reason _____

Yes _____ Reason _____

If yes, please indicate potential programs, courses, or target markets of interest and why.

The following have been suggested as potential programs for delivery by distance learning. Please rank the programs in each category based on the level of perceived demand:

Formal

Non-formal

___ Early Childhood Education (pre-service & in-service) education

___ Health and family

___ Technical and vocation education and training

___ Environment education

___ High school completion

___ Agriculture and small business

___ Mathematics, Science and Technology

___ Life-skills for youth/elderly

___ Languages

___ Caribbean literary, performing & plastic arts

___ Sports education

Are there other high demand areas not included in this list?

5. Institutional/Organizational Capabilities

Has your institution used any of the following technologies for instruction and/or student support activities?

Radio Broadcasts _____ Television Broadcasts _____
E-mail _____ Computer Conferencing/Discussion Groups _____
Internet _____ Video Conferencing _____

Audio Conferencing _____ Audio-graphics _____

Video cassettes _____ Audio cassettes _____

Please describe how this technology, has been, or is being used.

Which of the above technologies has the most potential for increased use in your institution/organization?
Why?

What capabilities does your institution/organization have to engage in technology-based distance learning programs?

a. Production capabilities

b. Distribution/Networking capabilities(in-house and external connections)

c. In-house expertise

d. Partnerships

e. Off-campus Learning Centres/Satellite Campuses (How many and where?)

f. Electronic Student Support Systems (library, registration, intranets)

Identify any organizational issues that must be addressed for your institution/organization to engage in, or increase the offering of distance learning courses (e.g. instructor training, collective agreements).

6. Broadcast Technology

Is your institution/organization in favour of using and/or supporting learners who are using distance learning radio or television broadcasts?

Yes _____ No _____

Reason _____

If yes, how would your institution/organization utilize distance learning radio or television broadcasting?

What level of use of broadcasting would you anticipate at your institution/organization in the next three years?

What obstacles would prevent your institution/organization from using or supporting distance learning radio or television broadcasts? How could these obstacles be addressed?

Student Profile

Distance Education Program & Course List	Number of students in each age group					Number of students by gender		Number of students by employment status								
								unemployed *				employed*				
	- 18	19-29	30-45	46-60	60+	M	F	1	2	3	4	5	6	7	8	9

- 1 – not employed/self-employed
- 2 – full-time student
- 3 – homemaker
- 4 – retired
- 5 – service sector
- 6 – clerical
- 7 – technical
- 8 – professional
- 9 – managerial

Revenue Profile

Did your institution track the costs of distance education courses provided?

No _____ Yes _____

If yes, how did the costs of distance education courses compare with the costs of face-to-face courses?
(Provide information on specific courses or anecdotal information, as available)

Appendix 4: Questionnaire for Regional Development Agencies

REGIONAL DEVELOPMENT AGENCY PROFILE SHEET

1. Contact Information:

Name of Organization/Agency _____

Address

_____ Web address: _____

Contact Person (name and title)

Phone _____ Fax _____

E-mail _____

2. Profile of Agency:

Number of staff _____ Annual Operating Budget _____

Organizational reach (i.e., the area served)

Number of offices/centres and their locations

Brief description of the Agency

3. Educational Mandate/Mission

Does the organization have an educational mandate/mission?

No _____ Yes _____

If yes, describe its mandate or mission and current educational activities

How many enrol or participate in educational programs offered by the Agency annually? _____

What is the participant profile (e.g. age, gender, socio-economic level)?

What are the areas of greatest educational need?

a. What programs are needed most by your clients?

b. Which client groups have the greatest need for educational programs?

c. Which programs have the highest demand?

d. Which programs have the highest success rates and why?

e. Which programs have the lowest success rates and why?

Please identify any new programs you are planning to offer in the next two years.

4. Distance Learning Overview

Is, or has your agency been currently offering courses by distance education?

No _____ Yes _____

If yes, is your agency planning to offer any new courses or additional distance learning courses in the next two years?

No _____ Yes _____

If yes, please specify which courses will be offered, the media to be used, the rationale for choosing that particular course, and any partnership/development/marketing arrangements or agreements.

If no, is your agency interested in offering distance learning courses in the next two years?

No _____ Reason _____

Yes _____ Reason _____

If yes, please indicate potential programs, courses, or target markets of interest and why.

The following have been suggested as potential programs for delivery by distance learning. Please rank the programs in each category based on the level of perceived demand:

Formal

Non-formal

- ___ Early Childhood Education (pre-service & in-service) education
- ___ Technical and vocation education and training
- ___ High school completion
- ___ Mathematics, Science and Technology
- ___ Languages
- ___ Sports education

- ___ Health and family education
- ___ Environment education
- ___ Agriculture and small business
- ___ Life-skills for youth/elderly
- ___ Caribbean literary, performing & plastic arts

5. Educational Broadcasting

If educational broadcasting were available would your organization use it?

Radio:

No _____ Why? _____
Yes _____ Why? _____

Television:

No _____ Why? _____
Yes _____ Why? _____

If yes, indicate the level and type of use.

If yes, identify what times and type of broadcasts would best meet the needs of your organization.

What other technologies could be used to support your programs and clients?

6. General

Describe the ideal educational broadcasting system and type of programming for the region covered by this study. Please view the sample video, before answering this question.

Please comment on any other issues or supply any further information that could assist the feasibility study.

Appendix 5: List of Respondents

The following members filled in the questionnaires or participated in the in-person interview or at the presentation of the work-in-progress report and/or provided feedback on the draft report:

Antigua

1. Ms. Peecheeta Spencer, Principal, Antigua State College, P.O. Box 193, Golden Grove, St. John's.
2. Mr. George Browne, UNESCO, Ministry of Education, Technology and Culture, Church St., St. John's.
3. Ms. Vernessa Matthew, Chief Training Division, Public Services Affair, Ministry of Planning and Implementation, Cross St., Cecil Charles Building, St. John's.
4. Mr. Trevor Parker, Station Manager, P.O. Box 1280, ABS Television, Cross Street, St. John's.
5. Ms. Anne Jonas, Educational Broadcasting , Ministry of Education, Technology and Culture, Church St., St. John's.
6. Mr. Bruce Arrindell, Antigua State College.
7. Ms. Jessie Kentish, Antigua State College.
8. Ms. Eloise Hamilton, Antigua State College.
9. Ms. Sean Nicholas, Head, News and Current Affairs, P.O. Box 1280, ABS Television, Cross Street, St. John's.

The Bahamas

10. Mrs. Christine Nwosa, College of the Bahamas, P.O. Box N4912, Thompson Blvd., Nassau.
11. Dr. Pandora Johnson, VP Research, Planning and Development, College of the Bahamas, P.O. Box N4912, Thompson Blvd., Nassau.
12. Mr. Wendall K. Jones, Jones Communications Ltd (Love97FM), P.O. Box N3909, Nassau.
13. Mrs. L. Archer, Deputy Director of Education, Ministry of Education, Sherley Street, Nassau.
14. Mr. Edwin Lightbourne, Broadcasting Corporation of the Bahamas, Third Terrace East, Centre Ville, Nassau.

Barbados

15. Mr. Selwyn Belle, Audio-Visual Aids Officer, Ministry of Education, Government of Barbados, Elsie Payne Complex, St. Michael.

16. Mr. Erskine Calender, Audio-Visual Aids Officer, Ministry of Education, Government of Barbados, Elsie Payne Complex, St. Michael.
17. Mrs. R.C. Winter-Brathwaite, UNESCO Representative & CARNEID Coordinator, No. 7, The Garrison, P.O. Box 423, Bridgetown.
18. Dr. A. Sandiford, Division of General/Continuing Education, Barbados Community College, Eyrie, Howell's Cross Road, St. Michael.
19. Mr. David Ellis, Program Director, Starcom Network Inc., River Road, St. Michael.
20. Ms. Hilda Cox, Program Manager, Caribbean Broadcasting Corporation, The Pines, St. Michael.
21. Professor B.N. Koul, Director, Distance Education Centre, University of the West Indies, Cave Hill.
22. Mr. Ed Brandon, Programme Coordinator, Office of the Board for Non-Campus Countries and Distance Education, University of the West Indies, Cave Hill.
23. Mr. Roger Worrell, Dr. Sandiford's Office, Barbados Community College, Eyrie, Howell's Cross Road, St. Michael.
24. Mr. McFarrel Howard, Barbados Community College.
25. Mr. Robert Bobby Morris, Deputy General Secretary, Barbados Workers Union, Harmony Hall, St. Michael.
26. Principal, Barbados Community College.
27. Vice-Principal, Barbados Community College.
28. Principal, UWI, Cave Hill.
29. Deputy Dean (Distance Education), Faculty of Social Sciences, UWI, Cave Hill.
30. Ms. Alice Jordan, Program Coordinator, EduTech 2000, Ministry of Education.
31. The Chief Education Officer, Ministry of Education.
32. Permanent Secretary, Ministry of Education.
33. Professor Woodville Marshall, Pro Vice Chancellor, Board for Non-Campus Countries and Distance Education, UWI, Cave Hill.

Belize

34. Dr. Angel E. Cal, President, University College of Belize, P.O. Box 990, University Drive, Belize City.
35. Mr. John Link, Representative, OIRSA, P.O. Box 426, Belmopan.
36. Mr. Stewart Krohn, Great Belize Productions Ltd., P.O. Box 679, 17, Regent Street, Belize City.
37. Mr. Harold Parham, Agriculture Department, Central Farm, Card District.

Grenada

38. Mr. Michael Pierre, Chief Education Officer, Ministry of Education, St. George's.
39. Mrs. Elizabeth Henry-Greenidge, Chief Protocol Officer, Ministry of External Affairs, St. George's.
40. Mr. Crispin Frederick, NUESCO, Ministry of Education, St. George's.

41. Mr. Hamlet Mark, MD, Grenada Broadcasting Network, P.O. Box 535, San Saucy, St. George's.
42. Mr. Desmond A Cartouche, Director/Dean, Adult and Continuing Education, T.A. Marryshow Community College, Tan teen, St. George's.
43. Mr. Timothy Antoine, Dept. of Planning & Development, Ministry of Finance, St. George's.
44. Mrs. Brenda Cooper-Williams, Desk Officer, Dept. of Economic Affairs, Ministry of Finance, St. George's.

Guyana

45. Mr. Desmond Bermingham, Education Field Manager, DfID, Ministry of Education, Battery Road, Georgetown.
46. Ms. Kala Dowlath, Senior Programme Officer, Commonwealth Youth Programme: Caribbean Centre, P.O. Box 101063, Georgetown.
47. Mr. Fitzroy Marcus, University of Guyana Institute of Distance and Continuing Education, Flat 5, Queen's College Compound, Camp Road, Georgetown. (
48. Ms. Norma Applewhaite, Coordinator, Distance Education Unit, Cyril Potter College of Education, Turkeyen, Greater Georgetown.
49. Ms. Hazel Moses, Head, Distance Education Information Unit, NCERD, Battery Road, Kingston, Georgetown.
50. Ms. Florine Dalgetty, Guyana Inservice Distance Education Project (GUIDE), Flat 3, Queen's College Compound, Camp Road, Georgetown.

Jamaica

51. Mr. Wesley Barrett, Education Officer, Ministry of Education, 2 National Heroes Circle, Kingston.
52. Mr. Seymour Riley, JAMEL, 47B-South Camp Road, Kingston.
53. Dr. Nancy George, University of Technology, 237 Old Hope Road, Kingston-6.
54. Mr. Lester Spaulding, MD, Radio Jamaica Ltd., 32 Lyndhurst Road, Kingston-5.
55. Mr. Francois St. Juste, FAME-FTI (Radio Jamaica), 32 Lyndhurst Road, Kingston-5.
56. Mr. Leon Mitchell, MD, CVM Television Ltd., Blaise Industrial Park, 69 Constant Spring Road, Kingston-10.
57. Ms. Hillary Coulton, Executive Producer, CVM Television Ltd., Blaise Industrial Park, 69 Constant Spring Road, Kingston-10.
58. Ms. Alma Mockyen, Consultant in Media Education (to the Vice Chancellor), UWI-Cultural Studies Initiative, c/o Library of the Spoken Word, UWI, Mona.
59. Ms. Norma Whittaker, Moneague Community College.
60. Ms. Joycelyne Josiah, Regional Communications Director, UNESCO Office, Kingston.
61. Ms. Normal E. Walters, Brown's Town Community College.
62. Mrs. Gloria Johnson, Moneague Community College.
63. Mr. Ted Dwyer, Excelsior Community College.

64. Mrs. Jennifer Taylor, Excelsior Community College.
65. Ms. Helen Stills, Knox Community College.
66. Ms. Shirley Whyllie, Portmore Community College.
67. Mrs. Rheima Scarlett, Edna Manley College of Visual and Performing Arts.
68. Mr. Randolph N. Watson, Bethlehem Moravian College.
69. Dr. Herbert Thompson, West Indies College.
70. Deputy Dean (Distance Education), Faculty of Social Sciences, UWI, Mona.
71. Permanent Secretary, Ministry of Education.

The Republic of Trinidad & Tobago

72. Mrs. Shida Bholai, GM, CCN-TV6 Ltd., 35-37 Independence Square, Port-of-Spain.
73. Dr. Leslie Ferdinand, President, Caribbean Union College, P.O. Box 175, Port-of-Spain.
74. Deputy Dean (Distance Education) Faculty of Medicine, UWI, St. Augustine.
75. Mr. Wellington Yen Chong, National Broadcasting Network, 11A Maraval Road, Port-of-Spain.
76. Mrs. Lisa Chinchami, Distance Education Officer, Faculty of Social Sciences, UWI, St. Augustine.
77. Mrs. Patricia Chongkit, VP, John S. Donaldson Technical Institute, Wrightson Road, Port-of-Spain.
78. Mr. Dale Enoch, Director of News and Current Affairs, Radio Vision Ltd., 88-90 Abercromby Street, Port-of-Spain.
79. Mr. Christopher Laird, Director, Banyan Ltd. , 3 Adam Smith Square, Woodbrook, Port-of-Spain.
80. Mr. Phillip Robinson, Assistant Director, Student Affairs, Cipirani College of Labour and Cooperatives Studies, Churchill/Roosevelt Highway, Valsayn.
81. Mrs. Tessa Jardine, Public Affairs Officer, UNDP, 19 Keats Street, P.O. Box 812, Port-of-Spain.
82. Ms. Isabella Waterschoot, Programme Officer, UNDP, 19 Keats Street, P.O. Box 812, Port-of-Spain.
83. Mr. Aldwyn Bart, Director, Eastern Caribbean Institute of Agriculture and Forestry, Caroni North Bank Road, C/o Arima Post Office.
84. Mr. Anthony Brumble, Caribbean Union College, P.O. Box 175, Port-of-Spain.
85. Dr. Nasser Mustapha, Deputy Dean (Distance Education), Faculty of Social Sciences, University of the West Indies, St. Augustine.
86. Dr. Paula Morgan, Deputy Dean (Distance Education) Faculty of Humanities and Education, UWI, St. Augustine.
87. Ms. Lystra Sampson Ovid, Director, Distance Learning Secretariat, Ministry of Training and Distance Education, Augustini Building, 119 Henry Street, Port-of-Spain.
88. Mr. Carrington, Consultant, Distance Learning Secretariat, Ministry of Training and Distance Education, Augustini Building, 119 Henry Street, Port-of-Spain.

89. Mr. Michael Thomas, Research and Development Officer, Distance Learning Secretariat, Ministry of Training and Distance Education, Augustini Building, 119 Henry Street, Port-of-Spain.
90. Dr. Olabisi Kuboni, Curriculum Specialist & Campus Coordinator, Distance Education Centre, University of the West Indies, St. Augustine.
91. ROYTEC, Port-of-Spain, Trinidad.
92. Deputy Dean (Distance Education), Faculty of Engineering, UWI.
93. Deputy Dean (Distance Education), Faculty of Agriculture and Natural Sciences, UWI.
94. Ms. Jennifer Sampson, Permanent Secretary, Ministry of Training and Distance Education.
95. Mr. Rawle Richardson, Chief Education Officer, Ministry of Education.
96. Mr. Brian Knight, International Communications Network.
97. Mr. Vernon Ramesar, Trinidad Broadcasting Corporation.
98. Mrs. Marcia Riley, T&T National Commission of UNESCO.
99. Mr. Lennox Bernard, Resident Tutor, School of Continuing Studies, UWI.

St. Lucia

100. Dr. George Forde, Principal, Sir Arthur Lewis Community College, Morne Fortune, Castries.
101. Mr. John Robert Lee, Director, Information Services, Government Information Services, 2nd Floor, Block C, Government Buildings, The Waterfront, Castries.
102. Mr. Roger Duncan Joseph, Principal Information Officer, Government Information Services, 2nd Floor, Block C, Government Buildings, The Waterfront, Castries.
103. Mr. Linford Fevrier, Managing Director, Helen Television System, P.O. Box 621, Castries.
104. Mr. Keats Compton, Divisional Manager, Corporate Affairs and Operations, Cable and Wireless, Bridge Street, P.O. Box 111, Castries.
105. Mr. Gaspard Charlemagne, Education Officer (Secondary Schools), Min. of Education, New NIS Building, The Waterfront, Castries.
106. The Hon. Matthew Roberts, Speaker, Legislative Assembly (Resident Tutor, School of Continuing Studies, UWI).
107. Mr. Marcus Jolie, Technical Officer, School of Continuing Studies, UWI.
108. A Representative from the School of Continuing Studies, UWI.

Appendix 6: List of Interviewers

1. Ms. Kala Dowlath, Senior Programme Officer, Commonwealth Youth Programme: Caribbean Centre, Georgetown, Guyana
2. Ms. Betty Mitchell, Executive Consultant, Adap Tech, British Columbia
3. Dr. Krishnapillai Murugan, Curriculum Development Specialist, Distance Education Centre, University of the West Indies, Cave Hill, Barbados
4. Dr. Ruth Reviere, Editor, Distance Education Centre, University of the West Indies, Cave Hill, Barbados
5. Ms. Simone Roberts, UWI, St. Augustine, Trinidad
6. Dr. Carmeta Tate-Blake, Curriculum Development Specialist, Distance Education Centre, University of the West Indies, Mona, Jamaica.
7. Mr. David Walker, Education Technology Specialist, Commonwealth of Learning, Vancouver, Canada

Appendix 7: Questionnaire Sheet

Dear Colleague,

Some time back, we contacted you in connection with a Feasibility Study being conducted by the Caribbean Broadcasting Corporation, Barbados. This study, being supported by the Caribbean Development Bank, Barbados, facilitated by the Commonwealth of Learning, Vancouver, Canada and carried out jointly by the Distance Education Centre, UWI, Cave Hill and a Canadian Consultant, is to assess the feasibility of using broadcast media for distance education purposes in the Caribbean.

The data collected from 9 countries have been analysed, and on the basis of which a status report prepared. The report was presented in 4 countries, i.e., Barbados, Jamaica, St. Lucia and Trinidad & Tobago. Some of the people we invited for the presentation could not participate because of their prior commitments. However, we deem it fit to send a copy of the report to all those we contacted initially with a view to getting their feedback on the report, and hence this mail to you.

Once we collect the feedback from you, we will incorporate the suggestions and prepare a semi-final report, which will be presented to an audience during the Tel-isphere Conference being held in November 24-27, 1999 in Barbados. (We do hope to meet you in this conference.) The feedback thus collected will be used to prepare the final report.

Please go through the report attached and fax the questionnaire sheet, with your feedback, to 1-246-421 6753 attention: The Director, Distance Education Centre, University of the West Indies, Cave Hill, Barbados, by 15th November, 1999.

With regards

Questionnaire Sheet

Please fax this sheet with your feedback to 1-246-421 6753, attention: The Director, Distance Education Centre, University of the West Indies, Cave Hill, Barbados by 15th November, 1999

Please tick mark or write, as appropriate. Country (Please specify):

1. The respondent groups identified for the study (i.e., post-secondary educational institutions, government ministries, regional development agencies and broadcasters) are appropriate.

Yes No
(If "no", please **specify other groups** you would like to include)

2. The information presented in the report reflects the situation in my

Country Yes No

Region Yes No

The following is **missing (please specify)**:

3. I recommend the following broadcasting model for the Caribbean:

Yes No

Model 1

Model 2

Model 3

My reason for selecting Model __:

Please also use the backside of the page also, if need be, for your feedback.

Appendix 8: Country-wise Summary of Interview Findings

Antigua and Barbuda

Five interviews were conducted including two government ministries, one regional development agency, one post-secondary institution, and one broadcaster. Distance education was seen as an imperative in providing citizens with access to educational programs. None indicated that distance education had been used or is currently being used in Antigua and Barbuda, however all indicated an interest in pursuing the use of distance learning particularly in the areas of teacher training, and expansion of the schools program. All supported the use of both radio and television for educational broadcasting. Radio was seen as the most cost-effective and had the broadest reach while television was seen as more appealing and attractive to the audience. E-mail, Internet and audio/video graphics were also viewed as possible educational technologies.

Priority groups to target with educational broadcasting were identified as adult learners and school leavers, those requiring literacy and remedial studies, and youth requiring instructional programs. Production capability may be available through the local broadcaster and/or the Government Information Services. Capabilities included both production and post-production facilities. Also, as part of the terms of license, broadcasters must allocate time for public broadcasting on request. Access to this capacity for educational programs would need to be explored. The reach of the local broadcaster includes Antigua, St. Kitts & Nevis and Montserrat.

Issues included access to funding, the need to train instructional staff and availability of technical and production expertise, compatibility of educational broadcasting with other government programs, and making the adjustments to curriculum necessary to offer courses in this new format. According to those interviewed, the ideal broadcasting system for Antigua & Barbuda was a combination of low and high tech, included locally produced materials, was cost-effective, and had knowledgeable staff who understood educational media production. Both an educational radio and TV channel was suggested.

The Bahamas

Five interviews were conducted including two post-secondary institutions, two broadcasters, and one government ministry. All indicated that distance education was very valuable, yet, according to respondents, no distance education has been offered to date. However, there is considerable interest in educational broadcasting and the Broadcasting Corporation of the Bahamas is currently discussing this with government. Both radio and television were seen as important tools for educational

broadcasting. The radio station indicated an interest in increasing listenership and has the broadest reach. TV was also very attractive but some remote islands are unable to access the signal. Cable capability was seen available. Other technologies mentioned included the Internet, computer conferencing, print and videoconferencing. There was limited consensus regarding the groups to be targeted or the programs, which should be offered by educational broadcasting. Some mention was made of the need for formal programs such as early childhood education, and high school completion. Non-formal programs included agriculture and small business and life skills.

Issues included access to funding for production, the ability to create effective programming targeted to education, collective agreements of faculty and government regulations. Opportunities included possible access to production capability available through local broadcasters and government and support by broadcasters for increased regional production. Five hours weekly could be used for educational radio programs. According to those interviewed, the ideal educational broadcasting system for the Bahamas would be interactive and relevant, creative and innovative, and include a range of media.

Barbados

Four interviews were conducted including one post-secondary institution, one broadcaster, one regional development agency, and one government ministry. Those who were interviewed were generally supportive of distance education and for increasing its use. Mention was made of regional programming offered by broadcasters. However, distance education seemed not to have found a priority with organizations. The country was seen as small and relatively well served by educational institutions but it was suggested that education could be strengthened through a mix of on-campus and distance learning. There was agreement that both radio and television could be used effectively for educational broadcasting. Although radio had the broadest reach, television was mentioned by many as the preferred media. But television should not be used as a stand-alone system. Programs should be combined with activities at the college, print materials, and use of on-line systems.

Those interviewed identified a wide range of priority groups and priority programs. Heading the list was teacher training in new instructional models and technology-based systems. Other groups included students in school, adult upgrading and programs for teens and the general public. The need for programs at the certificate and diploma levels was emphasized. Production capability available at both the CBC and the CBU could be used for production, and post-production at the broadcast level to accommodate facilities for educational broadcasting. The CBC expressed its interest in increasing its level of regional programming. The Ministry

of Education mentioned that it was in the process of upgrading its audio/visual capabilities to support the development of a Parliamentary channel that could also be used for educational purposes.

Issues included the level of funds for program development, the need for instructor training and production expertise, and lack of equipment in schools. According to those interviewed, the ideal system for Barbados would include a partnership between broadcasters and educators; a combination of radio, TV and computer delivery integrated with on-campus activities; and a combination of formal and non-formal programs. If possible, educational broadcasting should be linked to the EduTech 2000 initiative. The key: start small, perhaps with a pilot.

Belize

Four interviews were conducted including two government ministries, one broadcaster, and one post-secondary institution. Distance education was seen as having great value particularly in the area of skills development. Although the college had offered some distance education in the past, none is being offered at present. Both the college and the government agency indicated that they would be interested in offering programs should educational broadcasting be made available. Most of those interviewed supported both the use of radio and television, however the government agency indicated that radio would be more attractive than television because it was widely available. It was mentioned that most schools have computers and are on-line, and students and teachers have access to e-mail, the Internet, and discussion groups.

It was expressed that educational programming should be targeted at the following priority groups: farmers, women, and high school students. Key programs included, general education – particularly in the area of pests and pesticides, environment, culture and history, and early childhood education. Both formal and non-formal programs were seen as needed. The TV broadcaster which was interviewed indicated a desire to increase regional programming production by 25% and would allow significant time for educational broadcasts in the existing schedule. The station was seen as well equipped to handle production and post-production of educational programs (and currently it distributes videos free of charge to schools).

Issues included instructor and technician training and the need for assistance to plan and develop educational productions. According to those interviewed, the components of the ideal broadcasting system for Belize included flexible broadcast scheduling, a strong partnership between institutions and broadcasters, and innovative and attractive programming.

Grenada

Six organizations were interviewed including three government ministries, one post-secondary institution, one broadcaster, and one regional development agency. All those interviewed were supportive of increasing the use of distance education. During the interview, it was mentioned that the college is currently offering courses by distance education and is interested in expanding the number and type of courses available. Government ministries were also encouraging the use of distance education, especially for teacher training. There was support for using both radio and television for educational broadcasting. While radio was available in all households it was felt that television would be more attractive than radio to draw in participants.

The Ministry of Information regulates broadcasting in Grenada. Under the terms of license broadcasters are required to allot time for education and/or public programming. The Government Information Services currently uses some of this time. However, broadcasters indicated that up to six hours per day could be made available for educational programming. A community channel could also be used for up to two hours per day. There was some consensus on priority program needs. Respondents listed technical/vocational, early childhood education and high school completion as their top priorities. Specific mention was made of the need for courses in educational administration and information technology. A combination of formal and informal programs was suggested during the interview. Production capacity at the broadcast level was mainly available through government and local broadcasters. Government is currently expanding its in-house production facilities and broadcasters have both production and post-production capabilities. The signal reach of broadcasters also includes parts of St. Vincent & Grenadines, and Tobago.

Issues included the need for staff and instructor training to use the technology effectively and funding to support quality production. There must also be a perception change so that distance education would be seen as a legitimate and viable way to get quality credentials. According to respondents, the ideal system for Grenada would be cost-effective, interactive and relevant, and provide people oriented programs, which reflect the local cultural.

Guyana

Six interviews were conducted including two post-secondary institutions, one regional development agency and three regional development agencies. All those interviewed have experience with distance learning and are currently offering courses, mostly by print. There was some use of audio-conferencing and radio but in the past the reception had been poor. All would like to offer distance learning programs in the future and expressed support for expanding the use of both radio and television educational broadcasting. Programming needs varied widely among those interviewed. Priority groups who required programs included teachers and students in remote areas, youth, and middle and lower managers. Programs

mentioned included secondary education, youth work, environmental studies and sciences. The need for both formal and non-formal programming was felt. The organizations interviewed had no broadcast production capability. Issues raised included access to technology and personnel training and the need to consider how existing collective agreements and administrative structures would be impacted with the rise of educational broadcasting.

Interviewees suggested the use of a low-cost/affordable system that was flexible and easy to access. Broadcasts could be used to supplement courses. For the system to succeed collaboration was seen as required between broadcasters and educational institutions.

Jamaica

Nine interviews were conducted including three broadcasters, one government ministry, one regional development agency and four post-secondary institutions. The majority of those interviewed felt that distance education was very important to their region. Most had offered distance education in the past and are currently involved in providing a range of programs. These programs mainly use print but may also be enhanced with audio- or video- cassettes and audio-conferencing. Courses being offered include those from local institutions and courses available from offshore institutions such as the Athabasca University and Mt. St. Vincent in Canada. In Jamaica, the TV Broadcaster is mandated to carry Jamaica Information Services programs for 30 minutes, six times per week, and is currently airing about 4 hours per day of regional programming including a special series on chemistry and physics for high school students. The interviewees expressed their support for increasing the amount of regional and educational programming on both selected TV and radio channels.

Most households were said to have access to radio, TV and VCR. Support for educational broadcasting was high with the exception of the University of the West Indies (UWI) in Jamaica that has, as of now, identified print, e-mail and web delivery as their primary methods for distance education delivery. Other institutions saw broadcasting as a support for on-campus courses or on-line applications. There was no consensus on the priority of groups that could be served by broadcasting. Suggestions included students in school, teachers, school leavers, adults, workplace training, community education, and young adults. Program suggestions were equally diverse and included: literacy and numeracy, information technology, public education, Sciences and the Arts, high school completion, and business courses. Interviewees identified that the region needed both formal and non-formal programs.

Existing broadcasters, government departments and production houses have the capability to produce educational programming at the broadcast level. Broadcasters have a full range of production and post-production capabilities and government can access favourable production rates through the CPTC. Institutions are also able to

undertake multi-media development and Web authoring. The University of Technology has the capability for in-house radio production and is well connected via an ATM campus area network with ISDN links to external networks, which could also be used for videoconferencing. Such facilities are also available at the UWI.

Issues raised by those interviewed included access to funding and resources to undertake the production of educational programming. The need to sensitise and train instructors to effectively use the technology was felt. Talking head programs did not find the favour of those interviewed. Several also identified the lack of local technical and production expertise. It was felt that an opportunity exists to link this study to current discussions in government to revive the use of educational broadcasting in Jamaica. A new media services unit funded by the Ministry of Education had been established to manage educational broadcasting. Those interviewed identified that the ideal broadcasting system for Jamaica would be interactive and relevant, would be linked to the web and other technologies such as computer discussion groups.

The Republic of Trinidad & Tobago

Ten interviews were conducted including four broadcasters, five post-secondary institutions and one regional development agency. Except for the University of the West Indies there was little distance education offered nor do the institutions on Trinidad and Tobago have a history of delivering programs by distance education. However, broadcasters offered some educational programs for the general public. All those interviewed indicated an interest in offering distance education in the future and broadcasters were interested in increasing the amount of regional programming. Both radio and television were supported as a means of distributing distance education programs. A wide variety of programs were identified ranging from business management, information technology, and Caribbean cultural programs. Different levels of programs were also identified including high school completion, and post-secondary studies.

It was said that while educational institutions have some production capability it is not at the broadcast level. Existing television and radio broadcasters have production and distribution capability and use both digital and analogue technologies. On-line systems such as e-mail, computer conferencing and discussion groups are being used by both educational institutions and broadcasters. Radio broadcasters are also using web-casting or audio streaming on the Internet.

Issues raised by educational institutions included integrating the broadcasts within the operation of institutions and access to the necessary funds for equipment and to produce programming. There was also concern about having staff with the necessary expertise to develop quality educational programs and how responsibilities for program development would be shared between educational institutions of learning and broadcasters. The opportunity for institutions to take

advantage of working with regional broadcasters who have production and distribution capability and are interested in increasing the amount of regional programming in their schedules was also pointed out. Those interviewed identified the ideal system as one that supports interactivity, is based on a team model where educational institutions and broadcasters work together, allows for a certain amount of local production, and further supports the need to empower adults and learners to use information technology.

St. Lucia

Five interviews were conducted including two government ministries, two broadcasters and one post-secondary institution. There was a consensus that distance education is needed and is one of the most effective systems for students to gain access to a range of qualifications. The community college has a history of offering distance learning programs. These courses use primarily print but the college is exploring broadcasting courses from its downtown campus to the centre in Vieux Fort. It was pointed out that if this is successful the college expanding its network to other sites would not pose any problem. The availability of offshore distance learning courses was pointed out. These programs included degree programs such as the MBA offered by the University of London and the University of Leichester. Locally, the interviewer was told, the government operates an in-service program to train teachers via correspondence, and works with broadcasters to develop and distribute curriculum based program to schools, and to deliver public education programs available through the Government Information Services.

Educators, government and broadcasters were supportive of increasing the number of distance learning programs. Both radio and television were seen as good vehicles to deliver distance education programs. While radio was seen as the most widespread media there seemed to be limited access to the existing radio schedule. Programming for radio would have to be in less than five-minute blocks and should reflect the interests of the large general audience. While television reception in some outlying areas seemed to be poor TV was seen as an attractive medium to reach a significant part of the population. Those interviewed also mentioned the desire to use other technologies such as the Internet and to link educational broadcasting with the Millennium 2000 – computers in schools program. Priority groups to reach via educational broadcasts included schools, those in remote locations and the general public. Program needs identified were equally broad and range from adult literacy, to computer studies and post-secondary and continuing education. Both formal and informal educational programs were felt needed. As part of their license, TV broadcasters in St. Lucia must allow government to access one hour per day of their program schedule. It was mentioned that the Government Information Service (GIS) has both television and radio production facilities enabling it to currently produce programs for delivery on existing stations, and also has access to a cable channel. Broadcasters plus the Government Information Service seemed to have been well

equipped to produce educational programming. The local TV broadcaster identified that the station could accommodate up to 2 hours per day of educational programming and the GIS is interested in extending the use of its cable channel.

Issues affecting educational broadcasting in St. Lucia were the high cost of program production, problems with TV reception in some parts of the country, and the need for both instructional and production expertise in educational broadcasting. It was suggested that CBU could play a role in acquiring, producing, or facilitating the sharing of programs across the region. This centralized function combined with some local production was the preferred approach.

Interviewees suggested that a local committee of educators, government and broadcasters be formed for ensuring the implementation of educational broadcasting in a well-coordinated and timely fashion and that a local champion be identified. "Start small – but start" was the sentiment. A good starting point would be a pilot project or a "Cable in the Classroom" initiative, the latter being the ability of schools to tape selected existing programming off-air or cable, for use in the classroom. Those interviewed favoured an incremental approach: structures that were already in place such as broadcast stations and the GIS would be used, until the need exceeded their existing capabilities.

Appendix 9: National Charts – Summary of Findings

PROFILE OF COUNTRY	GRENADA	BARBADOS	BELIZE	ANTIGUA AND BARBUDA	BAHAMAS
	<ul style="list-style-type: none"> • 6 organizations were interviewed • 3 government ministries • One post secondary institution • One Broadcaster (radio and TV) • One Regional Development Agency 	<ul style="list-style-type: none"> • 1 post-secondary institution • 2 TV and radio broadcasters <ul style="list-style-type: none"> • 1 regional development agency • 1 government ministry 	<ul style="list-style-type: none"> • 2 Government Ministries • 1 Broadcaster • 1 Post-secondary institution 	<ul style="list-style-type: none"> • 2 Government ministries • 1 Regional development agency • 1 Post-secondary institution • 1 Broadcaster 	<ul style="list-style-type: none"> • 2 Post-secondary institutions • 2 Broadcasters • 1 Government Ministry
IMPRESSION OF DISTANCE EDUCATION	<ul style="list-style-type: none"> • All were supportive of increasing the use of distance education • Distance education has much potential 	<ul style="list-style-type: none"> • Generally supportive • Institution felt that distance education could be strengthened by a mix of distance education and on-campus study. 	<ul style="list-style-type: none"> • Of great value for skills development 	<ul style="list-style-type: none"> • An imperative • Increases access 	<ul style="list-style-type: none"> • Very valuable
EXPERIENCE WITH DISTANCE EDUCATION		<ul style="list-style-type: none"> • Limited 			
<ul style="list-style-type: none"> • Currently offering distance education 	<ul style="list-style-type: none"> • The college is currently offering courses by distance education 	<ul style="list-style-type: none"> • No, however some regional programming is being offered by the broadcaster • Barbados is small and access is not an issue • There is suspicion of correspondence study due to un reputable institutions operating on the island 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • Educational broadcaster offers some quizzes, otherwise no distance education 	<ul style="list-style-type: none"> • No
<ul style="list-style-type: none"> • Has offered distance education in the past 	<ul style="list-style-type: none"> • The college has offered courses in the past • Two government ministries stated that distance learning is encouraged, especially for teacher training (incentives are in place) 	<ul style="list-style-type: none"> • Yes – educational television was used in the 1970's in secondary schools – changed to videotape distribution due to timetable issues 	<ul style="list-style-type: none"> • College has offered distance education 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • No

<ul style="list-style-type: none"> Interested in offering DE in the future 	<ul style="list-style-type: none"> College is interested in offering a range of courses, business, computers, academic upgrading, teacher education, vocational Broadcaster indicates that there is a ready market. Educational broadcasts could be scheduled on weekdays in the later afternoon & mornings, 9-12 on weekends 	<ul style="list-style-type: none"> All (except radio broadcaster) indicated interest in offering distance education 	<ul style="list-style-type: none"> College – yes – Masters in Public Health, MBC, ESL, SSL, languages, high tech courses Regional Dev. Agency – yes for farmers 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes, Broadcasting Corp of the Bahamas is already discussing this with govt.
<ul style="list-style-type: none"> Type of distance education offered 	<ul style="list-style-type: none"> College – OCOD/CXC, COL/OECS 	<ul style="list-style-type: none"> TV broadcaster has offered selected programs with the ministry of education and the Community college (eg. issues, documentaries) Development agency has offered some video projects 	<ul style="list-style-type: none"> M.Ed through Univ. of N. Florida Quarantine and pest & diseases 	<ul style="list-style-type: none"> Teacher Training Literary Arts, expansion of schools program, tolerance 	<ul style="list-style-type: none">
SUPPORT/POTENTIAL FOR EDUCATIONAL TECHNOLOGY					
<ul style="list-style-type: none"> Radio 	<ul style="list-style-type: none"> All indicated support for radio – all households have radio 	<ul style="list-style-type: none"> All agreed that radio could be used. Radio broadcaster – short segments, high quality, general appeal Institution – combine radio with other media eg. print 	<ul style="list-style-type: none"> Yes – all households have radio 	<ul style="list-style-type: none"> Yes, broadest reach and cheapest 	<ul style="list-style-type: none"> Yes, radio station is interested in increasing listenership. Radio has broad reach Audio cassettes are being used
<ul style="list-style-type: none"> Television 	<ul style="list-style-type: none"> All indicated support for television – many households have TV and VCR – TV is more attractive to learners 6 hours per day are available for educational broadcasting 	<ul style="list-style-type: none"> Yes, the preferred broadcast media TV should be combined with print and on-campus activities TV would be more attractive to participants than radio 	<ul style="list-style-type: none"> Yes (regional dev. Agency – no – limited access) 	<ul style="list-style-type: none"> Yes, more appealing, visual impact College- adjunct to print 	<ul style="list-style-type: none"> Yes but many remote islands do not have TV Cable could be used for lectures

<ul style="list-style-type: none"> Other 	<ul style="list-style-type: none"> Most schools are equipped with computers and internet connections College uses e-mail and discussion groups 	<ul style="list-style-type: none"> Broadcaster provides a 30 channel package by subscription This includes the U.S. Knowledge Channel 	<ul style="list-style-type: none"> E-mail, internet, discussion groups Fiber optic infrastructure is in place Most schools have computers and are on-line 	<ul style="list-style-type: none"> E-mail, Internet, Audio/video graphics 	<ul style="list-style-type: none"> Internet, computer conferencing, print, videoconferencing
GOVERNMENT					
<ul style="list-style-type: none"> Regulatory Issues 	<ul style="list-style-type: none"> Ministry of Information regulates broadcasting Broadcasters are required to allot time for education/public programming The Government Information Services uses some of this time There is also a community channel – (1.5-2 hrs per day) (education weeks are organized by the Min of Ed.) 	<ul style="list-style-type: none"> Mandate of the CBC is to inform and educate 	<ul style="list-style-type: none"> Ministry of Public Utilities, Transport & Communications is allotted time for public programming on an ad hoc basis 	<ul style="list-style-type: none"> Ministry of Information – Broadcasters allocate time for public programming on request 	<ul style="list-style-type: none"> Broadcasters allocate time for public programming for a minimal fee
<ul style="list-style-type: none"> Programs/Strategies 		<ul style="list-style-type: none"> Link to the Edu-Tech 2000 program 			
PROGRAMMING					
<ul style="list-style-type: none"> Priority Groups 	<ul style="list-style-type: none"> 2 listed all groups one listed 15+ Broadcaster listed youth, under 35 	<ul style="list-style-type: none"> Teachers – training on new instructional models and technology Students in school Adults upgrading & continuing education Teens and young adults General public 	<ul style="list-style-type: none"> Farmers, women, high school students 	<ul style="list-style-type: none"> General public, adult learners and school leavers Literacy Youth 	<ul style="list-style-type: none"> A combination
<ul style="list-style-type: none"> Priority Program Needs 	<ul style="list-style-type: none"> Government – Adult education(instructional), and community education Depends on the purpose 	<ul style="list-style-type: none"> Teacher in-service on new instructional methods and use of technology Programs to assist underachievers at school, youth worker training Technical and vocational programs How-to programs 	<ul style="list-style-type: none"> General public education (pests and pesticides) Issues – environment, history Broadcaster interested in increasing local programming Government - instructional 	<ul style="list-style-type: none"> Community education Remedial Programs Adult Literacy Instructional programs 	<ul style="list-style-type: none">

<ul style="list-style-type: none"> Formal or Informal 	<ul style="list-style-type: none"> Government – formal or informal College - formal 	<ul style="list-style-type: none"> Both formal and informal required 	<ul style="list-style-type: none"> Informal and formal 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Community programs
CAPABILITIES					
<ul style="list-style-type: none"> Production 	<ul style="list-style-type: none"> College has audio visual unit with basic production equipment and 2 trained personnel. Government has production unit to produce audio and video in-house – this capacity is being increased Broadcaster – 15% in-house production, 1 studio and EFP and editing – limited digital effects 	<ul style="list-style-type: none"> Broadcasters have in-studio and EFP production, producer/directors Ministry of education has limited and aging production facilities - new equipment would be required 	<ul style="list-style-type: none"> Broadcaster – annual in-house production: 95% 25% increase possible studio, EFP, digital effects, editing 	<ul style="list-style-type: none"> Broadcaster – studio, EFP, editing and digital effects Government – ABS studios (used three times per week) 	<ul style="list-style-type: none"> Some production facilities within government Production available via broadcasters Studios, EFP, editing
<ul style="list-style-type: none"> Distribution 	<ul style="list-style-type: none"> UHF, Microwave & cable, analogue signal Signal reach national and sub-regional (parts of St. Vincent & Grenadines, and Tobago) Little capacity for duplication & distribution of tapes 	<ul style="list-style-type: none"> Over the air broadcasting Ministry of Ed has a centralized service for the duplication and distribution of audio and video tapes to schools 	<ul style="list-style-type: none"> VHF transmitters, fiber optics Analogue signal, reach 70-80 % Videos distributed to schools free 	<ul style="list-style-type: none"> Analogue, reach: Antigua, St. Kitts&Nevis, Montserrat 	<ul style="list-style-type: none"> Analog, satellite, microwave and off-air (TV and radio) Radio – microwave/satellite, signal is digital
<ul style="list-style-type: none"> Partnership 	<ul style="list-style-type: none"> Broadcaster – Programmes acquired through the parent company CCN & CBU 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Institution: partnerships with USA, Central America, Mexico, Caribbean 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Cable Bahamas is wiring the campus to get interactive video programs.
<ul style="list-style-type: none"> Sites 	<ul style="list-style-type: none"> College – several learning centres are available throughout Grenada 	<ul style="list-style-type: none"> College – Hospitality Institute 	<ul style="list-style-type: none"> Campuses: Belmopan & Punta Sites: Corozal Town & Orange Walk Town 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Some college sites, potential to establish sites in populated islands Electronic student support, library intranet
<ul style="list-style-type: none"> Technology 	<ul style="list-style-type: none"> Ministries: Audio/visual technology Broadcaster – Internet College – will need to be developed 	<ul style="list-style-type: none"> College has no in-house expertise to implement technology based program delivery 	<ul style="list-style-type: none"> Institution: LAN to central American network is underway Broadcaster: e-mail, Internet, audio/videoconferencing Webcasting 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> E-mail, Internet, A/V graphics, webcasting

<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Community Channel could be explored further 	<ul style="list-style-type: none"> • Limited access to e-mail and the Internet 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •
<p><u>ISSUES</u></p>	<ul style="list-style-type: none"> • <u>College – staff/instructor (training), policies, funds, public perception</u> • <u>Ministries – funding, quality control, accreditation, production, job market demands, teacher training to use technology, extent of technology use, attachment to publication houses</u> 	<ul style="list-style-type: none"> • <u>The radio broadcast schedule is very tight</u> • The level of programming will depend on the level of funding available • Instructors would need training • The Ministry of Ed does not have production equipment or expertise • Schools do not have access to technology (eg. TV & VCR) • While some broadcasters would run free programming, sponsored programming is preferable for reliable access to the schedule. 	<ul style="list-style-type: none"> • Production: Instructor and Technician Training • Assistance with content, eg. pest and crop information 	<ul style="list-style-type: none"> • Funding • Human resources/ staff training and expertise • Compatibility with government programs/attitudes • Copyright • Refurbishing existing curriculum 	<ul style="list-style-type: none"> • Cost/funding • Creating target oriented programs • Staff /instructor Training • Collective agreements • Government regulations
<p><u>OPPORTUNITIES</u></p>	<ul style="list-style-type: none"> • <u>Ministry – teacher training, community education</u> • <u>Broadcaster – non-credit adult education, public education programs</u> 	<ul style="list-style-type: none"> • <u>There is support for increasing the level of regional broadcast programming</u> <p>Discussions are currently taking place on the creation of a Parliamentary Channel and its possible use for educational broadcasting</p>	<p>Plenty of broadcast time is available (10 hours non-prime time and 10 hours non-prime time possible)</p>	<p>Distance learning should be a priority with governments</p>	<ul style="list-style-type: none"> • Support for increase in regional production, without upgrades <p>5 hours weekly could be used for educational radio programs.</p>
<p><u>OTHER RELEVANT ORGANIZATIONS</u></p>	<ul style="list-style-type: none"> • CANA, OECS, CARICOM, ACS, OAS, Science Popularization 	<ul style="list-style-type: none"> • The CBU would play an integral role in the development of an educational channel. 	<ul style="list-style-type: none"> • CARDI, IICA, UWI, CATIE (for training) 	<ul style="list-style-type: none"> • OECS, OERU, Ministries, NGO, Service Clubs, National/Regional Community Groups, CANA, CBU, BBC Caribbean Service 	<ul style="list-style-type: none"> • COL, Cable Bahamas, various radio stations • UWI, CBD

<p>COMPONENTS OF THE IDEAL SYSTEM</p>	<ul style="list-style-type: none"> • Low cost method initially, cost-effective, low budget • People oriented programs • Addresses cultural contexts • Interactive and relevant <p>High-tech only for a particular audience – videos can be produced with sub-contracted expertise</p>	<ul style="list-style-type: none"> • A partnership between the broadcaster and educational institution (local working relationship) • A combination of radio, TV, and computer delivery integrated with on-campus activities • Modeled on PBS or BBC. Some programs would provide direct teaching while others would support in class activities • Linked to EduTech 2000 • Start with a pilot – don't start too large 	<ul style="list-style-type: none"> • 6-6:30 am daily broadcasts – farmers (1 hr./7 days, 1/hr per week – 3 month block) • A strong partnership with institutions and tv stations • Innovative programming 	<ul style="list-style-type: none"> • A combination of low and high tech • Locally produced materials • Cost-effective • Dedicated staff for educational media production • An educational channel (both radio and TV) 	<ul style="list-style-type: none"> • Creativity • Interactive and relevant • Video • Multi-media
<p>PRIORITY PROGRAM RATING</p>	<p>Some consensus on the priority of formal programming:</p> <ol style="list-style-type: none"> 1. Tech/Voc 2. Early childhood Ed 3. High school completion 4. Math, Science and Tech 5. Sports 6. Languages <p>No consensus on informal education priorities</p> <p>Areas mentioned: Educational Administration, IT/IT Management, Special Education, Parenting and Continuing Professional Education</p>	<p>Formal: College: high school completion, Tech/Voc, Math/Science/Technology</p> <p>Nonformal: Health and family education, agriculture and small business, a need for credentials at the diploma level</p>	<p>Formal: 1. Early Childhood Education</p> <p>Non –formal 1. Environmental Education 2. Health and family education 3. Agriculture and small business</p>	<p>Formal: Technical – vocational</p> <p>Informal: 1. Health & family education 2. Agriculture and small business Lifeskills for youth and elderly</p>	<p>Limited consensus: Formal: 1. Early Childhood Education 2. High School Completion</p> <p>Nonformal: 1. Agriculture and small business Life skills for youth/elderly</p>

PROFILE OF COUNTRY	TRINIDAD & TOBAGO	ST. LUCIA	GUYANA	JAMAICA
	<ul style="list-style-type: none"> • 4 Broadcasters • 5 Post – secondary institutions/agencies • 1 Regional development agency 	<ul style="list-style-type: none"> • 2 Government Ministries • 2 Broadcasters • 1 Post-secondary institution 	<ul style="list-style-type: none"> • 2 Post-secondary institutions • 1 Regional development agency • 3 Government agencies 	<ul style="list-style-type: none"> • 3 broadcasters • 1 Government Ministry • 1 Government Agency • 3 Post-secondary Institutions
IMPRESSION OF DISTANCE EDUCATION	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Needed (consensus) • Provides increased access to qualifications • Most effective systems are interactive and pace students 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Crucial/important
EXPERIENCE WITH DISTANCE EDUCATION	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> • Currently offering distance education 	<ul style="list-style-type: none"> • Mostly no • Courses offered through UWI 	<ul style="list-style-type: none"> • Yes • Inservice for teachers • Curriculum based programming is broadcast on TV • Public Education broadcast by GIS • College enrolls students in distance education • 	<ul style="list-style-type: none"> • All are currently offering distance education 	<ul style="list-style-type: none"> • Majority are currently offering distance education programs. Includes: Teacher certifications from Athabasca University, a variety of Bachelor and certificate programs from UWI, courses from Mt. St. Vincent, Broadcaster is airing 4 hrs per day of regional educational programming including a special series on chemistry and physics for high school students
<ul style="list-style-type: none"> • Has offered distance education in the past 	<ul style="list-style-type: none"> • Institutions – No except for UWI • Some educational programming offered by broadcasters 	<ul style="list-style-type: none"> • Yes 	<ul style="list-style-type: none"> • Most have offered distance education in the past 	<ul style="list-style-type: none"> • Most have offered DE in the past • Government agency has offered radio in 1970's and 80's
<ul style="list-style-type: none"> • Interested in offering DE in the future 	<ul style="list-style-type: none"> • Yes – consensus 	<ul style="list-style-type: none"> • Yes , more is better 	<ul style="list-style-type: none"> • All are interested in offering DE in the future 	<ul style="list-style-type: none"> • Majority – yes • Radio station - no
<ul style="list-style-type: none"> • Type of distance education offered 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Correspondence from off-shore • Radio and television for schools and public broadcasts • Distribution of foreign educational television channels • College – mostly print • 	<ul style="list-style-type: none"> • The majority have used print but one indicated use of audio conferencing and one used radio broadcasts 	<ul style="list-style-type: none"> • Mainly print • Some courses enhanced with audio/video cassettes or audioconferencing

SUPPORT/POTENTIAL FOR EDUCATIONAL TECHNOLOGY			Poor reception of broadcasts in the past	Yes
• Radio	• Yes (1 respondent only)	<ul style="list-style-type: none"> • Yes (consensus) • Most widespread media • Broadcaster – programming in more than 5 minute blocks is problematic 	• Majority - yes	<ul style="list-style-type: none"> • Majority – yes (one no – UWI) • As a support for courses – (1-2 courses per year) • Access to radio - 2 hours per week • Most households have access
• Television	• Yes (1 respondent only)	<ul style="list-style-type: none"> • Yes (consensus) • Reception can be poor in some areas • Television can be expensive to produce • College is currently exploring interactive television links with remote centres 	• Majority - yes	<ul style="list-style-type: none"> • Yes (one no – UWI) • As a support for courses (1-2 courses per year) • Many households have TV and VCR
• Other	•	<ul style="list-style-type: none"> • College exploring bi-directional microwave • Radio station is streaming audio <p>The web, internet</p>	<ul style="list-style-type: none"> • e-mail, WWW • Audio/video tapes 	<ul style="list-style-type: none"> • Web based systems • e-mail • audioconferencing <p>Priority is print/e-mail/web delivery (University)</p>
<u>GOVERNMENT</u>				
• Regulatory Issues	•	• Broadcasting licence stipulates that at least one hour per day can be used for government programming	•	<ul style="list-style-type: none"> • Television – mandated to carry the Jamaica Information Service (30 min. 6/wk) • No requirement for broadcaster to air educational programs
• Programs/Strategies	•	• Millenium 2000 – computers in schools	•	• Edunet – National on-line and multi-media system

PROGRAMMING				
<ul style="list-style-type: none"> Priority Groups 	<ul style="list-style-type: none"> 22 years and above (radio station) 	<ul style="list-style-type: none"> Schools Remote locations Adults/General Public 	<ul style="list-style-type: none"> Varied (mostly teachers and students in remote and poor areas) Youth Employed and underemployed youth Middle and lower level managers 	(no consensus) <ul style="list-style-type: none"> Students in school Teachers Out-of-schoolers Adults Workplace Training Community Education Teenagers, Young adults
<ul style="list-style-type: none"> Priority Program Needs 	<ul style="list-style-type: none"> Associate of Arts Degree Labour/Cooperative Studies Human Resource Development 	(no consensus) <ul style="list-style-type: none"> Computer studies Special Education Mathematics, Science, Technology Environmental Studies Trades Language and Communications Continuing education – care High School Completion Tourism Adult Literacy Post secondary programs 	<ul style="list-style-type: none"> Secondary Education Youth work Environmental Studies, Sciences 	<ul style="list-style-type: none"> Literacy and numeracy Information Technology Broadbased programs Sciences and the Arts High School Completion Business Courses
<ul style="list-style-type: none"> Formal or Informal 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Formal and informal 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Formal and Informal
CAPABILITIES				
<ul style="list-style-type: none"> Production 	<ul style="list-style-type: none"> College – TV antenna, digital camera, scanners ,audio TV Broadcasters – studio, analogue EFP, digital editing, digital effects Radio – studios, editing, digital effects, animation, signal - analogue 	<ul style="list-style-type: none"> Broadcaster – two television studios and three radio studios, EFP, Editing, mobile production Government (GIS) – TV studios, Editing, radio production, web development (production for both tape and live to air programs) 	<ul style="list-style-type: none"> Recording studio Audio/video cassettes, audioconferencing 	<ul style="list-style-type: none"> Government Outsourced, production happens through the Jamaican Information Services and CPTC at the government rate card Broadcasters Studio, EFP, editing, radio production Institutions: Multi-media dev'pt and Web authoring
<ul style="list-style-type: none"> Distribution 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> GIS uses existing stations to broadcast programs Government also has access to a cable channel HTS is an over the air broadcaster, programs can be transmitted to the CBU 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> University of Jamaica has optical fiber, ATM campus area network and ISDN capability of external linkages

<ul style="list-style-type: none"> Partnership 	<ul style="list-style-type: none"> Andrews Univ., Berrien Springs, USA Global SDA Church 	<ul style="list-style-type: none"> HTS – Government- College 	<ul style="list-style-type: none"> EU, GOG & CIDA, NCERD, GUIDE & CPCE 	<ul style="list-style-type: none"> U of J – Viacom services for multi-media development Liaison with New Brunswick Training Group
<ul style="list-style-type: none"> Sites 	<ul style="list-style-type: none"> Extension school in Barbados (college) 	<ul style="list-style-type: none"> College sites in the south, planned sites in the east and west coasts 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> UWI – sites in Jamaica and throughout the Caribbean U of J – one outreach site
<ul style="list-style-type: none"> Technology 	<ul style="list-style-type: none"> E-mail, computer conferencing , discussion groups, Internet Audio/video graphics, webcasting Audio/video cassettes 	<ul style="list-style-type: none"> HTS – currently analogue with plans to upgrade to digital 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> E-mail, Internet, ISDN videoconferencing, DC’s on-line radio and TV, print, audioconferencing, audiographics, television/video, audio-cassettes
<ul style="list-style-type: none"> Other 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Radio streaming Some discussion of cable modems but not available yet 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Radio Education Unit (UWI) New media services unit funded by the ministry to manage education broadcasting
<p><u>ISSUES</u></p>	<ul style="list-style-type: none"> Communications infrastructure Timing of broadcasts Administrative support services Capital and program funds Commitment to local production 	<ul style="list-style-type: none"> Costs of on-line communications is high (monopoly) Problems with television reception in some parts of the island Need to train instructors to use technology -based systems Lack of funding Majority of population speaks Creole 	<ul style="list-style-type: none"> Technology, personnel training Staff recruitment Collective agreements and administrative system <u>Communications infrastructure</u> 	<ul style="list-style-type: none"> Resources/Funding/Economy Talking heads no longer are useful Need to sensitize and train distance education instructors Need for technology support Lack of production/technical expertise Private stations require revenues in order to support educational programming
<p><u>OPPORTUNITIES</u></p>	<ul style="list-style-type: none"> Production capability/studios Interest in increasing regional programming 	<ul style="list-style-type: none"> Television broadcaster could accommodate up to 2 hours of educational programming per day between 9-4. Cable in the classroom initiative could be introduced (support from C&W for this type of initiative) <u>GIS is interested in expanding the operation of the cable system to include educational programming</u> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Wireless and internet radio are in the planning stages Videoconferencing is available for intra and off campus links Internet will be used for web based training <p>There are plans to revive educational broadcasting (in the discussion stage)</p>

OTHER RELEVANT ORGANIZATIONS	<ul style="list-style-type: none"> • COSTAATT – College of Science, Technology & Applied Arts of T&T 	<ul style="list-style-type: none"> • The Reform Project in Education • CARICOM – Chief Information Officers • CARIMAC • Caribbean Cable Co-op 	<ul style="list-style-type: none"> • OECS, CARICOM, Science Popularization Committee 	<ul style="list-style-type: none"> • Jamaican Ministry of Commerce and Technology • CARICOM • UNESCO • Association of Chief Education Officers
COMPONENTS OF THE IDEAL SYSTEM	<ul style="list-style-type: none"> • Interactivity • Team of educational specialists • Radio and TV broadcasting orientation from satellite locations • Empowering adults to use IT 	<ul style="list-style-type: none"> • Local committee of educators, broadcasters and government to ensure implementation • Regional committee of CEO's to ensure buy-in • Identifying a local champion to ensure implementation • Participative • A centralized/decentralized system: CBU would acquire and/ or produce program and facilitate program sharing • Production of local programming • Acquire programming from outside sources and gradually increase local program development • Instructional programs would be broadcast to sites • Programming could be developed by groups of countries • Use existing broadcasters until program needs exceed 3-4 hours per day • Consider a pilot 	<ul style="list-style-type: none"> • Low cost/affordable • Easily accessible • Flexible • Broadcasts should be used as a supplement • Collaboration between broadcasters and educational institutions 	<ul style="list-style-type: none"> • Provides resources to support literacy and numeracy • Linked to the web and other media (eg. print) • Programs must be evaluated or lead to certification • Should include computer discussion groups • An implementation plan should be a component of the study • Interactive and relevant

<p>PRIORITY PROGRAM RATING</p>	<p>Formal</p> <ol style="list-style-type: none"> 1. High School Completion 2. Technical/Vocational 3. Early Childhood Education <p>Non formal</p> <ol style="list-style-type: none"> 1. Health and family Education 2. Agriculture and small business 3. Environmental Studies <p>Others include: Business management and IT, International finance, cross cultural life styles, English language & grammar, Caribbean history and civics</p>		<p>Formal:</p> <ol style="list-style-type: none"> 1. Math, Science, Technology 2. Early Childhood Education <p>Nonformal</p> <ol style="list-style-type: none"> 1. Environmental Education 2 Health and Family Education 	<ul style="list-style-type: none"> • Teacher Training • Marketing/Business
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Appendix 10: Criteria for Decision Making

A	Access	How accessible is the particular technology for learners? How flexible is it for a particular target group?
C	Costs	What is the cost structure of each technology? What is the unit cost per learner?
T	Teaching and Learning	What kinds of learning are needed? What instructional approaches will best meet these needs? What are the best technologies for supporting this teaching and learning?
I	Interactivity & User Friendliness	What kind of interaction does this technology enable? How easy is it to use?
O	Organizational Issues	What are the organizational requirements, and the barriers to be removed, before this technology can be used successfully? What changes in organization need to be made?
N	Novelty	How new is this technology?
S	Speed	How quickly can courses be mounted with this technology? How quickly can materials be changed?

A.W. Bates (1995): Technology, Open Learning and Distance Education. London. Routledge. pp.1-2.

Appendix 11: Programming Survey

Dear CBU member,

The Caribbean Broadcasting Union in cooperation with the Commonwealth of Learning is engaged in a feasibility study to explore the potential of educational broadcasting in the Caribbean. During the first phase of the project interviews were conducted in nine Caribbean counties including Antigua and Barbuda, the Bahamas, Barbados, Belize, Grenada, Guyana, Jamaica, the Republic of Trinidad and Tobago and St. Lucia. As a follow-up to phase one we are asking each broadcaster to respond to the questions below and to fax this sheet, by November 15th to the CBU offices at _____.

1. How many hours in your broadcast schedule per week could be made available, free of charge, for the broadcast of educational programming?

2. Could time be purchased, at cost, in your broadcast schedule for educational programming?

Yes _____ No _____

If yes, how many hours per week? _____

What is the cost per hour? _____

3. What time of the day and week would be available for educational broadcasting?

Schedule for free programming

Schedule for programming, at cost

4. On average, how many hours of in-studio production, at cost, could be used for educational programming per week? _____

On average, how many hours of electronic field production, at cost, could be used for educational programming per week? _____

5. Please identify any programs which you have produced and/or hold exclusive rights which could be used across the Caribbean for educational purposes (these could be free or for purchase). Programs should have a definite educational goal.

Program Title	Brief Description	Number and length of episodes

Glossary

Accreditation: Accreditation is a systematic study in which a program or an institution is assessed for its standard and given official recognition. At the program level, accreditation is concerned with the quality of a specific course or program of study, while institutional accreditation is concerned with the evaluation of an entire institution.

Analog: An electrical circuit that is represented by means of continuous, variable physical quantities such as voltages and frequencies, as opposed to discrete representations like the 0/1, off/on representations of digital circuits. Simply, it is a term applied to something that is continuously proportional to some variable or to a device or system that handles or processes material in analog form. (E.g. Analog record players or cassette recorders, etc.)

Analog transmission: The way information is transmitted over a continuously changing electrical wave that is similar to, or analogous with the original signal. All telephone calls used to be transmitted in an analog format. Today they are translated to digital pulses for both local and long distance transmission.

Articulation: Articulation is essentially about horizontal and vertical linkages and can be narrowly defined in terms of the linkages between programs or institutions. Articulation, therefore, is the means by which schools, colleges and universities co-ordinate their programs and services to facilitate student mobility and transfer without a break or loss of time.

Audio-conferencing: This employs voice communications, traditionally accomplished using standard telephone lines, with new technologies such as Internet and ISDN (Integrated Services Digital Network), gaining a portion of the market. When more than one person is in a single location, speakerphones or special audio-conference terminal equipment is employed. When more than two locations are involved, multi-point network bridging equipment or Internet based software is used.

Audio-graphics teleconferencing: This interconnects graphic display devices, such as computer monitors, located at sites separated by distance. The technology generally allows participants to view the same high-resolution still-frame visuals at each site. Some systems allow annotation, writing or drawing on the screen. Sophisticated systems allow collaboration where sites actually work together to develop a file or document based on one computer. Audio-graphics is usually used to enhance another form of teleconference, such as an audio-conference or videoconference, where high-resolution images are crucial. Connections can be made using POTS (plain old telephone service) or digital communications lines, including LAN (Local Area Network), WAN (Wide Area Network) or ISDN.

Audio signal: An electronic signal, either in analog or digital form, representing a specific sound and capable of being used to reproduce that sound.

Bandwidth: The information carrying capacity of a communications channel or line, sometimes referred to as speed because digital bandwidth is measured as data rate. (See Digital)

Broadcast videoconferencing: This employs one-way motion-video from an origination site to multiple receive sites. It is used where it is not important to the content or message to see participants at the receive sites. Receiving sites are usually provided a way to respond to the origination site, usually by audio-conference (voice), response system or facsimile. Common transmission systems include satellite and ITFS (Instructional Television Fixed Service). Standard POTS telephone lines usually provide the interactive audio portion where desired.

Cable television (also referred to as Community Access Television): A television system, in which the signal is distributed to subscribers via cable, rather than by broadcasting. Cable systems can carry a much larger number of channels than broadcast systems, and (in some cases) also enable users to communicate with the distribution centre.

Compression: Any of several techniques that reduce the number of bits required to represent information in data transmission or storage, thereby conserving bandwidth and/or memory.

Computer or Asynchronous conferencing: This uses electronic mail (e-mail) and files sharing to provide an asynchronous teleconferencing. Participants can join the conference at any time, read others' comments and then add their own comments. Often, this method is used to provide advanced preparatory materials or assignments for a forthcoming audio-conference, for example. It is also used to continue discussion that originated during an audio or videoconference. Examples include, but are not limited to, courseware on the WWW (World Wide Web), list servs, news groups and proprietary systems such as Lotus Notes, etc.

Equivalency: Equivalency may be considered to be a formal assurance that programs or courses are approved by a validating authority, as being of a comparable standard in weight, level and quality. The weight of a program or course may be assessed by considering elements such as the breadth and depth of the content, the duration of the program and the time allocation for teaching and learning activities. The level of a program may be assessed in terms of the outcomes, i.e., in terms of the knowledge, skills and competencies that graduates of the program possess. Quality of a program may be related to the curricula, the resource (both human and material), the teaching and learning methods utilized, the assessment methods selected, the procedures for review and continued development of programs and so on.

Digital: The use of a binary code to represent information such as 0/1 or on/off.

Digital audio-tape: A recently introduced high-quality sound recording system in which the audio signal is recorded on audio-tape in digital rather than analog form. Domestic cassette recorders are now available which can play cassette-tapes of both formats.

Digital transmission: A way of sending coded information via a series of electric or light pulses through the air, over wires or through glass fibers.

Educational technology: the development, application and evaluation of systems, techniques and aids to improve the process of human learning, the application of scientific knowledge about learning, and the conditions of learning, to improve the effectiveness and efficiency of teaching and training. In the absence of scientifically established principles,

educational technology implements techniques of empirical testing to improve learning situations. That is, a systematic way of designing, implementing and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communication, and employing a combination of human and non-human resources to bring about more effective instruction.

Hypercard: A versatile software package developed by Macintosh Computers, which (for example) allows interactive computer-based learning programs using text and graphics to be developed by educators and trainers without any specific knowledge of computer programming.

Hypermedia: A general term for the new generation of interactive computer-based multimedia systems, originating from Macintosh Hypercard.

Information technology: The technology associated with the creation, storage, selection, transformation and distribution of information of all kinds.

Teleconference: It is the use of electronic channels to facilitate communication among groups of people at two or more locations. Teleconferencing is the generic term that refers to a variety of technologies and application. Technologies include, but are not limited to, POTS, ISDN, satellite, Internet, LAN/WAN, etc. (A conference arranged by connecting geographically-separated individuals or groups through the public telephone system, using either audio links only or audio links plus slow-scan television pictures).

Videoconferencing: This is the combination of dedicated audio, video and communications networking technology for real-time interaction, and is often used by groups to communicate with other groups of people. Desktop videoconferencing combines personal computing with audio/visual and communication technologies to provide real-time interaction from a typical personal computer and the interaction embodies communication between groups of people from work stations.

Sources List

- Ashton, A. Alvin (1996): Towards a Regional Accreditation Model. A Report of the Association of Caribbean Tertiary Institutions. (Received from TLIU, UWI, Cave Hill).
- Dirr, J. Peter (1999): "Distance and Virtual Learning in the Caribbean". www.col.org
- Bates, A.W (1995): Technology, Open Learning and Distance Education. London. Routledge.
- Gray-Felder, Denise (1999) "Communication for Social Change: A Position Paper and Conference Report". www.devmedia.org/documents/Position%20paper%2Ehtm
- Murugan, Krishnapillai (1999a): "Distance Education in the Commonwealth Caribbean: Survival of the Fit-test." Paper presented at the Pan-COL Forum. Brunei. (Also see www.col.org).
- Murugan, Krishnapillai (1999b): Distance Education Systems in India and the Commonwealth Caribbean. Report submitted to the UWI, Cave Hill.
- Office of the Board for NCC and DE. Regional Accreditation and UWI. October 12, 1999
- Peters, F. Bevis and Roberts, Vivienne (1998): Report of the Workshop on Accreditation, Equivalency and Articulation. TLIU, UWI, Cave Hill.
- "Regional Conference on Higher Education in Latin America and the Caribbean."
www.unesco.org/education/educprog/wche/lac_e.htm
- Summary of the World Declaration on Higher Education.
www.unesco.org/education/educprog/wche/lac_e.htm
- "The Long March: A Reform Agenda for Latin America and the Caribbean in the Next Decade." www.worldbank.org

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