

CLASSIFICATION  
**PROJECT EVALUATION SUMMARY (PES) - PART I**

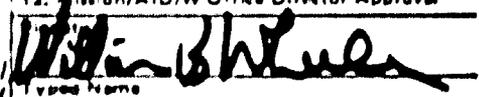
Report Symbol U-447

<b>1. PROJECT TITLE</b>  Allied Health Manpower Training Project	<b>2. PROJECT NUMBER</b> 538-0055	<b>3. MISSION/AID/W OFFICE</b> RDO/C
<b>4. EVALUATION NUMBER</b> (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) <u>538-83-04</u>  <input type="checkbox"/> REGULAR EVALUATION <input checked="" type="checkbox"/> SPECIAL EVALUATION		
<b>5. KEY PROJECT IMPLEMENTATION DATES</b> A. First PRO-AG or Equivalent FY <u>80</u> B. Final Obligation Expected FY <u>84</u> C. Final Input Delivery FY <u>85</u>	<b>6. ESTIMATED PROJECT FUNDING</b> A. Total \$ <u>1,028,000</u> B. U.S. \$ <u>1,028,000</u>	<b>7. PERIOD COVERED BY EVALUATION</b> From (month/yr.) <u>August 1980</u> To (month/yr.) <u>October 1982</u> Date of Evaluation Review <u>11/5/82</u>

**B. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR**

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., program, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1) A cost-effectiveness study should be conducted before any new classes of Environmental Health Officers are enrolled. (Copy of study available from LAC/DR/HN).	M. Laskin	November 1982
2) Based on the analysis of the cost-effectiveness study, a decision will be made on whether to continue the EHO programme in St. Lucia as currently designed, to provide for the transfer of the existing programme to an established regional institution or seek other alternatives.	M. Laskin	December 1982
3) Based on a review of graduate utilization, a preliminary review of costs and the stated priorities of regional governments, additional funds should not be made available for dental hygienists training.	M. Laskin	November 1982
4) Following the decision pertaining to the continuation of EHO programmes in St. Lucia, a review of remaining funds be undertaken.	RDO/C - Project Hope	January 1983
5) To determine if other programs such as the Child Service Programme are feasible.	M. Laskin	February 1983
6) Revise project design, implementation plan, financial plan and Project Agreement.	RDO/C - Project Hope	March 1983
7) An attempt be made to open discussion among Caribbean educational institutions to develop a regional certifying mechanism for EHO programmes and that articulation agreements be developed that would allow students in the region educational mobility.	RDO/C - Project Hope	August 1983 and continue

<b>8. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS</b> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Project Paper</td> <td><input checked="" type="checkbox"/> Implementation Plan e.g. CPI Network</td> <td><input type="checkbox"/> Other (Specify) _____</td> </tr> <tr> <td><input checked="" type="checkbox"/> Financial Plan</td> <td><input type="checkbox"/> PIO/T</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Logical Framework</td> <td><input type="checkbox"/> PIO/C</td> <td><input type="checkbox"/> Other (Specify) _____</td> </tr> <tr> <td><input checked="" type="checkbox"/> Project Agreement</td> <td><input type="checkbox"/> PIO/P</td> <td>_____</td> </tr> </table>	<input type="checkbox"/> Project Paper	<input checked="" type="checkbox"/> Implementation Plan e.g. CPI Network	<input type="checkbox"/> Other (Specify) _____	<input checked="" type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	_____	<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify) _____	<input checked="" type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	_____	<b>10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT</b> A. <input type="checkbox"/> Continue Project Without Change B. <input checked="" type="checkbox"/> Change Project Design and/or <input checked="" type="checkbox"/> Change Implementation Plan C. <input type="checkbox"/> Discontinue Project
<input type="checkbox"/> Project Paper	<input checked="" type="checkbox"/> Implementation Plan e.g. CPI Network	<input type="checkbox"/> Other (Specify) _____											
<input checked="" type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	_____											
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify) _____											
<input checked="" type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	_____											

<b>11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)</b> Terrence L. Ke, PM <i>TL</i> Darwin Clarke, SPS <i>DC</i> Toni Christiansen-Wagner, PVO <i>TW</i> Mark Laskin, RPIA <i>ML</i> Ted Morse, D/DIR <i>TM</i> Richard Finley, A/CONT <i>RF</i>	<b>12. Mission/AID/W Office Director Approval</b> <div style="text-align: center;">                       _____                      William B. Wheeler, Director                      Date <u>5 May 1983</u> </div>
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ISN:30186

538-0055/17

**FINAL REPORT**

**EIGHTEEN-MONTH EVALUATION**

**OF THE**

**ALLIED HEALTH MANPOWER TRAINING PROJECT**

**COMMISSIONED UNDER GRANT AGREEMENT 538-0055**

**BETWEEN**

**U.S.A.I.D. AND PROJECT HOPE**

**DATED AUGUST 30, 1980**

**BARBADOS, WEST INDIES**

**November 5, 1982**

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## ABSTRACT

This mid-point evaluation of the Allied Health Manpower Training project was conducted in two phases. The project was originally designed to contain training programmes for Environmental Health Officers (EHO's), Environmental Health Aides (EHA's), Dental Hygienists and a Child Health Care Component. The training that has been conducted has been judged to be of high quality and the staff is both dedicated and competent. Unfortunately, concerns ranging beyond the educational aspects of the projects itself such as costs, government commitment, capability of governments to sustain the program and related issues of the students professional credentials and certification of the programme have implications for the continuing validity of the original project design. The evaluation recommends that the current class of EHO's enrolled in St. Lucia continue their program to its conclusion. A cost effectiveness study of the EHO program and alternative programs in the region is to be conducted in November, 1982. Based on the results of this study determination can be made of what action should be taken on the enrollment of an additional class of EHO's. Funds have been provided for an EHA programme in Antigua subject to a formal request from that government. No additional funds will be provided for the dental nurse, dental hygiene, or child health care components of the project, as originally designed. A review of current expenditures and funds remaining under the grant will be undertaken and a recommendation for utilization of remaining funds for a proposed pediatric training/service programme through the UWI Faculty of Medicine and Project HOPE is being considered.

EVALUATION TEAM

PHASE I

Dr. John O. Field, Team Leader:  
Associate Professor, School of Nutrition  
Tufts University, and Marber  
John Snow International Health Group.

Mr. Alvin F.E. Barnett:  
Principal, Barbados Community College.

Mrs. Toni Christiansen-Wagner:  
P.V.O. Officer, U.S.A.I.D. (RDO/C).

PHASE II

Dr. James Magero:  
Associate, Division of Planning  
Project HOPE.

Mrs. Toni Christiansen-Wagner:  
P.V.O. Officer, U.S.A.I.D. (RDO/C).

PROJECT RECOMMENDATIONS

EHO Recommendations 1.0

Recommendation No. 1.1

The class of Environmental Health Officers (EHO) presently in training in St. Lucia should be completed in St. Lucia as originally planned.

Recommendation No. 1.2

A cost-effectiveness study (see Scope of Work; Attachment 5) should be conducted before any new classes of Environmental Health Officers are enrolled. Based on the analysis of this study, a decision should be made to continue the EHO programme in St. Lucia as currently designed, to provide for the transfer of the existing programme to an established regional institution or seek other alternatives.

Recommendation No. 1.3

If the decision to enroll a new class of EHO's is positive, the following is recommended:-

- A. A second HOPE faculty member be recruited as soon as possible.
- B. The admission standard set by the Programme Council of 3 "O Levels" must be strictly adhered to by the participating territories.

Recommendation No.1.4

If the decision to enroll a new class of EHO students in St. Lucia is negative, alternative strategies should be considered to meet the EHO needs of the LDCs.

Recommendation 1.5

The Head of Faculty, St. Lucia should conduct an updated needs assessment of the EHO manpower needs of the LDCs. This assessment should include long range needs of the LDCs based on their ability to maintain the programme without external assistance.

Recommendation No. 1.6

Each participating country be provided a set of "core" textbooks to be used by the EHO graduates upon their return. This core set should be selected by the Head of Faculty, St. Lucia.

Recommendation No. 1.7

An attempt be made to open discussion among Caribbean educational institutions to develop a regional certifying mechanism for EHO programmes and that articulation agreements be developed that would allow students in the

region educational mobility.

Dental Recommendations 2.0

Recommendation No. 2.1

Based on a review of graduate utilization, a preliminary review of costs and the stated priorities of regional governments, additional funds for dental hygienists training should not be made available.

Recommendation No. 2.2

The Project HOPE dental educator should remain in St. Lucia until March 31, 1983 to assist the government of St. Lucia in developing positions for the dental hygienist graduates. In addition the educator should provide technical assistance in the rational distribution of existing dental equipment utilized in the training program.

Other Recommendations 3.0

Recommendation No. 3.1

Following the decision pertaining to the continuation of EHO programme in St. Lucia, a review of remaining funds be undertaken.

Recommendation 3.2

Determine if other programmes such as the Child Service Programme (See Child Service Programme Recommendation) are feasible.

## INTRODUCTION

The Eastern Caribbean Regional Training Programme for training of allied health workers emerged as a result of the fourth Project Advisory Committee meeting, C.A.S.T., Jamaica in December, 1978 in which the summary of conclusions and recommendations contained the following: "Consideration should be given to the design of a model for local training of health staff in a lesser developed country".

A Public Health Inspector (PHI) programme was developed by the People to People Health Foundation (Project Hope) at the request of the St. Lucian Government, which in 1979 had twenty established posts of Public Health Inspectors, only eight of which were held by qualified staff.

Training institutions existed in the region but the St. Lucian Government was restrained in its bid to secure training for its personnel by the following:-

1. Shortage of money to fund scholarships or fellowships to the existing institutions in the region;
2. The fact that the nearest of these institutions, the Barbados Community College, was unable to accept enough St. Lucians to meet that country's needs within an acceptable time frame;
3. Available candidates were unable to meet the prerequisite (5 "O" Levels) qualification barrier.

4. If the trainees were accepted into an existing regional programme, the trainees would have to spend an additional year away from home supplementing their general education before embarking on a two-year professional training course.

In 1979 the St. Lucian Government signed an agreement with Project Hope to establish a local training programme for Public Health Inspectors, using part of the Morne Complex. The programme started in September, 1979.

Project Hope's Sanitarian Educator, having completed a year of service in Barbados training tutors and students for the Public Health Inspectors programme there, adapted the curriculum of the Barbados Community College for use in St. Lucia.

During the first year of implementation of the programme, Project Hope and the St. Lucian Government saw the possibilities of meeting the needs of other LDC's by:

1. Providing similar training for other LDC's; and
2. Embarking on programme expansion which would entail the introduction of training for other categories of allied health workers.

The Government of St. Lucia proposed establishing an Eastern Caribbean Regional Allied Health Training programme using facilities at the Morne which would become available in October, 1981. Project Hope acted as the main

catalyst for other proposed programme expansion. The Foundation defined the Regional Project for Training of Allied Health workers for the LDCs at the Morne in St. Lucia and submitted a proposal to USAID for financial assistance for the project.

The Project Proposal included provision for funding of fellowships to be granted to students from the other LDCs, which were experiencing the same problems as St. Lucia.

USAID funding was secured in August, 1980 and the Regional Training Programme for Allied Health Workers was launched with an intake in May 1981 of thirteen (13) PHI students from other Caribbean countries. This initial programme is destined to be completed in November 1982. A second regional programme for Public Health Inspectors commenced in January 1982 and is scheduled to be concluded in December 1983.

In addition to the training programme for Public Health Inspectors, the following other training programmes were started as part of the project activities:

- Three training programmes of short (ten weeks) duration for forty (40) Environmental Health Aides from St. Lucia during the period March 1981 to April 1982; and
- A two year certificate training programme for Pharmacists which commenced in May 1981; but is not funded under the U.S.A.I.D. grant and therefore its evaluation is not addressed in this document;

- A one year training programme for six (6) Dental Hygienists which began in October 1981.
  
- A dental nurse program was started in 1982 with the intake of two (2) students. These students were later transferred to the Trinidad programme and the Dental Nurse Training in St. Lucia was discontinued.
  
- A Child Sevice Programme was originally planned but not started, (See Component Implementation - Child Services).

The training programme for Environmental Health Assistants and the Dental Hygienist programme are both innovations of the Morne Complex. Both programmes were conducted specifically at the request of the Government of St. Lucia. The latter is now offered on a regional scale as a result of requests by two other LDC's to participate in the programme.

COMPONENT IMPLEMENTATION: ASSESSMENT, RELATED ISSUES, RECOMMENDATION

Introduction

Four services were to be evaluated both qualitatively and quantitatively. They included Environmental Health and Child Care Services on a Regional basis and Dental Health and Environmental Health Services in St. Lucia only. In the following section, Component Implementation, each service is evaluated separately according to the implementation factor outlined in the original grant agreement.

1. Environmental Health Services (Regional)

Public Health Inspectors (PHIs)

A) "Design and implement a twenty-two (22) month PHI training programme with the first class beginning in early 1981, another class in August, 1981, and the last in August, 1982. All training will be completed by July, 1984".

Current Status

1. The PHI training programme has been designed, and it is being implemented. The curriculum is based on the PHI curriculum of Barbados Community College.

2. Examination of the job description of PHIs as presented at the second meeting of the Eastern Caribbean Regional Health Training Project Programme Council in St. Lucia, February 81, show that Public Health Inspectors are expected to perform functions in such broadly defined environmental activity areas as:

Water Resources

Waste Management

Housing

Food Control

Recreational Sanitation

Institutional Sanitation and Environmental Control

Occupational Health

Vector Control

Environmental Laboratory Services

Education

Emergency and Natural Disasters

Epidemiology

Control of Frontiers and Coastal Waters

Management

The curriculum being followed at the Morne addresses itself to most of the environmental activity areas and therefore seems appropriate for the training of Public Health Inspectors for the countries of the Eastern Caribbean. (See Attachment 1).

3. There have been delays in implementation. The first class began in May 1981 and the second class in January 1982, with the third and final class now scheduled to begin early in 1983.
4. The twenty-two (22) month format has been subject to variation. The first class will be graduated in November, 1982, making for a nineteen (19) month program. The second class will be graduated in November, 1983, making for a twenty-three (23) month program. Even were the final class to begin in January 1983, it would not be possible to complete a twenty-two (22) month course by July, 1984.

The teachers at the Morne and the Chief Public Health Inspector in St. Lucia consider that the curriculum, as it is being implemented, is satisfactory to the needs of St. Lucia and other LDCs.

- B) "Provide faculty consisting of two sanitarian educators to teach courses in public health inspection".

#### Current Status

1. This has been done in the persons of Mr. Philip B. Kneller (the Head of Faculty as of May 28, 1982) and Mr. James S. Spahr.
2. A replacement is currently being sought for Mr. Spahr, who left the faculty at the end of August, 1982 in order to resume his own education.

3. The PHI training has benefitted from the services of a counterpart instructor, Mr. Allan Philogene, a Senior Public Health Inspector in the Ministry of Health, St. Lucia. Mr. Philogene has been deputed full-time to the Project Hope Staff.
  4. Difficulty has been experienced in finding willing and suitable teaching assistants in the basic sciences as well as in synchronizing their contributions with the training time-table. There was also an issue concerning special payment for their services when the program became a regional program. This issue has since been resolved by utilizing St. Lucia funds for payment.
- C) "Provide support for PHI fellowships and transportation for trainees from islands other than St. Lucia. Books and supplies will be provided for trainees".

#### Current Status

1. Fellowships have been provided to all PHI students from islands other than St. Lucia, a total of twenty-six (26) in all.

Note: There is a widely shared sense among the PHI students that their stipends are not adequate given the cost of living in Castries.

2. Transportation has also been provided. Each PHI student from outside of St. Lucia receives two round-trip air tickets.

3. Although the Textbooks and handouts arrived late in the first cycle of training, they are presently provided in the core curriculum, and the students return them for subsequent use by other trainees. These materials are available to students on a cost basis if they wish to keep them permanently.
  
- D) "Provide support for facilities, equipment supplies and library materials".

Current Status.

1. Since 1979 Project Hope has developed one of the leading teaching banks of environmental health and sanitation resources in the region, including specimens, film and slide sets on relevant subject matter, portable field testing and training equipment, microscope-mounted slide sets, as well as a 350-plus volume and document Environmental Health Sciences Reference Library located at the Morne Complex. This is an impressive contribution which will have lasting benefits."
  
2. Students in PHI training identified the need for an adequate laboratory. At present they are obliged to go to Victoria Hospital for their lab work.

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For more specific details on these items see the Project Hope report to the Program Council entitled "Environmental Health Officer's Two Year Basic Training Programme" (July, 1982), p.2.

3. Students also noted that the nutrition room lacks desks, thereby impeding the effective taking of notes.

Summation:

1. Project Hope's training of Public Health Inspectors has experienced delays and occasional breakdowns occasioned by staffing problems in the basic sciences and by the late arrival of equipment and supplies. The present second-year class is receiving a concentrated curriculum as a result. On the other hand, twenty-nine (29) students from seven (7) countries - every LDC except Belize - are in training, and they were preceded by the St. Lucia class of 1979 - 1981, which numbered ten (10) graduates. Moreover, the core training staff is of high quality, and an extensive training infrastructure has been assembled at the Morne Complex.

2. Mr. Oliver Spencer, Chief Public Health Inspector of the Ministry of Health, St. Lucia, stated that St. Lucia's needs in these areas have been met. Accordingly, any third class PHI students stipulated in Grant Agreement - like the first - will contain no St. Lucians which will allow for the training of more off-island students.

Related Issues:

Two issues have been discussed on several occasions by the Programme Council, Hope Educators and others, specifically certification and admission requirements.

1. Certification

The issue of certification applies to the Environmental Health Officer (EHO) training programme since the other two programmes (Dental Hygienist and EHA) do not have certifying bodies in the Caribbean region. The key to this issue is that the St. Lucia (EHO) programme does not have an affiliation with an existing Caribbean training institution. This has resulted in questions being raised by graduates and governments alike regarding the acceptability of the graduates in the work force in other Caribbean territories as well as in continuing studies in other Caribbean educational institutions.

Since there is presently no single agreed upon regional certification for any PHI graduate of any institution in the Caribbean, the issue of certification becomes very complex.

As regards working in different Caribbean countries, it appears that all countries included in the St. Lucia programme will honor the certificate of the St. Lucian programme and allow any graduate from that programme to work in any participating country. Those countries will also at this time honor the Barbados Community College (BCC) certified graduate and the University of the West Indies (UWI) certified graduate. In Barbados the B.C.C. certified graduate and the U.W.I. certified graduate will be accepted but not the St. Lucia certified graduate. This Certification issue has not been tested. In Jamaica it appears the U.W.I. graduate will be accepted but not the B.C.C. or St. Lucia graduate. But this also has not been tested.

As far as continuing studies, it appears that no Caribbean institution has a reciprocal agreement with any other Caribbean institution but deals separately with each specific case.

## 2. Admission Requirements

This is a separate issue, but is linked to certification as the Barbados Community College felt it could not certify the St. Lucia programme because all students did not possess the 5 "O Level" qualification. (See Attachment II - Student Background).

The St. Lucia E.H.O. admission level has been set at 3 "O Levels". This was agreed on by the participating countries because the representatives of the LDC's expressed the point that they did not have enough candidates at the 5 "O Level". B.C.C. also accepts students at the 3 "O Level", but they require the students to enroll in a pre-health science course which consists of 5 courses taken at the College for one year. In St. Lucia the time element was more critical and the students were required to complete five supplemental courses during the regularly scheduled programme.

The area open to criticism is that three students were enrolled in St. Lucia with less than the required 3 "O Levels". This issue has since been brought to the Programme Council and the countries have agreed to adhere to the 3 "O Level" requirement for future students.

The other issue that persists regarding the admission requirements is admittance to the University. The University requires 5 "O Levels" and although the U.W.I. did express some early interest in certifying the programme which would eliminate the problem of University admittance, as of this date no specific agreement has been reached.

Given the situation in the LDC's of not having enough 5 "O Level" candidates and what was a crucial need for trained EHO's, the action taken was probably appropriate at the time. If, however, the need is not as crucial in the future, thought should be given to conforming to the University standards so as to allow the student the greatest amount of scholastic mobility.

#### Recommendation

The Evaluation Team recommends that:

1. The content presently included in the existing curriculum continue to be followed in the ongoing programme.
2. Future classes of students should strictly adhere to the twenty-two (22) month training period.
3. The St. Lucia counterpart continue to be allowed to function as tutor.
4. An investigation into the adequacy of student stipends be conducted.

5. Attempt to provide better laboratory facilities.

6. That a Technical Advisory Committee be formed to act as a bridge between the programmes and the community served. The Committee should provide continuous input to insure that the graduates' education will be appropriate and that they will have the necessary skills required to meet the community's needs. The Technical Advisory Committee should be organized under the auspices of the Programme Council and be responsible for the following functions:-

- 1) Develop the programme by providing input towards the design and development especially in the area of identifying specific skills and knowledge required.
- 2) Set admission standards.
- 3) Review Curricula.
- 4) Assist in developing field experience for the students.
- 5) Identify local personnel as prospective tutors.
- 6) Represent the programme in discussions of regional certification with other similar bodies.
- 7) Engage in special activities by providing speakers; conducting surveys, etc.

7. Presently continue to certify the programme using the participating countries as the certifying body until such time that a regional certifying body is formed.
8. The Technical Advisory Committee should address the issue of Admission Criteria and determine if the EHO students should be required to: a) enter the programme with the University required "O Levels"; b) be required to possess the University required "O Levels" upon completion of the programme; c) possess some other credentials.

2. Environmental Health Services (St. Lucia Only)

The training programme for Environmental Health Aides is one of the innovations of the Morne project. The curriculum was developed in direct response to the St. Lucian Government's decision to establish that category of worker as subordinate support to the Public Health Inspector.

Environmental Health Aides (EHAs)

- a) "Develop and conduct a series of three-month training programs for Environmental Health Aides (EHAs) with the first class of ten (10) trainees to begin early in 1981. All training will be completed early in 1982".

Project Status:

1. Beginning in March 1981 and concluding in April 1982, Project Hope trained forty (40) St. Lucians to become Environment Health Aides. This was done in three ten-week courses offered to ten (10), fifteen (15), and fifteen (15) students respectively.

Note: Because they are all graduated and dispersed, it was not possible to interview the EHA trainees, however, three EHO's were questioned about the performance of the EHA's. All three of the EHO's were very positive about the EHA's performance and welcomed their presence in the field, but at the same time felt that they were an additional burden to an already heavy workload.

2. The curriculum content was chosen to match those duties defined in the job description for Environmental Health Aides, and the training given over a ten-week period is considered by the Chief Public Health Inspector and the tutors as appropriate to the needs of St. Lucia, and is consistent with that Government's plan for reorganization of the Public Health Inspection department. (See Attachment III).
  3. One of the reasons advanced for the establishment of this category of worker is the St. Lucian Government's desire to make maximum use of its manpower resources at minimum expense.
- b) "Provide faculty as stated in 1 (b) and an additional St. Lucia counterpart to work with the EHA Program".

Project Status:

1. Mr. James S. Spahr took principal responsibility for the EHA training provided.
2. Mr. Poyotte was expected to serve as the St. Lucia counterpart in the EHA training, but illness impeded his participation. Mr. Allan Philogene also assisted.
- c) "Provide support for maintenance costs for St. Lucia's EHA trainees".

Project Status:

1. Maintenance costs for the trainees was provided by the Government of St. Lucia.

Summation:

1. The EHA training supported by USAID has been implemented in complete accordance with the Grant Agreement. The training of each class occurred over a ten-week period instead of the three-month period specified.
2. The curriculum was designed through the joint efforts of the Ministry of Health, St. Lucia, and the Project HOPE staff.

3. All trainees have been absorbed into the Ministry's apparatus and are currently working in the field with clear job descriptions. An evaluation of their performance is scheduled for the end of 1982.

Morale among the trainees was apparently quite high. The trainees adopted, on their own, a "Code of Ethics" including standards for personal habits, attitude toward work, and professionalism.

5. No further EHA training was envisioned in the original Grant Agreement, however, the St. Lucian Chief Public Health Inspector indicated that St. Lucia was planning on training additional EHA's on their own sometime in 1983.

6. EHA training in Antigua has been discussed. Such training could commence within the next twelve months.

#### Related Issues

Although the Government of St. Lucia is very enthusiastic regarding the use of EHA's in their service, the Caribbean Association of Public Health Inspection (CAPHI) sees the programme as a retrograde step opposed to its efforts to upgrade the status of the profession.

This appears to be an example of the classic struggle between the needs and desires of the profession versus the needs and desires of the Governments. Generally both sides have valid points and given time and the ability to discuss the issues, progress towards cooperation should be realized.

Recommendation

1. Although no further EHA training is envisioned under the Grant Agreement, St. Lucia does plan to continue EHA training and therefore Project Hope should make a request of CARICOM to open a dialogue between St. Lucia and CAPHI especially if other governments are planning on creating the EHA category.
2. Funds be utilized for training of Environmental Health Assistants in Antigua subject to a formal request from that government for such training.

Dental Health Services (St. Lucia)

- (a) "Provide faculty including one dental educator, a dental nurse and two St. Lucian counter.

Current Status:

1. Project HOPE has provided a faculty consisting of Dr. Charles R. Hadden (dental nurse educator), Norma J. Wells (dental hygienist educator), and Renee De Grechie (dental hygienist educator).
2. Dr. Hadden did little teaching given changes in the program and his own elevation to Head of Faculty. He resigned effective May 20, 1982.

3. Ms. Wells taught three terms out of four in the training of dental hygienists and then was obliged to leave Project HOPE and return to her University position in the U.S. Ms. De Grechie is her replacement.
  4. One St. Lucia counterpart joined the program. She was Dr. Azmina Hosein, Dental Officer in the Ministry of Health. Her involvement with and interest in the training was minimal and she has since left the island.
  5. Identification and retention of qualified local tutors has been a problem. Even though all tutors were appointed well in advance of the teaching term, not all assumed their duties.
- o) "Develop and implement a program for dental nurses and dental hygienists designed to meet the special needs of an island population".

#### Current Status

1. The programme for dental nurses was not implemented as originally planned. As a result the two (2) dental nurse students in the St. Lucia programme completed the third term successfully and then were transferred to the Dental Nurse Training School in Trinidad to continue their studies.
2. The programme for dental hygienists was implemented and was expanded to allow students from two other LDC's to participate. The programme graduated six students and a seventh audited the course.

3. The training schedule has been significantly altered. The current class of six (6) trainees in dental hygiene (plus the auditor) began work in October 1981 and will conclude in September 1982. No new class has been recruited, and it is unclear whether an attempt will be made to do so.

c) "Procure dental equipment".

Current Status

1. Dental equipment, including three (3) surplus dental chairs for clinical training, has been procured. The dental hygiene clinic is complete and operable except for the installation of three (3) dental units needed to operate the handpieces and for the final installment of the air compressor. With these exceptions, all supplies, instruments, and essential materials for teaching are on site.
2. A dental library has been assembled which includes more than 150 books as well as teaching and dental health equipment. Another 180 books have been placed in the Castries Central Library on permanent loan.
3. The late arrival of equipment and books has caused dislocations in the training provided. This was especially true during the first term.
- 4) "Design and implement special dental health programs for adults, school children, pre- and post-natal clinics, PTA and other community meetings".

Current Status:

1. This has been done during the training of the dental hygienists, whose responsibilities were intended to include outreach educational (preventive) efforts quite prominently. However, there is no organized dental health programme currently being implemented.

"Demonstration of preventive dental care techniques and dissemination of literature on dental health education in the schools on a scheduled basis".

Current Status:

1. Demonstration and dissemination on a scheduled basis remains unfulfilled. There was some work in this area during the students training, but this work has not as yet been continued due to the fact that the Government of St. Lucia has not yet posted the students. (See Related Issues).

Summation:

1. The Dental Health Services component of the Grant Agreement has been modified significantly in practice. The training of dental nurses initiated in October 1981 was terminated at the end of May 1982. The program at the Morne Complex is now exclusively for dental hygienists and has been redefined as a regional component.

2. Staff instability has posed problems of continuity and coherence, as have delays in obtaining necessary equipment and supplies. At the present time, however, the infrastructure is in place and close to completely operable.

Ministry officials in St. Lucia also express the need for hygienists but posts have not yet been created for this category of health work. (See Related Issues). The three students that attended the programme from other LDC's are evidently being utilized as intended.

#### Related Issues

It appears that the Government of St. Lucia has not adequately planned for the utilization of the dental hygienists. Although the Chief Medical Officer has purchased some supplies which the hygienists will need to work in the schools (i.e. flouride mouthrinse) and the Permanent secretary is attempting to gain financing to employ the graduates, at this time the St. Lucian dental hygienists are not providing the service for which they were trained because no posts exist for them. The students interviewed stated that they had discussed the situation with the C.M.O. and the P.S., but were told that there was only enough funding to employ them three days a week at a very low salary. Although some of the students expressed a hope that the problem would be resolved, they felt that at best 6 months to a year would pass before any real solution was reached. Although, the C.M.O. and the P.S. both expressed a need for additional dental hygienist, one must seriously question the ability of the Government to fund such positions.

Recommendation:

1. The educational portion of this programme has met the specified objectives but due to the factors stated above funding under this grant agreement should be discontinued. If at some time in the future a training programme for Dental Hygienists is initiated, the following recommendations should be considered:
2. A Health Science Advisory Committee be appointed so that all concerned parties have regularly appointed meetings so problems, needs and directions can be shared and coordinated.
3. The Ministry of Health appoint or name a Chief Dental Officer so a specific person can speak for that interest in overall health planning.
4. Each student be given their hand instrument kit upon graduation. Depending upon the extent of the numbers, it could cost as little as \$35.00 to \$100.00. Even with the bare basics, this would allow them to proceed with preventive treatment until their clinics become better equipped.
5. Classroom instructions be moved up to the Health Science Center so its full, more comfortable class rooms and facilities be utilized. It would also allow the students to associate with other health workers and this would give them a feeling of being a part of a team of health workers.

6. The present clinic is more than adequate and is correctly equipped for whatever they may be exposed to in the future. Graduates should contact the LDCs Hope trained dental equipment repair technician. If at all possible, it would be desirable if that person came and gave basic instruction on care and maintenance and some simple repair instructions. Down time in dentistry is extremely expensive and wasteful.
7. Upon setting up of the advisory board the Permanent Secretary office be utilized in circulating the availability of the training center to the other LDCs. This could encourage more regional usage and involve St. Lucia in the management of the center. This was part of the original plan and this concept should be reintroduced at the earliest possible time.

#### 4. Child Care Services - Regional

The original proposal submitted by Project HOPE to USAID/Barbados included training programs for Environmental health officers and Aides, Dental Auxiliaries and Pharmacists. It did not include a child care services component. However, the Government of St. Lucia, because of the lack of a Pediatrician in the country, requested USAID to include this in the Grant. This Pediatrician was not, in the first instance, to develop a regional training program but to provide child health care in St. Lucia and particularly improve the neonatal services at the government hospital. This component was subsequently included in the grant. The Government of St. Lucia

agreed to provide US\$12,000 toward the salary of this individual and AID funds were designated to "top-off" this salary for a two year period. Efforts were made by Project HOPE to recruit a Pediatrician with sub-specialty expertise in neonatology. A professor of Pediatrics at the University of Florida was subsequently recruited.

Prior to the initiation of the program, the Government of St. Lucia contracted an English Pediatrician to fill the post designated in the Grant. As a result, the US\$12,000 committed by the Government of St. Lucia was no longer available. Project HOPE then contacted USAID/Barbados to ascertain the possibility of utilizing the funds provided in the Grant for an eighteen-month rather than a twenty-four month period. This was approved providing the program became regional rather than limited to St. Lucia. This was to include Clerk-ships for medical students from the University of the West Indies, the training of Pediatric Residents from the University of the West Indies, the development of standard operating procedures for child care health services, training of personnel in St. Lucia and assistance to other LDCs in the development of health care services.

A visit to St. Lucia was made by the Chairman, Health Services Faculty - Project HOPE for discussion with Dr. D'Souza and Dr. Cooper, the Pediatrician already in St. Lucia, concerning the duties and responsibilities of the HOPE Pediatrician. It was obvious, at that time, that a regional program was not desired but rather an improvement of the local neonatology care by training St. Lucian nurses, and the deliverance of child care in the St. Lucian Hospital and clinics to relieve Dr. Cooper of some of his work-load.

Discussions were held at the HOPE Center in Millwood, Virginia and in Washington D.C. with Mr. Fitzgerald Louisy, Permanent Secretary, Ministry of health, St. Lucia and Dean S.R. Wray, Dean, Medical Faculty, University of the West Indies. Interest was expressed by these individuals in the teaching of medical students, the training of Pediatric and Family Practice residents, and the regionalization of the program. However, the mechanism for the assignment of medical students and residents was not developed. The University of the West Indies has drafted a plan to incorporate the Morne Complex into the University system as an extra-mural campus and to utilize the facilities for training in the health field. Funds have not been allocated for this effort and grant proposals were being prepared and submitted for such funds. As a result of these discussions, it was obvious that a training program for students and residents was not possible in the near future.

Further discussions were held in November 1981 with Dr. Cooper and Dr. D'Souza by the Project HOPE Head of Faculty in St. Lucia. At that time it was indicated that their prime interests were:

1. A research project to ascertain the child health care needs in St. Lucia, particularly in perinatology;
2. a Pediatrician to assume the case load so that Dr. Cooper would have more time for research and training;
3. the training of St. Lucian nurses in family practice, mental health and child care. These would be short-term courses (three months) aimed at upgrading the skills of health center nurses currently working in the field.

The brief programme plan submitted to the HOPE Center was reviewed in detail and it was the consensus that the proposal did not meet the guidelines of the USAID grant to Project HOPE. As a result the child health care regional program has not been implemented.

Recommendation:

Professor E.R. Waldron, Vice Dean, Medical Faculty, University of the West Indies at the Queen Elizabeth Hospital, Barbados, has proposed that a Pediatrician be assigned to the University Faculty thus allowing UWI Faculty to periodically travel to the Lesser Developed Countries for continuing education of the physicians in these countries, the upgrading of child health care and the training of nurses. This may be a feasible methodology for the development of a child health care regional programme utilizing the knowledge and expertise of individuals familiar with the problems and needs of the LDCs.

OVERALL PROJECT ASSESSMENT

I. PROJECT ACCOMPLISHMENT

1. The following number of students have been or are being trained at the Morne Complex in the three (3) training programs operationalized as part of the Grant Agreement.

	<u>PHI</u>	<u>EHA</u>	<u>DENTAL</u>	<u>TOTAL</u>
Antigua	7	0	1	8
Belize	0	0	0	0
Dominica	4	0	1	5
Grenada	6	0	0	6
Montserrat	1	0	0	1
St. Kitts/Nevis	4	0	0	4
St. Lucia	3	40	4	47
St. Vincent	<u>4</u>	<u>0</u>	<u>0</u>	<u>4</u>
TOTAL	29	40	6	75
	—	—	—	—

Note: Partial training has also been provided to two (2) dental nurse candidates, one (1) from St. Kitts/Nevis and one (1) from Dominica.

In addition, eleven (11) PHIs from St. Lucia have been trained outside the framework of the Grant Agreement, as are eight (8) pharmacy students at the present time. Four (4) of these are from St. Lucia, with one (1) each from Dominica, Grenada, Montserrat, and St. Kitts/Nevis.

2. Curricula has been established for:

- A. Environmental Health Officers
- B. Environmental Health Assistants
- C. Dental Hygienists

J. Educational Resources Provided:

- A. Teaching bank of environmental health resources established
- B. Environmental health reference library established
- C. Dental Hygienists reference library and learning resources established
- D. Health science library donated to Castries central library

4. Two senior St. Lucian counterparts trained.
5. Four (4) Antiguan EHO students prepared as tutors for EHA program.
6. A functioning Dental Hygiene clinic established.

## II. INPUT/OUTPUT ALTERATION

Changes in both inputs and outputs have occurred. These changes have come about as a result of meeting changing host country needs and other changing circumstances in the region.

1. Two (2) outputs - training of dental nurses and provision of child care services - did not materialize as planned (see section - Component Implementation).
2. The number of EHO students accepted per class has increased. The original plan was to admit ten (10) students per class, but in the Program Council Meeting of November 1980 the Health Ministers and Permanent Secretaries expressed the acute need of the countries for this health professional. As a result, the decision was made to enroll fifteen (15) students per class. This has allowed for a significantly greater output in a shorter time frame.
3. Project HOPE has experienced considerable difficulties in obtaining needed educational supplies and equipment, to the detriment of the

training provided. As of July 1982, these difficulties appear to have been substantially overcome.

4. Project HOPE has experienced unusually severe instability in personnel during the period under review, with implications for the continuity and coherence of the training provided. The present team of Project HOPE personnel appears to be well adjusted and is both professionally competent and highly dedicated. Difficulties had persisted with one counterpart and especially with paying tutors by the Ministry. These problems have been resolved in that the counterpart in question has left the island and the Ministry is now paying the tutors. In sum, notwithstanding marked improvement, timely replacement of personnel is a continuing source of concern.

### III. ADJUSTMENTS

1. While the spirit of the project design remains valid, and while much that has been done - and accomplished - is consistent with it, a reassessment should be undertaken of overall project focus and resource utilization.

2. Adjustments are needed in the project design. As we stated in the Input/Output section, two (2) components (Child Health care and Dental Nurse Training) are no longer necessary to include in this programme. The program should now consist of an Environmental Health officer training project subject to the review of programme cost/effectiveness to be undertaken in November 1982. One other LDC has expressed interest in the

Environmental Health Assistant programme. Funds have been made available to conduct this programme under Amendment No. 3 to the original grant agreement.

3. The project has had the support of the governments of the LDCs, whose Ministers of Health or their nominees sit on the Programme Council, composition and terms of reference of which were defined at the onset. Although the Program Council has assisted greatly in determining the direction and pace of programme development and implementation, the council members are not technical representatives. Functions such as evaluation of the institutional program and others could more satisfactorily be designated to an advisory body such as a Technical Advisory Committee, which could be more concerned with training, standards, examinations and certification. In addition, such a committee would be able to create useful links of cooperation and communication between the St. Lucia programme and other established training centres.

#### IV. COST PER DIRECT BENEFICIARY

It was outside of the scope of Phase II of this Evaluation to determine the cost under the AID-financed project. A cost-effectiveness study is proposed in "Recommendation 1.2". Based on the outcome of this study decisions can be taken on continuation of the on-going EHO programme, its transfer to an on-going regional institution, or cost sharing proposals with governments.

V. CURRICULUM AND TRAINING MATERIAL

The issues of curriculum and training material were addressed more completely in the section on Component Implementation.

1. It appears that the Environment Health Officer curriculum and material are relevant to the needs of the participating countries. Although the issue of certification is still unresolved, the students will take the Royal Society of Health Examination and upon successful completion receive a Royal Society of Health diploma. This is a qualification which was honored in the Caribbean until June 1981. At that time it was thought that there would be a Regional Examinations Body.

2. There has been some movement in the direction of the formation of a Regional Examinations Body, but this may not come on stream for some time. In the meantime the Program Council at their July 2, 1982 meeting generally agreed that their governments would accept the Royal Society of Health examination as proof that the graduates had attained a certain level of competency and would be qualified to serve as Environmental Health Officers.

3. The curriculum and material of the Dental Hygienist program are relevant to the role of a Dental Hygienist but the relevancy of the actual role of the Hygienist in LDCs is still being debated. The countries agree that there is a need for the Dental Hygienist but the level of priority that can be assigned to this worker category must be considered in the overall context of national health plans and available resources.

4. The Environmental Health Assistant curriculum and materials appear to be relevant. This training is highly regarded by St. Lucia and other countries are now considering requesting similar programs. The Caribbean Association of Public Health Inspectors, objects to the creation of this new category of health worker. It is important that the Environmental Health service is EHO oriented and not aide oriented.

#### VI. TRAINEES UTILIZATION OF SKILLS

The Environmental Health Officers who have been trained are all utilizing their skills. Those who are presently completing their training all have open positions waiting for them in their respective countries.

The three Dental Hygienists who were trained for LDCs other than St. Lucia are posted and functioning in their role. The four St. Lucian graduates do not have posts available at this time. One graduate has returned to her position of dental assistant and the other three students are unemployed.

The Environmental Health Aides have all been employed in the service.

#### VII. VALIDITY OF COST ESTIMATES AND SCHEDULES

It would appear that based on programmatic restructuring during the first 20 months of implementation, cost estimates and training schedules need to be revised. This issue should more clearly be dealt with in the Cost Effectiveness study mentioned in question IV and again in Recommendation 1.2.

VIII. END OF PROJECT STATUS

1. It is difficult to state precisely how much unmet demand remains for the kinds of allied health personnel being trained at the Morne Complex. Comparing the numbers identified at the First Meeting of the Program Council in November 1980 with the numbers that have been trained to date suggests considerable on-going need. It is important at this time, however, to verify the need and update the figures. See Recommendation 1.3.

IX. INSTITUTIONALIZATION

The question of institutionalization is not an easy one to answer. On one hand, the Ministers of Health, or their representatives, of the LDCs expressed as recently as July 2, 1982, that a need still exists for training Environmental Health Officers (except in St. Lucia). Posts are available and many of the present officers are approaching retirement age. There was a similar expression from some countries towards Pharmacy programs although all depend on priorities and finances. It would appear that the need exists, that facilities, local tutors, educational materials and a developing infrastructure are on their way to making institutionalization a possibility. On the other hand, the project was originally intended to alleviate the tremendous back-log of untrained Environmental Health Officers. According to the 1980 statistics provided by the Program Council, (See Attachment IV) the back-log should be significantly diminished by 1983 as a result of the St. Lucia training.

A further consideration is that of funding. Presently, except for the substantial contribution of facilities and manpower by the government of St. Lucia, the major share of funding is coming from USAID and Project HOPE. The other participating governments are really making no contribution to the program with the exception of maintaining the students salaries while they are in training. The Permanent Secretary did state that the programme would be institutionalized for St. Lucia even after the grant was completed. He further stated that the programme would be open to the other LDC's but it is up to them to fund their students. Three main issues must be considered when attempting to resolve the issue of institutionalization. These are:

1. Needs of the LDCs
2. Ability to provide the teaching programmes
3. Ability of the government to continue funding the programme once the USAID/Hope project is completed.

#### X. RELATIONSHIP OF ONGOING PROGRAMMES

In order to appreciate the present relationship of the St. Lucia programme to other programmes in the Caribbean, it is important to review recent history.

In 1973, a decision was made by the Caribbean Health Ministers to establish regional allied health training programmes in the Eastern Caribbean and Jamaica. PAHO was appointed as the executing agency for the project. The People to People Health Foundation (Project HOPE) was invited to work with CARICOM in the development and implementation of these programmes.

Five regional centers in the MDCs were identified as suitable locations for the training, and it was envisaged that all Caribbean countries would be able to take advantage of the training opportunities provided.

The location of these centers in the MDCs was directly related to the fact that institutions already existed there in which the programmes could be based. In a cooperative effort, Project HOPE provided Health Science education in a variety of disciplines with PAHO providing fellowships. These contributions as well as a waiver of fees by the host country allowed the LDCs to benefit from those programs. Nevertheless, the problems identified earlier for the LDCs remained acute.

Those problems and other concerns for the LDCs led the Caribbean Health Ministers at their Fifth Annual Conference in Antigua - July 1979, to recommend that training of allied health personnel for the LDCs should be done in those countries themselves.

The LDCs problems were recognized also by the Advisory Committee for the PAHO/WHO Regional Allied Health Training Project. At its meeting in Jamaica 1978, that body proposed that consideration should be given to the design of a model for local training of health personnel in the LDCs.

The establishment of the Eastern Caribbean Regional Training programme is a logical step in the right direction and is consistent with current trends of thought of Eastern Caribbean Health Officers. This, however, can only be validated on the basis of self-sustained financing capacity.

Greater effort to communicate with other educational institutions in the region by the St. Lucian personnel should be encouraged. It is important that in a developing region as complex as the Caribbean all educational institutions cooperate and attempt to intertwine, forming common bonds especially in areas where duplication is likely.

## PHASE I

### METHODOLOGY

In very general terms during Phase I of the evaluation a team was commissioned to conduct an evaluation of the Allied Health Manpower Training Project in St. Lucia, granted to and administered by Project HOPE.

The major objectives of the evaluation were:-

1. To review the continuing validity of the project's design and assumptions;
2. To measure project progress using the stated project objectives and implementation schedule as verifiable indicators;
3. To examine the impact of the project on the intended beneficiaries;
4. To examine the efficiency of project management and implementation;
5. To examine the appropriateness of project continuation and/or redesign of the project.

In addressing itself to this assignment the team adopted the following methodology:

1. The team spent the period Monday, July 12 through Wednesday, July 14 in St. Lucia using the Headquarters of the Project at the Morne as its principal base. The remainder of the work, from Thursday, July 15 through Friday, July 23 was done at USAID in Bridgetown, Barbados.
  
2. Interviews were held with the Head of Faculty at the Morne and with the following:
  1. Members of the Project Hope staff in charge of individual training programmes currently in progress and those already completed;
  2. Local St. Lucian counterpart tutors;
  3. Trainees currently enrolled in the training program at the Morne;
  4. Dr. Kenneth Glass, Dental Officer.

The purpose of these interviews was to obtain information on:

1. The structure and implementation of the programmes;
2. The relevance of the programmes from the faculty's point of view and the opinions of the students;

3. Curriculum content structure and the relevance of the training to the functions which trainees would perform after graduation;
  4. Past, present and projected student enrolment figures by country;
  5. Academic and professional status of the student before commencement of training and the opportunities for permanent employment after graduation;
  6. Problems of implementation of the programmes;
  7. The administration of the project.
- 
3. Discussions were also held with key officials in the Ministry of Health in St. Lucia to ascertain the impact of the project on that country's health services and the opinion of those officials about the future of the project.
  4. Continuing discussions and consultation were held with Dr. Cory Kruckenberg, former Project Hope Director for the Eastern Caribbean, and Dr. Richard Meltzer, Chairman, Health Science Faculty, Project Hope, both of whom provided background information on the project and acted as resource personnel throughout the period spent in St. Lucia.

5. Documentation such as copies of existing curricula, job descriptions, and faculty reports on programmes, training schedules for the period August, 1980 to December, 1984 were obtained for study.
6. Documentation on faculty and faculty changes through the period September, 1981 to July, 1982 was collected for examination. Other documentation requested from Project Hope Headquarters and from the Morne included a breakdown of expenditures in terms of financial and other inputs attributed to Project Hope, USAID, and St. Lucia in such categories as start-up expenses, on-going expenses, management, commodities, training, etc.
7. The team obtained copies of the reports of the Programme Council Meetings, available quarterly reports submitted by the Project to USAID, the Project Grant Agreement, and other relevant documents for study.
8. On returning to Barbados, the team found it advisable to meet with Dr. Harold A. Drayton, Director of the PAHO/WHO Caribbean Regional Project for the Education and Training of Allied Health Personnel.

From the information gathered from all sources, the team was able to present its findings.

PERSONS INTERVIEWED

Dr. Cory Kruckenberg, Former Director, Project Hope Headquarters,  
Bardados.

Dr. Richard S. Meltzer, Chairman, Health Sciences Faculty,  
Project Hope.

Mr. Philip B. Kneller, Head Sanitarian Educator, Head of Faculty,  
Project Hope, the Morne Complex, St. Lucia.

Dr. Thomas Egan, Pharmacy Educator.

Miss Renee De Grechie, Dental Hygienist Educator.

Mr. Allan Philogene, Local Counterpart, PHI Programme, Senior Public  
Health Inspector, Ministry of Health, St. Lucia.

Mr. Francis Barnett, Local Counterpart: Pharmacy Programme, Senior  
Pharmacist, Victoria Hospital, St. Lucia.

Dr. Kenneth Glass, Dental Officer in St. Lucia.

Dr. Anthony D'Souza, Director of Health Services, Ministry of  
Health, St. Lucia.

Mr. Cornelius Lubin, Permanent Secretary, Ministry of Health, St. Lucia.

Mr. Oliver Spencer, Chief Public Health Inspector, Ministry of Health,  
St. Lucia.

Dr. Harold A. Drayton, Director of PAHO Regional Project for The  
Education and Training of Allied Health Personnel.

PHASE II

Upon reviewing the draft document of the Phase I team, it was felt that some inaccuracies were included in the document and some pertinent information not included. It was therefore determined that a second phase of evaluation was needed. A team consisting of a Project Hope representative and a U.S.A.I.D. representative was formed to complete the evaluation. This team's primary objective was to validate work completed in Phase I, provide any additional information made available and finalise the evaluation document. This document reflects an integration of Phase I and II reviews into a single Summary Report. The techniques used during Phase II were to:

A. Review available information:

- Project Grant Agreement
- Program Council Meeting Minutes
- Student Records
- Staff meeting minutes
- Curriculum documents
- Syllabi

B. Conducted interviews with:

- Head of Faculty
- Other Faculty members
- Students
- Counterparts
- Government Officials

SCHEDULES

October 18 - October 25

1. The team reviewed all documents pertinent to the evaluation and met with USAID Management.
2. Reviewed information presented as a result of the evaluation (Phase I) and highlighted areas which needed to be validated.
3. Interviewed Mr. Barnett, member of the evaluation team (Phase I) and Principal of the Barbados Community College.

October 26 - 28

1. The team travelled to St. Lucia to conduct interviews and validate identified areas of the evaluation (Phase I).

2. The purpose of these interviews was the same as outlined in Phase I.

Those interviewed included:

1. Head of Faculty, Project HOPE, St. Lucia - Mr. Kneller.
2. Environmental Health Officer Students.
3. Chief Medical Officer - Dr. DeSouza.
4. Permanent Secretary, Health - Mr. Lubin.
5. Chief Public Health Inspector - Mr. Spencer.
6. Three St. Lucian E.H.O's who are presently supervising EHA's.
7. EHO counterpart - Mr. Philogene.
8. Pharmacy Educator, Project HOPE - Dr. Egan.
9. St. Lucian Pharmacy Counterpart - Mr. Barnett.
10. Four Dental Hygienist Students.

October 28 - November 5

1. The team completed a draft of the final evaluation.
2. The team met to review the findings and discuss overall conclusions and recommendations.
3. A final report was completed on November 5, 1982.

PROJECT HOPE  
EASTERN CARIBBEAN REGIONAL HEALTH TRAINING PROGRAMME  
- SAINT LUCIA -

ENVIRONMENTAL HEALTH OFFICER'S BASIC TRAINING COURSE  
CALENDAR  
CURRICULUM  
COURSE DESCRIPTIONS

1982 ENU Training Programme Calendar

<u>EVENT:</u>	<u>DATE:</u>
1st Academic Semester Begins	January 11, 1982
1st Academic Semester Studies End	March 26, 1982
Final Examination in 1st Semester Studies	March 29 - April 2, 1982
Senior Practical Week	April 5 - 9, 1982
Easter Vacation	April 3 - 25, 1982
2nd Academic Semester Begins	April 26, 1982
2nd Academic Semester Studies End	July 9, 1982
Final Examinations in 2nd Semester Studies	July 12 - 16, 1982
Senior Practical Week	July 19 - 23, 1982
Mid-Year Vacation	July 17 - 31, 1982
3rd Academic Semester Begins	August 2, 1982
3rd Academic Semester Studies End	October 15, 1982
Final Examinations in 3rd Semester Studies	October 18 - 22, 1982
Final Projects for 1st Year Graduates	November - December, 1982
Professional Certification Examination for 2nd Year Graduates	November 1 - 5, 1982
Programme Graduates return to Native Countries for Governmental Assignments	November 6 - 12, 1982

1982 - 1983 CALENDAR

1982

<u>EVENT:</u> 1st Year of Study	<u>DATE:</u>
1st Academic Semester Begins	January 11, 1982
1st Academic Semester Studies End	March 26, 1982
Final Examination in 1st Semester Studies	March 29 - April 2, 1982
Easter Vacation (Two Weeks)	April 3 - 18, 1982
2nd Academic Semester Begins	April 19, 1982
2nd Academic Semester Studies End	July 2, 1982
Final Examination in 2nd Semester Studies	July 5 - 9, 1982
Mid-Semester Vacation (Two Weeks)	July 10 - 25, 1982
3rd Academic Semester Begins	July 26, 1982
3rd Academic Semester Studies End	October 8, 1982
Final Examination in 3rd Semester Studies	October 11 - 15, 1982
Research Project for Successful Graduates	November - December, 1982

1983

<u>EVENT:</u> 2nd Year of Study	<u>DATE:</u>
1st Academic Semester Begins	January 10, 1983
1st Academic Semester Studies End	March 25, 1983
Final Examinations in 1st Semester Studies	March 28 - April 1, 1983
Easter Vacation (Two Weeks)	April 2 - 17, 1983
2nd Academic Semester Begins	April 18, 1983
2nd Academic Semester Studies End	July 1, 1983
Final Examinations in 2nd Semester Studies	July 4 - 8, 1983
Mid-Semester Vacation (Two Weeks)	July 9 - 24, 1983
3rd Academic Semester Begins	July 25, 1983
3rd Academic Semester Studies End	October 7, 1983
Final Examinations in 3rd Semester Studies	October 10 - 14, 1983
Professional Certification Examination	October 26 - 28, 1983
Graduates return to Native Countries for Governmental Assignments	October 31, 1983

### Entrance Requirements for Basic & Post-Basic Public Health Training.

Within the Caribbean Area there are several schools of higher learning where degree and certificate programmes in Public Health Inspection can be obtained. The University of the West Indies, the University of Guyana, and the Barbados Community College have set minimum entrance requirements for admission purposes which are endorsed by the Caribbean Association of Public Health Inspectors.

Minimum standards are essential to be responsive to the current needs that environmental conditions impose on citizens of the Caribbean. Graduates of Public Health Inspector programmes must be prepared to deal with complex issues of technical and scientific nature. An academic background of English, Science, and Mathematics is necessary to enable the student to develop competence in the technical aspects of the course curriculum and to be a foundation in the performance of his professional duties.

The University and Colleges of the area have determined that the minimum desirable academic entrance requirements for a certificate or degree programme in Public Health Inspection shall be the completion of five subjects at the "O" level with passing marks of C or better. The subjects shall be composed of English, Math., Science, and two additional supporting subjects completed at the secondary school level. It is further determined that the desired minimum entrance requirements of a bacheloreate programme be that of two "A" level subjects, one of which must be English, and three other "O" level subjects of which Mathematics and Science subjects would be a part.

Post-Basic programmes in environmental health also requires the completion of a minimum of five "O" level subjects, of which English, Math, and Science would be a part, and the completion of a Basic Training programme at the degree or certificate level.

Additionally, both Basic and Post-Basic training programmes will accept mature students who have less than the required minimum entrance requirements if they have been employed in the position of Public Health Inspector for more than seven years.

The faculty of the Eastern Caribbean Health Training Programme support the requirements established for the Caribbean by the Universities and Colleges. Students wishing to attend this training programme with less than the required minimum five "O" levels should obtain the necessary "O" level preparation before leaving their nations for St. Lucia. "O" level examinations are given in St. Lucia from the London and Cambridge Universities. Students without the minimum entrance requirements before arriving in St. Lucia are encouraged to complete their minimum requirements before completion of the two year programme, in addition to their regular course work, as this will be professional beneficial to their career in the long run.

### Methods of obtaining "O" Level Certification in Saint Lucia (Same for "A" Level subject examination)

In Saint Lucia, subject competency examinations at the "O" Level are administered by the Ministry of Education for both Cambridge and London Universities. Registration and fee payment for examination takes place six months prior to the examination date.

Examinations from London University are administered twice a year in January and June. Registration takes place at the Ministry of Health in Castries. Examinations from Cambridge are administered once a year, usually in June. Registration takes place at the Castries Cooperative School.

Student preparation for these examinations can be done in three ways in Saint Lucia. One way of preparation is by special classroom tutoring. Classroom tutoring can be attended in the evenings, usually beginning at five o'clock, at either the Castries Comprehensive School or the Ave Maria School in Castries. Tutoring is usually for ten weeks and may cost EC\$18.00. Tutoring at the Comprehensive School is sponsored by the Ministry of Education and tutoring at the Ave Maria school is sponsored by the St. Lucia Guild of Graduates.

A second method of exam preparation is without special tutoring in the classroom, but with tutoring achieved by home study correspondence with instructors of the University of London.

And a third method of exam preparation is without special tutoring where the student studies on his or her own time. Students selecting this method of preparation will be given a subject syllabus upon payment of registration fees.

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### FIRST YEAR CURRICULUM

Orientation to the EHO Course  
Human Biology  
Technical Drawing  
English Communication  
Microbiology for EHO'S  
Chemistry  
Physics  
Food Hygiene I  
Nutrition  
Excreta & Sewage Disposal  
Public Health Math  
Building Science  
Vector Control  
Communicable Disease  
Water Hygiene  
Chosen Independent Research Project

## FIRST YEAR CURRICULUM

COURSE: Orientation to Public Health Training

### COURSE DESCRIPTION:

This course is designed to give the student an over-view of good study habits to aid in the transition from private life to that of a Public Health Inspector in training. Areas to be covered include Professionalism; How to follow directions; and suggestions for reading Technical Reports, Professional magazine and Journal, Business correspondence, Scientific Journals, and Professional Texts. Also covered will be techniques in quick reading skills and report preview.

COURSE: HUMAN BIOLOGY

### COURSE DESCRIPTION:

The primary aim of this course is to introduce the student to principles of the biological and the physical sciences that contribute to an understanding of normal body processes and of abnormal states and conditions. The sciences of anatomy, physiology and pathology are emphasized. Elements of microbiology, chemistry, and physics are also included.

COURSE: Technical Drawing

### COURSE DESCRIPTION:

This course is designed to introduce the student to the preparation of plans; use of drawing instruments, scales, sketching on squared paper, projected views, isometric projections and building layout plans. Interpretation and preparation of plans with special emphasis and aspects relating to privies, septic tanks, sewers, sewage disposal plants, water systems and water treatment plants.

COURSE: English Communication

### COURSE DESCRIPTION:

Review of rules of punctuation-comma, period, colon, dash, semi-colon, quotation marks. Writing reports and letters using simple concise expression, making a summary, topic sentences, form of reports, techniques of report writing, language for the ministry and other professionals and language for the community.

COURSE: Microbiology

### COURSE DESCRIPTION:

This course is a study of morphology, physiology, nature and activities of bacteria and other micro-organisms and their relationships, of the symptoms of infection, immunity, the stimulation and resistance. Special emphasis will be placed on the microbiology of air, food, air, soil, dust, water, and sewage. The characteristics of physical control of micro-organisms will be an important part of the course.

COURSE DESCRIPTION:

This course is designed to be a basic chemistry course. It is constructed to provide the student with a basic foundation in chemistry that is necessary for understanding the professional courses. Areas that will cover include: Classification and reactions of matter, gases, water, solutions, acids, bases, and salts, equilibrium reactions, atomic structure and behaviour and organic chemistry.

COURSE:           PHYSICS

COURSE DESCRIPTION:

This course is designed to be a basic physics course. It is constructed to provide the student with a basic foundation in physics that is necessary for understanding the professional courses. Areas that will be covered include: basic measurements, general properties of matter, motion and force, work, energy and power, pressure, heat, light and sound, electrical energy and radio physics.

COURSE:           Food Hygiene I

COURSE DESCRIPTION:

An in-depth study of the environmental aspect and the principles and practices of food processing. This course include the fundamentals of food preservation and manufactures; dairy Technology and sciences, refrigeration and cold storage food standards and pesticides in food; and Bakery hygiene.

COURSE:           Nutrition

COURSE DESCRIPTION:

This course is designed to give the student a basic introduction to nutrition. Highlighting such areas as: Nutrients, Digestion and Absorption, Nutritional requirements, Nutritional disorders, Meal Planning and Food selection. Field trips and observation assignments stress the practical aspects of classroom lectures.

COURSE:           Excreta Disposal & Sewage

COURSE DESCRIPTION:

This course is designed to study the problems and solutions to the disposal of human wastes. Course content includes dry conservancy methods, water carriage system, composition of sewage, design of sewerage systems, design of sewerage works, the treatment and disposal of sewage and diseases related to the improper disposal of human wastes. Field trips stress the practical application of classroom lectures.

## ASSIGNMENT: RESEARCH PROJECT WITHIN THE STUDENTS NATIVE COUNTRY

### ASSIGNMENT DESCRIPTION:

This assignment combines classrooms research in a specific field of sanitation, with the student design of a suitable inspection form. Then, after completion of the first academic year, the student will return to his native country during the Christmas Holidays and under the guidance and supervision of a Certified or Sr. Health Inspector, perform an inspection using his own inspection form. And applying the knowledge gained from classroom research, prepare a report of the inspection with his recommendations.

### SECOND YEAR CURRICULUM:

Health Sociology  
Solid Waste Disposal  
Housing & Institutional Hygiene  
Public Health Legislation  
Accident Prevention  
Transport Hygiene  
Disposal of the Dead  
Pollution (Air/Soil/Marine/Noise)  
Community Health  
Food Hygiene II  
Occupational Health  
International Health Regulations  
Public Health Administration  
Health Education  
Food Hygiene III  
Recreational Hygiene  
Epidemiology & Vital Statistics  
Emergency First Aid

COURSE: Disposal of the Dead

COURSE DESCRIPTION:

This course is designed as an overview study of the preparation, transport and final disposal of human remains from a Public Health viewpoint. Special emphasis will be placed on the preparation of the body, cremation and the regulations governing transport of human remains.

COURSE: Pollution (Air/Soil/Marine/Noise)

COURSE DESCRIPTION:

This course is designed as a study of the environmental factors causing ecological pollution. Attention will be placed on the types, sources of, hazards and effects on life and materials, methods of sampling and monitoring, and on the principals and procedures employed in the control of air, soil, marine, and noise pollution in domestic, community and industrial situations

COURSE: COMMUNITY HEALTH

COURSE DESCRIPTION:

An introduction to Community Health to include: Health needs of a community; Community Health diagnosis; Community resources and their utilisation, Planning and evaluation of Community Health services; the Community Health Team.

COURSE: Food Hygiene II

COURSE DESCRIPTION:

This course is designed to study food borne illnesses and their epidemiological investigation, sanitation requirements of food service facilities and inspection techniques of food service facilities.

COURSE: Occupational Health

COURSE DESCRIPTION:

A study of the principles and practices of Occupational Health. This course includes the fundamental concepts of Industrial Hygiene; Recognition of specific Environmental factors or stresses; Control of Environmental hazards; setting up an Industrial Hygiene program, Factory inspection and reporting.

COURSE: Health Sociology

COURSE DESCRIPTION:

A general study of sociology with emphasis on its relation to health. The course will include: The structure and functioning of Human Societies, Basic Evolutionary trends; Industrializing horticultural societies; Cultural and ethnic factors as they affect the health status and prevalence of disease; Socio-Economic factors in Health.

COURSE: Solid Waste Hygiene

COURSE DESCRIPTION:

This course is designed to study the problems and solutions of the storage, collection and disposal of solid waste. Course contents include: sources of wastes, duty of householder, commercial and industrial establishments, the Sanitation Service Authority and the Public Health Inspector, methods of disposal, offensive trades, special problems with industrial wastes and a review of appropriate regulations.

COURSE: Housing and Institutional Hygiene

COURSE DESCRIPTION:

This course is designed to study sanitation of hospitals, clinics, nursing homes, day care centers, hotels, schools, prisons, public conveniences, massage parlors, beauty and barber shops. Special problems related to liquid and solid waste disposal, water, ventilation, lighting, construction and disease prevention. Hospital sanitation programs. Disinfection and house-keeping. Sanitation inspections and surveys of the above.

COURSE: Public Health Legislation

COURSE DESCRIPTION:

This course is designed to instruct the students in the history and growth of enabling legislation. Areas to be covered include the historical background which created the need to pass public health laws and regulations; the concept of Quarantine; Present day Health Acts; And the Authority of and Legal Procedures for Public Health Inspectors.

COURSE: ACCIDENTS

COURSE DESCRIPTION:

A general survey of the human and environmental causes of accidental death and injury. Including cost to the individual and state, their prevention and control. Traffic accidents will be discussed. Disasters and the public health aspects of disasters will be a component part of the course, as well as, the role of the P.H.I. during and after disaster.

COURSE: Transport Hygiene

COURSE DESCRIPTION:

A study of the public health aspects of international and intra-continental travel. With special emphasis on sea and air travel. The role of the P.H.I. in the prevention and control of communicable diseases.

International Health Regulations and Practices

COURSE DESCRIPTION:

This course is designed as a study of the International Health Regulations; the need for, the use of, the methods of enforcement. Emphasis will be placed on the International reportable diseases, infectious disease control in ports, airports and ships and the control of rodents in ports, airports, aircraft and ships.

COURSE: Public Health Administration

COURSE DESCRIPTION:

A study of the principles of Public Health Administration. The student will gain a knowledge of the organizational structure of the Health Service, both technical and administrative, and how it relates to the organization of the entire Civil Service. The students will become familiar with the Scalar and modular organizational models.

COURSE: Health Education

COURSE DESCRIPTION:

The course will focus on Community and School Health Education. Presentations will include adult socialization, group dynamics, psychology of personality, learning and human relations. Experience will be given in objective setting, preparing of lesson plans, curriculum design and oral presentation of lessons using various training-aids.

COURSE: FOOD HYGIENE III

COURSE DESCRIPTION:

This course is designed to study comparative anatomy of horse, cattle, swine, and sheep; physiology of all food animals; stunning methods and slaughtering methods for killing of animals; ante and post mortem inspection; pathological conditions found in the course of meat inspection; recognition of sound and unsound meat, fish and poultry. Also the hygiene of meat, fish and poultry processing plants, plant layout and control; By-products processing and waste disposal and storage facilities.

COURSE: Recreational Hygiene

COURSE DESCRIPTION:

A study of the Public Health aspects of recreation facilities. This course includes swimming pool design and standards of hygiene, bathing beach standards, and sports grounds. Emphasis is on disease and accident prevention.

COURSE: Epidemiology & Vital Statistics

COURSE DESCRIPTION:

A presentation designed to emphasize the principals of epidemiology, disease, field techniques, and the investigation and reporting of epidemics. The course also prepares the student to draw justified conclusions from vital statistics applied from the medical-social conditions of the community.

COURSE:

EMERGENCY FIRST AID

COURSE DESCRIPTION:

This course is designed to study common injuries occurring in and around the home & premises, and the common first aid applications of methods to care for these injuries until professional medical care can be given.

E.H.O.

Hourly Quizzes

Each course has tutor made exam

Two year comprehensive

R.S.N. Exam

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F.H.A.

Each course receives an exam

Assistant Chief

Oral Exam prior to employment

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Dental Hygienist

Quizzes

Final Exam

Comprehensive

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ATTACHMENT II

EMERGENCY BACKGROUNDS INFORMATION

E.R.O. - CLASS OF 1981

	<u>REGION</u>	<u>AGE</u>	<u>SEX</u>	<u>O LEVEL</u>	<u>PREVIOUS HEALTH EXPERIENCE</u>
1.	St. Lucia	22	M	3	None
2.	St. Lucia	26	M	4	None
3.	St. Lucia	18	M	6	None
4.	Antigua	21	M	4	None
5.	Antigua	20	M	4	Jr. Health Officer
6.	Antigua	20	F	5	None
7.	Dominica	21	F	4	FHI Trainee Student Nurse
8.	Dominica	23	M	6	MO
9.	Grenada	20	F	7	None
10.	Grenada	20	M	4	None
11.	St. Vincent		M	4	CADET Health Inspector
12.	St. Vincent	30	M	2	FHI
13.	St. Vincent	24	M	3	Assistant to FHI
14.	St. Vincent	23	F	3	FHI Assistant
15.	St. Kitts	22	M	5	FHI (untrained)
16.	St. Kitts	29	M	3	FHI (Untrained)

ATTACHMENT II

EXHIBIT BACKGROUND INFORMATION

DENTAL HYGIENIST

	<u>NATION</u>	<u>AGE</u>	<u>SEX</u>	<u>O LEVELS</u>	<u>PREVIOUS HEALTH EXPERIENCE</u>
1.	St. Lucia	27	F	0	None
2.	St. Lucia	24	F	0	Dental Auxiliary
3.	St. Lucia	20	F	0	None
4.	St. Lucia	22	F	0	None
5.	Dominica	21	F	4	None
6.	St. Lucia	26	F	1	Dental Hygienist
7.	Antigua	23	M	1	Dental Assistant

ATTACHMENT II

CRIMINAL BACKGROUND INFORMATION

E.F.O. - CLASS O + 1982

	<u>NATION</u>	<u>AGE</u>	<u>SEX</u>	<u>O LEVELS</u>	<u>PREVIOUS HEALTH EXPERIENCE</u>
1.	Antigua	39	M	1	FHI
2.	Antigua	25	M	2	FHI
3.	Antigua	23	M	3	FHI
4.	Antigua	44	M	2	District FHI
5.	Grenada	21	M	6	Student FHI
6.	Grenada	24	M	6	Student FHI
7.	Grenada	25	F	7	Student FHI
8.	Grenada	23	M	9	Student FHI
9.	Dominica	23	M	3	FHI Trainee
10.	Dominica	21	M	4	FHI Trainee
11.	Montserrat	18	M	6	FHI Trainee
12.	St. Kitts	23	M	4	FHI
13.	St. Kitts	32	M	4	District FHI

JOB DESCRIPTION

ENVIRONMENTAL HEALTH ASSISTANT

1. Directly responsible to the Public Health Inspector to which he/she is assigned.
2. Establish contact with the community and advise the community of the health services available.
3. Advise house-holders of the importance of keeping their premises clean and of getting rid of garbage and insects. Recommend acceptable methods to accomplish the above.
4. Recognize conditions of malnutrition and notify the proper persons of the problem.
5. Carry out regular and routine inspections of:
  - All residential premises and farm establishments to include:
    1. Human waste disposal methods.
    2. Solid waste disposal methods.
    3. Water storage methods.
    4. Presence of insects including cockroach, bedbugs, mosquitoes and flies.
6. Responsible for:
  - a. Larvicidal treatment of ALL mosquito breeding places.
  - b. Rodent baiting or trapping when necessary.
  - c. Correctly filling out inspection forms on all premises visited.
  - d. Keeping accurate and up to date records of register, whereabouts book, diary.
7. Perform any other related duties assigned by the Public Health Inspector to which he/she is assigned.
8. Notify the Public Health Inspector, promptly of any condition found which the Environmental Health Assistant is unable to correct.
9. Perform routine inspection of septic tanks.

**ENVIRONMENTAL HEALTH AIDES  
TRAINING PROGRAM  
SAINT LUCIA**

**LENGTH OF COURSE:** 10 WEEKS plus examination

**TEXTBOOKS:** To be determined by the tutor

**METHOD OF PRESENTATION:** 70% Formal Lecture, 30% Practical Experiences

**ADDITIONAL TEACHING MATERIALS:** Films, filmstrips, and lecture handouts

**COURSE DESCRIPTION:**

Designed to provide the students with a basic introduction to the general practice of Public Health Inspection, so that they may better understand the role of environmental factors associated with the Home and the Community. And to provide the students with general public health knowledge sufficient for community health education.

**CONTENTS:**

- UNIT I - Introduction to Human Anatomy**
  - The general structure of the Body
  - The general organization of the Body
- UNIT II - Personal Hygiene**
  - Care of the Body
  - Physical Fitness
  - Mental Fitness
- UNIT III - First Aid in the Home Environment**
  - Care of minor and sever wounds
  - Care of Shock
  - Care of Burns
  - Care of Poisoning
- UNIT IV - Peritition and Malnutrition**
  - Proper Foods
  - Dietary Needs
  - Cause and Prevention of Malnutrition
- UNIT V - Introduction to Pathogens and the Disease Cycle**
  - Fundamentals of Microbiology
  - Infection and its Control
- UNIT VI - Aspects of Important Diseases in Saint Lucia**
  - Common diseases in Saint Lucia
- UNIT VII - The Control of Pests of Public Health Importance**
  - Control of Insects
  - Control of Helminths
  - Control of Rodents
- UNIT VIII - Fundamentals of Food Hygiene**
  - The effect of spoiling agents on food
  - Proper food storage and hygiene
  - Milk and Milk products hygiene
- UNIT IX - Drinking Water Hygiene**
  - Collection and Storage of water
  - Water purification
  - Conservation practices
  - Supplying water supplies
- UNIT X - Control and Disposal of Solid Wastes**
  - Kind of solid wastes
  - Methods of Collection and Disposal

- UNIT XI - Collection and Disposal of Human Excreta**  
 Relationship between Health and Excreta  
 Inspection of Excreta disposal systems  
 Educative requirements
- UNIT XII - Public Health Math for EPA's**  
 Calculation of Area & Volume  
 Use of formula's and conversion tables  
 Chlorination of water supplies
- UNIT XIII- Disaster Sanitation**  
 Sanitation and hygiene under temporary conditions
- UNIT XIV - Premises Inspection**  
 Site selection and Hazards around the Home  
 Ventilation  
 Inspection of various premises
- UNIT XV - Community Health Education**  
 Health Education in the Community  
 Availability of Community Health Services
- UNIT XVI - Professionalism**  
 P.H. Administration in Saint Lucia  
 Roles & Responsibilities of EPA's

**EVALUATION:** Written examinations at the end of Unit material and at the end of the course.  
 Minimum passing mark for each unit is 50%. Students must maintain an overall average of all tests and final of 50% to successfully complete this course of study.

July/81

ENVIRONMENTAL HEALTH AIDES TRAINING PROGRAM  
- St. Lucia -

Program Unit Outline:

- UNIT I. - Introduction to Human Anatomy and Physiology
- UNIT II. - Personal Hygiene
- UNIT III. - Simple First Aid in the Home Environment
- UNIT IV. - Nutrition and Malnutrition
- UNIT V. - Introduction to Human Pathogens and the Disease Cycle
- UNIT VI. - Aspects of Important Diseases in Saint Lucia
- UNIT VII. - The Control of Pests - Rodents, Helminths, and Insects
- UNIT VIII. - Food Hygiene
- UNIT IX. - Water Hygiene
- UNIT X. - Control and Proper Disposal of Solid wastes
- UNIT XI. - Control and Proper Disposal of Human Excreta
- UNIT XII. - Public Health Math
- UNIT XIII. - Disaster Sanitation
- UNIT XIV. - Premises Inspection
- UNIT XV. - Community Health Education
- UNIT XVI. - Professionalism

This Training Program was designed as a broad basic introduction to Public Health, with strong emphasis on Community Health Education and Premises Inspection in exterior residential areas.

Graduates of the EHA training program will be under the direct supervision of Certified Public Health Inspectors.

This course is designed to provide 300 clock hours of learning experience over an eleven week period. ( 240 hrs. Lectures; 60 hrs. Practical experience) Students must maintain a 50% minimum average over all tests.

This curriculum was designed thru the joint efforts of the Ministry of Health, Environmental Health Branch, and Project HOPE.

ENVIRONMENTAL HEALTH AGENCIES TRAINING PROGRAM - ST. LUCIA  
Second Training Group - June-September, 01

UNIT I - Introduction to Human Anatomy and Physiology

- A. The General Structure of the Body
  - 1) Head & Neck
  - 2) Trunk
  - 3) Limbs
- B. General Organization of the Body
  - 1) Cells
  - 2) Tissues (muscle, fat, nerve, bone, & fluids)
  - 3) Organs
  - 4) Systems
    - a. Respiratory System
    - b. Circulatory System
    - c. Digestive System
    - d. Nervous System
    - e. Reproductive System
    - f. Urinary System
  - 5) Skin

UNIT II - Personal Hygiene

- A. Definition of Hygiene - W.H.O. "positive concept"
- B. Care & Clearing of the Body
  - 1) Personal Grooming
    - a. Skin
    - b. Hands, Feet, and Nails
    - c. Mouth and Teeth
    - d. Head and Hair
    - e. General Appearance
- C. Physical Fitness
  - 1) Correct Breathing
  - 2) Posture and Exercise
  - 3) Fresh Air and Sunshine
  - 4) Rest, Sleep, and Recreation
- D. Mental Fitness
  - 1) The establishment of Good Habits and Mental Outlook

UNIT III - Simple First Aid in the Home Environment

- A. Care of Minor Wounds
- B. Care of Severe Bleeding
- C. Care of Burns
- D. Care of Shock
- E. Care of Toxic Poisoning
  - 1) Food & Chemical poisoning
  - 2) Insect & Snake venom poisoning

UNIT IV - Nutrition and Malnutrition

- A. Food for Proper Growth & Energy
  - 1) Foods for Energy
    - a. Carbohydrates
    - b. Fats
  - 2) Foods for Growth and Tissue Repair
    - a. Proteins
  - 3) Foods for Protection against Ill Health
    - a. Minerals
    - b. Vitamins
  - 4) Water
- B. Special Dietary Needs
  - 1) Infants and Toddlers
  - 2) School Children
  - 3) Pregnant Mothers
  - 4) Old Age
  - 5) Sick & Invalids
- C. Observing Physical signs of Nutrition
  - 1) Signs of Good Nutrition
  - 2) Signs of Bad Nutrition
- D. Malnutrition
  - 1) General Causes of Malnutrition
  - 2) Prevention of Malnutrition

**UNIT V - Introduction to Human Pathogens and the Disease Cycle**

- A. The Fundamentals of Microbiology**
  - 1) Bacteria
  - 2) Viruses
  - 3) Protozoa
  - 4) Rickettsiae
  - 5) Helminths
  - 6) Fungi & Molds
- B. Illness**
  - 1) Pathogenicity
    - a. "Germ Theory"
    - b. The Disease Cycle
- C. The Nature of Infection and its Control**
  - 1) How diseases are acquired
    - a. Airborne Disease
    - b. Waterborne Disease
    - c. Foodborne Disease
    - d. Insectborne Disease
    - e. Skin Disease
    - f. Sexually Transmitted Disease
    - g. Zoonoses
  - 2) Steps in the Prevention of Disease Transmission
    - a. Interruption of the Disease Cycle
    - b. Parasite Control
    - c. Disinfection
    - d. Disinfestation
    - e. Immunization / Vaccination
    - f. Quarantine
    - g. Public Health Laws
    - h. Epidemiology & Vital Statistics
    - i. Community Health Education

**UNIT VI - Aspects of Important Diseases in Saint Lucia**

- A. Communicable and Non-Communicable Diseases**
  - 1) Infection, Acute & Chronic illness
- B. Common Childhood Diseases**
  - 1) Malnutrition
  - 2) Gastroenteritis
  - 3) Viral diseases
- C. Common Diseases in Saint Lucia**
  - 1) Tuberculosis
  - 2) Leprosy
  - 3) Schistosomiasis
  - 4) Venereal Diseases
  - 5) Alcoholism & Drugs

**UNIT VII - The Control of Pests of Public Health Importance (Rodents, Helminths and Insects)**

- A. Medical Entomology**
  - 1) Identification of Insects
    - a. Taxonomy
    - b. Life Cycles
  - 2) Control of Infestations
    - a. The Kinds of Control Measures
      - 1. Physical Control Measures
      - 2. Mechanical Control Measures
      - 3. Environmental Control Measures
      - 4. Chemical Control measures
      - 5. Integrated Control Measures
  - 3) The Control of Common St. Lucian Insect Pests
    - a. Biting Insects
      - 1. Flea
      - 2. Lice
      - 3. Tick
      - 4. Bedbug
    - b. Crawling Insects
      - 1. Cockroaches
      - 2. Spiders
      - 3. Ants
      - 4. Termites
      - 5. Centipede & Millipede
    - c. Flying Insects
      - 1. Flies
      - 2. Mosquitoes
      - 3. Wasps & Bees

**UNIT VII - Pest Control continued:**

- 4) The Use of Insecticides
    - a. Proper Handling & Safety
    - b. Mixing Proportions
    - c. Proper Storage
    - d. Proper Disposal
  - 5) The Control of Pest Birds, Bats and Snakes
    - a. Blackbirds
    - b. Pigeons
    - c. Bats
    - d. Snakes
- B. Helminthology**
- 1) Identification of Worms
    - a. Taxonomy
    - b. Life Cycles
  - 2) Kinds of Human Worm Infections
    - a. Water-based Infection
    - b. Soil-based Infection
    - c. Meat-based Infection
    - d. Fecal-Oral Infection
  - 3) Control of Worm Infections
    - a. Drug Therapy
    - b. Environmental Controls
    - c. Intermediate Host Control
- C. Rodent Control**
- 1) Habits and Characteristics of Rodents
    - a. Comparative Taxonomy
    - b. Behavioral Characteristics
  - 2) Control Measures and Activities
    - a. Identifying Rodent Signs
    - b. Control of Rodent Harborages
      1. Sanitation
      2. Storage
      3. Rodent Proofing Structures
      4. Vent Stoppage
    - c. Destruction of Rodents
      1. Trapping
      2. Baiting
      3. Use of Natural Enemies
    - d. Control of Dead Rodent Odor
  - 3) Doing a Treatment and Follow-up

**UNIT VIII - Fundamentals of Food Hygiene**

- A. The Effect of Spoiling Agents on Food Quality
  - 1) Bacteria
  - 2) Temperature
  - 3) Other Contaminants
- B. Food Storage and Hygiene
  - 1) Protection of Food before Preparation
  - 2) Protection of Food during Preparation
  - 3) Protection of Food after Preparation
- C. Milk and Milk Products Hygiene

**UNIT IX - Drinking Water Hygiene**

- A. The Nature of Water
  - 1) Kinds of Water Sources
    - a. Rainfall
    - b. Surface Waters
    - c. Ground Waters
  - 2) Sources of Water Pollution
    - a. Biological pollution
    - b. Human Pollution
    - c. Industrial pollution
- B. The Collection and Storage of Water
  - 1) Springs
  - 2) Rivers, Ponds, and Lakes
  - 3) Wells
  - 4) Reservoirs
  - 5) Public Distribution Systems
  - 6) Private Water Systems
    - a. Catchments & Cisterns
    - b. Temporary Storage
      1. Drums
      2. Pots, Buckets, & other containers
  - 7) Water Meters

**UNIT II - Water continued:**

- 3) Simple Methods of Water Purification
  - a. Boiling
  - b. Filtration
  - c. Use of Chemicals
    1. Chlorine
    2. Iodine
- 4) Inspection and Sampling of Water Supplies
  - a. Collection
  - b. Storage
  - c. Transportation to the Lab.
- 5) Simple Plumbing and Drainage
  - a. Basic Principles of Plumbing
  - b. Cross-Contamination Safety
  - c. Water Conservation Practices

**UNIT X - Control and Proper Disposal of Solid Wastes**

- A. Kinds of Wastes
- B. Methods of Collection
- C. Prevention of Nuisances
- D. Methods of Disposal
  - a. Burial
  - b. Incineration
  - c. Disposal at Sea
  - d. Landfills and Open Dumps

**UNIT XI - Collection and Disposal of Human Excreta**

- A. Relationship between Health & Disposal of Excreta
- B. Selection and Design Criteria for Disposal Systems
- C. Construction, Maintenance, and Inspection of Excreta Systems
  - 1) Dry Conservancy
    - a. open disposal
    - b. pit privy
    - c. bore-hole privy
    - d. Middens
    - e. trenching and cover
    - f. Public Latrines
  - 2) Wet Conservancy
    - a. Wet sealed Pit privy
    - b. Aqua-privy
    - c. septic tank & soak-away
    - d. Public Sewerage
    - e. Public Latrines
  - 3) Carriage Systems
    - a. Bucket & Pail Latrines
    - b. Conventional Sewerage
  - 4) Educative Requirements
    - a. The Five Fixings
    - b. Cleaning Schedules
    - c. Cleaning Materials
  - 5) Special Developments
    - a. Rockefeller Sanitary Commission excreta designs
    - b. other techniques of recent development

**UNIT XII - Public Health Math**

- A. Calculating Area
- B. Calculating Volume
- C. Determination of Chlorine addition to Water Supplies
  - 1) parts per Million
- D. Use of Formulae and Conversion Tables

## **UNIT XIII - Disaster Sanitation**

- A. Sanitation & Hygiene under Temporary Conditions**
  - 1) Water
  - 2) Excreta
  - 3) Refuse
  - 4) Disposal of the Dead
  - 5) Hurricane Safety

## **UNIT XIV - Premises Inspection**

- A. Aspects of Site Selection**
  - 1) Characteristics of Soil and Drainage
  - 2) Location Considerations
    - a. Effects of Crowding
    - b. Proper Spacing of Homes
    - c. Control of Noise
    - d. Recreational Needs
    - e. Location of Water and Excreta Facilities
    - f. Proper Design of a Home
      - 1. Storage Space
      - 2. Privacy
      - 3. Food Preparation & Storage Space
      - 4. Sleeping Area
      - 5. Ventilation
    - g. Safety and Maintenance of Homes
- B. Health Hazards Around the Home**
  - 1) Recognition of Hazards
    - a. Safety & Injury Prevention
    - b. Fire & Explosion Hazards
    - c. Falls, Slips, & Trips
    - d. Chemical & Poison Storage
    - e. Basic Electrical Hazards
- C. Aspects of Building Ventilation**
  - 1) Characteristics of Air, and Air Flow
  - 2) Causes of Air Pollution
  - 3) Proper Ventilation
- D. Inspection and Evaluation of Various Premises**
  - 1) Occupant Observation for illness
  - 2) Neighborhood or Residential Inspection
  - 3) Exterior Premises (Outdoor) Inspection
  - 4) Interior Premises (Indoor) Inspection
  - 5) District Survey Inspection
  - 6) Inspection of Special Areas
    - a. Airport Hygiene
    - b. Seaport Hygiene
    - c. Hospital Hygiene
    - d. Public Areas Hygiene
  - 6) Disease Investigation
- E. Recording Investigations and Follow-up**
  - 1) Reports and Records
  - 2) Abatement Follow-up
  - 3) Referral to PMI or other Health Services

**UNIT XV - Community Health Education**

- A. Health Education in the Community**
  - 1) Human Relationships
  - 2) Aspects of Community Management
  - 3) Implementing Community Health Education
  - 4) Teaching and the Use of Teaching Aids
- B. Availability of Community Health Services**
  - 1) Mental Health
  - 2) Family Planning
  - 3) Health Centers
  - 4) Community Health Aides
  - 5) Others

**UNIT XVI - Professionalism**

- A. Introduction to Health Administration in St. Lucia**
  - 1) Office Management
  - 2) Forms & Record Keeping
- B. Roles & Responsibility of the EHA**
  - 1) Relationship of EHA to PRI
  - 2) Enforcement of Public Health Laws
  - 3) The Public Image
    - a. Public Schools
    - b. Home Occupants
    - c. Social or Private Groups
- C. Identification Card**



ATTACHMENT IV

NUMBER OF TRAINEES NEEDED, AS IDENTIFIED BY THE PROGRAM COUNCIL FOR THE PERIOD 1981 - 1983, IN RELATION TO THE NUMBER TRAINED AT THE HENRI CONWELL ST. LUCIA, AND THE NUMBER AS YET UNTRAINED, BY COUNTRY AND BY PROGRAM

2

	<u>ANTIGUA</u>	<u>DOMINICA</u>	<u>GRENADA</u>	<u>MONTSERAT</u>	<u>KITTS/ NEVIS</u>	<u>ST. LUCIA</u>	<u>ST. VINCENT</u>	<u>TOTAL</u>
<b>PHNs</b>								
# Needed	12	6	9	3	6	7	24	67
# Trained	<u>7</u>	<u>4</u>	<u>6</u>	<u>1</u>	<u>4</u>	<u>12<sup>a/</sup></u>	<u>4</u>	39
# As Yet Untrained	5	2	3	2	2	0	20	28
<b>MENTAL HYGIENISTS</b>								
# Needed	6	3	2	1	2	12	3	29
# Trained	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>6</u>
# As Yet Untrained	5	2	2	1	2	8	3	23
<b>PHARMACISTS</b>								
# Needed	30	6	6 <sup>1</sup>	1	4	20	10	77
# Trained	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>0</u>	<u>2</u>
# As Yet Untrained	30	5	5	0	3	16	10	69

<sup>a/</sup> Includes the 10 trainees graduated in 1981.

SOURCE: Attachment 4: "Manpower Needs as Submitted by Delegates from Participating Countries," First Meeting of the Program Council, Eastern Caribbean Regional Health Training Program (November 1980).

November 5, 1982

SCOPE OF WORK

COST-EFFECTIVENESS ANALYSIS  
OF  
ENVIRONMENTAL HEALTH OFFICER TRAINING PROGRAM,  
SAINT LUCIA

November 2-29, 1982

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I. OBJECTIVES

The objectives of this project are:

1. To develop a framework of analysis suitable for assessing the cost-effectiveness of Environmental Health Officer (EHO) training programs in the Caribbean region.
2. To ascertain the full economic cost for training of EHOs under the program operated by Project HOPE in Saint Lucia. The period to be covered is August 1980 - March 1982, unless a recommendation is made to extend this period.
3. To compare the cost-effectiveness of EHO training at the Saint Lucia center with that determined for similar centers in the Caribbean region, particularly those at Barbados Community College (BCC) and the University of the West Indies, Jamaica (UWI). The comparison will address similarities and differences in cost components, program elements, and outputs.
4. To assess the implications of these findings with regard to potential training costs under continuation and/or institutionalization of the Saint Lucia program.

II. INFORMATION REQUIREMENTS

Cost-effectiveness analysis (CEA) is a method used to identify the cost per unit of output for a set of program activities, in this case training of EHO workers. CEA imposes substantial needs for information, at a relatively high level of detail.

The validity of CEA rests on three principal conditions:

- a) that full economic costs are identified and quantified;
- b) that program characteristics relevant to the utilization of inputs and the production of outputs are specified, and that allowance is made for their relative comparability in any multiple-site evaluation;
- c) that all program outputs are identified and quantified to the extent possible, so that a standard measure(s) may be employed.

Information is required for each of the EHO training centers under study, in the following categories:

#### A. Cost of Inputs

Training program expenditures are separately identified as falling within start-up (or "developmental") costs, and on-going (or "operational") costs. CEA is chiefly concerned with on-going costs, which reflect resource requirements once a program is underway. This category is further separated into recurrent costs (which are incurred roughly in proportion to the number of students), and fixed costs (or non-recurrent, which, with allowance for program scale, are incurred regardless of the number of students). For relatively new programs, such as that in Saint Lucia, it is useful to begin by considering start-up costs as well.

#### 1. On-Going Costs (Saint Lucia, BCC, UWI)

##### a. Recurrent Costs

- Personnel (expatriate; national/local)
- Supplies
- Communications
- Transportation and Travel
- Operation and Maintenance
- Fellowships
- Student Support and Subsistence

##### b. Fixed Costs

- Facilities
- Equipment
- Staff Training
- Library Books
- Supporting Activities

##### c. Unclassified Support Costs (overhead)--if not otherwise identified.

#### 2. Start-Up Costs (Saint Lucia)

- Items in the above categories, as appropriate.

3. This information is to be obtained for all relevant sources of training program funds, including:

- Program operator/contractor (e.g., Project HOPE, BCC)
- USAID-RDO/C
- Other organizations (e.g., PAHO, CARICOM)
- National governments
- Students

4. Supporting information may be necessary to determine the value of certain types of inputs. Methods used to assign or impute costs to these items are to be explicitly documented and made consistent across programs. Such inputs include:

- Resources shared with other programs or activities (jointly used buildings, libraries, faculty, etc.)
- Inputs obtained at non-market rates (use of government facilities, other subsidies)
- Donations in-kind (books, equipment, supplies, labor)

5. In addition, the cost of substitute inputs in certain categories is to be estimated, for the comparison of alternative program configurations (e.g., potential replacement of expatriate personnel with nationals).

#### B. Program Characteristics

To clarify the issue of precisely what is being evaluated or compared in CEA, it is important that major program features influencing the process and the outputs of EHO training be identified. Although specific features never in themselves "justify" a particular expenditure or output pattern, their recognition permits analysis to be framed within a broader historical, environmental, and technical context. This in turn raises the likelihood that a useful assessment can be made of the relative significance of program idiosyncrasies and/or differences, and of their implications for program extension or redesign.

1. Potentially relevant characteristics are numerous; a listing might include, for each program:

- Original purpose(s), and changes in purpose
- Present and potential trainee capacity
- Current and projected demand for graduates
- Student background and experience
- Quality of instruction and administrative support
- Availability of supporting resources (housing, laboratories, etc.)
- Curriculum content
- Knowledge and skill levels of graduates

A review is to be made of the programs under study with respect to these points, especially as they affect specific cost components. Because of possible overlap in focus with the larger evaluation study currently approaching completion, this treatment is to be brief and selective. It will be incorporated, however, insofar as it contributes to an understanding of why and how particular program results are realized.

### C. Program Outputs

The identification and measurement of all program outputs is necessary to establish a standard or denominator for comparison in CEA. Because EHO training tends to be characterized by long duration, multiple outputs, and overlaps with other types of activities, the most basic measure of output--the number of fully-trained EHOs--is not likely to be the only or the most satisfactory measure that might be employed.

1. Due to the varying and multiple-year duration of EHO training, the number of trainee-months completed is a supplementary, and potentially more meaningful, output indicator.
2. If the number of trainees is still used, it may be appropriate to adjust this figure for the trained EHOs who do not return to their home island or do not work in the sanitation field, to account for "brain-drain" effects.
3. If other varieties of personnel are trained at the same center, especially using joint faculty, their contribution to outputs is to be estimated and eliminated as is their contribution to costs.
4. Although they are less quantifiable, potential multiplier effects of programs should be taken into consideration as outputs (i.e., future EHOs trained by current EHO students qualified to be trainers).
5. There may be many other outputs identified for training programs, most of which are not fully quantifiable. The majority can be related to "start-up" expenditures--e.g., the development of libraries, curriculum, etc.--and so can be eliminated from the comparison. Others may be more directly traced to "on-going" expenditures--e.g., maintenance of training capability at a site, to the extent that that is valued--and should be measured as well as possible.

The analysis should specify these various outputs, in order to provide a perspective on program comparability. It should relate outputs to specific cost components where that is feasible.

### III. METHODOLOGY

Although this analysis consists essentially of a direct application of economic principles to the EHO training setting, the discussion above has indicated the variety of approaches that may be taken within the overall CEA framework. Accordingly, the determination of (a) appropriate methods for assigning economic values to the listed items, and (b) a consistent format for presentation of indicators and findings, will be based in large part upon discussions held with staff of Project HOPE, USAID, PAHO, and other organizations.

The starting point for this analysis will be the preliminary cost-effectiveness evaluation reported in the Eighteen-Month Evaluation (Draft, dated July 23, 1982). Inspection indicates that fuller documentation and/or further information will be necessary for a complete and reliable cost-effectiveness comparison among the three Caribbean training centers, however.

Data will be collected and assembled from the Saint Lucia, BCC, and UWI training centers, in each of the categories noted in Part II above.

- Measurement units are to be standardized; for example, all costs will be expressed in U.S. dollars.
- Estimates and qualitative judgments made for certain items are to be designated as such.
- Where sufficient information is not available to make an adequate comparison among programs, this is also to be noted.

Based on interviews and discussion, a strategy will be developed for extending the CEA to address issues relevant to the possible institutionalization of the Saint Lucia center program. This will chiefly include cost-effectiveness projections concerning the potential for input substitution (e.g., using national rather than expatriate staff) and for alternative program configurations (with varying class sizes, etc.)

The principal sources of information for this analysis will be:

- USAID-RDO/C, Barbados
- PAHO/WHO-RHPU, Barbados
- Project HOPE Headquarters, Millwood, Virginia
- EHO Training Center Sites:
  - Morne Complex, Saint Lucia
  - Barbados Community College
  - University of the West Indies, Jamaica (Note: It is anticipated that information on this program will be available in Barbados; this center will be excluded from the analysis to the extent that it is not possible to obtain data for this center in this time frame.)

Analysis will be carried out on-site in Barbados, and upon return at the HOPE Center. Results will be presented in a report, to be completed by November-29, 1982. The report will be organized as follows:

- A. Background and Methodology
- B. Cost-Effectiveness Comparison: Saint Lucia, BCC, UWI Training Centers
- C. Implications for Institutionalization
- D. Summary and Conclusions.

**Schedule of Work:**

- November 2 - 4:** Attend briefings and begin data collection at HOPE Center, Millwood, Virginia.
- 7:** Travel to Barbados.
- 8 - 12:** Barbados: Attend briefings with USAID, BCC, and other institutions/organizations. Finalize methodology and collect further data.
- 15 - 19:** Site visit to Saint Lucia training center (2 days) Return to Barbados to complete interviews and data gathering, and begin analysis.
- 21:** Return to U.S.
- 22 - 24:** Complete analysis and prepare draft report, HOPE Center.
- 26 - 28:** Prepare final report, Princeton.
- 29:** Complete and submit final report, HOPE Center.