

APPENDIX D  
A.I.D. EVALUATION SUMMARY - PART I

PD-ABD-534  
147

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.  
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE.

IDENTIFICATION DATA

|   |  |   |  |  |  |
|---|--|---|--|--|--|
| A. Reporting A.I.D. Unit: <u>AFR/TR/HPN</u>   |  | B. Was Evaluation Scheduled In Current FY Annual Evaluation Plan?<br>Yes <input type="checkbox"/> Skipped <input checked="" type="checkbox"/> Ad Hoc <input type="checkbox"/> |  | C. Evaluation Timing<br>Interim <input type="checkbox"/> Final <input checked="" type="checkbox"/> |  |
| Mission or AID/W Office (ES# _____)   |  | Evaluation Plan Submission Date: FY ____ Q ____   |  | Ex Post <input type="checkbox"/> Other <input type="checkbox"/>                                    |  |
| D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.) |  |   |  |  |  |

| Project No. | Project /Program Title   | First PROAG or Equivalent (FY) | Most Recent PACD (Mo/Yr) | Planned LOP Cost (000) | Amount Obligated to Date (000) |
|-------------|--|--------------------------------|--------------------------|------------------------|--------------------------------|
| 698-0421    | Africa Child Survival Initiative -- Combatting Childhood Communicable Diseases (Regional Components) | 1981                           | 9/93                     | \$151m                 | \$132m                         |

ACTIONS

| E. Action Decisions Approved By Mission or AID/W Office Director   |  | Name of Officer Responsible for Action | Date Action to be Completed |
|--|--|--|-----------------------------|
| Action(s) Required   |  |  |                             |
| Extend the project to bridge the gap between ACSI-CCCD and the new bilateral projects.                                       |  | Post                                   | May 91                      |
| Provide a no-cost extension to WHO/AFRO to complete planned activities.  |  | Post                                   | Sep 91                      |
| Include assessment of sustainability potential by using sustainability strategy indicators in project evaluations.           |  | Collins                                | Sep 93                      |
| CDC/IHPO add management expertise to their staff.  |  | CDC/IHPO                               | Oct 91                      |
| Assess IHPO's tracking of expenditures by planned activities and recommend necessary changes to ensure this is accomplished. |  | Collins                                | Sep 93                      |

(Attach extra sheets if necessary)

APPROVALS

F. Date Of Mission Or AID/W Office Review Of Evaluation: \_\_\_\_\_ (Month) \_\_\_\_\_ (Day) \_\_\_\_\_ (Year)

G. Approvals of Evaluation Summary And Action Decisions:

| Name (Typed) | Project/Program Officer | Representative of Borrower/Grantee | Evaluation Officer | Mission or AID/W Office Director |
|--------------|-------------------------|------------------------------------|--------------------|----------------------------------|
|              | Glenn L. Post, M.D.     |                                    | Randall Roeser     | Warren Weinstein                 |
| Signature    | <i>[Signature]</i>      |                                    | <i>[Signature]</i> | <i>[Signature]</i>               |
| Date         | 12/17/91                |                                    |                    | 12/19/91                         |

**ABSTRACT**

H. Evaluation Abstract (Do not exceed the space provided)

With a 10-year life-of-project authorization of \$124 million at the time of this evaluation, ACSI-CCCD is the Bureau's largest project and the Agency's largest vehicle for promoting child survival. During the late 1980s, the Africa Bureau began an effort to phase out of regional projects such as ACSI-CCCD in favor of bilateral projects. In an effort to better understand and facilitate this process, project management decided to commission an external evaluation of the regional components of ACSI-CCCD to learn how they have operated. The evaluation involved extensive document review, interviews with collaborating agencies and field visits to projects in four countries. Many obstacles interfered with implementation, including the last minute unavailability of the team leader, difficult logistics, poor health of one team member and a mid-way change of team leadership. In summary, the evaluation team found that the project had made significant progress in the technical areas of immunization, diarrheal diseases control and malaria control. The team identified the need for further assistance in the areas of institution building and management development. In the view of project management, the constraints of this evaluation include its cumbersome length and a strong focus on issues of management, integration and institution building. This perspective did not always allow for an objective assessment of a project designed to promote selective primary health care. The lessons learned from this evaluation apply to projects of a similar nature, the evaluation process and Agency project management in general. Certain benefits of regional projects were identified, some of which may be lost in the process of bilateralization. The project management constraints identified apply to all A.I.D. projects and warrant consideration at the Agency level. Finally, lessons were learned about the evaluation process.

**COSTS**

**I. Evaluation Costs** \*

| 1. Evaluation Team |                        | Contract Number OR<br>TDY Person Days | Contract Cost OR<br>TDY Cost (U.S. \$) | Source of Funds |
|--------------------|------------------------|---------------------------------------|--|-----------------|
| Name               | Affiliation            |                                       |  |                 |
| Anne Marie Foltz   | Consultant, TvT        | 73                                    | \$20,808                               | Project         |
| Sif Eriksson       | Consultant, TvT Assoc. | 55                                    | \$12,377                               | Project         |
| Harvey Gutman      | Consultant, MSH        | 49                                    | \$14,425                               | Project         |
| John Raleigh       | Consultant, TvT Assoc. | 15                                    | \$ 4,425                               | Project         |

|   |  |
|---|--|
| 2. Mission/Office Professional Staff<br>Person-Days (Estimate)    60 days | 3. Borrower/Grantee Professional<br>Staff Person-Days (Estimate) |
|---|--|

\* Entire evaluation with travel and report production cost

## A.I.D. EVALUATION SUMMARY - PART II

### SUMMARY

**J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)**

**Address the following items:**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Purpose of evaluation and methodology used</li> <li>• Purpose of activity(ies) evaluated</li> <li>• Findings and conclusions (relate to questions)</li> </ul> | <ul style="list-style-type: none"> <li>• Principal recommendations</li> <li>• Lessons learned</li> </ul> |
|--|--|

**Mission or Office:**  
AFR/ARTS & ONI

**Date This Summary Prepared:**  
November 1991

**Title And Date Of Full Evaluation Report:** August 1991  
External Evaluation of the Regional Core  
~~Support Components: ACSI-CCCD Vols. I, II~~

ACSI-CCCD aims to increase the ability of African countries to improve child survival through immunization, control of diarrheal diseases and malaria control. These interventions are supported by training, health education, health information systems, operations research and health care financing. At the time of the evaluation, ACSI-CCCD had a 10 year LOP authorization of \$123,568,000. ACSI-CCCD is an interagency effort primarily implemented through a PASA with the Centers for Disease Control, but also involving agreements and contracts with UNICEF, WHO/AFRO, Peace Corps, certain AID/W central projects and other agencies and contractors. ACSI-CCCD operates at the regional and bilateral levels. Full scale ACSI-CCCD projects have operated in 13 African countries.

ACSI-CCCD is the Bureau's largest project and the Agency's largest vehicle for promoting child survival. During the final years of ACSI-CCCD, the Africa Bureau began a process of bilateralization, moving away from regional projects towards a mission-driven system of programming and management. As ACSI-CCCD entered its ninth and next to last year and regional projects began to be phased out, project management decided to commission an external evaluation of the regional components of ACSI-CCCD to learn how they have operated. In this evaluation, the regional components of the project are referred to as the "core".

Because ACSI-CCCD is such a large and complex effort and because the distinction between regional and country-level activities is not a straightforward one, this evaluation was inherently difficult to design and challenging to implement. The evaluation involved extensive document review, interviews with collaborating agencies in Washington DC, Atlanta, New York, Geneva and Brazzaville and field visits to projects in Togo, Cote D'Ivoire, Lesotho and Zaire. Many obstacles interfered with implementation, including the last minute unavailability of the carefully selected and highly qualified team leader, difficult logistics for the country visits, poor health on the part of one of the team members and a mid-way change of team leadership.

The evaluation team's major findings and conclusions are:

- \* In ACSI-CCCD countries, immunization coverage increased while morbidity from vaccine preventable diseases declined (up to 75% for polio in three countries); use of ORS and ORT increased; ministries established policies for malaria prophylaxis and treatment; and results from research produced other policy changes including the use of improved indicators for measuring program impact and increased attention within the Bureau to research on malaria as one of the major disease problems in Africa.
- \* Through a flexible mixture of strategies using different implementing agents, the core has supported in-country activities by providing technical assistance and backstopping, particularly for the three targeted interventions (immunizations, diarrheal diseases control and malaria control).
- \* Through the core's support strategies (training, health education, health information systems operations research and health care financing), nearly 100 applied research studies have been conducted, more than 900 persons have been trained, health education programs have been developed and health information systems have been computerized in central ministries providing improved reporting on morbidity and mortality.

- \* The core has provided training and assistance to African investigators carrying out applied research and sponsored consultative conferences where findings from project activities could be shared.
- \* Because of its country-specific and medical/technical approach, ACSI-CCCD has not been able to take full advantage of its regional potential to do cross national research or provide leadership beyond technical areas. ACSI-CCCD's analytical agenda has emphasized technical issues with less attention given to organizational issues.
- \* ACSI-CCCD's focus on selected vertical interventions contributed to the development of programs but constrained the development of integrated, sustainable institutions. The need to obtain indicators and the establishment of special information systems for specific programs reinforced the verticality of the project.
- \* Management oversight by AID/W was weak during the first half of the project. Reflecting the complexity of the project's organizational structure, there has been confusion about the respective responsibilities of AID/W, CDC and USAID missions.
- \* Although activity to assist a few countries to move toward cost-recovery schemes did increase, the addition of a sustainability strategy during the seventh project year did not cause a significant re-deployment of activities and resources towards institution building and organizational development. Further research and support in the area of sustainability is required.
- \* Despite the project's success in assisting participating countries to develop their services, these countries will continue to need donor assistance to maintain and further improve these services. Neither the administrative nor the fiscal infrastructure exist yet to permit these governments to support the delivery of health services.
- \* Relative to the considerable progress made in establishing health/epidemiological information systems, the management information systems are underdeveloped and require further assistance. Further assistance will also be needed to identify key indicators and to integrate information into systems which permit decision makers to make rational resource allocation decisions.

The evaluation team made the following major recommendations for ACSI-CCCD:

- 1) ACSI-CCCD should be extended to bridge the gap between old and new projects in those countries which are instituting bilateral follow-on projects. A.I.D./W project management and CDC should work with USAIDs to ensure that gaps do not occur between ACSI-CCCD projects and follow-on projects.
- 2) The WHO/AFRO grant should be accorded a no-cost extension to complete planned activities.
- 3) CDC should undertake a study on resources needed to assure sustainability of project achievements and then should redeploy its resources accordingly. Final evaluations of project activities should include some assessment of how the project has measured up against the sustainability strategy indicators.
- 4) A.I.D., as an agency, should pursue the development of generic financial tracking and project management systems for project officers.

W

- 5) CDC/IHPO should add appropriate management expertise to their Technical Services Division.
- 6) AID/W project management should give high priority to improving project reporting formats to permit a more detailed comparison of planned and actual performance for activities and finances.

The evaluation team made the following major recommendations for a follow-on project to ACSI-CCCD:

- 1) A follow-on project should focus on support strategies which will assist ministries of health to establish integrated institutional services in maternal and child health. These should include: management/policy making skills, management information systems, applied comparative research, health financing, regional training, health education and training curricula.
- 2) All strategies should be tailored to the needs of particular countries.
- 3) The follow-on project should emphasize integrative approaches to child survival which would include family planning, HIV and nutrition.
- 4) The implementing agency for a follow-on project must be one that sees institutional strengthening as its primary task and has demonstrated capacity in management skills development.
- 5) The focus on institution-building should be structured for the long-term perspective, over at least ten years to assist countries to develop management capacity.
- 6) A project management structure should be designed to permit USAID missions easy access to its resources, perhaps as a kind of IQC.

The lessons learned from this evaluation apply to projects of a similar nature, the evaluation process and Agency project management in general.

- \* The evaluation team identified four distinct advantages of regional projects as follows: (1) regional projects allow AID/W to influence USAIDs to become interested in particular subject areas or innovations, (2) regional projects permit easy exchange of ideas, programs, applied research results and innovations across national boundaries, (3) applying a model across countries leads to efficiencies, and (4) regional projects allow AID/W to support small countries without bilateral projects and to support activities that benefit several countries (e.g., regional training). Consideration must be given to these benefits and how they will be maintained after the Bureau phases out regional projects.
- \* As noted above, undertaking this evaluation was problematic. In the final analysis, the scope of work may have been too broad particularly given the time allotted and the team composition. In the future, smaller evaluations of specific components may prove more manageable and useful. Using a standardized approach over time to conduct full evaluations of all country-level projects may be a more accurate way to assess country-level activities than to have one team briefly visit a few selected countries at one point in time.
- \* The team identified several weaknesses in AID/W project management. The implications of these findings went beyond ACSI-CCCD to contract and financial management functions. What emerged was a need to reassess project management procedures.

## ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

Volumes I and II of the Evaluation Report

## COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

The evaluation of ACSI-CCCD's core components is an extremely comprehensive report that contains a number of excellent insights, but also suffers from some key constraints. The length of the report (two volumes, about 200 pages) makes the report difficult to read and thereby reduces its utility. Nevertheless, the report does not describe certain basic elements of how the core operates. The annex written by the previous A.I.D./Washington Project Officer is helpful in this regard, but underscores that the team may not have fully understood the subject of the evaluation.

The historical perspective and appreciation of the project design framework are sometimes lacking in this evaluation. For example, the project is frequently criticized for failing to effect broader, institutional changes within the ministries of health. But, the project was designed to promote selective primary health care and as the paper itself points out (Appendix II-6 p.4), "a project which focuses on a few interventions is probably not a good vehicle for promoting major institutional or policy changes in financing and organizing health services."

Given its roots in the selective primary health care approach, the project has shifted substantially in developing a well articulated sustainability strategy with indicators and in promoting an integrated approach. Indeed, ACSI-CCCD took the lead among A.I.D. projects in developing such a strategy and in incorporating sustainability objectives.

Africa Bureau health staff do not agree with the various assertions and implications throughout the document that the solutions to technical problems are clear so that we now need to devote nearly all of our attention to organizational, institutional and management issues. While the team has made a compelling case for a shift in emphasis, this has been carried too far. Technical issues and interventions will continue to require major attention in future activities, especially as family planning, AIDS and STDs, and ARI interventions (not to mention new vaccines and revised malaria strategies) become increasingly integrated into the service delivery package.

With regard to the evaluation recommendations, many are already in process or have been implemented. For example, ACSI-CCCD was extended as a bridging mechanism to new bilateral projects, final country project evaluations in Nigeria and Guinea assessed progress according to the sustainability indicators and CDC/IHPO is adding management expertise to its staff. The concept of the new regional project has evolved; it will focus narrowly on research and analysis. Therefore, most of the follow-on recommendations are no longer relevant in a "regional" project context. However, some of the new bilateral projects do demonstrate a shift in emphasis towards support strategies and institution building. Finally, although valid, many of the project management recommendations apply to all A.I.D. projects and could only be addressed at the Agency level.

---

---

**FINAL REPORT**

---

---

**EXTERNAL EVALUATION**

**OF THE REGIONAL CORE SUPPORT COMPONENTS:**

**AFRICAN CHILD SURVIVAL INITIATIVE -- COMBATTING CHILDHOOD  
COMMUNICABLE DISEASES PROJECT  
(ACSI-CCCD, No. 698-0421)**

**Volume I**

**Prepared for**

**The Bureau for Africa, Technical Resources Division**

**Agency for International Development  
Washington, D.C.**

**Under**

**Contract No. AFR-0421-C-00-0047-00**

**August, 1991**

**by**

**Anne-Marie Foltz, Team Leader**

**Harvey Gutman**

**Sif Ericsson**

**John P. Raleigh**

---

---

**TvT Associates**

---

---

## ACKNOWLEDGEMENTS

The evaluation team wishes to thank all those who contributed to making this effort a smooth process. We received major support from the office of AFR/TR/HPN which proved to be a vital resource for documents and data as well as providing access to all important informants and for scheduling field visits. We wish to thank particularly Dr. James Shepperd, Laurie Ackerman and Laura Kearns for their unfailing response to our inquiries.

In Atlanta, the Centers for Disease Control IHPO office's well-organized briefings and briefing packages eased our task of locating relevant information and understanding the complexities of the project. Special thanks go to Dr. Joe Davis, Dr. Stan Foster and Dr. Ronald Waldman.

Equally important were the many officials in the Agency for International Development in Washington, the USAID missions, African ministries of health, UNICEF, WHO, as well as CCCD technical officers who took the time to share their views on the CCCD program and to help us organize our visits. Particularly, we wish to thank Hal Fleming, Paul Ehmer, Dr. Karsa Tchasseu, Modupe Broderick, Ray Martin, Dr. Musinde, Karen Wilkins, Dr. Barakamfityie and David Gittleman.

To Dorothy Bell and Myrna Seidman of TvT Associates we add our thanks for their logistical, substantive, and moral support.

# CONTENTS

## Volume I

|   |       |
|---|-------|
| Acknowledgements  | i.    |
| Acronyms  | iv.   |
| Executive Summary   | viii. |
| I. Introduction   | 1     |
| II. Description of the CCCD Project                                     | 4     |
| A. History and Project Objectives                                       | 4     |
| B. Organization   | 5     |
| 1. The Agency for International Development (A.I.D.)                    | 5     |
| 2. The Centers for Disease Control (CDC)                                | 7     |
| 3. The World Health Organization, Regional Office for Africa (WHO/AFRO) | 9     |
| 4. The Peace Corps  | 9     |
| 5. United Nations Children's Fund (UNICEF)                              | 9     |
| 6. The Bureau of the Census   | 9     |
| 7. The Bureau of Science and Technology (S&T) Projects                  | 10    |
| C. Management Systems   | 11    |
| 1. Planning and Budgeting   | 11    |
| 2. Monitoring and Supervision by AID/AFR                                | 12    |
| 3. Monitoring and Supervision by CDC                                    | 12    |
| 4. Administration and Financial Tracking                                | 13    |
| III. Activities, Accomplishments, and Constraints of the Core Component | 20    |
| A. Participating Countries  | 20    |
| B. Overview of Interventions and Support Strategies                     | 20    |
| 1. Interventions  | 21    |
| 2. Support Strategies   | 25    |
| C. Appropriateness of Approaches: Constraints and Lessons               | 31    |
| 1. Models for Information Systems                                       | 31    |
| 2. Point of Administrative Entry to Information Systems                 | 32    |
| 3. Sustainability of Systems  | 32    |
| 4. Impact Indicators  | 32    |
| D. Policy Development and Strategies                                    | 44    |

|     |  |    |
|-----|--|----|
| IV. | Analyses and Conclusions: Crosscutting Issues in CCCD Project Design and Management          | 46 |
| A.  | Regional Projects  | 46 |
| B.  | Selective Primary Care Intervention Strategy: Effectiveness of Vertical Interventions        | 49 |
| 1.  | Background to Selective Primary Care Intervention Strategy                                   | 49 |
| 2.  | CCCD Project's Selective Interventions   | 50 |
| 3.  | Effects of the Selective Intervention Approach   | 51 |
| C.  | Management Oversight and Coordination of Multiple Actors                                     | 53 |
| 1.  | Management Oversight   | 53 |
| 2.  | Coordination within the Project: Technical Versus Management Assistance                      | 55 |
| 3.  | Multiplicity of Actors: Coordination within Organizations and among Organizations and Donors | 56 |
| D.  | Program Impact Indicators and their Relationship to Sustainable Information Systems          | 58 |
| E.  | Sustainability and Institutionalization  | 61 |
| V.  | Conclusions and Recommendations  | 62 |
| A.  | Summary Findings and Conclusions   | 62 |
| 1.  | Findings   | 63 |
| 2.  | Conclusions  | 63 |
| 3.  | Recommendations  | 64 |

#### TABLES

|           |  |    |
|-----------|--|----|
| Table I-1 | - Staffing and Personnel Costs to the Centers for Disease Control for the CCCD Project, Fiscal Year 1990 | 8  |
| Table I-2 | - Measles Vaccination Coverage and Incidence of Measles in CCCD Project Countries for Selected Years     | 22 |

#### EXHIBITS

|           |  |    |
|-----------|--|----|
| Exhibit 1 | - CDC Public Health Advisor Supervisory Checklist                                    | 14 |
| Exhibit 2 | - CCCD Obligations Report Prepared by AFR/TR/PRO                                     | 16 |
| Exhibit 3 | - Excerpt from AFR/TR/HPN Spreadsheet called CCCD MIS                                | 17 |
| Exhibit 4 | - CDC Expenses for CCCD Using AID/FM Mandated Format for Project financial Reporting | 18 |

## APPENDICES

- Appendix I-1 - Evaluation Scope of Work
- Appendix I-2 - Persons Contacted
- Appendix I-3 - Documents Reviewed
- Appendix I-4 - CCCD Project Organization Chart
- Appendix I-5 - CDC IHPO Organization Chart

## Volume II

### APPENDICES

- Appendix II-1 - Evaluation of Management Component of CCCD Regional Core Activities
- Appendix II-2 - Information Systems
- Appendix II-3 - Training
- Appendix II-4 - Health Education
- Appendix II-5 - Operations Research/Applied Research
- Appendix II-6 - Sustainability
- Appendix II-7 - Long-term and Short-term Technical Assistance
- Appendix II-8 - The Organization and Management of the Africa Child Survival Initiative Project-CCCD (698-0421)

### TABLES

- Table II-7-1 - Short Technical Assistance Days under the Centers for Disease Control PASA for the CCCD Project by Country and Selected Interventions, January 1985 - September 1990 7-4
- Table II-7-2 - Total Short-term Technical Assistance Days Under the Centers for Disease Control PASA for the CCCD Project by Program Area, January 1985 - September 1990 7-5
- Table II-7-3 - Non-CDC Staff Short-term Technical Assistance Days Under the Centers for Disease Control PASA for the CCCD Project by Program Area, January 1985 - September 1990 7-6

## EXHIBITS

|           |   |   |      |
|-----------|---|---|------|
| Exhibit A | - | CCCD Regional Core--Major Obligating Investment                                       | 1- 7 |
| Exhibit B | - | CCCD In-Country Activities  | 1-10 |
| Exhibit C | - | Togo MOH Organization Chart   | 1-13 |
| Exhibit D | - | Central African Republic MOH Organization Chart                                       | 1-14 |
| Exhibit E | - | Zaire MOH Organization Chart  | 1-15 |
| Exhibit F | - | Cote d'Ivoire MOH Organization Chart  | 1-16 |
| Exhibit G | - | Burundi MOH Organization Chart  | 1-17 |
| Exhibit H | - | CDC Public Health Advisor Supervisory Checklist                                       | 1-26 |
| Exhibit I | - | CDC Expenses for CCCD Using AID/FM Mandated Format<br>for Project Financial Reporting | 1-28 |
| Exhibit J | - | CCCD Obligations Report Prepared by AFR/TR/PRO  | 1-29 |
| Exhibit K | - | Excerpt from AFR/TR/HPN Spreadsheet called CCCD MIS                                   | 1-31 |

## ACRONYMS

|             |   |
|-------------|---|
| ACSI-CCCD   | African Child Survival Initiative -- Combatting Childhood Communicable Diseases Project     |
| AFR/DP      | Office for Development Planning   |
| AFR/PRO     | Bureau for Africa, Office of Program and Regional Operations                                |
| AFR/RA      | Bureau for Africa, Office of Regional Affairs   |
| AFR/TR      | Bureau for Africa, Technical Resources Division   |
| AFR/TR/HPN  | Bureau for Africa, Technical Resources Division, Office of Health, Population and Nutrition |
| A.I.D.      | Agency for International Development  |
| AID/W       | Agency for International Development in Washington  |
| AIDS        | Acquired Immunodeficiency Syndrome  |
| ARI         | Acute Respiratory Infection   |
| BUCEN       | Bureau of the Census  |
| C.A.R.      | The Central African Republic  |
| CCCD        | Combatting Childhood Communicable Diseases Project  |
| CDC         | Centers for Disease Control   |
| CDD         | Control of Diarrheal Diseases   |
| CDIE        | Center for Development Information and Evaluation, Agency for International Development     |
| CMIS        | Contracts Management Information System   |
| EPI         | Expanded Program of Immunization  |
| E-Z vaccine | Edmonston-Zahgreb measles vaccine   |
| FAAS        | Foreign Affairs Administrative Support  |
| FACS        | Financial Accounting System   |
| FM          | Office of Financial Management  |
| FONAMES     | National Fund for Medical/Health Activities   |
| FTE         | Full-time equivalent  |
| FY          | Fiscal Year   |
| HAPA        | HIV/AIDS Prevention for Africa Project  |
| HCF         | Health Care Financing   |
| HEALTHCOM   | Communications for Child Survival Project   |
| HED         | Health Education Division   |
| HIS         | Health Information System   |
| HIV         | Human Immunodeficiency Virus  |
| HPN         | Health, Population and Nutrition  |
| IHPO        | International Health Program Office, Centers for Disease Control in Atlanta                 |
| INTRAH      | International Training in Health Project  |
| IQC         | Indefinite quantity contract  |
| KAP         | Knowledge, Attitudes and Practices  |
| LSGA        | Limited Scope Grant Agreement   |
| MOH         | Ministry of Health  |

|          |  |
|----------|--|
| MIS      | Management Information System  |
| MUHS     | Mortality and Use of Health Services survey  |
| NUTRICOM | Nutrition Project, S&T/Nutrition   |
| OCCGE    | Organization for coordination and cooperation in the struggle against endemic diseases, West Africa    |
| OCEAC    | Organization for coordination and cooperation in the struggle against endemic diseases, Central Africa |
| OE       | Operating expenses   |
| OR       | Operations research  |
| ORS      | Oral rehydration salts   |
| ORT      | Oral rehydration treatment   |
| OYB      | Operating year budget  |
| PACD     | Project Activity Completion Date   |
| PAIS     | Project Accounting Information System  |
| PASA     | Participating Agency Service Agreement   |
| PCV      | Peace Corps Volunteer  |
| PD       | Office of Program Development  |
| PEV      | <i>Programme elargi du vaccination</i> (Expanded program of immunizations)                             |
| PHA      | Public Health Advisor  |
| PIO/T    | Project Implementation Order/Technical Services  |
| PIR      | Project Implementation Report  |
| PRICOR   | Primary Health Care Operations Research Project  |
| PRITECH  | Technology for Primary Health Care Project   |
| PPB      | Planning, Programming and Budgeting  |
| PSC      | Personnel Services Contractor  |
| REACH    | Resources for Child Health   |
| REDSO    | Regional Economic Development Services Office  |
| RSSA     | Regional Support Services Agreement  |
| S&T      | Bureau for Science and Technology  |
| SANRU    | <i>Santé Rurale</i> (Basic Rural Health Project in Zaire)  |
| SHDS     | Strengthening Health Delivery Systems Project, Agency for International Development                    |
| SSS      | Sugar-salt solution for oral rehydration   |
| TA       | Technical Assistance   |
| TAACS    | Technical Advisor for AIDS and Child Survival  |
| TO       | Technical Officer, The Centers for Disease Control   |
| TOT      | Training of trainers   |
| TR       | Division of Technical Resources  |
| UNICEF   | United Nations Children's Fund   |
| USAID    | United States Agency for International Development   |
| WHO      | World Health Organization  |
| WHO/AFRO | World Health Organization, Regional Office for Africa  |

## EXECUTIVE SUMMARY

### A. INTRODUCTION

This report "External Evaluation of the Regional Core Support Components: African Child Survival Initiative--Combatting Childhood Communicable Diseases Project (ACSI-CCCD, No. 698-0421)," is submitted by TvT Associates to the Agency for International Development, Bureau for Africa, Technical Resources Division under contract number AFR-0421-C-00-0047-00.

The purpose of the ACSI-CCCD project was to increase the ability of African governments to improve child survival through the control of immunizable diseases, diarrheal diseases, and malaria. Specific objectives included reductions in child morbidity and mortality rates. The project, with obligations of \$124 million and with the Centers for Disease Control as primary implementing agency, began in 1981 and is scheduled to end in 1991. Other implementing agencies include the Peace Corps, UNICEF, WHO/AFRO, and several S&T centrally funded-projects.

This evaluation called for a review of the Core components of the CCCD project supported by the Bureau for Africa/Technical Resources, an assessment of the effects of organizational and management factors, an evaluation of support strategies employed, and an evaluation of which components deserve consideration in the design of a follow-on project. The evaluation, carried out September 17 to November 9, 1990, included reviews of the literature and interviews with officials in Washington, D.C., Atlanta, New York, Geneva, Brazzaville, and in the Cote d'Ivoire, Togo, Zaire, and Lesotho.

### B. FINDINGS

Thirteen African countries, Zaire, Togo, Liberia, Lesotho, the C.A.R., Cote d'Ivoire, Swaziland, Congo, Rwanda, Malawi, Burundi, Guinea, and Nigeria participated in the CCCD project. The Core through a flexible mixture of strategies using different implementors has supported the in-country activities by providing technical assistance and backstopping, particularly for the three targeted interventions, immunizations, diarrheal disease, and malaria. Through the support strategies, the Core has supported nearly 100 applied research studies on these interventions; more than 900 persons have been trained; health education programs have been developed; health information systems have been computerized in central ministries with improved reporting on morbidity and mortality. The Core provided training and assisted African investigators to carry out applied research. The Core sponsored consultative conferences where findings from project activities could be shared among participating CCCD countries. Some part of this work has been accomplished in collaboration with and with assistance from UNICEF and WHO.

As a result, immunization coverage increased while morbidity from immunizable diseases declined; use of ORS and ORT increased; ministries established policies for

malaria prophylaxis and treatment. Results from research produced other policy changes including the use of SSS solutions, improved indicators for measuring program impact, and influenced AFR/TR to turn more attention to research on malaria as one of the major disease problems in Africa.

The project encountered several constraints. Although regional in scope, most activities were country specific and medical/technical in nature. The Project therefore could not take full advantage of its regional potential to do cross-national research or provide leadership beyond technical areas. Although the focus on vertical interventions assisted in the development of these programs, it also created organizational problems within African ministries of health constraining the creation of sustainable integrated institutions and programs. The need to obtain impact indicators for the interventions pointed up the difficulty of obtaining these data easily or inexpensively from African ministries' information systems. The establishment of special information systems for these programs re-emphasized their verticality. Similarly constraining was the research focus on technical issues which precluded organizational and management issues from getting on the research agenda thereby focussing the project on solutions to technical rather than organizational problems.

Management oversight by AID/W was weak during the first half of the project reflecting the complexity of the project's organizational structure, with continuing confusion about the respective responsibilities of AID/W, CDC, and USAID missions. This confusion was compounded by the need of these agencies to coordinate with a large number of other implementing agencies. The addition of a sustainability strategy during the seventh project year, although it increased activity to assist a few countries to move toward cost-recovery schemes, did not cause a significant redeployment of activities and resources towards institution building and organizational issues.

## C. CONCLUSIONS

Despite the Project's success in assisting participating countries to develop their services, these countries will continue to need donor assistance to maintain them since neither the administrative nor the fiscal infrastructure is yet in place to permit these governments to support the delivery of health services.

The focus on selective primary intervention strategies has promoted the successful development particularly of EPI services. It also has provided the opportunity to examine the constraints of the selective primary intervention approach and the organizational and management problems these vertical programs have posed for ministries of health. The lessons of this experience need to be carefully reviewed. We draw the conclusion that at this point in the cycle of support for African governments of health, more attention to ministry-wide management and organizational issues would not only be welcome, but necessary to permit these agencies to regulate, monitor, and provide health services to their populations.

The development of health data under the project has made considerable progress in terms of providing epidemiological data and computerizing central ministry statistical offices. The management information systems are underdeveloped and will need assistance in the future. These countries will need continued assistance to improve existing health data systems and to integrate them with and improve management systems to permit health planners and managers to make rational allocations of resources. Appropriate, inexpensive, and reliable indicators for monitoring program impact remain in short supply in these countries. More research is needed to understand which ones would be most effective and efficient and how they can be integrated into management information systems.

The project's applied research strategies have permitted the resolution of many technical problems associated with the implementation of project activities. Research directed toward solving operational problems and examining management issues such as examining which organizational structures work best to deliver health services in African countries, have received little attention.

#### **D. RECOMMENDATIONS**

We propose that A.I.D. undertake the following actions during the project's remaining year (or the length of time for which the project is extended). In addition, we propose a follow-on project.

- 1. Recommendations for the Remaining Year of the CCCD Project**
- 1) In the event that the new project is not ready to start on September 1991 when the current project ends, the CCCD project should be extended for up to a year to bridge the gap between old and new projects in those countries which are instituting a bilateral follow-on project.
- 2) To permit completion of planned and programmed activities the WHO-AFRO contract should be extended to complete activities planned on a no cost bases.
- 3) To permit a smooth transition between the CCCD projects and those countries planning follow-up bi-lateral projects, project management in Washington and the implementing agency, CDC, should work with USAID missions to assure that gaps do not occur between the two activities.
- 4) CDC should undertake a study on resources needed to assure capacity building and then should redeploy its resources to permit development of the sustainability strategy and indicators. It should pay particular attention to the integration and institution building criterion. Final evaluations of project activities should include some assessment of how the project has measured up against the sustainability strategy indicators.

- 5) A.I.D., as an agency, should pursue the development of generic financial tracking and project management systems (both manual and automated) for project officers, minimizing the necessity to continue to use project funds to re-invent spread sheets and other instruments for project management.
- 6) CDC IHPO should add appropriate management expertise to their Technical Services division. The management specialist(s) should:
  - help the PHAs revise the TO Supervisory Checklist to deal with more substantive management issues,
  - assist the TOs to develop diagnostic reviews of MOH systems, leading to MOH determination of an acceptable outline for a country-specific MOH MIS, and
  - assist the MOH Director General (or his equivalent) to use the remaining OR funds for identifying and solving management problems).
- 7) AID/AFR/TR and the CCCD Project Officer should give high priority to reviewing administrative and financial tracking bottlenecks and improving project reporting formats. This will permit a more detailed comparison of planned and actual performance for both activities and finances. (See Appendix II-1 for more specific details).

**2. Recommendations for Regional Follow-on Project**

- 1) The follow-on project should focus on support strategies which will assist ministries of health to establish integrated institutional services in maternal and child health (child survival). Since bilateral programs may selectively emphasize certain interventions, the regional project must be sufficiently flexible to support these needs.
- 2) All strategies should be tailored to the needs of particular countries. Thus, although the implementing agency may develop models, it will then have to provide, as well, technical experts capable of sufficient flexibility and vision to modify preferred models and strategies.
- 3) The follow-on project should emphasize integrative approaches to child survival which would include family planning, HIV and nutrition. The rationale is that at the local level, at least, the same health workers work on most of these strategies.

- 4) Since the objectives of a follow-on project are to strengthen African institutions, the implementing agency must be one that sees this activity as its primary task and has a demonstrated capacity in management skills development.
- 5) The focus on institution-building should be structured for the long-term perspective, over at least ten years to assist countries to develop management capacity.
- 6) Seven support strategies should be included in follow-on project:

**Developing management and policy making skills** for senior and Ministry decision makers and regional officers in manpower and resource allocation planning, programming and evaluation, supervisory skills, data use for decision making, and problem-solving research for managers.

**Management information systems** development and utilization including accounting, health resources and logistics, health services utilization and disease surveillance. Improvement of program impact indicators, including support for countries wishing to innovate with vital registration systems.

**Applied comparative research** using region as laboratory to identify effective ways of integrating and delivering health services, and developing management information systems.

**Health financing** assistance to develop new policies and programs for financing health services.

**Regional training** to introduce new strategies, to provide training for countries too small to run their own programs and to train in subject areas in which each country has relatively few people needing training.

**Health education** to train nationals to design, implement, and evaluate all facets of health education campaigns using innovative approaches.

**Training Curricula** development to strengthen pre-service training for nurses and physicians by introducing child survival strategies into training.

- 7) A project management structure should be designed to permit USAID missions easy access to its resources, perhaps as a kind of IQC. The contractor should have a broad scope of resources available to provide assistance in the seven support strategies, with subcontractors as needed. Regardless of which organization implements the project, at least two full time A.I.D. staff with travel funds should be assigned to monitor the project from Washington.

## I. INTRODUCTION

The African Child Survival Initiative-Combatting Childhood Communicable Diseases Project (ACSI/CCCD)<sup>1</sup> began in 1981 and will end in 1991. The objectives of the project are aimed at strengthening child survival in the African region through immunizations and control of diarrheal disease and malaria. The project was implemented primarily by a Participating Agency Service Agreement (PASA) between the Centers of Disease Control (CDC) through their International Health Program Office (IHPO) in Atlanta and the Agency for International Development (A.I.D.), Bureau of Africa. Agreements were signed with 13 countries for in-country CCCD programs. Of these, nine are still funded.

This present evaluation was designed to assess what is commonly known as the project "Core," that is, those regional components which provide support for the country-specific activities. The Core included A.I.D. in Washington (AID/W), the CDC PASA, and a host of smaller grants and projects. The in-country activities and the operations of CDC's field staff are not considered Core components.

The scope of work (Appendix I-1) called for a review of the contributions of the Core components to the CCCD project; an assessment of the effects of organizational and management factors on the functioning of the Core; and an evaluation of which components and organizational factors deserve consideration in the design of a follow-on project.

The Evaluation team<sup>2</sup>, consisting of Anne-Marie Foltz, epidemiologist and management information specialist, Harvey Gutman, management specialist and Sif Ericsson, training and health education specialist, reviewed literature, interviewed officials, and assessed the contributions of the Core components in Washington, D.C., Atlanta, Ga., New York (UNICEF) and Geneva (WHO) and to the country-specific

<sup>1</sup> The project began its life known simply as Combatting Childhood Communicable Diseases (CCCD). For simplicity sake and to avoid confusion with other child survival initiatives, we will refer to the ACSI-CCCD project as CCCD throughout this document.

<sup>2</sup> Mr. Gutman served as team leader during the field visits. Dr. Foltz served as team leader when the team returned to Washington and was responsible for preparing the draft report and contributing to the revisions and the final report, prepared by TvT Associates. After the draft had been submitted and reviewed by the project officer, Mr. Raleigh joined the team to work on an expanded management report (Appendix II-1), and contribute to other portions of the report, which he did in February 1991.

activities through visits to Togo, Cote d'Ivoire, Zaire and Lesotho. John Raleigh, program management specialist, was added to the team following their return from the field and the submission of the draft report. A list of persons contacted and the dates of visits is provided in Appendix I-3. The team did its field work from October 17 and November 2, 1990.

The literature reviewed included project agreements, in-country needs assessments, evaluations, annual and quarterly reports, research reports, and issue papers (Appendix I-3). Discussions were held with A.I.D. managers and representatives of PRITECH, REACH, HEALTHCOM,<sup>3</sup> the Peace Corps, CDC, the United Nations International Children's Emergency Fund (UNICEF) in New York and the World Health Organization (WHO) in Geneva and Brazzaville. In the African countries visited, we discussed the project with representatives of the Ministries of Health, United States Agency for International Development (USAID) missions, UNICEF and WHO.

The evaluation team encountered several constraints. Limitations of time necessarily limited the amount of travel restricting the team to observations in only four of the 13 participating CCCD countries.

Second, although the team's mandate was to evaluate the contributions of the Core and not the in-country activities, it proved difficult to assess the contribution of the Core without understanding what was accomplished in the field. Thus, striking the right balance between Core and non-Core was a more delicate undertaking than had originally been expected. As a result, the team tended to take an inclusive view of the Core. This report is written about the Core. Thus, when we discuss accomplishments, we assume that these were made possible through Core activities (even while we acknowledge that field activities and other donors may have contributed).

Third, the CCCD project has been well evaluated. It was assumed that our evaluation team could rely on these secondary sources for most of our information. However, we found these sources, collected as they were for other purposes, did not always ask or answer the questions we were addressing. In addition, the sources varied in quality and we found we needed to check out findings against our observations in the field and through interviews. Since we were unable always to address the same questions across all 13 countries, we report our findings using examples to illustrate our points.

The Project's achievements have been well described in other evaluations, both regional and country-specific. One of the mandates of the evaluation team was to make recommendations for the future. The team focussed on the lessons to be learned from

<sup>3</sup>PRITECH is the Technology for Primary Health Care Project. REACH is the Resources for Child Health Project. HEALTHCOM is the Communications for Child Survival Project.

the project noting gaps as well as achievements in order to be able to point the way toward future activity. The team believed that it is easy to learn from accomplishments but more important to learn from the Project's constraints, frustrations, and limitations, although these are rarely documented.

The original evaluation team (Foltz, Gutman, Ericsson), presented its findings at a briefing to A.I.D. and CDC officials on November 8, 1990 and submitted the draft report to A.I.D. on December 19. The team received oral comments from the project officer and written comments from two of his staff as well as written comments from 13 CDC staff members.

The remainder of this report is in four chapters. In Chapter II, we discuss the CCCD project organization and administration. In Chapter III, we discuss the Project's activities, accomplishments, and constraints encountered. The report is supplemented by a volume of appendices (Volume II) where a more detailed picture of the project management and organization is provided and where each of the major support strategies, health information systems, operations research, training, health education, and sustainability is analyzed more fully and the specific questions asked about these strategies in the scope of work are addressed. In Chapter IV, we present our analyses and conclusions through the examination of cross-cutting issues in project design and management. In Chapter V, we present recommendations. Volume II also includes a description of the project prepared by Dr. James Shepperd, A.I.D. ACSI-CCCD Project Officer.

## II. DESCRIPTION OF THE CCCD PROJECT

### A. HISTORY AND PROJECT OBJECTIVES

Toward the end of the 1970s, a decade which had seen the worldwide eradication of smallpox as well as a successful campaign against measles in developed countries, an immunization campaign to combat communicable childhood diseases was presented as a strategy which could have a major impact on child survival in developing countries. This fit closely with the then popular notion that in the third world selective primary care (such as immunizations) might be more economically feasible than comprehensive primary care. Sub-Saharan Africa with the highest infant and child mortality rates, became a priority target. A.I.D. and CDC took the lead in establishing the CCCD project based on a series of joint activities. In 1979 a project paper for a regional project in Expanded Program of Immunization (EPI) was developed. Following the expressions of interest in this project from the Secretary of Health and Human Services, the paper was revised as the CCCD project and awarded on a non-competitive basis to CDC in 1981.

The regional purpose of the project was to increase the ability of selected African governments to control immunizable diseases, to provide effective treatment for the control of diarrheal disease and to control other diseases of local importance.

The original project has been amended six times to provide additional funding for a total of \$124 million and to extend the project completion date to September 1991. In 1986, infant and child mortality were added as impact indicators and, in 1988, explicit sustainability objectives were added. The current objectives include:

50% reduction in disease-specific mortality rates for diseases which can be prevented through immunizations, diarrheal diseases and malaria;

75% reduction in disability caused by polio; and

overall reduction by 25% of childhood mortality.

Targets have also been set for reductions in morbidity due to immunizable diseases.

The CCCD project was originally designed to work in 10 sub-Saharan countries from which the Sahelian countries were specifically excluded. The project was eventually to work in 13 countries, nine of which are still participating.

## **B. ORGANIZATION**

The project is based in the Division of Health, Population and Nutrition (HPN) in the Office of Technical Resources (TR), Bureau of Africa. The project officer is based in this office and this office also has overall responsibility for managing the core budget.

Major implementers of the project include the Center for Disease Control, the Africa Regional Office of the World Health Organization, UNICEF, the Bureau of the Census (BUCEN) and contractors centrally funded by the Bureau of Science and Technology of A.I.D. Their activities are funded through the Core operating year budget (OYB).

The key management functions relevant to the CCCD Core Activities include the following:

coordinating and facilitating the various multilateral agencies, collaborators, contractors, and partners involved in the Project (diplomacy and trouble-shooting);

Processing the various obligating documents, project implementation reports (PIR), amendments, and evaluations required by A.I.D. rules and regulations (financial tracking and administration); and,

Analyzing the planned and actual performance of the CCCD implementing organizations, individually and collectively, regarding both activities and finances, and providing strategic guidance to maximize project efficiency and effectiveness (substantive project management and direction).

It is generally agreed that AID/AFR has been able to play the first diplomatic and trouble-shooting role well. It is here especially that A.I.D. believes it has been able to contribute significantly. The second management function, financial tracking and administration, has been reported to be the most time consuming, and the third function, substantive project direction, has suffered as a result.

### **1. The Agency for International Development (A.I.D.)**

A.I.D. management responsibilities for the CCCD project were assigned to the Office of Regional Affairs of the Bureau for Africa (AFR/RA) in Washington until 1986. The Project has a management steering committee consisting of representation from relevant offices in the Africa Bureau as well from S&T Health. Although an A.I.D. Project Officer was assigned, the actual monitoring of technical and management issues was carried out by a CDC officer working under a Regional Support Services Agreement (RSSA), and seconded by an assistant project manager also from CDC under a RSSA. The CDC officer was responsible for policy making, signing of vouchers, approval of

overseas travel, etc. In effect, the project's goals and objectives were realized through lines of authority identified, and actions planned, as elaborated by the CDC staff assigned to Washington at A.I.D. request.

In 1986, AFR/RA was merged into the Bureau for Africa's Office of Technical Resources (AFR/TR). Simultaneously, responding partly to the differences in the field, but also to concerns in Washington, the management of the CCCD project was placed under the chief of the Division of Health, Population and Nutrition. By 1987, the CDC management of the project, both in Washington and in the field had started to create problems. The USAID field staff complained of the independence of the CDC Technical Officers (TOs) and medical epidemiologists, and problems appeared which required interventions from AID/W. In 1987, after the CDC RSSA officer was transferred, A.I.D. assigned a senior project officer to take over monitoring and oversight of the project. In 1990, the RSSA project manager was replaced by a TAACS (Technical Advisor for AIDS and Child Survival).

Thus, until 1987, the day-to-day management of the CCCD project was in the hands of CDC officers detailed to AID/W. Understandably, in the perception of USAID field staff, the project was managed by CDC in Washington rather than by AID/W. When dealing with technical issues this did not create problems. However, when conflicts arose regarding issues related to management, policy or the fielding of technical assistance, the USAID missions felt that AID/W was siding with CDC. It was also felt, that the instructions arriving from officials in AID/W and the policies expressed by the CDC officials in Washington were often in conflict.

As the project evolved and other components were added, project management became more critical. In addition to the CDC PASA, and the country agreements, the project included: a PASA with the Peace Corps (1984); a grant agreement with WHO/AFRO in 1985; a grant agreement with UNICEF in Nigeria (1986); and buy-ins to centrally funded projects in S&T.

The current, fiscal year (FY) 1990, management is shown in Appendix I-4. The project officer is also deputy chief for Bureau for Africa, Technical Resources Office, Division of Health, Population and Nutrition (AFR/TR/HPN) and has responsibilities for the management of other projects. Daily administrative duties are handled by a TAACS. Thus, in AFR/TR/HPN the management oversight and monitoring of the projects is carried out by fewer than two full-time equivalents (FTEs). Before 1987, Washington project management had two full-time staff.

The project also required monitoring in the field by AID/W. When CDC personnel were overseeing the project, they were able to travel freely using project funds. This is not possible for the current project officer, since AID/W has strict restrictions on operating expenses (OE) -funded travel. This has resulted in severe limitations on field

supervision and forces the project officer to depend largely on secondary sources. It also limited the project officer's ability to deal with serious field problems.

## **2. The Centers for Disease Control (CDC)**

The Centers for Disease Control through a PASA agreement with A.I.D. is the major contractor for Core activities. The A.I.D. PASAs with CDC (HZ/AFR 0135-1-79, and BAF/0421 P-HC-2233) totalling almost \$50 million from its inception to September 1991 have been to provide: 1) in-country technical support staff in up to 12 countries (later amended to up to 14); 2) collaboration in regional technical development on health training, health information system (HIS), and operations research (OR) with WHO/AFRO; and, 3) a pool of technical advisors to support the in-country programs.

CDC IHPO is responsible for the management of the CDC PASA. In addition to its own staff, IHPO draws on other resources within CDC, such as the Malaria and EPI branch and works with consultants and contractors.

The PASA was executed in late 1981. During 1982, CDC conducted assessments in prospective host countries. By 1983, IHPO's organizational chart showed a full-time Technical Coordinator with four divisions: 2 technical officers (TOs) backstopping seven in-country Tos, one person in Health Education, two in training, and division of technical services which provided 1.5-2 person years of backstopping for three regional epidemiologists. A liaison officer detailed to WHO/AFRO reported to the Technical Coordinator. Thus, the CCCD project accounted for approximately eight person years in IHPO, and 11 overseas.

The growth of the project, and the concomitant expansion of the IHPO staff, resulted in the current organizational structure (Appendix I-5). The internal organization appears to be appropriate to the current tasks. The division into three branches, i.e., administrative, field support and technical services provides for balanced spans of control.

By 1990, the CCCD project has taken on considerable importance for the IHPO, accounting for approximately 67 percent of its budget. The CDC staff within and outside IHPO assigned to the CCCD project had grown to 62 persons contributing a total of 40.6 person years. CDC, from its side, contributed 3 epidemiologists for a total of 21.6 person months (Table I-1). Of the 40.6 person years of CCCD project personnel, 70 percent are based in Atlanta (28.5 person years).

Table I-1

Staffing and Personnel Costs to the Centers for Disease Control  
for the CCCD Project, Fiscal Year 1990.

| Funding Source          | No. of<br>Staff | Person<br>Months | Dollar<br>Total |
|-------------------------|-----------------|------------------|-----------------|
| <b>PASA:</b>            |                 |                  |                 |
| IHPO/Office of Director | 18              | 81.0             | 301,278         |
| IHPO/Field Services     | 7               | 61.0             | 345,512         |
| IHPO/Technical Support  | 15              | 123.5            | 581,919         |
| Immunization Division   | 3               | 36.0             | 177,577         |
| Malaria                 | 5               | 40.2             | 250,923         |
| Total CDC in Atlanta    | 48              | 341.7            | 1,657,210       |
| Total Overseas          | 14              | 146.0            | 701,824         |
| Total PASA              | 62              | 487.7            | 2,358,034       |
| <b>NON-PASA:</b>        |                 |                  |                 |
| CDC Contribution        | 3               | 21.6             | 104,724         |

Source: CDC, CCCD Workplan and Budget for FY 1990.

In addition, CDC also uses experts to provide short-term technical assistance. In 1990, experts were used for 842 person days, or approximately 3.2 person years. Thus, a total of about 33.5 person years represented the CDC PASA's Core backstopping to the project in fiscal year (FY) 1990.

CDC has also provided RSSA employees to AID/AFR who have provided significant assistance in project management. The CDC RSSA is considered a contributing component to the design of CCCD project because of the key management role the RSSA employees played in fielding the CDC Country Assessment Teams, traveling to the field to participate in those assessments and the subsequent negotiations of the country agreements, and even in the elaboration of the PASAs with Peace Corps and the BUCEN, and the Grant Agreements with WHO and UNICEF, which are described below.

### **3. The World Health Organization, Regional Office for Africa (WHO/AFRO)**

The Africa Regional Office of the World Health Organization in Brazzaville has been a partner in the project since 1984. The role of WHO/AFRO has been: 1) serve as an advocate for the principles of child survival as a selective intervention of the primary health care strategy, 2) perform training of health care Technical Resources Managers in all the countries of the region, whether they had CCCD country-specific activities or not, 3) collect epidemiologic data from priority countries of Africa and 4) produce an epidemiologic bulletin based upon this data and upon research findings related to child survival interventions.

The WHO/AFRO grant was first awarded in 1985 and was extended in 1989 until 1991. The total amount of the grant is \$6,000,000. The major part of the funds have been used for regional training. The first part of the grant (1985-1989) financed 52 different courses with about 1,000 participants. In addition, funds (8%) were used for the publication of an Epidemiological Bulletin, poliomyelitis reviews, a malaria consultation, secretarial support for the CDC Liaison Officer, production of national EPI materials and WHO participation in CCCD country evaluations.

### **4. The Peace Corps**

The Peace Corps PASA totaled \$888,780 (1983-90). The funds were used for pre-service training of 123 Peace Corps Volunteers (PCVs) in Togo, the Central African Republic (C.A.R.), Zaire, Liberia, Guinea, Malawi, and Burkina Faso, and for in-service training of 310 PCVs and counterparts in C.A.R., Togo, Swaziland, Zaire, Liberia, and Mauritania. At least, one-third of those trained in the in-service training courses were PCV counterparts. The pre-service training is 12 weeks including language training, and in-service training lasts one week. In addition, funds have been used for health program assessments, evaluations and some related travel. Currently, the Peace Corps have Peace Corps Volunteers (PCVs) in 4 CCCD countries, Togo, the C.A.R, Guinea and Zaire.

### **5. The United Nations Children's Fund (UNICEF)**

UNICEF received \$6 million for immunization activities as part of the CCCD program in Nigeria. Funds covered the purchase of vehicles and commodities, vaccines, cold chair equipment, etc; support for training programs, for social mobilization; and support for staff and the Lagos UNICEF office.

### **6. The Bureau of the Census (BUCEN)**

The A.I.D. PASA with BUCEN under the FHI-II project was used to provide assistance to develop a spreadsheet to track project obligations. The BUCEN

International Office also provided technical assistance for developing and testing health utilization surveys in Cote d'Ivoire and for assessing health information systems in Liberia.

## 7. **The Bureau of Science and Technology (S&T) Projects**

The CCCD project involves three major S&T projects supported through core funded buy-ins. They are: PRITECH, HEALTHCOM and REACH.

**PRITECH (Technical Services for Primary Health Care):** The original purpose of this project was to provide support for all child survival interventions. However, because of the heavy demand for oral rehydration therapy activities in Africa, and because the International Health Program Office had limited resources for implementation of diarrheal disease control, an arrangement was made through PRITECH for these services. Early in the project, CCCD was also constrained from operating in the Sahelian countries, and therefore, through a special funding arrangement \$500,000 was added into the project by the Sahel Development Fund. With this fund, the project was able to operate in Senegal, Mauritania, Gambia, Mali, Niger, Chad, and Burkina Faso. They provided technical assistance for implementation of oral rehydration therapy. In one country, Nigeria, a separate agreement was made with PRITECH to provide all the diarrheal disease control inputs to that country. The PRITECH officer was to report to the CCCD Technical Officer. This arrangement broke down when there was no agreement between the Mission Technical Officer and Government of Nigeria over just exactly what programs were to be carried out by PRITECH. Currently, PRITECH is working only in the Sahelian countries under the CCCD authorization. Early in the project PRITECH also worked under CCCD authorization in Cameroon, Zaire, and Malawi.

**HEALTHCOM (Health Communications):** Technical Assistance to the Project was purchased by the Core initially for work in Nigeria, Swaziland, Lesotho, and Zaire. HEALTHCOM placed a full time staff member in those countries for development and implementation of approaches to health communications. After 1988, no new CORE agreements were made and the Missions took responsibility for funding their own individual contracts with HEALTHCOM.

**REACH Project:** The REACH Project was designed to provide expertise and technical assistance in EPI and health care financing. Because of the overwhelming demand for health care financing in the CCCD countries, as well as others, the REACH Project has focused on health care financing. The CORE budget of CCCD bought into the REACH Project for the purpose of conducting training programs in health care financing for the 1988 Health Officers' Conference in Yamoussoukrou, Cote d'Ivoire, and for consultations and training programs in several CCCD countries. In the Central African Republic, a new policy and program for health care financing was developed by

the REACH Project. Technical assistance has been provided to Guinea, Burundi, Zaire, and other participating countries in the CCCD project.

Since USAID missions also bought into these projects, the distinction between activities supported by CCCD Core as distinct from bilateral funding was not always clear. S&T was responsible for monitoring bilateral as opposed to Core funded activities. The advantage to AFR/TR of having these projects pass through its offices was to permit them to keep abreast of activities affecting child survival activities in CCCD countries.

## **C. MANAGEMENT SYSTEMS**

### **1. Planning and Budgeting**

Since project funds were obligated through PASAs, Grants, and contracts, each obligating document included a broad budget outlining the intended uses for the funds and provided a particular implementor for the period being authorized. Usually, these documents were amended periodically to add funding and/or extend the period or authorization. The largest tranches of funds, covering the longest planning periods, went to the CDC PASA, the Limited Scope Grant Agreements for country activities. For these agreements and others covering multi-year periods, annual budgets were requested by and submitted to AID/AFR to justify incremental funding.

According to both AID/AFR/TR/HPN and CDC IHPO, the Project Officer/Project Manager did not provide formal written guidance to the implementing agencies prior to their developing annual workplans or budgets. The implementing agencies developed first drafts, which were submitted to A.I.D., where they were reviewed by the Project Committee, returned to the drafter with recommendations for modification as required, and ultimately approved when found satisfactory. According to A.I.D. and CDC, most modifications to these annual documents involved changes to the budget. The budgets prepared by the different implementing agencies were aggregated by AFR, which added an additional budget component detailing its own planned expenditures (e.g., input procurement support to the bilaterals for such commodities as vaccines and such activities as evaluations and special studies). All these budget components were then compiled into one document by the Project Officer/Project Manager team and submitted to AFR/DP for the upcoming Planning, Programming and Budgeting (PPB).

By all accounts, the CCCD Project Officer/Project Manager team has never had the systems to review and compare prior year actual performance of activities and expenditures with what had been proposed in workplans and budgets. Thus, no analysis of variances between planned and actuals was attempted, and no subsequent guidance to the implementing agencies could be provided by AID/AFR, to improve either the performance of an individual implementing organization or the collective efficiency and effectiveness of the mix of implementing organizations managed under the Core.

## **2. Monitoring and Supervision by AID/AFR**

The Project Officer/Project Manager team housed in AID/AFR monitors the project through frequent telephone contact with the USAID missions and the American embassies in the signatory countries which, in turn, provide the closest routine supervision of in-country activities. The focus of most of these discussions is reported to be "trouble-shooting" administrative and logistical problems, and responding to communication failures or personality conflicts.

Daily telephone contact with CDC is also maintained. The Project Officer/Project Manager team also monitors the project activities by reviewing operating reports, missions' PIRs and others reports provided by CDC internal and external evaluation teams and occasional exchanges of visits with the CCCD staff assigned to CDC/Atlanta. AFR/TR/HPN staff also accompany nearly all country evaluation teams, serving as resource persons. This information and the administration and financial documents it produces and tracks in AFR/TR/HPN are used in twice annual meeting of the (A.I.D.) Project Committee. At the first meeting each year, the CCCD Annual Report is discussed, along with the budget requests for the up-coming year; at the second meeting, 6 months later, project progress is discussed, assessing whether project activities are consistent with AFR strategies.

## **3. Monitoring and Supervision by CDC**

The primary reporting instruments for CCCD have been provided by CDC in the form of the CCCD quarterly reports prepared by the CDC Technical Officers (TOs) for in-country activities in 13 countries, and CCCD annual reports prepared by CDC Atlanta for the overall project. Both the country-specific and the regional reports attempted to capture all project activities and accomplishments, not just those funded under the A.I.D. PASA with CDC, though the reporting on CDC activities was the most complete.

Annual CDC full staff meetings, bringing the Atlanta and field staff together, have been held. Every other year, these meetings have been in Atlanta, and in the alternating years they have been held in one of the host countries. The AID/AFR/TR/HPN Project Officer attended the 1990 meeting in Swaziland, and he and his predecessors have occasionally attended similar meetings in Atlanta. It is reportedly not usual that A.I.D. direct hire staff, other than those posted to the country, attend the biennial meetings held in Africa.

The agendas for these annual meetings are reported to be dominated by updates on the results of research studies and impact surveys, and administrative house-keeping issues. Several Technical Officers mentioned to the Evaluation Team that they wished greater attention would be given during these meetings to strategic issues, with a franker discussion of what was and was not working in project implementation.

The CDC CCCD field staff are supervised and backstopped by Public Health Advisors (PHAs) from Atlanta who visit each of their assigned countries for about 1 week per quarter. By most accounts, the PHAs (most of them cover 4 countries) have provided excellent backstopping. The quality and timeliness of the TA which they have arranged in response to requests from the TO and/or the MOH in field have been reported to be excellent as well. It is less clear that the PHAs have played a substantive supervisory role contributing to improvements in the long-term technical assistance provided in-country. A supervisory checklist (Exhibit 1) was developed around 1988, for the PHAs to use on their visits to the TOs. None of the small sample of TOs that the team spoke with could recall having seen the list being used by their supervisor. CDC reports however, that the checklist was not found to be useful.

The checklist appears to reinforce the backstopping functions of the PHA with very little attention drawn to supervisory and substantive programmatic issues. No mention is made of whether individual development plans -- aimed at encouraging the TOs professional growth, and expanding the TOs' range of technical skills and knowledge -- are to be negotiated between the TO and his supervisor. This is especially important since most of the diagnosis of MOH TA requirements is reported to be made by the TO, and each TO is reported to be known to have clear areas of technical strengths and weakness within the range of technical areas relevant to CCCD.

#### **4. Administration and Financial Tracking**

The Project Officer/Project Manager team located in AID/AFR has had primary management responsibility for tracking the CCCD project's finances, both to move the money through the system, and to monitor its expenditure. There are several manual and computerized data bases that the management team have used for project administration. Several of these data bases were created by central A.I.D. units, and serve the entire Agency, others were established by the Africa Bureau, and one key data base was created by BUCEN with CCCD project funds, specifically to serve the Project Officer's need to track project expenditures against obligations (pipeline).

These five data bases, among others, are important in the Project Officer/Project Manager team's ability to track CCCD project finances. The data bases are:

**Financial Accounting System (FACS)**, prepared monthly by AID/M/FM, does not sort obligations by project. A contract for a major redesign of FACS was let early in FY 91;

**Project Accounting Information System (PAIS)**, prepared quarterly by AID/M/FM, sorts obligations by project. It is said to underestimate obligations due to incomplete data on mission buy-ins. The FACS and PAIS total obligations amounts by project usually do not reconcile.

Exhibit 1

CDC Public Health Advisor Supervisory Checklist

Page 1

COUNTRY \_\_\_\_\_ ASSIGNEE \_\_\_\_\_  
 DATE \_\_\_\_\_ SPHA \_\_\_\_\_

SUPERVISORY CHECKLIST

| I. PERSONAL   | YES | NO | PROBLEM/COMMENTS: |
|---|-----|----|-------------------|
| Health  |     |    |                   |
| Housing   |     |    |                   |
| Personal/job satisfaction                           |     |    |                   |
| Training needs                                      |     |    |                   |
| Language needs                                      |     |    |                   |
| Vehicle   |     |    |                   |
| Petty cash  |     |    |                   |
| <b>II RELATIONS WITH AID MISSION/<br/>EMBASSY</b>   |     |    |                   |
| Report with HPN                                     |     |    |                   |
| Accommodation exchange                              |     |    |                   |
| Commissary  |     |    |                   |
| Pouch privileges                                    |     |    |                   |
| Travel, visas, etc.                                 |     |    |                   |
| Suballocation acct.                                 |     |    |                   |
| GSO support   |     |    |                   |
| Health Unit support                                 |     |    |                   |
| Cables (in & out)                                   |     |    |                   |
| FAAS agreement                                      |     |    |                   |
| <b>III RELATIONS WITH MOH</b>                       |     |    |                   |
| Counterpart (complaints, etc.)                      |     |    |                   |
| Office facilities                                   |     |    |                   |
| Knowledge of country                                |     |    |                   |
| Travel (Z)  |     |    |                   |
| Supervision (Health Centers)                        |     |    |                   |
| Technical Competence                                |     |    |                   |
| Report with staff                                   |     |    |                   |
| Knowledge of MOH (policies/<br>staff) OR activities |     |    |                   |
| <b>IV RELATIONS WITH OTHER AGENCIES</b>             |     |    |                   |
| T.O. WITH: WHO                                      |     |    |                   |
| UNICEF  |     |    |                   |
| OTHER DONORS/PARTNERS                               |     |    |                   |
| USAID WITH: WHO                                     |     |    |                   |
| UNICEF  |     |    |                   |
| OTHER DONORS/PARTNERS                               |     |    |                   |

Page 2

V. RELATIONS WITH ATLANTA

|                              |  |  |  |
|------------------------------|--|--|--|
| Reports/Feedback             |  |  |  |
| Communications               |  |  |  |
| Report with supervisor       |  |  |  |
| Computer needs               |  |  |  |
| Consultants                  |  |  |  |
| Mailings                     |  |  |  |
| Personnel, Administration    |  |  |  |
| Pay                          |  |  |  |
| Leave                        |  |  |  |
| Access to IHPO/CDC resources |  |  |  |

VI. TECHNICAL AREAS PROGRESS

|                  |  |  |  |
|------------------|--|--|--|
| EPI              |  |  |  |
| CDD              |  |  |  |
| MALARIA          |  |  |  |
| HEALTH EDUCATION |  |  |  |
| TRAINING         |  |  |  |
| OR               |  |  |  |
| HIS              |  |  |  |
| HEALTH FINANCING |  |  |  |

DISCUSS PROBLEMS WHICH IMPEDE ACHIEVEMENT OF WORK PLANS AS OUTLINED IN QUARTERLY REPORT: \_\_\_\_\_

VII RECOMMENDATIONS:

| ACTION | RESPONSIBILITY | DATE TO BE ACCOMP. |
|--------|----------------|--------------------|
| _____  | _____          | _____              |
| _____  | _____          | _____              |
| _____  | _____          | _____              |
| _____  | _____          | _____              |

TECHNICAL OFFICER \_\_\_\_\_ Supervisory PHA \_\_\_\_\_  
 CC: Technical Officer  
 USAID Project Officer  
 FSD Director

34

**Contract Information Management System (CIMS)**, a Wang data base on-line, maintained by the Contracts Office to track PASAs, Grants, Contracts, etc., and the A.I.D. central procurement services related to them. Reportedly; according to the Contracts office, this data base is replete with data-entry errors. Since it is not a spreadsheet, it can only list and sort; it cannot calculate totals, balances on obligations, or expenditures.

**Obligations Performance**, a spreadsheet prepared weekly by AFR/TR/PRO. This lists the most recently approved and anticipated obligations by project for the Africa Bureau. (See Exhibit 2).

**CCCD MIS**, a Lotus spreadsheet maintained by the CCCD Project Officer/Project Manager team in AFR/TR/HPN. It subtracts back expenditures from obligations, providing unexpended balances. (See Exhibit 3).

The shortcomings of these A.I.D. financial tracking systems reportedly required the project management team in AFR/TR/HPN to spend a disproportionate time on administration. In the earlier years of the project, the manual systems used to fill the gaps in these systems were reported to be slow and inaccurate, leading to errors (such as inadvertently approving overobligations, or overexpenditures), which required the preparation of additional documents (amendments, adjustments etc.) to correct the errors. This added to the overall administrative burden, but this has now been corrected.

Exhibit 4 illustrates the format for reporting on expenditures that CDC received from AID/FM. The line items are those that Financial Management (FM) has standardized for all projects. It is difficult for the Project Officer to compare these expenditures reported by quarter and cumulative for life-of-project (but not annually) to anticipated expenditures in the Program Area and Country Annual Budgets that were submitted the previous year. The process, if attempted, would be time consuming. This is just one example of many reporting and formatting problems which led to virtually no substantive project analysis being done by AFR/TR/HPN. The same problem occurs in tracking activities, with the result that no analytical comparisons are done to determine the extent of variance between activities in the work plan, and those accomplished for a given year.

Exhibit A (see Appendix II-1) charts data provided by AFR/TR/HPN on the major obligating instruments for CCCD. Both what it shows and what it does not show, exemplifies some administrative issues. It shows that during the early years of the project, the Project Officer/Project Manager team may have had some difficulty either in communication or in understanding A.I.D. rules and regulations.

Exhibit 2

CCCD Obligations Report Prepared by AFR/TR/PRO

AFR/TR  
FY 1991 OBLIGATION PERFORMANCE  
as of 31-Jan-91

Page 1

Page 1

| DOCUMENT TYPE      | DOCUMENT NUMBER | ACSI-CCCD<br>698-0421                   | FUNDS REQUESTED | FY 1991 OYB (\$000) | OBS TO DATE    | PLANNED OBL. DATE | OBLIGATION DATE | ACTION AGENT   | PRO DOC DATE     | ALLOWANCE/ CABLE DATE | DATE OBLIG. DOC RECEIVED | COMMENTS  |
|--------------------|-----------------|---|-----------------|---------------------|----------------|-------------------|-----------------|----------------|------------------|-----------------------|--------------------------|-----------|
| <b>DFA CORE</b>    |                 |   |                 |                     |                |                   |                 |                |                  |                       |                          |           |
| PIO/T              |                 | CDC-PASA Amendment                      | 7,000.0         | 5,600.0             |                |                   |                 |                |                  |                       |                          |           |
| Memo               |                 | WHO/AFRO Grant (Memo)                   | 200.0           | 200.0               |                | 15-Mar-91         |                 | MS/CP/O/AFR    |                  |                       |                          |           |
| Memo               |                 | FAAS (overhead/7 countries)             | 170.0           | 170.0               |                | 15-Mar-91         |                 | AA/AFR         |                  |                       |                          |           |
| Allow.             |                 | PSCs                                    | 180.0           | 180.0               |                | 15-Aug-91         |                 | FM/BUD         |                  |                       |                          |           |
| PIO/T              |                 | Evaluations                             | 203.7           | 203.7               |                | 15-Mar-91         |                 | Missions       |                  |                       |                          |           |
| PIO/T              | 1612002         | Atlantic Resources Eval. Guinea/Lesotho | 196.3           | 196.3               |                | 15-Apr-91         |                 | MS/OP/O/AFR    |                  |                       |                          |           |
| PIO/T              |                 | Health Care Financing                   | 200.0           | 200.0               |                | 15-Mar-91         |                 | MS/OP/O/AFR    | 30-Jan-91        |                       |                          |           |
| Allow.             |                 | Cote D'Ivoire Training                  | 100.0           | 100.0               |                | 15-Jun-91         |                 | MS/OP/O/AFR    |                  |                       |                          |           |
| PIO/T              |                 | Healthcom (Nigeria & Zaire)             | 350.0           | 150.0               |                | 15-Mar-91         |                 | Abidjan        |                  |                       |                          |           |
| Memo               | 1612001         | UNICEF Grant                            | 3,000.0         | 3,000.0             | 3,000.0        | 15-Mar-91         |                 | MS/OP/O/AFR    |                  |                       |                          |           |
| Memo               | 1612001-A       | UNICEF Grant                            | 600.0           | 600.0               |                | 15-Dec-90         | 30-Nov-90       | AA/AFR         | 30-Nov-90        |                       |                          | 06-Dec-90 |
|                    |                 | <b>CCCD DFA CORE SUB-TOTAL =</b>        | <b>11,600.0</b> | <b>10,600.0</b>     | <b>3,000.0</b> |                   |                 |                |                  |                       |                          |           |
| <b>DFA BUY-INS</b> |                 |   |                 |                     |                |                   |                 |                |                  |                       |                          |           |
| Allow.             | 10587           | Cameroon                                | 250.0           | 250.0               |                |                   |                 |                |                  |                       |                          |           |
| Allow.             | 8996            | Mali                                    | 300.0           | 300.0               |                |                   |                 | Cameroon       | 23-Jan-91        |                       |                          |           |
| Allow.             | 11488           | Niger                                   | 300.0           | 300.0               |                |                   |                 | Mali           | 23-Jan-91        |                       |                          |           |
| Allow.             | 6271            | Togo                                    | 622.0           | 622.0               |                |                   |                 | Niger          | 23-Jan-91        |                       |                          |           |
| Allow.             | 17520           | Uganda                                  | 300.0           | 300.0               |                |                   |                 | Togo           | 23-Jan-91        |                       |                          |           |
| Allow.             | 19962           | Nigeria                                 | 3,000.0         | 3,000.0             |                |                   |                 | Uganda         | 23-Jan-91        |                       |                          |           |
| Allow.             | 18973           | Zaire                                   | 3,000.0         | 3,000.0             |                |                   |                 | Nigeria        | 23-Jan-91        |                       |                          |           |
| Allow.             | 10587           | Eq. Guinea                              | 400.0           | 400.0               |                |                   |                 | Zaire          | 23-Jan-91        |                       |                          |           |
| Allow.             | 25969           | REDSO/W                                 | 80.0            | 80.0                |                |                   |                 | Eq. Guinea     | 23-Jan-91        |                       |                          |           |
|                    |                 | <b>CCCD BUY-IN SUB-TOTAL =</b>          | <b>8,252.0</b>  | <b>8,252.0</b>      | <b>0.0</b>     |                   |                 | <b>REDSO/W</b> | <b>23-Jan-91</b> |                       |                          |           |
| <b>HEALTH CORE</b> |                 |   |                 |                     |                |                   |                 |                |                  |                       |                          |           |
|                    |                 | <b>HEALTH CORE FUNDING SUB-TOTAL =</b>  | <b>0.0</b>      | <b>0.0</b>          | <b>0.0</b>     |                   |                 |                |                  |                       |                          |           |
|                    |                 | <b>CCCD TOTAL PROJECT FUNDS =</b>       | <b>19,852.0</b> | <b>18,852.0</b>     | <b>3,000.0</b> |                   |                 |                |                  |                       |                          |           |

9/2

Exhibit 3

Excerpt from AFR/TR/HPN Spreadsheet called CCCD MIS

CDC PASA

DATE OF LAST UPDATE: 04-Oct-90  
 NUMBER OF AMENDMENTS: 25

PARTICIPATING AGENCY SERVICE AGREEMENT (PASA) between  
 The Agency for International Development,  
 Department of Health and Human Services  
 & Centers for Disease Control

PASA NUMBER: BAF-0421-P-HC-2233-06  
 START DATE: 3/02/79  
 END DATE: 9/30/91  
 TOTAL AGREEMENT AMOUNT: \$45,935,197.00  
 TOTAL SAHEL AMENDMENT: \$527,000.00  
 TOTAL SUDAN AMENDMENT: \$260,000.00  
 GRAND TOTAL OBLIGATED: \$46,722,197.00

| PERIOD COVERED      | DOCUMENT REF. NO. | VOUCHER NUMBER | VOUCHER AMOUNT | APPROVED AMOUNT | BALANCE |
|---------------------|-------------------|----------------|----------------|-----------------|---------|
| -----               |                   |                |                |                 |         |
| 1990                |                   |                |                |                 |         |
| Oct (89) - Apr (90) | 5101907           | 5101907        | 3,177,586.04   | 3,177,586.04    |         |
| -----               |                   |                |                |                 |         |
| 1989                |                   |                |                |                 |         |
| Oct (88) - Dec (88) | 5101170           |                | 471,156.00     | 471,156.00      |         |
| Oct (88) - FY 1989  | 5101229           |                | 1,048,888.11   | 1,048,888.11    |         |
| Jan (89) - Mar (89) | 5101248           |                | 156,765.00     | 156,765.00      |         |
| Jan (89) - Feb (89) | 5101296           | 9590421        | 709,214.32     | 709,214.32      |         |
| Oct (88) - Mar (89) | 5101353           | 9501353        | 1,570,110.26   | 1,570,110.26    |         |
| Apr (89) - Jun (89) | 5101413           |                | 315,052.50     | 315,052.50      |         |
| Jun (89) - Jul (89) | 5101443           |                | 1,091,973.82   | 1,091,973.82    |         |
| Jul (89)            | 5101516           |                | 714,594.67     | 714,594.67      |         |
| FY 1989             | 5101638           |                | 895,046.49     | 895,046.49      |         |
| Sep (89)            | PENDING           |                | 56.74          | 56.74           |         |

\*

CDC PASA (cont'd.)

SAHEL ORAL  
 REHYDRATION THERAPY  
 PASA NUMBER: BAF-0421-P-HC-2233-06,  
 Amendment No. 7  
 START DATE: 10/01/84  
 END DATE: 9/30/86  
 TOTAL AGREEMENT AMOUNT: \$527,000.00

| PERIOD COVERED                       | DOCUMENT REF. NO. | VOUCHER NUMBER | VOUCHER AMOUNT | APPROVED AMOUNT | BALANCE |
|--------------------------------------|-------------------|----------------|----------------|-----------------|---------|
| -----                                |                   |                |                |                 |         |
| 1987                                 |                   |                |                |                 |         |
| Oct (86) - Dec (86)                  | 87-001            |                | 15,750.00      | 15,750.00       |         |
| Jan (87) - Mar (87)                  | 5100604           | 8029575        | 17,865.67      | 17,865.67       |         |
| Jan (87) - Mar (87)                  | 5100654           | 8029587        | 2,644.08       | 2,644.08        |         |
| Apr (87) - Jun (87)                  | 5011674           | 8029596        | 13,650.00      | 13,650.00       |         |
| Apr (87) - Jul (87)                  | 5100759           | 8029614        | 152,834.60     | 152,834.60      |         |
| Aug (87) - Sep (87)                  | 5100804           | 8029635        | 20,759.18      | 20,759.18       |         |
| -----                                |                   |                |                |                 |         |
| 1986                                 |                   |                |                |                 |         |
| Jan (86) - Mar (86)                  | 86-025            |                | 24,675.00      | 24,675.00       |         |
| Oct (85) - Dec (85)                  | 86-038            |                | 2,482.76       | 2,482.76        |         |
| Mar (86) - May (86)                  | 86-144            |                | 1,087.70       | 1,087.70        |         |
| Apr (85) - Sep (86)                  | 86-231            |                | 48,300.00      | 48,300.00       |         |
| FY 1986                              | 86-300            |                | (8,704.66)     | (8,704.66)      |         |
| -----                                |                   |                |                |                 |         |
| 1985                                 |                   |                |                |                 |         |
|                                      |                   | 85-136         | 4,206.48       | 4,206.48        |         |
|                                      |                   | 85-214         | 21,000.00      | 21,000.00       |         |
|                                      |                   | 85-279         | 188,877.71     | 188,877.71      |         |
|                                      |                   | 85-418         | 20,974.36      | 20,974.36       |         |
| -----                                |                   |                |                |                 |         |
| Sahel Oral Rehydration Therapy Total |                   |                | 526,402.88     | 526,402.88      | 597.12  |

\*

\* - Lacks sufficient information to analyze implications of raw data presented

37

CDC Expenses for CCCD Using AID/FM Mandated Format  
for Project Financial Reporting

R679-0-4X

72000001

**CENTERS FOR DISEASE CONTROL  
FINANCIAL STATUS REPORT  
On an Accrual Basis**

PASA/RSSA NO. BAF-0421-P-HC-2233      PERIOD COVERED: FROM: 7/89  
PROJECT NAME: Combatting Childhood Commun. Diseases      TO: 9/30/90  
PROJECT NO: 698-0421      PASA/RSSA AGREEMENT PERIOD: FROM:  
FISCAL DATA: PIOT/OBLIG. NO.      TO:  
Appropriation No.  
Allotment No.

| Description of Budget Line Items |                          | Current Billing       | From 10/1/82 to<br>Cumulative<br>Billing to Date |
|----------------------------------|--------------------------|-----------------------|--|
| Obj. 11                          | Salaries                 | \$890,455.62          | \$11,487,300.17                                  |
| Obj. 12                          | Benefits                 | 184,803.73            | 1,919,010.27                                     |
| Obj. 21                          | Travel                   | 385,899.29            | 4,755,409.89                                     |
| Obj. 22                          | Transportation           | 34,588.47             | 927,033.46                                       |
| Obj. 23                          | Rent, Comm., Utilities   | 28,596.13             | 674,754.15                                       |
| Obj. 24                          | Printing & Reproduction  | 17,259.02             | 108,799.72                                       |
| Obj. 25                          | Other Services           | <23,694.17>           | 12,728,251.29                                    |
| Obj. 26                          | Supplies & Materials     | 7,052.83              | 359,134.77                                       |
| Obj. 31                          | Equipment                | 179,199.33            | 1,493,694.18                                     |
| Obj. 41                          | Grants                   | 74,340.00             | 1,098,991.40                                     |
| Obj. 42                          | Insurance Claims & Idem. | 40,093.00             | 63,977.02  |
|                                  | Overhead                 | 379,575.07            | 5,482,639.56                                     |
| <b>TOTALS</b>                    |                          | <b>\$1,489,248.02</b> | <b>\$40,799,015.88</b>                           |

Cumulative Funds Authorized in PASA/RSSA through  
Amendment no. \_\_\_\_\_

Comptroller, USAID/

\* Does not include cumulative expenses under original AID/CDC PASA.  
Line items not consistent with CCCD Program Budget.  
Reporting periods not comparable to annual CCCD budgets.

The PASA with CDC was amended four times in less than 8 weeks in the closing months of Fiscal Year 1983, and amended again four times in approximately 2 months at the close of FY 1984. Amendment No. 3 to the first PASA with CDC authorizes funding for activities begun 3 months prior to the Amendment. Amendment No. 1 to the second CDC PASA authorized funding for activities begun 9 months before it was signed. Amendment No. 9 authorized funds for activities initiated 7 months before signing. Amendment No. 11 can not be found; and, Amendment No. 18 had a calculating error, obligating over \$500,000 (in two different currencies) for an activity estimated to cost half that amount. It apparently took 11 months to identify the error and make appropriate adjustments in Amendment No. 21.

The AID/AFR internal management systems, especially those for administration and financial tracking, are extraordinarily inefficient, and have resulted in chewing up the limited staff available, leaving little for substantive project analysis. The joint AID/CDC Project Officer/Project Manager team has been staffed since the project began by health professionals with insufficient management skills to identify and remedy the problems inherent in the systems used in managing the CCCD Core. The various A.I.D. offices interviewed professed that the Agency has no technical expertise internally on call to assist a Project Officer to develop appropriate project management systems.

### **III. ACTIVITIES, ACCOMPLISHMENTS, AND CONSTRAINTS OF THE CORE COMPONENT**

Because of the close collaboration between the Core component and the in-country activities, the evaluation team frequently found it difficult to distinguish the impact of the Core from the contributions of the project's local activities. It was equally difficult to distinguish the contribution of the Core to activities which in most countries were supplemented with funds and activities of other donors, particularly UNICEF. Thus, when we discuss the contributions of the Core components below, the reader should keep in mind that the Core was not the sole contributor to the success of these activities--and in some cases the Core played a relatively minor role compared to other donors.

#### **A. PARTICIPATING COUNTRIES**

The CDC, following immediately on the signature of the accords, began a series of country assessments to identify country needs and to ascertain how the CCCD project could be helpful in responding to them. These assessments also acquainted African governments with the project and what it could offer. As a result, countries gradually came on board, signing limited scope agreements for participation.

The project began activities in Zaire in 1982. Togo and Liberia were added in 1983; Lesotho, the C.A.R., Swaziland, Congo, Rwanda and Malawi in 1984; Cote d'Ivoire, Burundi and Guinea in 1985; and Nigeria in 1987. Four countries are no longer participating: Congo (1987), Malawi (1987), Rwanda (1988) and Liberia (1990). The program in Congo was terminated because the Congolese government elected to finance tertiary care hospitals rather than the primary care activities agreed upon for the CCCD project. In Malawi and Rwanda, the USAID missions decided that the programs would not be renewed even though the host governments wanted them to continue. The Liberia CCCD project fell victim to civil strife. The review of Core contributions which follows pertains mainly to countries which are currently in the program.

#### **B. OVERVIEW OF INTERVENTIONS AND SUPPORT STRATEGIES**

At the time the project began, the technologies for the three major interventions were at different stages of development. Immunizations, which had already received considerable support under the Strengthening Health Delivery System (SHDS) and other projects was a well tested and developed intervention. The application of ORT in combatting diarrheal disease was a new technology and not yet applied on a large scale in Africa. Malaria was a changing disease entity which had successfully resisted a massive eradication campaign in the 1960s and was beginning to show signs of resistance to

established prophylactic and treatment regimens established to control it. Because of these differences, the strategies and approaches used by the CCCD project and particularly its main implementing agency, CDC, differed by intervention.

With the mandate to implement three interventions, the decision was made to work at the operational level in the Ministry of Health where those interventions were managed -- or where no operational unit existed, to encourage its formation. Since in all countries EPI was the intervention launched first, the TO was assigned to work within the Ministry within the unit that managed EPI.

In this section, we review the four technical interventions and five support strategies, noting the strategies developed, accomplishments, and constraints. A final section examines policy development.

## 1. Interventions

Two major medical interventions, the expansion of immunizations and combatting diarrheal disease, were foreseen in the project paper as the program's major foci. Diseases of local importance, such as yellow fever and yaws, were also mentioned. However, since the African countries voiced greatest concern about malaria, this disease became the focus of the third major intervention. By special exception the project added acute respiratory infection (ARI) to its activities in Lesotho, which has no malaria incidence.

In implementing the CCCD project, CDC used different approaches to the three major interventions, because: 1) the technologies were in different stages of development, 2) immunizations are preventive activities while the other two interventions are curative activities, 3) African governments had different capacities, and 4) CDC also had different capacities in the interventions. The approaches taken grew out of CDC's earlier experience with the smallpox eradication campaign and its experience providing State and local health departments in the United States with assistance in epidemiological surveillance.

**Expanded Program for Immunization (EPI):** In most countries, some EPI activities started before the CCCD project began. Therefore, the CCCD project's strategy was to support Ministries of Health in developing their networks of facilities providing vaccinations. Through the activities of the CDC in-country Technical Officer and Technical Assistants from Atlanta, the Core provided support for the development of immunization programs in the participating countries.

Before the CCCD project, vaccinations had been carried out mainly through mobile units in rural areas while relying on fixed sites in urban areas. The main contribution of the CCCD program has been the establishment of a fixed strategy throughout the country, coupled with an advanced strategy in rural areas. This has been

made possible through the extension of the cold chain to rural health centers and through training. The Core components played major roles in facilitating the training program, while the country-specific activities were mainly responsible for the establishment of the cold chain.

During the project's history, immunization coverage has increased considerably in all participating countries. More than half of the countries reached their initial coverage targets (which varied from country to country), with two countries, Malawi and Rwanda, achieving 80 percent coverage by 1989. In a few countries, there has not been a significant increase in coverage during the last 3 years. (See Table I-2)

Table I-2  
Measles Vaccination Coverage and Incidence of Measles  
in CCCD Project Countries for Selected Years

| Country            | Coverage Rate<br>(Percent) |      |      | Incidence<br>(No. of Reported Cases) |            |
|--------------------|----------------------------|------|------|--------------------------------------|------------|
|                    | 1984                       | 1986 | 1989 | 1984                                 | 1989       |
| Burundi            | 28                         | 44   | 79   | 28,567                               | 28,014     |
| Cent. African Rep. | 24                         | 39   | 39   | 6,395                                | 2,148 **   |
| Congo              | NA                         | 67++ | 73*  | 18,615                               | 436        |
| Guinea             | 0                          | 3    | 15   | 4,396                                | 1,590      |
| Cote d'Ivoire      | 25                         | 28   | 36   | 5,946                                | 1,109 ***  |
| Lesotho            | 54                         | 70   | 69   | 5,821                                | 4,376 ***  |
| Liberia            | 11                         | 59   | 47   | 4,835                                | 2,556 *    |
| Malawi             | 67                         | 66   | 84   | 80,766                               | 114,061 ** |
| Nigeria            | 17                         | 17   | 37   | 182,591                              | 17,217     |
| Rwanda             | 57 ++                      | 63   | 88   | 17,269                               | 12,387 **  |
| Swaziland          | 58                         | 72   | 75   | 14,112                               | 1,581 *    |
| Togo               | 6                          | 33   | 68   | 25,869                               | 3,489      |
| Zaire              | 30                         | 39   | 28   | 11,385                               | 7,57       |

++ 1985 \*\*\* 1986

\*\* 1987 \* 1988

NOTE: When the data were not available for the given year the table shows the nearest year available as indicated by: + and \*. Coverage rate data for all countries but Congo, Malawi, and Rwanda, were provided by CDC/IHPO. Since CDC/IHPO provided incidence data for only 6 of 13 countries, we used WHO data for all countries.

Source: World Health Organization, Information System: Summary for the WHO African Region. Expanded Program on Immunization, 1990.

As a consequence of the EPI activity, the incidence of measles has been lowered, as shown by reported cases (Table I-2). Nevertheless, in most countries, the coverage rate still remains below the level necessary to prevent occasional measles epidemics.

The leveling off in coverage rates can probably be attributed to a combination of three factors: a) the limited extension of the cold chain and vaccination services, b) lack of health education, and c) missed opportunities.

Applied research on missed opportunities has been carried out to show that when health facilities do not vaccinate daily, many children who come in contact with the health care system are not immunized. This has led countries to change their policies and to vaccinate each day, even though doing so may increase wastage of vaccines. Since vaccines constitute only a minor part of the cost for immunizing a child, as shown by cost-effectiveness studies, this problem is minor, even though for most health workers it is a major deterrent to daily vaccinations.

The Core also assisted in identifying technical issues in immunization, such as the need to use more effective vaccines for protecting children at high risk under 9 months of age, the gap in measles coverage of school-age children in Lesotho and Burundi, and the need for performance surveillance to monitor sterilization techniques.

With support, particularly from UNICEF, national immunization campaigns have been carried out in most CCCD countries. They have focused community attention on immunizations, but have sometimes detracted from the orderly development of sustainable programs since resources have been diverted to the campaigns from other CCCD activities. At the same time, the campaigns have pointed out the need for a sustained program of health education, which the CCCD project, despite serious efforts, has not yet gotten participating countries to institute.

**Control of Diarrheal Diseases (CDD):** Although the technology and strategies for EPI had already been well developed before the CCCD project began, an international consensus on policies and strategies was less well developed for diarrheal disease. The major issue related to whether the focus should be on health center treatment with oral rehydration salts (ORS) packets or on home treatments with sugar-salt solution (SSS).

The main focus of the CCCD project has been on establishing oral rehydration treatment (ORT) corners in health facilities and training health workers in the use of ORT. In the countries which are still participating in the project, 80 percent or more of the health facilities are currently using ORT. Regional ORT training centers have been established by WHO/AFRO and national ORT training centers are operating in a few countries. In the larger countries, e.g., Zaire, there is also a need to establish training centers in the regions.

The S&T project, PRITECH, has also worked in CDD, but it focuses on health education and reaching out to the community through social mobilization. The policy differences between the two projects led to problems when they tried to work in the same countries (Nigeria and Guinea). The PRITECH project has focused on community participation and home treatments and has paid most attention to the use of SSS in homes. The CCCD project countries have not had strong health education programs to support use of the SSS at home. At the same time, operations research has shown with increasing frequency that the home use of the SSS has considerable problems since mothers frequently mix the solution incorrectly. The current policy promoted by WHO and used by all programs working in CDD is to promote increased feedings and use of home-based solutions. At this time, CDC is trying to establish through operations research which home-based solution, if any, can be recommended for use in home treatments. Prevention of diarrhea is included in the training of midlevel managers but has not been incorporated into most CDD programs.

**Control of Malaria:** The major achievement in control of malaria has been the establishment of treatment policies in the face of spreading chloroquine resistance. The CDC Malaria Branch has had a major impact on these policies through its efforts to document the spread of chloroquine resistance in the region and to train nationals to monitor the resistance. Based on the developed policy, WHO/AFRO has produced training materials which are currently being field-tested in regional courses.

Operations research has been used not only to document chloroquine resistance but also to test the efficiency of the policy of using chloroquine as a prophylaxis. The Mangochi study,<sup>1</sup> although showing that birth weight can be increased through prophylaxis during pregnancy, also showed that without strict compliance the effect was negligible. This put into question the current policy promoted by WHO to give prophylaxis to pregnant women during the first two pregnancies.

Health education has been incorporated into training materials. However, the CCCD project will have to make a serious effort to reach mothers with messages regarding the appropriate treatment of malaria in the home and when to take the child to the health center for treatment.

**Acute Respiratory Infections (ARI):** Although ARI is a major cause of illness and death in children under 5, ARI intervention was not originally in the CCCD project. This was due to the lack of established policies, and it was added in the 1988 Project Amendment. During the last few years, WHO and CDC working together have established treatment guidelines for ARI, and WHO/AFRO has developed and field-tested training modules.

<sup>1</sup>Steketee, Richard, Recent Findings In Perinatal Malaria. IPA/WHO Pre-Congress Workshop on Prevention; Control and Management of Perinatal Infections. July 22-23, 1989. p. 12.

In Lesotho, CDC was responsive to the government and assisted with formulating and developing a national program. Operations research was used to establish which antibiotics to use and when to give treatment. A study was also carried out to find out which criteria mothers use to decide when to take the child to a health facility. The locally developed ARI training materials were based on the training modules developed by WHO/AFRO, which has also organized regional ARI program manager courses.

## 2. Support Strategies

Four support strategies for implementation were identified in the 1981 Project Paper as major project components: 1) training; 2) data systems for disease surveillance, program management, and evaluation; 3) health education and promotion; and 4) operations research. Three additional support strategies were specified in the 1988 Sixth Project Amendment (p. 10): 5) project management; 6) sustaining program activities and benefits; and 7) impact monitoring.

In the following sections, we discuss five support strategies; HIS, training, health education, operations research, and sustainability. These are the strategies which AID/W in the Scope of Work asked the Evaluation Team to review and comment on. Impact monitoring is discussed in Part IV D.

**Health Information Systems:** In this section, we analyze the objectives for information systems in the CCCD Project and the strategies used to achieve the objectives. We also assess their appropriateness, and provide recommendations for the future.

### Objectives

The Project Paper envisioned "Data Systems for Disease Surveillance, Program Management and Evaluation" as one of the four major components of activities in the region and the countries. These objectives were specified for the data systems:

Develop and strengthen epidemiologic surveillance systems.

Develop and strengthen management information systems for needs assessment and problem identification.

Identify indicators for monitoring and evaluating program performance and impact.

In the Third Project Amendment (1986), the focus was narrowed to provide program managers with useful information on national immunization, ORT, and malaria treatment activities. (p.6) This Amendment also stated that existing health information systems were adequate for implementing CCCD health information system components.

By fiscal 1987, a database of child survival indicators in CCCD countries was to be developed. The Sixth Project Amendment (1988) added impact indicators to the list of four original support strategies.

These modifications have moved the project focus over time from supporting African information systems in general to supporting them for very specific purposes, e.g., target intervention reporting, impact reporting. They also have emphasized the role of the implementing agency, by giving it the task of creating a child survival database.

### Strategies

Six strategies have been implemented: computerization, epidemiologic surveillance systems, sentinel site or specialized reporting, improved national routine reporting, program impact surveys, and development of regional and country based feedback mechanisms.

1.) Computerization: A major project focus, computerization began very early in the project, to move it beyond pencil-and-paper information systems. The Core purchased and installed 80 computers and provided training in their use in all countries but the Congo and Rwanda. CDC consultants trained nationals to use EPI-INFO, user-friendly software developed by CDC. Computers are used by Ministry nationals, CCCD resident advisors, and TOs for surveys, outbreak investigations, and special studies.

An indication of success is Togo's ability to produce a draft of its annual report within 3 months after the end of the year; this process used to take years. At the last few annual CDC meetings, TOs have delivered diskettes of data on immunizations, EPI target disease incidence, malaria and diarrheal disease incidence as well as some information on ORT use and, for selected sites in some countries, inpatient morbidity and mortality. These data come from sentinel site reporting, national reporting systems, and surveys. CDC/IHPO compiles and analyzes these data for annual reports.

The introduction of computers into the CCCD countries has permitted central Ministry statistical services to process rapidly data received from the field. It is questionable, however, whether the systems will be sustained after the project ends. In two countries, Togo and Zaire, Ministry officials do not seem to have addressed the issues of maintaining the systems when technical assistance ends. Attracting and keeping qualified personnel to program and maintain the computerized system is another problem. In Togo, the well trained director of the statistics division was about to retire; there was no sign that the government was attempting to replace him. If he goes, most observers believe, the system will come to an end. In Zaire, breakdown of leadership in the PEV-CCCD unit led to a lapse in maintenance of the databases, the computers, and the output of analyses.

Computerization has decided advantages for information systems, but their continued use requires the development of institutional capacity, organization, and commitment which the fragile African administrative structures lack. These factors have not received the same support and attention as that given to the actual installation of computers and computer training of personnel.

2.) Epidemiologic Surveillance: The strategy to improve epidemiologic surveillance, carefully delineated in the Project Paper (p. 20), called for posting three epidemiologists in Africa to work with regional communicable disease control organizations, to train country counterparts and to conduct disease outbreak investigations, research, and regional training. They were to be backed up by two Atlanta-based epidemiologists.

Activities were to include enrollment of African communicable disease control managers in Epidemic Intelligence Services (EIS) 3-week courses at CDC, on-the-job (OJT) training of counterparts, and evaluations of country data systems for disease control. The model for this strategy was CDC's experience in providing technical assistance to States and localities in the U.S.

CDC deployed two regional epidemiologists: one to Cote d'Ivoire in 1983 to serve in the Western Region, one to Malawi in 1984 to serve the eastern region. The two regional epidemiologists were not used effectively by regional organizations or the countries because they lacked an institutional base, and inter-country travel was as difficult as coming from a base in the U.S. They were not replaced after 1987 in Cote d'Ivoire and after 1988 in Malawi, though by that time, the epidemiologist based in Malawi served only the country. Country-based epidemiologists were placed in Nigeria, and Zaire.

The Fifth Project Evaluation (1987) recommended a formal review of CCCD epidemiologic activities since much dissatisfaction had been voiced about their multiple roles and activities. The epidemiologists also had responsibility for promoting and carrying out research as well as their epidemiological activities. The recommendations of the evaluation laid the groundwork for placing epidemiologists in Nigeria and Zaire, and for providing epidemiologists from Atlanta for the other countries.

The epidemiologists, wherever they were based, including Atlanta, provided support for disease surveillance, conducted special studies, assisted with disease outbreak investigations, provided technical support for ORT and HIS, and trained counterparts where they were available.

Several problems were identified. One was finding an appropriate institutional base for the epidemiologists so that their activities could be institutionalized and so that they could have counterparts. For example, the epidemiologist in Malawi said he had no real counterparts in the Ministry between 1984 and 1988. As a result, he could carry out the tasks of a medical epidemiologist, but he could not train a Malawian to replace him.

The CDC model of technical assistance for epidemiologic surveillance, which has worked well in the U.S., seems not to have worked so well in Africa under the CCCD Project. This may be primarily due to the stage of development in the African Ministries today, compared to the development of U.S. health departments, which had been receiving assistance for institutional development from the U.S. Government for 20 years before the CDC program began. There also was a supply of U.S. physicians available to be trained in epidemiologic methods. Physicians in Africa are a rare commodity and in high demand. The capacity of African Ministries to absorb epidemiologic surveillance activities may have been overestimated.

3.) Sentinel Site and Specialized Reporting: The third strategy was to gather data on CCCD target activities by developing sentinel site reporting and/or specialized reports based on routine national reporting systems. This strategy was framed to respond as expeditiously as possible to the project objective of gathering data without getting bogged down in improving health information systems for countries where they were not well developed.

Improved methods to monitor program activities were introduced by CCCD technical assistance, and training was provided in data collection and recordkeeping.

Data collected from sentinel sites, although not necessarily representative of a country, if regularly collected and analyzed, are valuable for disease surveillance. Sentinel site reporting for measles was introduced in Cote d'Ivoire and Lesotho, for example, and for targeted outpatient morbidity in the C.A.R., Nigeria, and Zaire.

Sentinel site reporting for CCCD required Ministries to develop management and supervisory systems at least for the participating sites. These sites also had reporting requirements from other agencies.

Getting regular reporting from sentinel sites has not proved easy in two of the countries visited. In Zaire, for example, with more than 100 facilities in the system, the number of facilities reporting the data that appeared in published reports was called "theoretical." Clinic nurses were responding to many reporting requirements, some overlapping. In one clinic, a conscientious nurse had 14 notebooks that he and his staff used for recording information, which they found time-consuming and burdensome. In some other countries, such as Togo, separate reports on CCCD targets, such as data on ORT use, were added to routine reporting systems. To fill them out, clinic nurses had to go through their register of patients three times--for the routine disease report, for the diarrheal disease report, and for the malaria report. They reported that they made frequent errors because of the tediousness of the process.

The strategy of designing expedient systems in order to obtain program-specific data provided the CCCD project with the data it needed to evaluate its activities, but it

created duplicative and overlapping tasks for those at the bottom of the data collection chain.

4.) Improvements to National Facility-based Routine Reporting Systems: The fourth HIS strategy, which received less attention than the others, was to improve existing reporting systems, where possible. The work differed from country to country. In Burundi, the C.A.R., and Togo, CCCD staff worked with MOH officials to shorten lengthy lists of reportable diseases, some of which were of no significance to the countries. Improvements made to the system used in Rwanda for surveillance and monitoring of health facility activities and performance are still functioning satisfactorily even though that country stopped participating in the CCCD project in 1988.

In 1984, when the CCCD Project signed a contract with WHO/AFRO, 20 percent of funds were to be applied to the development of EPI reporting systems. By the end of 1986, WHO/AFRO proposed to focus improvement for developing management at the district level. A.I.D. felt that this undertaking would be too lengthy for the amount of time left in the project (to 1988) and suggested that WHO/AFRO devise a plan that would produce useful short-term results. The regional approach to development of HIS was abandoned. Meanwhile, WHO Geneva had begun developing its computerized reporting system for immunizations which WHO/AFRO has been introducing into selected countries. It is installed in the EPI administrative unit, usually as a system separate from other routine reporting systems.

Perhaps most significantly for the routine reporting systems was CCCD's introduction of computers at the central level for more rapid data entry and analysis. As a result, routine reporting systems on diseases have been improved in selected CCCD countries.

What have not been affected or improved are the management and logistics data systems on activities (with the exception of EPI), resources, and personnel which central and regional Ministry officials need to plan and administer their programs. These goals, part of the original Project Paper's objectives, had faded by the time of the Third Amendment in 1986.

5.) Measuring Project Impact: The fifth strategy was to measure project impact through the development and implementation of surveys. Since 1986, the CCCD Core has contributed assistance to MOHs carrying out immunization coverage surveys, sometimes combined with ORS use surveys; these are usually joint efforts by host countries and groups of donors. The CCCD project has contributed staff time, vehicles, and analytic assistance.

The major activities in measuring project impact were the Mortality and Use of Health Services (MUHS) surveys carried out in five countries. Findings suggest that the increase in CCCD-supported immunizations and other selective interventions, such as

ORT, resulted in a significant decrease in child mortality in two counties in Liberia and one health zone in Zaire.

Respondents raised some concerns about these studies, ranging from the lack of control groups to the small size of some samples. Questions were also raised about what conclusions to draw from the findings and about the costs and the sustainability of MUHS surveys. During the course of the project, questions were raised from time to time about whether the MUHS surveys should be undertaken and, once started, continued. The issues were examined in the Third and Fourth Annual Evaluations in 1985 and 1986, and the recommendation was that they should be continued. MUHS, although not in itself conclusive, has contributed to global data showing that certain interventions (measles and neonatal tetanus) do contribute to increased survival.

The Core designed the surveys and supervised implementation, hiring and training nationals as interviewers. Analysis was handled by CDC in Atlanta and by experts at Johns Hopkins University. Countries were not expected to develop their own institutional capacities. The results of the surveys, however, are not likely to provide much guidance to MOH planners for assessing health needs and future resources except in the targeted areas where they took place.

CCCD program implementors considered alternate sources for mortality indicators. Vital events registration in these countries appeared to be inadequate for developing mortality data. Whether birth and death registration systems can be or should be developed and whether such systems can bring additional benefits such as data for population estimates, health catchment areas, and democratization efforts are researchable questions which still need to be addressed.

The CCCD project did promote introduction of an alternative method of assessing mortality, the Brass-Macrae method which inquires into the fate of preceding births among women at the time of a subsequent delivery. This technique requires good management supervision in maternities to assure reliable data collection and reporting. More research on the organizational requirements of implementation would be useful here.

6.) Feedback Mechanisms: The sixth strategy was to help host countries and WHO/AFRO produce quarterly epidemiological bulletins to provide feedback to regional and local health workers. The CCCD Project provided technical assistance and funds for the bulletins. Five countries had produced bulletins by 1989. Lesotho's, the most ambitious and informative, has been published for 5 years. It is well institutionalized.

The WHO/AFRO bulletin is funded from the Core, and published two bulletins in 1989 and one for 1990. The editor said it is intended for health workers rather than as a scholarly journal. The most recent issue set out the WHO recommendations for malaria prophylaxis and treatment, as well as prevention strategies through the use of

impregnated bednets. If the WHO/AFRO bulletin is to provide morbidity and mortality information, it needs to receive better epidemiologic reporting from the countries. If it is supposed to be a forum for assisting regional and local health workers, then it needs to write shorter and more specific articles about solutions to operational issues which concern these workers, rather than focusing on disseminating standards.

### **C. APPROPRIATENESS OF APPROACHES: CONSTRAINTS AND LESSONS**

Considerable short-term technical assistance from the CDC PASA has gone into HIS development (more than 12 person months in 1984, and more than 91 person months from 1985 through 1990). TOs also often provide TA since they are computer literate and able to promote computerization of local information systems.

In 1986-1987, the Bureau of the Census, International Office, provided TA for developing and testing health utilization surveys in Cote d'Ivoire and for assessing health information systems in Liberia. BUCEN also developed a spreadsheet for AID/W to track project expenditures from vouchers.

#### **1. Models for Information Systems**

Because the CCCD project approached each country's information system development as a problem to be resolved in the context of that country's situation, a wide variety of approaches, described above, was used. The project also used three models: computerization, epidemiologic surveillance systems and epidemiologic bulletins.

The model of computerization of central Ministry data processing was instituted in nearly all project countries. The usefulness of an information system depends not only on the final data processing but also on what occurs every step of the way from the time data are recorded by clinic nurses to the use of data by a central Ministry planner to allocate resources. The computerization model took precedence over the systems model.

The epidemiological surveillance system model was drawn from CDC's continuing successful experience with providing technical support to State and local health departments in the United States. African ministries of health, however, have not yet succeeded in building the basic infrastructure (functioning laboratories, statistics departments, regulatory powers, and qualified staff) which was recognized as being absolutely necessary for health departments in the United States during the early part of this century. As a result, the considerable inputs and activities of epidemiologic support offered by the CCCD project could not find an institutional base in which to flourish and be sustained. The epidemiologists provided excellent support and advice in disease surveillance, research, and control, but were less well placed and qualified to assist ministries to develop the organizational and management tools they would need in the long-run to carry on this work.

For similar reasons, the epidemiologic feedback bulletins, as important as they may be in the long run, have had difficulty in getting incorporated as part of Ministry activities and concerns.

## **2. Point of Administrative Entry to Information Systems**

The Project entered Ministries of Health where the CCCD interventions are housed. For example, the usual focal point for CCCD activities is the EPI program which is usually housed in a directorate down the chain of command in the Ministry and far removed from the Director General. Whatever changes the project succeeded in making in information systems were viewed as program specific, rather than of general interest. Data collection and analysis instituted by the project were viewed as being owned by the program, not the Ministry. The constraints of this selective administration approach became more evident as the project expanded from EPI to the other interventions. The exception is Lesotho where the information system improvements, like the rest of the CCCD project activities, are integrated in the Ministry MCH division and have been supported by the highest levels of the Ministry from the beginning of the project, at the request of the Ministry. Lesotho may prove an instructive case study of why integrated information and health service delivery systems work.

## **3. Sustainability of Systems**

Whether an information system is sustained depends on its perceived utility by host nationals and whether it meets their needs for program impact assessment, for policy formulation and for management decisions. Where the information system was already well developed, the CCCD Project could help it along through computerization. In other countries, where the system was not so well developed and its development was not so well supported by Ministry leadership, the situation was very different.

The limited epidemiologic focus of the CCCD information systems meets some of the needs of Ministry officials at the central level and few of the needs of regional and local health workers. The unmet needs are in the domain of management information for surveillance and monitoring of activities and resources. Since a successful information system depends on the cooperation of data collectors and users, improving the quality of the information systems for these health workers and officials is a necessary element to assure sustainability of systems.

## **4. Impact Indicators**

In the absence of sources of data from vital registration systems, the CCCD Project relied on the MUHS surveys to estimate infant mortality. The surveys were more difficult and costly than anticipated, and less informative than desired. Therefore, the Project began suggesting the use of the alternative Brass-Macrae technique, which has advantages, but also drawbacks and which is not well tested.

If infant mortality continues to be a desired indicator, alternative means of measuring it need to be devised. Not enough is currently known, for Africa, about the relative benefits, administrative requirements, and costs of vital events registration, surveys, and the Brass-Macrae system. Program impact indicators which measure the outcome of project activities, such as immunization coverage and ORS use, were more readily available and could be collected.

The CCCD Project's experience in measuring project impact is that it is neither easy nor inexpensive to do. Surveys are expensive, and leave the least behind in terms of sustainable results. In the future, more attention needs to be directed to impact indicators which can serve host countries' management needs as well as donor impact assessment needs, indicators which are easy and relatively inexpensive to collect, and which are sustainable because the host country has an interest in them.

**Training:** CCCD training has been financed in various ways. WHO/AFRO received a grant in 1985 to conduct regional training. In addition, funds came from the CDC PASA, the Peace Corps PASA, and buy-ins into the centrally funded projects in S&T.

#### The CDC PASA

The training effort by CDC has been limited to the CCCD countries, and the Core component of the training has been less extensive than the training done under the WHO/AFRO grant. Training is recognized as a necessary support service, but it is not a major part of the Core support activities. The Core training has been provided mainly by one person assisted by consultants.

Initially, CDC used the training materials and approach that had been developed for the WHO/CDC EPI modules, and before the project started, CDC had developed modules for training of EPI midlevel managers. The rest of the WHO training materials were developed through a contract with WHO.

The approach that had been developed for the WHO/CDC EPI modules was national workshops with national facilitators, with followup the responsibility of the TOs. The TOs usually arranged and planned the courses and assisted facilitators with courses for senior and midlevel managers, mainly in EPI.

By 1984, need for improvements was noted. Facilitators were not using participatory training methods, and there was evidence the training was less effective than desired. Therefore, two regional training-of-trainers (TOT) courses were given on experiential training methods, and they were followed in some countries with national TOT courses. The effect was not sufficient to provide a critical mass of trainers using participatory training methods in all the CCCD countries.

The training modules used for most training were the WHO modules, complemented with CCCD modules developed in content areas where no WHO modules existed. The CCCD modules were developed using the same teaching strategy as the WHO modules. Thus, CDC developed facilitators' guides to use with the WHO and CCCD modules. These facilitator guides use participatory methods and draw on the practical experiences and problems of the health workers. CDC has not shared these guides with WHO/AFRO, and they have not been used outside the CCCD countries.

The modules were used in regional courses by WHO/AFRO and are still in use although they have recently been revised. They were used to expose mid-level managers to the immunization policies established by CDC and WHO. The newly-trained people and the trainers then used the WHO modules, sometimes adapted to local conditions, to train others. This method for diffusing the immunization strategy was effective, and the knowledge in the modules was rapidly disseminated throughout the region.

Changes in immunization policies were introduced at the EPI program managers' meetings and revised modules were quickly put into the countries. The same style of training modules was also used for training mid-level managers in CDD, ARI, and Malaria Control. In addition, WHO developed courses for program managers in EPI, CDD, and ARI. The regional training of program managers has been followed by biennial program managers' meetings.

The regional training model developed by WHO with inputs from CDC has been so successful that WHO/AFRO is currently testing modules in epidemiology for mid-level managers and is developing a course combining the four interventions, and stressing supervision and the use of health information to manage centers. WHO/AFRO is also sponsoring annual 3-month courses in epidemiology (Nairobi and Bamako) for physicians. The courses have been partly financed through the CCCD project.

Dissatisfied with the EPI modules, the CCCD project developed alternate materials. PRITECH also developed training materials in CDD. In most CCCD countries, however, the national trainers preferred to use the WHO modules which they felt more comfortable with. CDC then prepared facilitators' guides to use with the WHO modules.

Since 1985, CDC has stressed the performance of health care workers trained in the program. Facility assessments show performance deficiencies. Also, immunization coverage surveys in Lesotho have shown persistent problems with insufficient time between vaccinations or too early vaccinations (mostly measles). Thus, efforts are now underway to strengthen supervision of the health workers and to provide continuous inservice training based on performance deficiencies noted during regular supervision. Supervisory forms for EPI have been developed and are currently being introduced in a few countries.

None of the countries has succeeded in establishing a functioning in-service training program. That is, they have not allocated Ministry funds to training independent of donor support; they do not have annual training plans which are monitored, revised, and evaluated; and their staff who have so many other responsibilities that they cannot give priority to training. Usually, national trainers carry out the training as part of an already excessive work schedule. Frequent personnel transfers also make it difficult to establish a qualified training staff. Lesotho is in the process of establishing a regular in-service training program, but has not yet been able to assign full-time trainers. The training is usually didactic, with little trainee participation.

Training has focused on in-service rather than on pre-service training. According to CDC, pre-service training was never a "mandate" of the CCCD project. However, WHO/AFRO carried out courses for teachers in nursing and midwifery schools to teach them how to introduce the treatment policies for the target diseases in paraprofessional schools. The impact of these courses is not known. CDC has not worked with pre-service education although there is an awareness that it should be included as part of any follow-on project. A more detailed analysis of the training efforts--conducted by the CDC and WHO PASAs, as well as a Peace Corps PASA, HEALTHCOM, ARHEC, and the School of Public Health in Zaire--appears in the Appendices to this document.

### Analysis and Synthesis

The interventions introduced in the CCCD project were new and unfamiliar to most health workers; thus, training was a major support strategy in the program. In addition to training related to service delivery, people needed training in management.

Training in the delivery of health services has been fairly successful, as can be seen from the success and the impact of interventions, especially in EPI. Training in management and supervision has been less effective, partly because of logistical problems but also due to the fact that much of the training has been theoretical and not related to actual in-country conditions. The focus has been on the knowledge necessary to deliver services rather than on skill development and problem solving.

Most trainers have not been trained in the use of participatory methods and tend to use didactic and very teacher-centered methods. More training of trainers is needed.

Most of the training provided has not been properly evaluated, either during or after the training. It has not been based on an assessment of needs; an evaluation of the participants' previous experiences, skills, and knowledge; and an assessment of how much was learned and how participants are applying what was learned.

The CCCD project has not made a priority of influencing ministries to establish in-service training programs, and these have not been established in most countries. Training is still regarded as an activity which only occurs with donor funding.

One problem limiting the institutionalization of training has been that it is usually done in the form of workshops and seminars on central or regional levels, rather than on the district level. People have to leave their work stations to attend training, and the transport and per diem charges increase the cost of training. In some cases, the lack of explicit training selection criteria sometimes mean that people are trained unnecessarily, decreasing cost effectiveness. Job transfers often mean that the people who received the training no longer have responsibility related to the training content.

One solution to these problems may be to assign the training function to a combined trainer/supervisor who is responsible for upgrading the skills of personnel in his or her district. This approach would require an examination of the health system and a positive attitude toward training by the decisionmakers. Workshops and seminars would still be needed, but not as often.

What strategies should be adopted regarding training in future projects? The discussion above, and in the Appendix, (II-3) suggests the following emphases:

Continued development of training manuals on the interventions on a regional level with TA given for in-country applications of what was learned.

MIS, supervision, and management training for health facility managers and health education for health workers.

Training for central staff in management, planning, monitoring, and evaluating health services.

Allocation of resources for supervisory training to include needs assessment and on-the-job-training.

Encouraging governments to provide personnel and financial resources to the institutionalization of in-service training programs.

Decentralized workshops and seminars.

**Health Education:** Health education has not been a major focus of the CCCD project, although community participation was included in all of the mid-level managers courses. Targets were set for community use of ORT and antimalarials. ORT targets have not been met. Malaria baseline levels for chloroquine use were above the target of 50%, however.

A reason why health education received minor attention in the CCCD project was the fact that although included in the project objectives, CDC had little capacity in the

area before 1983 when one person was hired. As a result, work was carried out only by that person. For a project operating in 13 countries, this is obviously insufficient. Only in 1988 were more staff members added.

The health education efforts during the first part of the project were mainly carried out by Peace Corp Volunteers (PCV). They were trained under the Peace Corps PASA in seven of the CCCD countries. The most extensive and successful effort was in Togo. Although the contributions of the PCVs are important, their small numbers limit their impact.

Mass media campaigns have been carried out in most CCCD countries. Most campaigns have focused on vaccinations and have been linked to the national immunization campaigns. These campaigns have increased the community's knowledge of the interventions, but do not appear to have had a sustained impact on practices. For example, although immunization coverage in the Cote d'Ivoire increased during a mass campaign, it later fell back to the previous level. Such campaigns need to be integrated into national health education programs, in order for such efforts to be sustained.

Health education efforts have concentrated on training health workers to provide better information to the patients, and to improve the talks given at the health centers. During the last few years the program developed messages based either on focus groups or Knowledge, Attitudes and Practices (KAP) studies in a few countries. These messages were field-tested before they were disseminated in the health centers either orally or through posters or leaflets. HEALTHCOM has used this approach. The project evaluation in Lesotho showed a limited but not significant impact. Other evaluations of this approach have given disappointing results.

The reasons for the limited impact are difficult to pinpoint. One probable reason is that the health workers generally are not adequately trained or supervised to provide effective health education. In addition, they reach only the women who already visit the health facility for preventive services. Thus, there is no broad outreach effort. Research shows that behavior change is not only a function of knowledge, but also related to a complex of social and political factors which are difficult to influence. Thus, although the health workers may have been successful in communicating the message, they may not have been able to persuade the women to change well established habits. Operations research is needed to explore such factors. The efforts in some countries in family planning programs may provide some direction to such research. At this time, operations research in the CCCD project has been limited to KAP studies.

The health education methods used have been based on experiences in the United States and in developing countries outside Africa. There is not sufficient knowledge of what methods would be most useful in an African context. The lack of significant success with the current approaches points to a need for experimentation and the use of more innovative approaches to health education.

The CCCD project has established regional training courses in health education planning in Nigeria and Zaire. The program in Zaire is modeled on the one in Nigeria which started in 1988. During the course participants develop a health education plan which they are supposed to implement in their own countries after obtaining funding. Follow-up of the participants has shown that it is difficult to obtain funding and to implement the plans. The course is focused on the planning and evaluation of health education programs. How to implement the activities is not taught. This lack of implementation training coupled with the lack of well-trained health educators may be the most significant factors in diminishing the impact of the course. No participant has fully implemented the plan developed in the course, and this raises questions about the long-term sustainability this training achieves. A more detailed analysis of the health education efforts in the CCCD project is given in Appendix II-4.

**Operations Research/Applied Research:** Research conducted by the CCCD project is referred to as operations research (OR). This included a wide range of research activities, including biomedical research, clinical trials, epidemiologic studies, and basic descriptive studies. It would have been more appropriate to call the CCCD research activity "applied research."

### Objectives

OR was specified in the Project Paper to: 1) conduct and help others conduct studies on health services and operations, cost effectiveness studies, and controlled field trials of interventions in order to provide answers to specific questions posed by service providers and address deficiencies in knowledge; and 2) to train African program managers in research. The second objective makes it appear that the main persons doing research would be African program managers. Most projects were expected to be small scale, funded by maximum grants of \$5,000. Only a few projects were expected to be more expensive.

The expectation in the Project Paper and in early evaluations was that such organizations as WHO/AFRO and other A.I.D. projects would take on some responsibility for assisting in the applied research.

### Strategies

Over the course of the project, the two objectives, carrying out research and training African investigators to do problem-solving research, competed with each other. CDC, as the major implementing agency responsible for research, searched for strategies that would enable it to support both objectives. When it became clear that training African investigators going to have limited success because of the limited availability of research capacity and the lack of institutional support, CDC focused on achieving the first objective.

1.) Applied Research by African Investigators: The strategy adopted to encourage research by Africans was to establish regional review committees to review and allocate grants for research by African investigators. By 1984, two committees were established, one for West Africa and one for East/Southern Africa. They were supported by the project's medical epidemiologists. The committees' purpose was to help design OR studies, assist in setting them up, and help analyze data and interpret results.

The guidelines listed such priority topics as epidemiology, surveillance methodology, survey techniques, impact evaluation, and health education. Three categories of research were listed: immunizable diseases, diarrheal diseases, and malaria; this emphasis on interventions represented a shift from the project paper's emphasis on support strategies.

In East Africa, where the committee was active, grants of up to \$10,000 were allocated; by 1990, 21 studies had been produced, mainly by university-based researchers in East and Southern Africa. Only eight grants--from Cote d'Ivoire and Liberia with the most in the former--were funded in West Africa, mainly because of the difficulty in getting adequate proposals submitted.

The epidemiologists had to balance the demands of the research support with their other tasks of providing support for epidemiologic activities and found the task difficult, partly because of the travel involved and because of their lack of an institutional base.

Almost all of the research proposals came from university researchers, not from program managers. In the Francophone countries, there was extremely limited interest in and capacity for research.

In 1987, the strategy for research was revised, placing the medical epidemiologists only in country-specific assignments, in Nigeria and Zaire, the two largest child survival countries. In Nigeria, by 1990, 30 protocols for research projects, mainly from university personnel and funded at a maximum of \$5,000, had been approved.

(Research review committees had also been established in other countries, but we were unable to evaluate their activity.)

Joseph (1990) notes the contribution of the three branches of CDC, malaria, immunization, and CDD to African research development, citing the malaria branch as having the highest involvement. Another strategy for assisting African researchers was a

course in protocol development originally developed by the SHDS project, which was organized in six countries between 1986 and 1990.<sup>2</sup>

By mid 1990, 38 studies had been completed by African investigators, according to Joseph. (1990) Sixty eight percent of these were in Anglophone countries, and eight of the 11 countries contributing studies were in East/Southern Africa. The four nonparticipating countries were all Francophone, although there were more Francophone countries in the project than Anglophone.

The difference in Francophone and Anglophone country participation may be explained by the more highly developed university systems in Anglophone countries, which could respond to the CCCD research model and by the fact that the research process was oriented more toward university researchers than toward program managers.

2.) CDC-initiated Applied Research: As a result of the difficulties in developing research by African investigators, the bulk of the project research was initiated and carried out by CDC investigators, with some input from African investigators.

The overall research agenda for CDC activities was never clearly articulated, and Joseph noted (p. 23) that "projects of convenience" were conducted, which addressed specific problems, but not necessarily in a fashion conducive to utilization or consistent with host government priorities or capabilities. The evaluation team agrees with this assessment. Decisions about what research to conduct were made by the CDC units charged with overseeing the interventions. The malaria branch charted the clearest agenda for its research activities. Among the many studies carried out were several of chloroquine resistance, the Mangochi clinical trial of chemoprophylaxis in pregnancy, use of bednets, and a study of the home treatment of febrile children.

Many studies were country-specific, but their findings also had regional implications. They could be, and were, carried over from one country to the next. This was particularly true, for example, of the malaria branch's support of research on in-vivo chloroquine resistance, first in a few countries, with those Africans trained going to other countries to train others. This process illustrates one of the advantages of a regional project.

Two major studies, the Mangochi Project and the E-Z measles vaccine trials, are clinical trials whose findings have implications for the region as a whole and serve as examples of countries becoming regional laboratories. They illustrate the advantages and disadvantages of a regional project's having access to a country for carrying out such research. (For a discussion of these two clinical trials, see Appendixes II-5.)

<sup>2</sup> Joseph, Emanuel, CDC Operational Research in ACSI-CCCD: A Review and Evaluation of Original Research by African Investigators in the ACSI-CCCD Program. Department of Community Health and Preventative Medicine, Morehouse School of Medicine, 1990.

The studies, particularly those initiated by CDC, have been of high quality. Studies were published in international journals, rather than those directed toward the African region. Only 17 percent of the published articles were available in French, the language of the majority of CCCD countries.

3.) A.I.D.-initiated Applied Research: A.I.D. in Washington promoted research under three S&T projects: REACH, HealthCom, and Pritech. The Evaluation team was asked to comment on the CCCD project's contribution to the Bureau for Africa's research agenda for health which is discussed below. However, in the absence of documentation we were unable to ascertain the Bureau's agenda before 1990.

### Overview of Research Strategies

How much of the CCCD's resources were taken up by applied research? The CCCD project reported to the Center for International Health Information that 10 percent of its funding went for research; the same estimate was made for the CDC PASA.

In terms of long-term TA, CDC estimated that research took up 50 percent of the epidemiologists' time and less than 10 percent of the TOs time. Although the category "operations research" was reported to take only 2.5 percent of short-term TA days, program areas reported that applied research accounted for nearly half of these short term technical assistant days.

Thus, research constitutes an important part of CCCD activity, particularly for CDC. We estimate it comprised from one third to one half of all project activity.

### Appropriateness of Approaches: Constraints and Lessons Learned

1.) Accomplishments, Effects on Policy: The number of studies completed, and their effects on policy and on the Africa Bureau's research agenda show that the strategies had an effect.

The intensity of research activity is attested to by the 63 papers about the CCCD project which had been published or were in press by 1990. Africans were authors of 15 percent of these; they were frequent co-authors. Findings from research were regularly presented at the biennial consultative meetings. During interviews, CCCD program staff frequently cited examples of how applied research had affected policy and caused policy changes. (See Appendix for examples.)

Nevertheless, the research component was not quite what had originally been expected. The research agenda for the project as a whole was never clearly defined in Washington nor in Atlanta, although some subagendas did receive clear priorities. Many

findings were applied, with a propensity for focusing on medical and technical problems, rather than organizational. Africans did carry out research but they were usually university researchers not program managers.

2. Constraints and Lessons: In addition to the usual constraints of difficult environments and lack of institutional capacity, four internal constraints affected the research component of the CCCD program, shaped its course, and limited its approach. These were 1) the management of the research agenda, 2) the academic model used for encouraging African investigators, 3) the limited use of regional approaches to understanding project effectiveness, and 4) the focus on medical/technical as opposed to organizational problem solving.

The Project Paper established OR as one of the four support strategies and laid out a suggested **research agenda** which stressed research in data systems, services delivery/program implementation, training, and health education. Instead, project implementors in Washington and Atlanta did not specify procedures by which this agenda would be established. What emerged was the approach described above, in which the research was set by the units charged with implementing interventions while leaving unresearched service delivery and organizational issues which cut across interventions.

The establishment of research review committees to develop research is an **academic model** directed toward those having university skills, not toward program managers, as the Project Paper originally envisioned.

Most research carried out under the project was country-specific, with findings diffused to other countries. **Two advantages of regional projects were insufficiently exploited:** a) **leadership role:** assessing what lessons might be learned or what research undertaken through the review of research and/or activities across CCCD countries or across the region as a whole; and b) the potential for **comparative research** remained untapped. Finally, the emphasis on **medical/technical as opposed to organizational problem solving** is not surprising in that the former is the area of expertise of the project's major implementing agency, CDC. However, A.I.D./W did not counter balance this focus. As a result, research on many of the constraints on program implementation which required an understanding of organizational issues, received little attention.

**Sustainability:** The issues of the sustainability and institutionalization of project activities, like many other details in the CCCD's project design, were not directly addressed in the original project paper. In 1987, in the CCCD Fifth Year Internal Evaluation, progress toward "sustainability" was discussed in some detail. It defined "sustainability" as:

The ability of a program to deliver a high level of benefits after a donor ends major financial, managerial, and technical support.

The 1988 Sixth Project Amendment called upon the CCCD Project to give increased attention to improving the sustainability and institutional capacities of the ministries. The executive summary to the Amendment states:

The primary purpose of this project amendment is to better assure that national child survival policies and programs initiated with ACSI-CCCD project support are sustained... These 3 years will provide host-countries additional time to not only demonstrate greater project impact but also to develop the necessary institutional capability to sustain these activities once AID assistance is completed (p.3).

The Amendment, however, does not make clear how this sustainability objective should be implemented, or how A.I.D. intended to monitor and verify its implementation. Furthermore, no additions, or modifications to the mix of technical skills made available to the project were proposed, and no additional funds were requested, beyond those for an incremental increase in funding to continue the already on-going activities for an additional three years. (See Appendix II-6 for more details on expectations for sustainability.)

Until 1988, the major CCCD progress in sustainability occurred in research on cost-recovery and financing. Under the REACH contract, health care financing studies were carried out in five countries (the C.A.R., 1986, 1987; Guinea, 1986; Liberia, 1986; Rwanda, 1986; Burundi; 1987). The results in these studies were gradually translated immediately into policy, and cost recovery schemes were implemented in Liberia and Guinea. Another study was conducted in Guinea in 1989. In Liberia, a revolving drug fund was established. By this time, UNICEF had become active with its Bamako Initiative, particularly in Guinea. Thus, investigation of cost recovery and financing were no longer solely the province of the CCCD project.

Adding sustainability as a support strategy in 1988 did not promote major changes in CCCD activities, except for adding new management responsibilities, with no new resources allocated for implementation. It may have been that by 1988 it was too late in the project's history to make major mid-course corrections.

Some actions were taken to promote sustainability. At the end of 1988, when project renewal agreements were drafted, sustainability objectives were written into the agreements in six countries. CDC brought on a health economist who carried out a number of studies of cost-effectiveness of ORT units, and the use of chloroquine for acute respiratory infections, in different project countries. In the C.A.R., a USAID Officer and a CCCD Technical Officer were successful in influencing the government to make a policy change permitting cost recovery.

The CCCD project was one of the first A.I.D. projects to include sustainability objectives. It deserves praise for this, despite shortcomings in achieving these objectives.

The CCCD project's short history with the sustainability strategy provides a few lessons. First, if institution building and self financing are major objectives for a project, they need to be built in from the beginning with the full support of all host countries involved. Second, a project which focuses on a few interventions is probably not a good vehicle for promoting major institutional or policy changes in financing and organizing health services. Moreover, by taking a facility-based, medical approach to health services, opportunities may be missed for community participation in organization and financing. Third, changes in the institutions and their financing mechanisms to promote sustainability need a minimum of 10 years to gain a foothold.

### **C. POLICY DEVELOPMENT AND STRATEGIES**

Policies for intervention strategies have changed over ten years of the CCCD project: in immunization, ages and target groups have changed, and daily vaccination sessions have been recommended. Objectives and goals change for programs: infant and child mortality were added to the CCCD project as impact indicators in mid-course; WHO has added goals of polio and neonatal tetanus eradication.

Why did such policy changes take place and what was the role of the CCCD project and CDC, in particular, in these changes? In EPI policy changes were adopted in response to experiences in developed and developing countries as well as some research carried out within the CCCD project. Adoption of policy has also been facilitated by the TO and/or by TA. In Nigeria, for example, inputs during 4 successive TA visits were critical to final acceptance of the WHO recommendations. Discussions between CDC and WHO led to formulation of new policies and WHO has disseminated the new policies in meetings, through discussions with country officials and through incorporation of the new policies in training materials. This process has resulted in an effective and rapid adoption of new policies.

In CDD, policy is, often with CDC and CCCD inputs, appropriately set at the global and regional level; its adoption and effective implementation has been heavily influenced by international and bilateral partners. The establishment of a CDD unit at WHO, the publication of Diarrhea Dialogue, and the operations research initiated by CDC and WHO have resulted in the establishment of a policy for which training has been used effectively as a dissemination tool. The efforts by UNICEF in producing and assisting countries in local production of ORS packets have also played a major role. The discussion about home treatment versus health center treatment was resolved with the adoption of messages to be communicated to mothers, as advocated by PRITECH. The policies advocated by CDC and adopted by WHO are now generally practiced, although the PRITECH countries put more emphasis on community mobilization and home care than do CCCD project countries.

For malaria control, the CDC sponsored research on chloroquine resistance played a major role in WHO's adoption of recommendations for treatment doses. Even

though CDC had some influence in CCCD countries, WHO's championing of that same treatment strategy led to universal adoption in the region. WHO has also been the driving force to get attention focused on ARI.

For support strategies, the situation has been different. In those areas there is less likelihood of agreement on strategy and also less opportunity to develop a clear cut strategy which will work in all countries in the region. Only in training has the same model been followed by the two partners, CDC and WHO. As a result, the WHO training modules in EPI, CDD and ARI have become the model for training materials produced locally. The CDC has been less able to persuade governments to commit their own resources to training, since that involves more complicated political factors and calls for a reallocation of insufficient resources.

In HIS, there has been insufficient attention to routine reporting which should be the basis for the system, and is not clear that current approaches or emphases will resolve the problems facing countries which need management information from their routine reporting systems.

In health education, the two strategies promoted in the CCCD project, mass media mobilization and health education, are in conflict because the limited resources make it difficult to carry out both effectively at the same time. So far, CDC has been successful in promoting patient education with some attention to mass media campaigns, especially when mass immunization campaigns have been carried out.

In operations research, CDC's research agenda has emphasized interventions. Since the research has been more applied than operational, it has been directed more toward policy changes in the interventions. Application of the findings from studies addressing operational issues has been limited.

In summary, although the CCCD project and its major implementor, CDC, have been initiators of policy change in interventions and support strategies through the research and guidelines they have developed, they have been most effective when they have allied themselves with an organization, such as WHO, which exercises political influence in the region.

#### **IV. ANALYSES AND CONCLUSIONS: CROSSCUTTING ISSUES IN CCCD PROJECT DESIGN AND MANAGEMENT**

In this section we analyze and draw conclusions about those issues which we identify as significant in aiding or constraining the project.

We address five issues:

How successfully the project carried out its task as a regional project;

the effects of selective primary health care intervention strategies on project accomplishments and sustainability;

management oversight and coordination of multiple actors;

impact indicators and their relationship to sustainable information systems; and

sustainability and institutionalization as a project strategy.

The analyses and conclusions discussed in this section are drawn from our findings on management, on the interventions, and on the support strategies summarized in the previous sections and amplified in the appendices included in volume II. Our purpose is to draw lessons learned and to proceed from these lessons to recommendations for the future of the project and for future Africa Bureau projects. If, in this section, we give more place to identifying gaps than to touting successes, it is because we wish to identify constraints to program implementation and ways in which those constraints might be overcome.

##### **A. REGIONAL PROJECTS**

The CCCD project was designed as a regional project for Africa, with the understanding that such an approach offered advantages over bilateral projects. We have identified four advantages to regional projects and analyzed them in terms of whether the CCCD project was able to reap their benefits.

The first advantage of a regional project is that it permits AID/W to influence USAID missions to become interested in particular subject areas or innovations. It also permits AID/W to sponsor research of regional interest, both by examining the same issues across countries and by using particular countries as laboratories for testing techniques of interest to the whole region.

The second advantage is that a regional project, through the mechanisms of regional training and conferences, permits the easy exchange of ideas, programs, applied research results, and innovations across national boundaries.

The third advantage is that certain efficiencies may arise from the application of a model across countries, particularly in training, health education, or applied research. This regional approach is particularly useful in relying on a regional organization--such as WHO/AFRO, which can provide access to countries where A.I.D. has no mission or where A.I.D. missions do not carry on health activities.

The final advantage is that a regional project provides assistance to USAID missions in two ways: it can provide support for small USAID missions which would not otherwise carry out their own bilateral project; and it permits the Bureau for Africa to fund activities benefitting several countries and USAID missions, especially those innovations to which they would otherwise not have access.

Most, but not all, of these advantages have held true for the CCCD project; some have not necessarily held true in the way that might have been expected. AID/W was able to launch its child survival strategy vigorously and rapidly. Thanks to the project, the mechanism of the limited scope agreements with host countries permitted a rapid start-up of the project. The USAID missions, in at least three countries (Zaire, Togo, and Nigeria), went on to use their own funds for child survival activities. As the project comes to its end, several other USAID missions are planning bilateral projects to continue some of the CCCD project activities.

Missions could also buy in to centrally funded projects such as REACH or HEALTHCOM to start up activities. Finally, the project made it possible for countries without CCCD projects to send people to training through the WHO/AFRO courses. With the articulation of A.I.D.'s child survival strategy in 1986, the Agency was able to bring in additional resources so that three countries participating in the CCCD project also added a child survival project to their portfolio, thereby nearly doubling the resources available.

The region proved useful as a laboratory for research. Two major clinical trials were undertaken during the project: the Mangochi trials in Malawi to test the efficacy of malarial chemoprophylaxis in pregnancy and the trial of the Edmonston-Zagreb measles vaccine in Zaire. Although these trials may have significant implications for the region, the countries themselves may not always benefit. For example, Zaire was beginning to undergo political dislocation and its EPI administrative unit had fallen into disarray at the time the trials were launched. One can question whether this was the best moment to introduce a trial which requires close monitoring and technical assistance and which would not leave behind any long-term sustainable benefit.

The opportunity for cross-national research was exploited by the malaria branch to study the spread of chloroquine-resistant malaria across Africa. Otherwise, the project did not use the regional project structure to undertake comparative research or to examine lessons that could be learned from other projects engaged in similar activities on the African continent. In this sense, an opportunity for taking a leadership role in researching significant issues continent-wide was bypassed.

The second advantage, the exchange of ideas, has worked well in certain areas. Regional training has been used to disseminate new policies for interventions within participating countries. The five international consultative conferences organized by CDC have been a useful mechanism for exchanges of ideas and experiences among Africans, USAID mission HPN officers, CDC staff, and observers from other international agencies. The CDC format of a well-prepared scientific conference has had some advantages for training African nationals to present research, but has also required enormous inputs of preparation time. However, nationals commented that the sharing of experience was the most useful aspect of the conferences. They felt insufficient attention was given to problem-solving workshops and exchanges where implementation issues could be aired. Such workshops were added in the 1990 consultative conference and were much appreciated. No systematic attempts were made for the nationals attending the conferences to present conference findings to their own colleagues in their own countries, thereby limiting the diffusion of ideas. Nevertheless, certain ideas which were introduced at the conferences did arouse interest in the countries (e.g., the Brass-Macrae method of calculating child mortality).

CDC also disseminated information regionally, for example, by sending training modules from one country to another, or by circulating the project annual reports which in later years became available in bilingual editions through the technical officers,

The third advantage of regional efficiencies proved the most elusive. Models were sometimes inappropriate when applied. The template of EPI strategies using fixed facilities and extending the cold chain to all facilities was easily adaptable to all countries. Models for training were also useful even if they required some local modification before being adopted. However, for applied research, epidemiologic surveillance, health information systems, and health education, the models did not work well. Some models used in the project, such as the research review committees or epidemiologic surveillance, overestimated African capacity. In addition, needs and organizational structures differed enough among the countries that templates provided little guidance or could even be impediments. The regional training programs in health education for EPI and CDD, although much appreciated by participants, did not help them implement annual plans because they needed additional technical assistance to adjust to local conditions and because participants had difficulty in raising funds for the activities they had planned.

Regional efficiencies could be gained as well through WHO/AFRO. This was particularly the case with training where the collaboration was fruitful. The CCCD project's expected working relationship with WHO/AFRO on research and on the development of information systems never worked out, with each side feeling that the other side was dragging its heels. Whatever the dynamics, this opportunity for region-wide efficiencies has not been successfully exploited

Finally, the advantage to USAID missions of a regional project was a mixed blessing. Missions bought into multiple projects as they became available. As a result, the host governments could understandably become confused about United States priorities and its objectives for seemingly overlapping projects. The missions, as well as AID/W, also experienced difficulty in coordinating multiple implementors of projects.

On balance, regional aspects of the CCCD project proved most useful for persuading countries to adopt child survival strategies, for carrying out training, and for disseminating information across the region. Regional efficiencies were much less in evidence than expected and seemed particularly absent for such support strategies as health information systems, applied research, and sustainability. Since the CCCD project was used as much by countries with large USAID programs (Zaire, Nigeria) as by small missions (Togo, Guinea, Lesotho), the lessons for providing access to small missions is not obvious. Those USAID missions planning follow-on bilateral projects in health were intending to emphasize an integrated approach with support for institutional development and management information systems.

The CCCD Project's experience indicates a continuing roles for regional projects: to innovate, to disseminate, to promote research of regional interest, and to support USAID missions.

## **B. SELECTIVE PRIMARY CARE INTERVENTION STRATEGY: EFFECTIVENESS OF VERTICAL INTERVENTIONS**

The CCCD project's 10-year experience has provided a laboratory for testing the appropriateness of selective interventions of vertical programs. Although this vertical strategy proved useful for launching rapidly and implementing EPI programs, its utility was less evident for CDD and malaria programs.

### **1. Background to Selective Primary Care Intervention Strategy**

The CCCD project, with its emphasis on three interventions--immunizations, diarrheal disease, and malaria--embodies an approach to health service delivery that was receiving much attention at the time the project was designed. The theory, as presented by Walsh and Warren first at a conference in Bellagio in 1979 and subsequently

published in the *New England Journal of Medicine*<sup>1</sup>, was that since "the provision of total primary health care to everyone in the near future remains unlikely" (p. 148), priorities for using limited health resources could be set using measures of cost-effectiveness, that is according to how much morbidity and/or mortality a particular disease engendered and the cost-efficacy of preventing or controlling it. They identified diarrhea, measles, malaria, whooping cough, and neonatal tetanus as high priority global targets.

## 2. CCCD Project's Selective Interventions

Thus, the CCCD project was operating within a setting where most donors, UNICEF and WHO in particular, were moving toward a selective intervention approach. Recipient countries welcomed this approach if for no other reason than that the aid proffered would add resources to their impoverished health delivery services systems.

Immunizations and diarrheal disease control were called the "twin engines" of the CCCD project. This metaphor assumed that these engines were to pull more than just their own weight, that somehow, they would pull along other primary care services, at least for children. The reality has proved different.

Although the project was designed to include support strategies (health information systems, training, health education, applied research), these took a back seat to the interventions, particularly immunizations, which were the primary focus. But immunizing children does not occur in a vacuum and cannot be sustained without an institutional base.

The CCCD project, in most countries, made a series of expedient decisions that its point of administrative entry to the ministry of health would be at the first focus of its activities, the EPI unit. This unit was usually far down the administrative chain of command from the Director General. The CCCD program focused on a structure that could deliver immunizations and then looked for ways of delivering the other two interventions. Only in countries where the Ministry of Health already had a strong integrated maternal and child health program, such as in Lesotho, were the CCCD twin engines integrated into the MCH administrative structure.

To be housed in the vertical EPI unit created a structural problem for the project. To build sustainable programs, the project would need support not just of that administrative unit, but of ministry leadership. This is because the project's support

<sup>1</sup>Walsh, Julia A. and Kenneth S. Warren, *Selective Primary Health Care: An Interim Strategy for Disease Control in Developing Countries*. *New England Journal of Medicine*, Vol 301, 967-974, 1979, as reprinted in *Social Science and Medicine*, Vol 140, pp.145-163, 1980.

strategies, such as information systems, research, health education, and training cut across administrative divisions. TOs had difficulty influencing change for institutionalization of these support strategies from within their limited institutional base. The focus on the success of the immunization intervention precluded the development of the three elements of an institutional structure that would assure continuity for the activities: a strong institution, a strong supervisory system to maintain the institution, and a strong link to local communities which would assure that the public would participate in the services offered.

### **3. Effects of the Selective Intervention Approach**

These structural problems are illustrated by the difficulties the project encountered in setting up health information systems for the three interventions. In most project countries with a rudimentary routine reporting system, this was most easily accomplished by setting up a parallel data collection system for the target activities. Thus, they created duplicatory and overlapping tasks for clinic health workers which, in turn, decreased the reliability of the data.

To overcome these limitations, the CCCD project used several strategies. It relied on sentinel sites only to provide data on target diseases. However, this developed its own unreliability with irregular reporting to the point that Lesotho finally abandoned this system in favor of what it considered more reliable routine reports. In Zaire, the number of sentinel sites reporting for any given period varied sufficiently to raise questions about the meaning of the data for trends over time. Another strategy was simply for the statistics chief or the CCCD TO to go out and collect the data when it was time for a report to be prepared. Projects which had different management needs established parallel systems, as in Zaire.

The project focus meant that the systems established were epidemiologic surveillance systems rather than management information systems or even health information systems. As a result, their utility for anything other than for the evaluation of the project was limited. District and regional supervisors could not obtain the data they needed to plan and manage resources.

The major work of assisting the Ministries of Health to improve their data collection capacity for their own management and planning could not be undertaken because the CCCD project was concerned with only three interventions. Given the pressures to collect data for project management and given the institutional vertical structure, it was not possible to leverage sufficient change to create a reliable health information system.

Distribution of chloroquine and ORS, the two commodities needed for successful malaria and diarrheal disease control, were part of a larger drug distribution problem which plagued nearly all project countries. Without an already established structure of a

functioning drug distribution system, CCCD's program managers were faced with the choice of creating alternative (and parallel) routes of distributing chloroquine and ORS, changing the whole drug distribution system, or doing nothing. The CCCD project opted for the first choice and chose not to attempt to change the whole drug distribution system. The one exception was in Liberia where a revolving drug fund was established in a few counties. However, were other interventions added, such as treatment for acute respiratory infection (ARI) or family planning, similar institutional issues would arise for the distribution of antibiotics and contraceptives. The short-term expedient succeeded in getting project commodities out to the field, but the vertical solutions will not, in the long run, be sustainable.

Healthcare financing represents another area where the emphasis on vertical programs was a constraint for instituting cost recovery. As Dunlop and Evlo noted, it is extremely difficult to leverage change from the administrative base of three interventions, of which one is a preventive service for which people are usually unwilling to pay.<sup>2</sup> Because of this structural constraint and perhaps because of a lack of interest on the part of CCCD managers, the limited efforts in this area were directed toward research rather than toward policy development.

The applied research support strategy was also considerably constrained by the focus on interventions. The institutional base of the EPI programs was not an easy or appropriate place from which to solicit operations research. Only in Nigeria, where the universities could provide some support, was there an adequate base for developing a program of operations research by Africans. Elsewhere, much, if not most, of the applied research was initiated from CDC/Atlanta.

Finally, the health education support strategy from its administrative vantage point in EPI in most countries was unable to play successfully into or support successfully existing Ministry health education units. The problem was that in every country, we were told, these structures were particularly weak within Ministries and tended to be short staffed and were assigned less qualified personnel than other divisions. The one exception was in Togo, where despite a weak health education infrastructure, the Peace Corps was able successfully to train a network of health educators at the regional level.

The debate over selective vs. comprehensive approaches has been whether instituting selective primary health care would lead to better integrated primary health care programs, whether building vertical EPI programs would lead in the long run to improvement of the management of comprehensive primary care programs. Our observations of the countries we visited was that where vertical programs were established (Togo, Zaire), they functioned well for EPI and less well for diarrheal disease

<sup>2</sup>See Dunlop and Evlo, A Comparative Analysis of CCCD Project Health Care Financing Activities, 1988. pp. 14, 63.

and malaria. In Lesotho, where all CCCD program activities were integrated into a primary health care strategy right from the start, all parts of the CCCD project were functioning well.

In conclusion, the selective primary care intervention strategy while delivering results in terms of targeted services has been less successful in building the administrative structures which can sustain these activities and integrate them with other vital Ministry activities. The focus on three interventions, while building vertical administrative structures which have achieved important results, in their own way fragmented Ministry structures, thereby providing a constraint to long-term institution-building.

## **C. MANAGEMENT OVERSIGHT AND COORDINATION OF MULTIPLE ACTORS**

### **1. Management Oversight**

During early years, A.I.D. monitored CDC through CDC personnel detailed to A.I.D. Although the decision was made within A.I.D. to manage the project more closely, the resources (adequate staff, travel funds, management systems) were never provided to enable AID/W to get a real handle on all aspects of the project's management.

AID/W used five types of tools for monitoring the project: financial reports, work plans and quarterly/annual reports, supervisory visits, evaluations, and impact indicators. Each of these served to give a picture of activities; some were better than others; but together they did not give AID/W sufficient scope to monitor comprehensively this large, complex and unwieldy project.

**Financial Monitoring:** The system of financial monitoring employed was not well suited to A.I.D. management oversight and they required the project management team to spend a disproportionate amount of time in administration. The format of the financial reports did not permit a consolidated overview of project activities. As actual outlays changed, they were not reflected in revised budgets. Requests for additional funds were honored as add-ons with few requirements. Finally, no monitoring was done to assess the cost-effectiveness of approaches taken.

**Workplans and Reports:** Until FY 1990, the budget and CDC work plans often did not dovetail, thus, it was difficult to see how objectives were being met through budgetary outlays. The work plans were therefore not effectively used by AID/W or CDC for program monitoring nor reporting. The CDC annual reports also did not relate directly to work plan objectives or discuss implementation issues to permit a review of factors facilitating or hindering project development. The quarterly bilateral country reports written by the TOs gave a better idea of both the extent of activities and the problems encountered, as well as plans for the next quarter. Since CDC was not asked

to synthesize quarterly or annually these country reports, it was hard to get a picture of all the project activities and their interrelationships. This analysis would have been most useful for monitoring a region-wide project.

**Supervisory Visits:** When CDC Washington staff were monitoring the project, they had available to them project funds for their field visits which took place frequently and permitted them to visit the field to resolve quickly problems when they arose. Later, as management responsibilities passed to AID/W project officers, because of A.I.D. agency constraints on the use of travel funds by these staff, field supervision was limited to occasional trips by the project manager or other AFR/TR staff. This limited the extent of oversight, and more importantly, limited the ability of AID/W to resolve directly and efficiently field problems.

**Evaluations:** The CCCD project was a heavily evaluated project, perhaps one of the most evaluated of A.I.D. projects. We have been able to identify 64 evaluations, but we recognize that may be an under count. Every bilateral project was to be evaluated internally once a year except when there was an external evaluation. This accounted for at least 52 evaluations for the bilateral projects. The CDC regional PASA was evaluated six times (including this evaluation), while the Peace Corps PASA was evaluated twice, WHO/AFRO twice and HEALTHCOM, three times. Of these evaluations, at least 28 were external.

In spite of the large number of evaluations, it does not appear that they provided adequate assessments to AID/W for program direction. The project may therefore have been unable to benefit from the kinds of constructive criticism which could have enabled CCCD program managers to find more effective ways of administering the project. Even when evaluations pointed to project problems, AID/W as well as CDC seemed to have difficulty taking action on these findings. An extensive review of raw data, workplans, budgets, annual and quarterly reports, etc., suggest that the evaluation recommendations touching on management and sustainability did not get implemented.

In general, evaluators were asked to take a fairly narrow focus and look at technical issues, at project accomplishments and objectives. They were usually not asked to examine processes and structures nor to deal with larger management issues. There was a tendency of A.I.D., USAIDs and CDC to look for evaluation results that could serve as validations of country programs even where host country commitments and contributions fell short of established criteria for technical assistance projects. Questions of costs and cost-effectiveness of activities rarely made their way into evaluations. Nor did questions about the fiscal and management capacity of host countries to manage programs. Although the period of the project was also a period of declining economic capacity of project countries, its effects on the institutionalization of project activities were never addressed directly. Issues of sustainability were raised by evaluators as early as 1983, but were not really addressed by CDC and AID/W until 1988.

## **2. Coordination within the Project: Technical Versus Management Assistance.**

CDC, in its management of CCCD, focused largely on technical issues. A.I.D. had the responsibility to arrange the political, administrative, and economic environment for the application of the interventions.

Until 1988, in fact, there was no clear definition of the allocation of management responsibilities among AID/W, CDC, and the USAID missions. At the beginning of that year, a memo of clarification was circulated which stated that CDC undertook "to implement those project activities that are technical in nature."<sup>3</sup> This was a ratification of what CDC had been doing until then. For the TOs whose scopes of work required that they manage and monitor aspects of the field programs, the definition of their responsibilities became a bit murky when in October 1988 the project's Sixth Amendment stated: "CDC field staff are not assigned any management responsibility for field CCCD projects. They are expected to devote all their effort to provision and coordination of technical assistance required by field program."<sup>4</sup>

When technical matters crossed with management matters, CDC in Atlanta was less likely to get involved. As a result, field staff sometimes felt they did not get sufficient support from Atlanta for activities which would involve, for example, developing a new supervisory system for a Ministry of Health or instituting facility assessments. The focus on technical matters gave a primacy to the three interventions at the expense of support strategies which, in order to be implemented, required much closer management assistance.

The CDC's emphasis on technical over management assistance has not necessarily stood the CCCD project in good stead during its lifetime. On the occasions when the project has successfully negotiated policy changes (such as the C.A.R.'s shift in policy on healthcare financing or development of a new information system in Malawi), it was because TOs were willing to take a broader view of their task as one of building capacity for institutions and policy.

When CDC Atlanta did not conceive of its task as developmental in the broad meaning of the term, problems arose. For example, when the CCCD program was implemented in the Ivory Coast, project leaders chose to work around a key person in the Ministry of Health rather than include him in project development. As a result, the project could not gain his cooperation and was blocked, if not moribund, until REDSO

<sup>3</sup> Roseberry, Wendy, Memorandum To the File, January 26, 1988.

<sup>4</sup> Agency for International Development, Sixth Amendment to ACSI-CCCD Project (698-0421). 1988. p. 11.

devised a strategy to involve this official, thereby making it possible for the project to revive. CDC, on the other hand, had wanted to terminate the project.

In Togo, project leaders worked successfully with a very few lead persons in the Ministry of Public Health, but within what proved to be a highly narrow vertical epidemiology/immunization program. As a result, the project never developed serious capacity in ORT (which required the cooperation of the MCH division) and, as the project comes to an end, its successful activities may be threatened because the institutional base for them was not built up throughout the Ministry.

In Zaire, when the main Zairian implementing agency for the CCCD project began to fall into disarray, inertia, and corruption after the beginning of 1988, CCCD field staff did alert the USAID mission to the problems, but felt it was not their task to take remedial action. "We're technicians, not managers or policemen," we were told. At the same time, USAID was slow to react, possibly due to the lack of a clear line of demarcation between USAID and CDC responsibilities.

The CDC's focus on technical matters accounts for the high quality of the technical input it provided the project. CDC, however, also needed to undertake the policy and institutional development necessary to permit the permanency of the technical advances.

### **3. Multiplicity of Actors: Coordination within Organizations and among Organizations and Donors**

The original design of the CCCD project was so complex that management and coordination inevitably would be difficult. It is both a design and management issue.

Chapter II describes the multiplicity of organizations involved in project implementation. CDC allocated some of its CCCD funds to support the full time TOs and medical epidemiologists in the field for the 13 countries which would participate in the project, while the rest remained in Atlanta for backstopping and technical assistance.

In the field, the CDC staff had to work with the USAID missions and the host country Ministries of Health to establish and maintain the bilateral projects. The Peace Corps was represented in Washington and in the field; UNICEF was in New York and in the field; WHO was in Geneva and Brazzaville, with representatives in every country. Each of these agencies had to coordinate its activities in its home office and in the field.

When one considers this line-up, it is probably amazing that the project worked at all. Clearly it did. Nevertheless, despite much good will and effort, certain tensions proved difficult to work through. Some of these tensions were attributed to personalities or to turf issues among competing agencies, but policy differences and the inability to share information also created tensions.

During the project's early years, CDC's very large role in managing the CDC PASA and deploying CDC personnel who were also managing from Washington, gave them responsibilities for the Project as a whole. This did not sit well with USAID missions. From their vantage, it looked as if CDC were setting policy for health development and negotiating on its own with host countries. The solution, gradually applied, was for AID/W to reassert control over project management and for the USAID missions to take greater responsibility for bilateral projects. This clarified responsibilities. It did not necessarily resolve the policy issues since CDC still considered itself spokesman on policies which it considered of a technical nature, but which for organizational reasons, the USAID mission considered of a policy nature. Since CDC developed good relations with the host countries, it may at times have overwhelmed the HPN officer who was not as knowledgeable technically.

The line between policy and technical decisions is sometimes quite fine. The paradox is that technical decisions, since they must be applied in a political and organizational environment, are also policy decisions. It is not clear that those decisions are always best left to the technicians.

On the question of immunization strategies, CDC (with the support of WHO) had serious policy differences with UNICEF which was promoting vaccination campaigns while CDC was promoting the development of fixed vaccination sites. UNICEF's enthusiasm for campaigns was difficult to curb; CDC did what it could to avoid having that enthusiasm jeopardize its own strategy which was better geared to sustaining immunization activities. This took considerable careful negotiation, particularly in the field.

Differences in policy also separated CDC from PRITECH on the CDD program development. PRITECH's approach was to develop materials for mass education while CDC focused more on clinic-based health education. As CDC developed more influence in the CDD field over time, it became increasingly difficult for the two agencies to work cooperatively. Eventually, the only solution was for them not to work in the same countries.

Differences in policies on health information systems led to the collapse of collaboration between CDC and WHO/AFRO to establish a regional health information system (which had been part of the WHO/AFRO contract). WHO/AFRO wanted to develop long-term a management information system which would be useful at the district level. At the end of 1986, CDC said it was interested in producing reports on natural and regional disease trends and suggested that WHO/AFRO focus on this. WHO/Geneva eventually developed (with the assistance of CDC personnel) a global EPI disease reporting system which WHO/AFRO is gradually implementing in its region. However, this system meets mainly international and donor needs, not in-country district

management needs. Given the CCCD program's strong mandate to develop information systems it is unfortunate that the two organizations were not able to work together towards this end.

The lack of coordination was also reflected in a lack of communication among these agencies. For example, REACH, which was working on EPI and health financing, was not invited to CDC briefings on those subjects; UNICEF noted that CDC did not share its materials readily; and WHO/AFRO--which carried out much of the regional training--was not on CDC's mailing list for its facilitators' guides.

#### **D. PROGRAM IMPACT INDICATORS AND THEIR RELATIONSHIP TO SUSTAINABLE INFORMATION SYSTEMS**

The selection of impact indicators can powerfully shape a project's implementation. For this project, the impact indicators changed over the history of the project. The impact indicators as stated in the original logical framework were only four in number:

Reduction in incidence and prevalence of selected communicable diseases;

Target population participation in health care activities;

50 percent of target population in A.I.D.-supported countries fully immunized against the 6 EPI diseases;

50 percent reduction in prevalence of EPI diseases and episodes of diarrheal deaths.

As this list shows, both process and outcome indicators were selected. The process indicators were population participation and immunization coverage; the outcome indicators were morbidity. The only mortality indicator was deaths from diarrheal disease. The 1983 external evaluation introduced the notion that child mortality in general be surveyed "so that objectives can be quantified."<sup>5</sup> Meanwhile, CDC had already begun to develop the Mortality and Use of Health Services survey (MUHS) in three project countries.

<sup>5</sup>North, W. Haven, et. al., Mid-Term Evaluation: Combatting Childhood Communicable Diseases. October 1983. p. 13.

By the time of the Third Project Amendment in 1986, this shift in impact indicators had been codified in a revised logical framework. The indicators read as follows:

50 percent reduction in disease specific mortality rates for diseases preventable by immunizations, diarrhea [sic] disease and malaria in the age groups 0 - 5;

reduction by 50 percent of disability from polio;

overall reduction in infant and childhood mortality by 25 percent;

80 percent of target population in A.I.D. supported countries fully immunized against the six EPI diseases;

60 percent of cases of acute diarrhea and fevers effectively treated.

The increase in target immunization levels to 80 percent was prompted by a Congressional directive to that effect. The rationale for raising the other targets and objectives was not stated in the Amendment.

The major problem with these indicators was that information on the fourth one, immunization activities, was routinely collected in project countries. Thus, new systems of data collection had to be introduced into every project country at a time when the project had already run nearly half of its expected lifespan. The need to create the means to collect data for these indicators did much to shape the activities in the three interventions.

Assistance for developing health information systems in the host countries went to sentinel site reporting and surveys which would permit the data collection for these indicators. The methods, such as MUHSs and coverage surveys were more expensive than using routinely collected data which could serve for the Ministries of Health as tools for management as well as a for planning and evaluation. Surveys, because of their complexity and cost, are least likely to be institutionalized. Nationals were trained in field methods for surveys, but not trained to design, implement, and analyze surveys on their own. Meanwhile, routine reporting systems received only modest attention. Throughout the project, training to assure reliability and validity of data collection at the health center level remained one of the least developed aspects of the health information system. (For more detail on the information systems, see Appendix II-2.)

A second problem was that infant and child mortality are not particularly sensitive indicators of project inputs. They are known to be most sensitive to socio-economic and educational inputs. Moreover, the outcome indicators would have to be able to show

that the effect did not take place in areas where the project was not active. In other words, control groups were needed to show that the effect occurred because of the project. An additional reason for using control groups was that other donors were contributing to the effect as well and their activities would have to be taken into account. For example, in all the project countries UNICEF was extremely active in the EPI program; in Zaire, several other projects such as SANRU (*Santé Rurale*) were also operating.

However, if one examines infant mortality rates in Africa, one finds that they have declined steadily in all countries. This may be the result of the activities of A.I.D. projects; it may result from a secular trend of declining infant mortality across African countries (due to some other non-measured factors); and/or it may result from the poor quality of these data which may even be "retouched" by administrators who know that the rates should go down.

Given the costs of doing surveys and their nonsustainability, and given the difficulties the project encountered in setting up sentinel site reporting and parallel reporting systems for project interventions, the costs of generating benchmarks and impact indicators need to be restudied to come up with less costly alternatives based on routinely available data. At least two alternative methods should be considered for gathering child mortality data. The Brass-Macrae method of inquiring about the fate of preceding births among women who seek maternity care can give good relatively inexpensive infant mortality estimates for a population that uses maternities, but only if the questioning of the mothers and the record keeping is meticulous. Such a data collection system can be useful, if closely linked to the maintenance of a management and record keeping system in maternities. The second method of obtaining mortality estimates is the one used by all the donors in their own countries: birth and death registration records. Instituting a vital statistics system in an African country would be a long term and difficult task. However, the relative advantages, as well as costs, have yet to be explored.

There are four lessons from the CCCD project's experience with impact indicators: 1) indicators should be set at the beginning of the project; 2) information on them should be inexpensive to collect; 3) collection of such data should be an integral part of the host countries' routine management information system and should serve first the host countries' planning and management needs; and finally, 4) much more needs to be learned about alternative choices of indicators, how the need to collect them affects host country information systems; what indicators can provide the minimum needed data for project assessment while being inexpensive and easy to collect and still providing ministry planners and managers at all levels with the data they need to carry on their activities.



## **E. SUSTAINABILITY AND INSTITUTIONALIZATION**

Many factors account for the difficulties the CCCD project has encountered in attempting to institutionalize its activities. First, the economic situation has declined during the past 10 years in the African countries where the Project has worked. This has resulted in an increasing reliance on donor assistance for maintaining even routine activities. Second, Project designers overestimated the capacities of African Ministries of Health to manage the activities proposed under the Project. Infrastructure basic to public health institutions such as laboratories, statistics units, health education units, and sanitation units were seriously underdeveloped or nonexistent.

The third factor was the use of a selective intervention strategy outlined in the project design, which has favored the development of vertical programs. On the one hand, vertical programs can get services delivered for a specific intervention, so in the short run such programs are useful; on the other hand, vertical programs compete for resources with the horizontal institutions (i.e., clinics which deliver services) which in the long run will have the responsibility for sustaining these activities. Moreover, selected interventions cannot provide support for developing broader policy innovations, such as health financing and improved drug distribution. Although the debate over selective vs. comprehensive approaches will continue for some years to come, the CCCD Project, as the first major 10 year experiment in this approach, provides a good look at the limitations of the selective intervention in providing sustainable institutionalization.

The fourth factor, was the selection of Project impact indicators, such as infant mortality, which could be and were measured most expeditiously by surveys which would leave behind no institutional capacity to permit such measurement in the future. If institutionalization of infant mortality measurement were the Project goal rather than just the measurement of infant mortality for Project purposes, then institutions capable of collecting these data, for example, vital events registration, would have to be developed to accommodate that goal.

Finally, the hesitant development of a sustainability strategy for the Project and the debate as to whether it was even a project goal until formally codified in 1988, did not help much to focus institutionalization activities.

As a result of all of these factors, participating countries will continue to need donor assistance to maintain project activities after the Project's end, since neither the administrative nor the fiscal infrastructure is yet in place to permit these governments to sustain them.

## V. CONCLUSIONS AND RECOMMENDATIONS

### A. SUMMARY FINDINGS AND CONCLUSIONS

#### 1. Findings

The Core, through a flexible mixture of strategies using different implementors, has supported the in-country activities by providing technical assistance and backstopping, particularly for the three targeted interventions, immunizations, diarrheal disease, and malaria. Through the support strategies, the Core has supported nearly 100 applied research studies on these interventions; more than 900 persons have been trained; health education programs have been developed; health information systems have been computerized in central Ministries with improved reporting on morbidity and mortality. The Core provided training and assisted African investigators to carry out applied research. The Core sponsored Consultative Conferences where findings from project activities could be shared among participating CCCD countries. Some part of this work has been accomplished in collaboration with and with assistance from UNICEF and WHO.

As a result, immunization coverage increased while morbidity from immunizable diseases declined; use of ORS and ORT increased; Ministries established policies for malaria prophylaxis and treatment. Results from research produced other policy changes, including the use of SSS solutions and improved indicators for measuring program impact, and influenced AFR/TR to turn more attention to research on malaria as one of the major disease problems in Africa.

The project encountered several constraints. Although regional in scope, most activities were country-specific and medical/technical in nature. The Project therefore could not take full advantage of its regional potential to do cross-national research or provide leadership beyond technical areas. The focus on vertical interventions, although it assisted the development of these programs, also created organizational problems within African Ministries of Health constraining the creation of sustainable integrated institutions and programs. The need to obtain impact indicators for the interventions pointed up the difficulty of obtaining these data easily or inexpensively from African Ministries' information systems. The establishment of special information systems for these programs re-emphasized their verticality. Similarly constraining was the research focus on technical issues which precluded organizational and management issues from getting on the research agenda, thereby focusing the project on solutions to technical rather than organizational problems.

Management oversight by AID/W was weak during the first half of the project, reflecting the complexity of the project's organizational structure, with continuing

confusion about the respective responsibilities of AID/W, CDC, and USAID missions. This confusion was compounded by the need of these agencies to coordinate with a large number of other implementing agencies. The addition of a sustainability strategy during the seventh project year, although it increased activity to help a few countries to move toward cost-recovery schemes, did not cause a significant redeployment of activities and resources toward institution building and organizational issues.

## **2. Conclusions**

Despite the Project's success in assisting participating countries to develop their services, these countries will continue to need donor assistance to maintain them since neither the administrative nor the fiscal infrastructure is yet in place to permit these governments to support the delivery of health services.

The focus on selective primary intervention strategies has promoted the successful development of EPI services. It also has provided the opportunity to examine the constraints of the selective primary intervention approach and the organizational and management problems these vertical programs have posed for Ministries of Health. The lessons of this experience need to be carefully reviewed. We draw the conclusion that, at this point in the cycle of support for African Ministries of health, more attention to Ministry-wide management and organizational issues would be not only welcome, but also necessary to permit these agencies to regulate, monitor, and provide health services to their populations.

The development of health data under the project has made considerable progress in terms of providing epidemiological data and computerizing central Ministry statistical offices. The management information systems are underdeveloped and will need assistance in the future. These countries will need continued assistance to improve existing health data systems and to integrate them with and improve management systems to permit health planners and managers to make rational allocations of resources. Appropriate, inexpensive, and reliable indicators for monitoring program impact remain in short supply in these countries. More research is needed to understand which ones would be most effective and efficient and how they can be integrated into management information systems.

The project's applied research strategies have permitted the resolution of many technical problems associated with the implementation of project activities. Research directed toward solving operational problems and examining management issues--such as examining what organizational structures work best to deliver health services in African countries--have received little attention.

### 3. Recommendations

We propose that A.I.D. undertake the following actions during the project's remaining year (or during the time for which the project is extended). In addition, we propose a follow-on regional project.

#### **Recommendations for the Remaining Year (extension period) of the CCCD Project:**

1. In the event that the new project is not ready to start on September 1991 when the current project ends, to bridge the gap between old and new projects in those countries which are instituting a bilateral follow-on project, the CCCD project should be extended for up to a year until the bilateral program is implemented.
2. To permit completion of planned and programmed activities, the WHO-AFRO contract should be extended to complete activities planned (with no cost increase).
3. To permit a smooth transition between the CCCD projects and follow-up bilateral projects, project management in Washington and the implementing agency, CDC, should work with USAID missions to ensure that gaps do not occur between the two activities.
4. CDC should undertake a study of resources needed to ensure capacity building and redeploy its resources to permit development of the sustainability strategy and indicators. It should pay particular attention to the integration and institution-building criterion. Final evaluations of project activities should include assessment of how the project has measured up against the sustainability strategy indicators.
5. Specific recommendations for improving administrative and financial tracking of project:
  - a. The A.I.D. CCCD Project Officer should arrange for a consultant to review and revise the CCCD MIS spreadsheet and administrative systems, in consultation with AID/FM, the Contracts Office, AFR/TR/PRO, and AFR/DP. The scope of work should specify: a) a review of administrative and financial tracking inefficiencies and bottlenecks, and b) call for revisions that would minimize the need for manual reconciliations of the MIS with the FACS and PAIS.
  - b. A.I.D., should pursue the development of generic financial tracking and project management systems (both manual and automated) for project

officers, minimizing the necessity to use, and re-use, project funds to re-invent spread sheets and other instruments for project management.

- c. AID/AFR/TR should provide all the CCCD implementors (under PASAs and Contracts, and Grantees if feasible) more specific revised reporting formats that permit a more detailed comparison of planned and actual performance (for both activities and finances), requiring a brief analysis of the reasons for the variance between the two.
- d. CDC IHPO should add appropriate management expertise to its Technical Services division. The management specialist(s) so added should:
  - help the PHAs revise the TO Supervisory Checklist to deal with more substantive management issues,
  - be on call to help the TOs develop diagnostic reviews of MOH systems, leading to MOH determination of an acceptable outline for a country-specific MOH MIS, and
  - be on call to help the MOH Director General (or his equivalent) to use the remaining OR funds for identifying and solving management problems). (See the MIS and OR sections of this report for more details).
- e. AID/AFR and CDC IHPO should call upon appropriate technical assistance to review and revise the formats of all project reports to provide the same level of attention to managerial and organizational support functions as to technical/medical aspects of the CCCD interventions.

#### **Recommendations for a Follow-on Regional Project:**

We present recommendations the final year of the project and for the form and content of a new regional project. The rationale for continuing with a regional project is presented in Chapter IV.

1. Because of the difficulties experienced in achieving sustainable institutionalization by the CCCD project through emphasizing interventions, the focus of the regional follow-on project should be on support strategies which will assist Ministries of Health to establish integrated activities in maternal and child health (child survival). The regional project should not finance selective interventions. Since bilateral programs may selectively emphasize certain interventions, the regional project needs to be sufficiently flexible to support these needs.

2. All expertise, plans, and strategies should be tailored to the needs of particular countries. Thus, although models may be developed, the assumption is that considerable modification will be needed to make them appropriate to the countries' needs. The implementing agency will have the task of providing technical experts capable of sufficient flexibility and vision to adapt, modify, and compromise cherished models and strategies.
3. The follow-on project should emphasize integrated approaches to child survival which would include family planning, HIV/AIDS, and nutrition since, in participating countries, at the local level, at least, the same officials are working on these strategies.
4. The objectives of a follow-on project should be to strengthen African institutions. Therefore, the implementing agency must be one that sees strengthening African institutions as its primary task. The implementing agency should be one with a demonstrated capacity in management skills development.
5. The focus on institution-building should be structured for the long-term perspective, over at least 10 years to assist countries in developing management capacity.
6. African countries need continued or new support in institution-building to carry out child survival activities. Seven support strategies should be included in a follow-on project:

**Developing Management and Policy Making Skills** for senior Ministry decision makers and regional officers is required for sustainability. This would include assistance in the areas of manpower and resource allocation planning, programming and evaluation, developing supervisory skills, data use for decision making, and problem-solving research for managers.

**Management Information Systems Development and Utilization** support should be directed toward assisting countries to develop comprehensive integrated routine reporting systems tailored to their management and planning needs. Support should include assistance in using the MIS for supervision, training, resource allocation, and planning. Such systems should include elements in accounting, health resources, logistics, health services utilization, and disease surveillance. Improvement of program indicators should be assisted, including support for countries wishing to innovate with vital registration systems. Development of any such indicators should be carefully researched to assess their relative costs and advantages and their management requirements to ensure their effectiveness.

**Applied Comparative Research:** Using the region as the focus of research, carry out analyses of organizational issues of concern to health services delivery throughout the region, e.g. analyze whether integrated or vertical programs are more effective for services delivery; factors favoring effective health financing policy reforms; analyses of drug distribution systems; factors favoring sustainable management information systems, etc.

**Health Financing:** Assistance should be provided to develop new policies and programs for financing health services.

**Regional Training:** Regional training should be supported for three purposes: to introduce such new strategies or interventions as ARI; to provide training for countries too small to run their own programs; and to provide training in subject areas in which each country has relatively few people who need to be trained.

**Health Education:** Nationals should be trained to design, implement and evaluate all facets of health education campaigns using innovative approaches.

**Training Curricula:** Pre-service training curricula for nurses and physicians should be strengthened by introducing child survival strategies into training, by emphasizing health education and preventive health strategies, and by including supervisory and management techniques in medical school curricula.

7. A new management structure should be devised to include the following elements:

**Resource Access:** A new management structure will have to make it easy for USAID missions to access its resources, perhaps as a kind of IQC (indefinite quantity contract).

**Scope of Resources:** The contractor should have a broad scope of resources available, given the seven support strategies recommended. To supplement those resources, it would probably have to subcontract to agencies for particular skills. CDC's experience in malaria research and vital statistics should be taken into account, but the focus of the follow-on project (management and training), would probably look for the bulk of its technical assistance elsewhere.

**A.I.D. Staffing:** Regardless of which organization implements the project, at least two full-time A.I.D. staff with travel funds should be in place to monitor the project carefully.

**Impact Indicators:** Impact indicators should be set at the outset to serve program monitoring needs, but should rely on data capable of being collected with ease without requiring either the implementing agency or the host government to set up alternative systems. Otherwise, the cost to these countries is too high.

**Evaluations:** Evaluations should be limited in number with external evaluations not more frequently than once every 2 1/2 years (at mid-term) and again at 5 years. These evaluations should address broad impact and process issues, assess strategies and alternative strategies for reaching goals, and examine progress toward integration and sustainability. Internal evaluations should be limited to monitoring process objectives and assessing progress toward objectives in work plans, and should be carried out by the project coordinators in the field and their national counterparts.

## APPENDIX I-1: EVALUATION SCOPE OF WORK

The contractor will organize an external evaluation team to conduct a study in the various sites where the "core" has had a role in project implementation. Because of the complexity of the project and the information needs of the Agency, the contractor will be required to develop an evaluation plan and methodology to answer the questions posed. The methodology will include field site visits to Washington, Atlanta, New York (UNICEF), WHO/Geneva and Brazzaville, Kinshasa, Abidjan, Lome and Maseru for interviews with persons involved in the core activities.

Project documents will be reviewed, including the project paper with log frame and amendments, implementation plans, annual budgets, and evaluations. The team will assess the management process and comment on its strengths and weaknesses (e.g., the increased involvement of AFR/TR in project management since 1988.) The team will assess the elements of the core and comment on their strengths and weaknesses.

Based on the above analytic processes , the team is expected to:

- (1) make recommendations to the current project in terms of how the core can best contribute to the attainment of project goals and objectives during the remaining months of project assistance,
  - (2) make recommendations for the design of the core component of the follow-on project, and
  - (3) recommend ways in which the core resources can be used to help AFR/TR/HPN conduct its analytic agenda in the future (requires a briefing by TR/HPN.)
- a. Specific questions about the IHPO-CCCD organizational structure:

Technical assistance field support are provided to the project countries by three components of IHPO, the administrative office, the field services division and the technical support division. Within the IHPO director's office, the CCCD program is overseen by an assistant director for operations. This office handles

project administration. From the field services division, overall coordination of country level activities and supervision of the country technical officers is provided by Public Health Advisors. The technical support division provides support for specific interventions and support strategies, including training, health education, health care financing, epidemiological surveillance, operations research, etc. This division utilizes consultants and contractors as required.

The team will describe in detail the functions of and relationships among these three components. They will assess the contributions of each component and of the overall structure to the project.

The team will assess: 1) the value of the consultative meetings and annual reports, 2) policy and strategy development for interventions and support strategies, 3) the establishment of epidemiologic surveillance systems and health information systems with computerized applications in all aspects of the core, and 4) the impact of moving regional medical epidemiologists from the field to IHPO. Which system for epidemiological support worked best? Is there a better way to provide this support?

b. Specific questions about the Support Strategies

General objectives have been set for each of the support strategies and are listed below. The team is expected to assess the effectiveness and appropriateness of the overall approach used to achieve these objectives. In addition, the team is asked to respond to the specific questions about each strategy.

Epidemiologic Surveillance and Information Gathering Systems:

Objective: Develop systems of data collection, analysis and feedback to facilitate decision making at local, regional and national levels.

(1) How does the core support the country level need for health and management information (e.g., vaccine coverage, morbidity, and mortality data, access to services, disease surveillance, and management information)?

(2) To what extent do host country nationals and A.I.D. use the information systems for decision-making purposes? How has the core contributed to effective utilization of the information systems?

(3) Are the information systems in IHPO and AFR/TR/HPN able to provide easy access to project data for impact assessment, policy formulation and management decisions?

**Training:**

**Objective:** Develop a sustainable system of needs assessment, preservice and in-service education, supervision, and evaluation to enable health workers to meet performance standards.

(1) How does the core training component support in-country training?

(2) Is the core training support adequate to meet the project needs?

(3) Does the training component cover all levels of health workers? How does the core address training of the decision makers?

(4) What training strategies has the project used to institutionalize training capacity in the countries?

(5) What are the strengths and weaknesses of the core approach to training?

(6) In health education the core used Master Degree level courses at Ibadan and Kinshasa Universities to provide leadership for this component. Did this work well and if so why did the project not use the same training strategy for managers, epidemiologists and health care financing personnel?

**Health Education:**

**Objective:** To promote maximum utilization of EPI, CDD and malaria control services at health facilities and to facilitate adoption of certain behaviors in the home/community relative to episodes of diarrhea and fever in children 0-4 years of age.

(1) What methods have been used by the various implementing agencies (e.g., Healthcom, CDC-IHPO, ARHEC in Ibadan and ZSPH in Zaire) to provide health education and to strengthen health education programs?

(2) What are the relative merits and cost/benefits of each method?

(3) What has been done to integrate health education into the interventions and other support strategies?

(4) What aspects of the health education approach and methods have been found to be replicable over time and in the different country program?

Operations Research (OR):

Objective: Develop capacity of national investigators to identify and solve operational problems constraining improvements in child health.

(1) What has been the role of the core support component in IHPO-CCCD in promoting and conducting OR?

(2) How successful has the core been in supporting the transfer of research technology to host country nationals?

(3) Core support for OR has been provided by long term resident medical epidemiologists and, in other instances, through a series of short term visits from Atlanta. What is the cost effectiveness of each of these approaches?

(4) Have the countries and/or A.I.D. used the findings of the OR to change policies, priorities or practices?

(5) What was the role of the core in helping organizations use the findings of the regional and country OR? For example, what use was made of the Mangochi Malaria study results? Did the core help USAIDs use the OR results?

(6) What are the strengths and weaknesses of the OR support strategy?

Sustainability: (introduced 10/88)

Objective: Promote the use of administrative, planning, implementation, financing and evaluation strategies that contribute to long term health development through practical and affordable program applications.

In particular, health care financing concerns were addressed by the project when A.I.D. became involved in the question of continued financial support of the child survival interventions in 1986.

- (1) How has the core supported the HCF initiative? How has the core assisted with policy dialogue at the country level?
- (2) How were cost effectiveness issues and health economics addressed by the core?
- (3) Were there any management problems created by taking on the new support strategy late in the project?
- (4) What other strategies have been promoted by the core ensure sustainability (e.g., donor coordination)? How have these been supported and what has been their impact?

#### c. Overall Project Structure and Management

- (1) What are the managerial systems organizational arrangements, personnel and procedures now in place to carry out the core functions of the CCCD project? Are management responsibilities properly located in the organizational structure? What are the strengths and weaknesses of the organizational structure?
- (2) How are the objectives and implementation strategies for the core activities (e.g., workplans, schedules, evaluations, budgets and financial controls) developed?
- (3) How are management and operational problems and issues worked out in the core?
- (4) Is the management oversight provided by AFR/TR/HPN and IHPO adequate for the core with the current organizational structure? Is there adequate administrative support for the core in AFR/TR/HPN? In IHPO? How does the level of AID OE support for the project affect management oversight and problem solving?
- (5) How are directions set and policies determined by CDC/IHPO? by AFR/TR/HPN? Is there an effective working relationship between the two organizations?

## APPENDIX I-2: PERSONS CONTACTED

Washington, D.C., September 17-21, September 28-October 2, 1990

Agency for International Development:

|                  |  |
|------------------|--|
| Richard COBB     | Director, AFR/TR/HPN                   |
| Judy GILMORE     | Deputy Director, AFR/TR/HPN            |
| Gary MERRITT     | Chief, AFR/TR/HPN                      |
| James SHEPPERD   | Deputy Chief, AFR/TR/HPN               |
| Laurie ACKERMAN  | TAACS, CCCD project, AFR/TR/HPN        |
| Laura KEARNS     | AFR/TR/HPN                             |
| Glenn POST       | Child Survival Coordinator, AFR/TR/HPN |
| Neen ALRUTZ      | Child Survival Fellow, AFR/TR/HPN      |
| Peggy MEITES     | USDA/RSSA to AFR/TR/HPN                |
| Randy ROESER     | AFR/TR/PRO                             |
| Myron GOLDEN     | Director, AFR/CCWA                     |
| Rudy THOMAS      | Desk Officer, AFR/CCWA                 |
| Alan GETSON      | AFR/DP                                 |
| Minnie S. WRIGHT | AFR/DP                                 |
| Larry BOND       | DA/Program and Policy Coordination     |
| Victor BARBIERO  | REDSO, Nairobi                         |
| Robert CLAY,     | S&T/Chief CTO/REACH                    |
| Robert EMREY     | S&T/CTO/Health Care Financing          |
| Lloyd FEINBERG   | S&T/CTO/PRITECH                        |
| Connie CARRINO   | S&T/CTO/HEALTHCOM                      |

HEALTHCOM:

Mark RASMUSSEN

Peace Corps:

Nanette HEGAMIN

PRITECH:

Robert SIMPSON

REACH:

Diane HEDGECOCK

Charlotte LEIGHTON

**Atlanta, Georgia, September 23-28, 1990**

**Centers for Disease Control:**

|                    |                                      |
|--------------------|--------------------------------------|
| Joe DAVIS          | IHPO, Director                       |
| Stanley FOSTER     | IHPO, Asst. Director (acting)        |
| Ronald WALDMAN     | IHPO, Director, Technical Support    |
| Danielle OLIVOLA   | IHPO, Technical Support, CDD         |
| Annie VOIGT        | IHPO, Training Coordinator           |
| Katherine PARKER   | IHPO, Health Education Coordinator   |
| Jennifer BRYCE     | IHPO, Evaluation Specialist          |
| Joseph NAIMOLI     | IHPO, Technical Support              |
| David BASSETT      | IHPO, Technical Support              |
| Stephen REDD       | IHPO, Epidemiologist                 |
| Michael TOOLE      | IHPO, Epidemiologist                 |
| Jason WEISFIELD    | IHPO, Medical Epidemiologist         |
| Jean ROY           | IHPO, Field Services                 |
| Mark LAPOINTE      | IHPO, Field Services                 |
| Kevin MURPHY       | IHPO, Field Services                 |
| John NELSON        | IHPO, TO Nigeria (former)            |
| Myra TUCKER        | IHPO, PHA Supervisor                 |
| Kelly BUSSELL      | IHPO, Office of Director             |
| Carol GOETTL       | IHPO, Administration Officer         |
| Jane COOLEY        | IHPO, Fiscal Accounts Specialist     |
| Andrew AGLE,       | IHPO, Asst. Director (retired)       |
| Deborah MACFARLAND | IHPO, Health Care Financing (Former) |
| Joel G. BREMAN     | Malaria Branch, Deputy Chief         |
| Richard STEKETEE   | Malaria Branch, Epidemiologist       |
| Michael DEMING     | EPI Branch, Epidemiologist           |
| Felicity CUTTS     | EPI Branch, Epidemiologist           |
| Carol HOGUE        | Division of Reproductive Health      |
| Patrick MCCONNON   | Division of Reproductive Health      |
| Leo MORRIS         | Division of Reproductive Health      |

**New York, NY, October 3, 1990**

**UNICEF:**

|                    |                                   |
|--------------------|-----------------------------------|
| Harold FLEMING     | Senior Programme Funding Officer  |
| David PARKER       | Senior Advisor, Bamako Initiative |
| Stephen JARRETT    | Bamako Initiative                 |
| Philiph van HAECKE | EPI Unit                          |
| Susi KESSLER       | Evaluation Unit                   |
| Terrel HILL        | EPI Unit                          |
| Ranjit ATAPATTU    | Senior Advisor, Public Health     |
| Martin MOGWANJA    | Deputy Chief, Africa Section      |

**Geneva, Switzerland, October 4-5, 1990**

**World Health Organization:**

|                   |                                       |
|-------------------|---------------------------------------|
| Ralph HENDERSON   | former EPI Director                   |
| Robert C. HOGAN   | Programme Management Officer, CDD     |
| Robert KIM-FARLEY | EPI Director                          |
| Francois GASSE    | EPI                                   |
| Susan ROBERTSON   | EPI                                   |
| Peter TRIGG       | Malaria                               |
| Dr. AWASH         | Malaria                               |
| Ivorra CANO       | Malaria                               |
| Wendy ROSEBERRY   | former CCCD Project Manager           |
| Maryanne NEILL    | former CCCD TO, Rwanda                |
| David HEYMAN      | former CCCD TO/Epidemiologist, Malawi |

**Brazzaville, Congo, October 24-25, 1990**

**WHO/AFRO:**

|                    |   |
|--------------------|---|
| Dr. BARAKAMFITIYIE | Regional Advisor, Communicable Diseases |
| Koffi AHMED        | EPI, acting director                    |
| Fred WURAPA        | Malaria                                 |
| Lahouari BELGHARBI | Technical Officer                       |
| Gene BARTLEY       | CDD                                     |
| I. UJODHA          | Editor, Epidemiological Bulletin        |
| Jean KALAHANI      | former MOH, Malawi                      |

**Lome, Togo, October 7-10, 1990**

|                |                           |
|----------------|---------------------------|
| Mark WENTLING  | Director, USAID           |
| Paul EHMER     | HPN Officer, USAID        |
| Tchao BAMAZE   | APCD/Health, Peace Corps  |
| Komlan SIAMEVI | Directeur General, MSP/AS |
| Tchasseu KARSA | Director, PEV, MSP/AS     |
| Etsri AKOLLY   | Director, SNES, MSP/AS    |
| L.BARRY        | WHO representative        |
| Muriel GLASGOW | UNICEF representative     |
| Abdou SANOKHO  | UNICEF consultant         |

**Abidjan, Cote d'Ivoire, October 11-12, 1990**

|                   |                                    |
|-------------------|------------------------------------|
| Howard HANDLER    | Acting Director, REDSO/WCA         |
| Charles DEBOSE    | Health Dev. Officer, REDSO/WCA     |
| Modupe BRODERICK  | CCCD Program Specialist, REDSO/WCA |
| Frank OSEI-ASIBEH | HPN/REDSO/WCA                      |
| James HERRINGTON  | Technical Officer, CCCD Project    |
| Lambert BLAH TOH  | CCCD Director, MSP/AS              |
| Prof. GOUSSEND    | Tech. Director, MSP/AS             |
| Prof. ASSALE      | LMD, MSP/AS                        |
| Dr. DARRY         | MSP/AS                             |

**Zaire, October 14-23, 1990**

Kinshasa

|                       |                                    |
|-----------------------|------------------------------------|
| Charles JOHNSON       | Director, USAID                    |
| Baudoin de MARCKEN    | Deputy Director, USAID             |
| John BIERKE           | Chief Program officer, USAID       |
| Ray MARTIN            | Chief, HPN, USAID                  |
| Christopher MCDERMOTT | HPN, USAID                         |
| Lumbu UTSHUDI         | CCCD project officer, HPN/USAID    |
| Albert HULLIUNG       | Controller, USAID                  |
| Barbara KRELL         | Deputy Controller, USAID           |
| Glen ROGERS           | USAID                              |
| Karen WILKENS         | Technical Officer, CCCD Project    |
| Sangwa MUSINDI        | Directeur, PEV                     |
| Dr. NKENSI            | PEV, IEC Coordinator               |
| Dr. PALUKU            | PEV, Malaria                       |
| Tshiende KANYINDA     | PEV, Supervision & Evaluation      |
| Mr. VNU               | PEV, Training                      |
| Mme. SAMBA            | PEV                                |
| Dr. PAPANDOU          | PEV, CDD                           |
| Mr. MFUAMBBA          | PEV                                |
| Kambali KIBUNGO       | PEV, Chef de Section Statistique   |
| Mr. BWANAMADOGO       | PEV, Chef de pool de coordination  |
| Nyandu BASSAMBOMBO    | PEV, E-Z vaccine trial staff       |
| Dr. MANTSHUMBA        | Medecin-chef de Zone, Bas-Zaire    |
| Mr. HAKIZARONGU       | C/A, Gomo, Matadi                  |
| Dr. TSHIBASU          | Director, FONAMES                  |
| Stephen BREWSTER      | SANRU Project                      |
| Beni BONGO            | SANRU Project                      |
| Tumba D. KASHALA      | Directeur, School of Public Health |
| Ngo BEBE              | School of Public Health,           |

Mme. BOMBOKO  
Catherine HALL  
Michel SIDIBE

School of Public Health  
Advisor (Tulane) School of Public Health  
EPI advisor, UNICEF

Outside Kinshasa

Mary STEVENSON  
Stanley YODER  
Dr. KINZANZA  
Mongola MOLENGI  
Ngoy NKULO  
Dr. TSHIULA  
M. MBO  
Nkoy YEBEL  
M. ASANI  
Administrator  
Secretary  
Chief nurse

HPN Officer, USAID, Lubumbashi  
HEALTHCOM Evaluation Consultant  
PEV Regional Coordinator, Lubumbashi  
Inspecteur Medicale, Shaba, Lubumbashi  
Responsable, PMI Sendwe, Lubumbashi  
Medecin Chef, Ruashi, Lubumbashi  
Superviseur du PEV, Ruashi, Lubumbashi  
Responsable IEC, Ruashi, Lubumbashi  
Infirmièr, Centre de Mobutu, Ruashi  
Ngingadingu Zone de Sante  
" " " "  
Kipemba Health Center

**Maseru, Lesotho, October 27-November 1, 1990**

Barbara SANDOVAL  
Jean MEADOWCROFT  
David GITTLEMAN  
Dr. SIWALI  
Ivan COMANOR  
Edward DOUGLASS

Deputy Director, USAID  
General Development Officer, USAID  
Technical Officer, CCCD Project  
WHO representative  
UNICEF  
Former HEALTHCOM Resident Advisor

## APPENDIX I-3: DOCUMENTS REVIEWED

### General Documents and Publications:

#### Agency for International Development

1987 Child Survival Strategy 1987 - 1990. Washington, D.C.: Bureau for Africa.

1988 Child Survival Implementation Report. Washington, D.C.: Bureau for Africa.

1989 Child Survival Implementation Report. Washington, D.C.: Bureau for Africa.

1989 Development Fund for Africa (DFA): An Action Plan.

#### Bossert, Thomas J.

1990 Can they Get Along Without Us: Sustainability of Donor-Supported Health Projects in Central America and Africa. Social Science and Medicine, Vol 30, No. 9: 1015-1023.

#### Centers for Disease Control

1988 Centers for Disease Control: Organization, Mission, and Functions: Atlanta, Georgia.

#### Yan, Ren-Ying, Brian McCarthy, Hui-Fang Ye, Chuan-Yan Qu, Zhu Li, Tong-Xiang Chen, and Deborah Kowal

N.D. The Risk Approach in Perinatal Health: Shunyi County, People's Republic of China. Atlanta, Georgia: U.S. Department of Health and Human Services.

### ACSI-CCCD Project Documents:

#### Academy for Educational Development

1983 CCCD Health Education Component, Final Report. Washington, D.C.

#### Agency for International Development

1981 Combatting Childhood Communicable Diseases (CCCD) Project (698-0421) - Project Authorization Amendment. Washington, D.C.: Bureau for Africa.

1988 Proceedings: 4th Consultative Meeting, ACSI-CCCD, March 24 - 31, 1988. Yamoussoukro, Cote d'Ivoire.

1988 African Child Survival Initiative. Combatting Childhood Communicable Diseases: Africa Regional Project (698-0421) Quarterly Report: January-March.

1988 African Child Survival Initiative. Combatting Childhood Communicable Diseases: Africa Regional Project (698-0421) Quarterly Report: April-June.

1988 African Child Survival Initiative. Combatting Childhood Communicable Diseases: Africa Regional Project (698-0421) Quarterly Report: July-September.

1988 Sixth Amendment to ACSI-CCCD Project (698-0421), Washington, D.C.: Bureau for Africa.

1988 Third Amendment to Project Authorization, ACSI-CCCD Project (698-0421, 625-0967). Washington, D.C.: Bureau for Africa.

1989 African Child Survival Initiative. Combatting Childhood Communicable Diseases: Africa Regional Project (698-0421) Quarterly Report: October-December.

1990 Sustainability Strategy (draft).

Agency for International Development and the U.S. Department of Health and Human Services Public Health Services

1987 Fifth Year Evaluation: Africa Child Survival Initiative - Combatting Childhood Communicable Diseases. Washington, D.C.: Bureau for Africa.

1987 Africa Child Survival Initiative. 1987 Annual Report. Atlanta, Georgia: International Health Program Office.

N.D. African Child Survival Initiative: Combatting Childhood Communicable Diseases: 1988-1989 Bilingual Annual Report.

N.D. African Child Survival Initiative: Combatting Childhood Communicable Diseases: 1989-1990 Bilingual Annual Report.

Bebe, Ngo

1990 *Rapport de la mission du seminaire I.E.C. en Republique du Togo. Kinshasa, Zaire: Université de Kinshasa, Ecole de Santé Publique.*

1990 *Rapport sur la visite de suivi du seminaire de "planification et management de l'EPS" effectuée en Côte d'Ivoire du 25 Avril au 5 mai, 1990. Kinshasa, Zaire: Université de Kinshasa, Ecole de Santé Publique.*

Bossert, Thomas and Wayne Stinson  
1988 Draft: ACSI - CCCD Sustainability Strategy. Bethesda, Maryland:  
University Research Corporation.

Breman, J.G., and C.C. Campbell  
1988 Combating Severe Malaria in African Children. Bulletin of the World  
Health Organization, 66(5): 611-620.

Centers for Disease Control  
1987 Surveillance Evaluation Manual. Atlanta, Georgia: Division of Surveillance  
and Epidemiologic Studies.

N.D. Diarrhea Treatment Unit Training Course: Facilitator's guide. Atlanta,  
Georgia: IHPO, Technical Support Division.

Deming, M.S., A. Gayibor, K. Murphy, T.S. Jones, and T. Karsa  
1989 Home Treatment of Febrile Children with Antimalarial Drugs in Togo.  
Bulletin of the World Health Organization, 67(5): 695-700.

Dunlop, David W. and Kodjo Evlo  
1988 A Comparative Analysis of CCCD Project Health Care Financing Activities.  
Arlington, Virginia: John Snow, Inc.

Foster, Stanley, James Shepperd, Joe Davis, and Andrew Agle  
1990 Working With African Nations to Improve the Health of Their Children.  
Atlanta, Georgia: Centers for Disease Control.

Hegamin, Nanette and Magda Baligh  
1990 CCCD PASA quarterly report for FY90, QIII. Washington, D.C.: Peace  
Corps.

Joseph, Emanuel  
1990 CDC Operational Research in ACSI-CCCD: A Review and Evaluation of  
Original Research by African Investigators in the ACSI-CCCD Program. Dept of  
Community Health and Preventive Medicine, Morehouse School of Medicine.

LaForce, F. Marc, Christine Myers, and Vincent Brown  
1986 Fourth Annual (Second External) Evaluation of Combatting Childhood  
Communicable Diseases (CCCD) Project (698-0421) in Africa. Washington, D.C.:  
International Science and Technology Institute, Inc.

Management Sciences for Health  
1989 ACSI II Concept Paper/Evaluation Synthesis. Contract No. PDC-1406-I-01-  
7133-00-WO #3.

North, W. Haven, F. Marc La Force, and Richard Solloway  
1983 Mid-Term Evaluation: Combatting Childhood Communicable Diseases.

Olivola, Danielle  
1990 Mama Yemo Intercountry Training Course -- Evaluation Report. Atlanta, Georgia: Centers for Disease Control.

Seaton, Paul  
1989 Building the Capacity for Sustainability of the ASCI and the OCP. Baltimore, Maryland: Johns Hopkins University (memo).

Slattery, Jack, Joe Davis, Travis Rattan, et. al.  
1985 Third Annual Evaluation of Combatting Childhood Communicable Diseases (CCCD) Project (698-0421) in Atlanta, Georgia. Washington, D.C.: International Science and Technology Institute, Inc.

Steketee, Richard  
1989 Recent Findings in Perinatal Malaria. IPA/WHO Pre-Congress Workshop on Prevention; Control and Management of Perinatal Infections, July 22-23, 1989.

*Université de Kinshasa, Ecole de Santé Publique*  
1989 *Premier cours international sur la planification et le management de la composante éducation pour la santé des programmes de la survie de l'enfant. 11 septembre - 6 octobre, 1989. Kinshasa, Zaire: Université de Kinshasa, Ecole de Santé Publique.*

*1990 Planification et management de l'éducation pour la santé des programmes de la survie de l'enfant, Cours international. 9 septembre - 5 octobre, 1990 (11 modules). Kinshasa, Zaire: Université de Kinshasa, Ecole de Santé Publique.*

Vansintejan, Gilberte A.  
1989 Combatting Childhood Communicable Diseases: Evaluation of the A.I.D. - Peace Corps PASA. Washington, D.C.: TvT Associates.

### **Burundi**

Agency for International Development and Government of Burundi  
1988 Amended Amplified Project Description African Child Survival Initiative - Combatting Childhood Communicable Diseases (ACSI-CCCD) Project (698-0421.95) Extension 9/30/88 - 9/30/91.

Bossert, Thomas, Harry Godfrey, Marion Clark, Patrick Bregere, Carole Peignot, and Vladimir Rodine.

1987 Evaluation of the Burundi Combatting Childhood Communicable Diseases Project. Chevy Chase, Maryland: University Research Corporation.

Delliquadri, Lawrence, Helene Gaumerais, and Ernest Nizitonda

1990 Review of the ACSI-CCCD Project USAID/Burundi. Washington, D.C.: TvT Associates.

Olivola, Danielle

1989 Rapport de Mission Burundi. Atlanta, Georgia: Centers for Disease Control.

### **Central African Republic**

CCCD Project Extension Design Team

1988 Amplified Project Description 5/30/88 - 9/30/91 (Central African Republic).

Davis, Joe, Gary Leinen, Harry Godfrey and CCCD/CAR and MOHSA Staff

1985 Combatting Childhood Communicable Diseases (CCCD) Central African Republic Program Review.

Hammerton, Susan

1987 Core Training Final Report Peace Corps Health Program, Central African Republic. Washington, D.C.: Peace Corps.

Leinen, Gary, Joseph Naimoli, Kevin Murphy, and Peggy Meites

1989 Program Review ACSI-CCCD Project (698-0421.76) in Bangui, CAR.

Naimoli, Gail

1988 Development of the CCCD Health Education Program in the Central African Republic. Washington, D.C.: Peace Corps.

Naimoli, Joseph

1989 Peace Corps Health Conference, February 6-11, 1989, Bangui, Central African Republic. Washington, D.C.: Peace Corps.

Raleigh, John, Carole Peignot, and Aissatou Lo

1990 External Evaluation of the ACSI-CCCD Project in the Central African Republic. Reston, Virginia: Atlantic Resources Corporation.

Sullivan, Margaret

1988 1988 Core Technical Training for Central African Republic Health Projects.  
Washington, D.C.: Peace Corps.

Teer, Kathy

1986 In-Country Training Final Report. Peace Corps Health Program Central  
African Republic. Washington, D.C.: Peace Corps.

Westinghouse

1986 External Evaluation Report of African Child Survival/Combatting Childhood  
Communicable Diseases Project in Central African Republic.

### Congo

Agency for International Development

1985 Country Summary Combatting Childhood Communicable Diseases:  
People's Republic of the Congo.

1986 Country Summary Combatting Childhood Communicable Diseases:  
People's Republic of the Congo.

Agency for International Development, Centers for Disease Control, and Funds for Aid  
and Cooperation

1983 Combatting Childhood Communicable Diseases (CCCD) Country  
Assessment: People's Republic of the Congo.

Agency for International Development and the Peoples Republic of Congo

1984 Project Grant Agreement for Combatting Childhood Communicable  
Diseases in Congo (A.I.D. Project No. 698-0421.06).

Dabis, Francois

1986 Final Report: Measles Antibody Study: Congo. August 22 - September 6,  
1986. Washington, D.C.: Technologies for Primary Health Care (PRITECH)  
Project.

Davis, J. H.

1983 Issues Paper CCCD Country Assessment: People's Republic of the Congo.

Davis, Joe, Felix Awantang, Harry Godfrey, Rene Cuddy, Pierre Eozenou, and Karen  
Hawkins-Reed

1985 Combatting Childhood Communicable Diseases Project (CCCD -  
698.0421.79) First Annual Project Review: People's Republic of Congo.

Dumont, Philippe

1985 Report on International Visitor Program of Dr. Christopher Bouramoue, Minister of Health and Social Affairs, People's Republic of The Congo, and Mr. Rigobert J. Ban-Ethat, Administrative Advisor.

*Republique Populaire du Congo - Ministere de la Sante et des Affaires Sociales*

*1987 Programme Elargi de Vaccination: Point de la Situation et Implications Pour l'Avenir.*

UNICEF

*1989 Rapport Interimaire Destine a l'USAID. Projet Congo-Survie et Developpement de l'Enfant. Brazzaville, Congo.*

Westinghouse

*1986 Rapport d'Evaluation du Projet de la Lutte Contre les Maladies Transmissibles de l'Enfance (CCCD) dans la Republique Populaire du Congo.*

Westinghouse - Public Applied Systems

1986 Evaluation Report of Combatting Childhood Communicable Diseases - Project in the People's Republic of the Congo.

### **Ivory Coast**

Agency for International Development

1988 ACSI-CCCD: USAID Extension Design Proposal for Continuing Technical Assistance to the Government of Cote d'Ivoire, November 1988 - September 1981.

Africa Child Survival Initiative-Combatting Childhood Communicable Diseases

1990 Annual Management Information Systems Report, Cote d'Ivoire, 1989-90. Ministry of Public Health, Centers for Disease Control, USAID.

Brown, Vincent and Arthur Reingold

1988 Evaluation du Projet ACSI-CCCD Cote d'Ivoire. May 18 - June 3, 1988. Falls Church, Virginia: The Pragma Corporation.

*Institut National de la Santé Publique*

*1990 Enquete d'évaluation de la formation sur le terrain Côte d'Ivoire, mai 1990. Abidjan, Côte d'Ivoire.*

*Ministere de la Sante Publique et de la Population*

*1990 Projet de la Lutte Contre les Maldiés Transmissible de l'Enfance: compte rendu CCCD: revue interne du 22-23-25-26 mai 1990. Abidjan, Cote d'Ivoire.*

Plopper, Suzanne, Agnes Guyon, and Makita Antoine Saturnin  
1987 Evaluation of ACSI-CCCD Project Ivory Coast. Chevy Chase, Maryland:  
University Research Corporation.

Roseberry, Wendy and Russell Charter  
1986 The Combatting Childhood Communicable Disease Cote d'Ivoire First Year  
Program Review (CCCD/Cote d'Ivoire).

### **Guinea**

Agency for International Development and Government of Guinea  
1987 Annex 1: Revised Amplified Project Description

Brown, Vincent and Nancy Mock  
1987 Evaluation of ACSI-CCCD Project: Republic of Guinea. Chevy Chase,  
Maryland: University Research Corporation.

Correl, Frank, Jack Finlay, and Sally Stansfield  
1989 External Evaluation of the ACSI-CCCD Project in the Republic of Guinea.  
Reston, Virginia: Atlantic Resources Corporation.

Roseberry, Wendy and Russ Charter  
1986 Nine Month Combatting Childhood Communicable Diseases Project  
Review: Guinea.

Schoultz, Kristan  
1988 Health Education Project Needs Assessment, Peace Corps Guinea.  
Washington, D.C.: Peace Corps.

### **Lesotho**

Agency for International Development in Cooperation with U.S. Department of Health  
and Human Services Public Health Services Centers for Disease Control  
1983 CCCD Country Assessment, Lesotho. Washington, D.C.: Bureau for  
Africa.

Agency for International Development and the Republic of Lesotho  
1984 Project Grant Agreement between the Republic of Lesotho and the United  
States of America for Combatting Childhood Communicable Diseases in Lesotho.  
(A.I.D. Project No. 698-0421.05). Washington, D.C.

Agency for International Development, Government of Lesotho  
1987 African Child Survival Initiative - Combatting Childhood Communicable  
Diseases Project in Lesotho: Third-Year Internal Review.

Gittelman, David  
1990 ACSI-CCCD Quarterly Project Progress Report for Lesotho (January -  
March 1990).

Gittelman, David  
1990 ACSI-CCCD Quarterly Project Progress Report for Lesotho (April - June  
1990).

Marsh, Noel, Soheir Sukkary-Stolba, Stan Foster, Myra Tucker, and Mark La Point  
1988 Lesotho CCCD Project Evaluation. Falls Church, Virginia: The Pragma  
Corporation.

Ministry of Health  
1988 Government of Lesotho, Ministry of Health, Health Planning and Statistics  
Unit and Family Health Division. African Child Survival Initiative - Combatting  
Childhood Communicable Diseases Project (698-0421) USAID Lesotho Extension  
Design Proposal. Maseru, Lesotho.

Ministry of Health, Lesotho  
1986 International Evaluation, EPI/CCD  
  
1988 International Evaluation, Family Health Program.  
  
1990 Administrative manual, Section 1: Supervision System. Maseru, Lesotho.  
  
1990 Administrative manual, Section 4: Training System. Maseru, Lesotho.  
  
1990 ARI Training manual. Maseru, Lesotho.

Moteetee, M.M., N. Matsau, and David Gittelman  
1989 African Child Survival Initiative, Combatting Childhood Communicable  
Diseases. ACSI-CCCD Project in Lesotho 1989 Management Information Systems  
Report. Maseru, Lesotho.

Olivola, Danielle  
1990 Draft Lesotho CDD Program Review Summary. August 1990. Atlanta,  
Georgia: Centers for Disease Control.

Redd, Stephen, Mpolai Moteetee, and Ronald Waldman  
1990 Diagnosis and Management of Acute Respiratory Infections in Lesotho.  
Health Policy and Planning 5(3) (in press).

Roseberry, Wendy and Dennis Olsen  
1985 Combatting Childhood Communicable Diseases (CCCD) Kingdom of  
Lesotho First Year Program Review. Atlanta, Georgia: Centers for Disease  
Control.

Westinghouse - Public Applied Systems  
1986 Evaluation Report of Combatting Childhood Communicable Diseases -  
Project in Lesotho.

Yoder, Stanley P. & Zheng, Zhong  
1990 HEALTHCOM in Lesotho -- Final Evaluation Report. Philadelphia,  
Pennsylvania: Center for International Health & Development Communication,  
University of Pennsylvania.

### **Liberia**

Crosson, Katherine  
1986 Evaluation of Peace Corps Volunteers' Performance in CCCD/Liberia  
Project. Washington, D.C.: Peace Corps.

Johnson, Sylvia and David Boyd  
1986 Pre-Service Technical Training Report for Health, Peace Corps Liberia.  
Washington, D.C.: Peace Corps.

Richmond, Brian  
1985 Pre-Service Technical Training Report for Health, Peace Corps Liberia.  
September 10-October 25, 1985. Washington, D.C.: Peace Corps.

Roseberry, Wendy and Russell Charter  
1987 ASCI-CCCD Project Liberia: Third Year Program Review.

Studer, Raymond  
1988 Health IST Final Report (Liberia). Washington, D.C.: Peace Corps.

Westinghouse Electric Corporation and John Snow, Inc.  
1986 Evaluation Report of Combatting Childhood Communicable Diseases -  
Liberia.

Wright, Erma

1985 Training Report Liberia Health In-Service Workshop. August 12-16, 1985.  
Washington, D.C.: Peace Corps.

### Malawi

Leonhardt, Thomas

1985 Report for Malawi Preservice for ORT Coordinators. Washington, D.C.:  
Peace Corps.

Ministry of Health Malawi

1987 Ministry of Health Reaction to CCCD Evaluation Recommendation 1986.

Westinghouse Institute for Resource Development

1986 External Evaluation of Combatting Childhood Communicable Diseases  
Project (A.I.D. Number 698-0421.12) in Malawi.

### Nigeria

African Regional Health Education Center, University of Ibadan

1989 Report of an intercountry training program on the planning and  
management of the health education component of the CCCD project, July 17 -  
August 11, 1989. Ibadan, Nigeria

1990 Health education planning and management for child survival programs: A  
training program guide -- health education for malarial control in the context of a  
primary health care approach. Ibadan, Nigeria

Agency for International Development

1990 Project Implementation Reports Nigeria, Period Ending March 31, 1990.  
Washington, D.C.: Bureau for Africa.

Weisfeld, J.S., A.M. Yakubu, and L.A. Salako

1990 Operational Research for Child Survival in Nigeria Three Years'  
Experience. Atlanta, Georgia: Centers for Disease Control.

## **Rwanda**

Bossert, Thomas, May Post, Marion Clark, Celestin Nabonziza, and Francois Nyengumuremyi.

1988 *Evaluation Finale du Projet CCCD Rwanda*. Falls Church, Virginia: The Pragma Corporation.

Institute for Resource Development, Inc.

1986 Evaluation Report of Combatting Childhood Communicable Diseases Project in Rwanda. Westinghouse.

Slattery, John, Harry Godfrey, and MOHSA and USAID/Kigali Staff

1985 Combatting Childhood Communicable Diseases (CCCD) Republic of Rwanda Program Review.

## **Swaziland**

Agency for International Development

1988 Africa Child Survival Initiative - Combatting Childhood Communicable Diseases (CCCD) Project (698-0421.45) Extension Design.

Government of Swaziland, Ministry of Health

1989 USAID Technical Cooperation: African Child Survival Initiative Combatting Childhood Communicable Diseases Project, Internal Review.

Institute for Resource Development

1986 External Evaluation of Combatting Childhood Communicable Diseases (CCCD) in Swaziland. Westinghouse.

Ministry of Health Swaziland

1987 Combatting Childhood Communicable Diseases (CCCD) Project: August 1986 Evaluation. Summary of Recommendations Accepted and Rejected by the Ministry of Health in a Review of Recommendations Held March 1987.

U.S. Department of Health and Human Services

1990 Swaziland: 1988 Family Health Survey. Atlanta, Georgia: Centers for Disease Control.

## Togo

### Agency for International Development

1989 A.S.C.I. - C.C.C.D. Togo 1989 (Annual Report). Washington, D.C.: Agency for International Development.

### Agency for International Development and the Republic of Togo

1983 Project Grant Agreement between the Republic of Togo and the United States of America for Combatting Childhood Communicable Diseases in Togo. Washington, D.C.

1988 Amendment No. 1 to the Project Grant Agreement between the Republic of Togo and the United States of America for Combatting Childhood Communicable Diseases in Togo. Washington, D.C.: Agency for International Development.

1988 Amplified Project Description: Phase II 1988 - 1991. Washington, D.C.: Agency for International Development.

### Eng, Eugenia

1986 Evaluation of Community Health Education PCV Performance in CCCD Health Education Activities in Togo. Washington, D.C.: Peace Corps.

### Johnson-Welsh, Charlotte

1988 Mid-term Assessment of Peace Corps - Government of Togo's Community Health Education for Child Survival Project. Washington, D.C.: Peace Corps.

### Makinen, Marty

1985 Togo/CCCD Financial and Economic Consultancy Report. Cambridge, Massachusetts: Abt Associates

### Raleigh, John, Marjorie Pollack, and Jack Finlay

1990 External Evaluation of the ACSI-CCCD Project in the Republic of Togo. Washington, D.C.: Agency for International Development.

### *Republique Togolaise - Ministere de la Sante Publique des Affaires Sociales et de la Condition Feminine*

*1987 Rapport d'Evaluation Nationale du Programme Elargi de Vaccination du Programme de Lutte Contre les Maladies Diarrhoiques et du Programme de Lutte Contre le Paludisme.*

## Zaire

Agency for International Development and the Republic of Zaire

1982 Project Grant Agreement. Washington, D.C.: Agency for International Development.

1986 Project Agreement Amendment Number 3. Washington, D.C.: Agency for International Development.

1989 Analyse des besoins de l'établissement. Kinshasa, Zaire: CCCD Project.

1989 Zaire Country Summary, Calendar Year 1989. CCCD Project.

1990 Health and Population Background Paper Annex C. Kinshasa, Zaire.

Government of Zaire, Centers for Disease Control, USAID Zaire, WHO Zaire, and UNICEF Zaire.

1982 Country Assessment Combatting Childhood Communicable Diseases Project. Zaire.

Gutman, Harvey, Mark LaForce, Pamela Pine, and Aben Ngay

1988 Zaire CCCD Project Midterm Evaluation. November 1988. Falls Church, Virginia: The Pragma Corporation.

Hynes, Denis

1990 *Besoin et planification de formation, Atelier à trois jours, Rapport préliminaire*. Kinshasa, Zaire: CCCD Project.

Keyser, James

1990 Health Sector Report: Sector Background Paper and Sector Assessment. Kinshasa, Zaire: Agency for International Development.

Pragma Corporation

1990 Assessment of the USAID Child Survival Strategy in Zaire. Falls Church, Virginia.

*Republique du Zaire*

1985 *Programme de Lutte Contre les Maladies Transmissibles de l'Enfance. Rapport de l'Evaluation P.E.V. C.C.C.D. Zaire: Departement de la Sante Publique, Programme Elargi de Vaccination.*

*Université de Lubumbashi, Zaire*

*1989 Plan d'action des activités IEC/Communication interpersonnelle pour la phase  
Juin 89 - Août 1990. Zone de santé de la Ruashi. Lubumbashi, Zaire.*

## UNICEF

Agency for International Development and UNICEF

1988 Minutes of Meeting Between USAID and UNICEF. Washington, D.C.:  
Agency for International Development.

Bart, Kenneth

1987 Country Summaries - cover letter to Dr. Nyi Nyi. December 30, 1987.  
Washington, D.C.: Agency for International Development.

Sherper, Keith

1986 Grant Agreement with UNICEF to Support Child Survival Activities in  
Nigeria under the Africa Child Survival Initiative - Combatting Childhood  
Communicable Diseases Project (698-0421). Washington, D.C.: Agency for  
International Development.

## UNICEF

1990 The Bamako Initiative: Reaching Health Goals through Strengthened  
Services Delivery. New York.

1990 Revitalizing Primary Health Care/Maternal and Child Health: The Bamako  
Initiative. Progress Report Presented to the UNICEF Executive Board 1990  
Session. New York.

## WHO

Agency for International Development and World Health Organization

1984 Grant Agreement 698-0421-G-IC-5001-00. Brazzaville, Congo: Agency for  
International Development.

1989 Grant Agreement with the World Health Organization, Regional Office for  
Africa, Grant No. 698-0421-3-0611003. Washington, D.C.: Bureau for Africa.

Davis, Joe, Andrew Agle, David Bassett, and Marc La Force

1986 Evaluation of First Year's Performance Under the CCCD Grant  
Agreement. Washington, D.C.: Agency for International Development.

Ericsson, Sif

1989 Evaluation Report: ACSI-CCCD Grant Agreement with WHO/AFRO.  
Arlington, Virginia: Medical Services Corporation International.

World Health Organization

1989 Summary of Training Courses and Activities Supported by CCCD Project 3  
January 1985 - 31 March 1989. March 1989. Brazzaville, Congo.

1990 Expanded Programme on Immunization: Facilitator Guide, Field test 1990.  
Geneva, Switzerland.

1990 Information System: Expanded Programme on Immunization: Summary  
for the WHO African Region. Geneva.

WHO/AFRO

1990 *2eme Reunion de Coordination du Seminaire/Atelier des Directeurs Pev, Lome,  
November 12-17, 1990. October 22, 1990. Memo. Lome, Togo.*

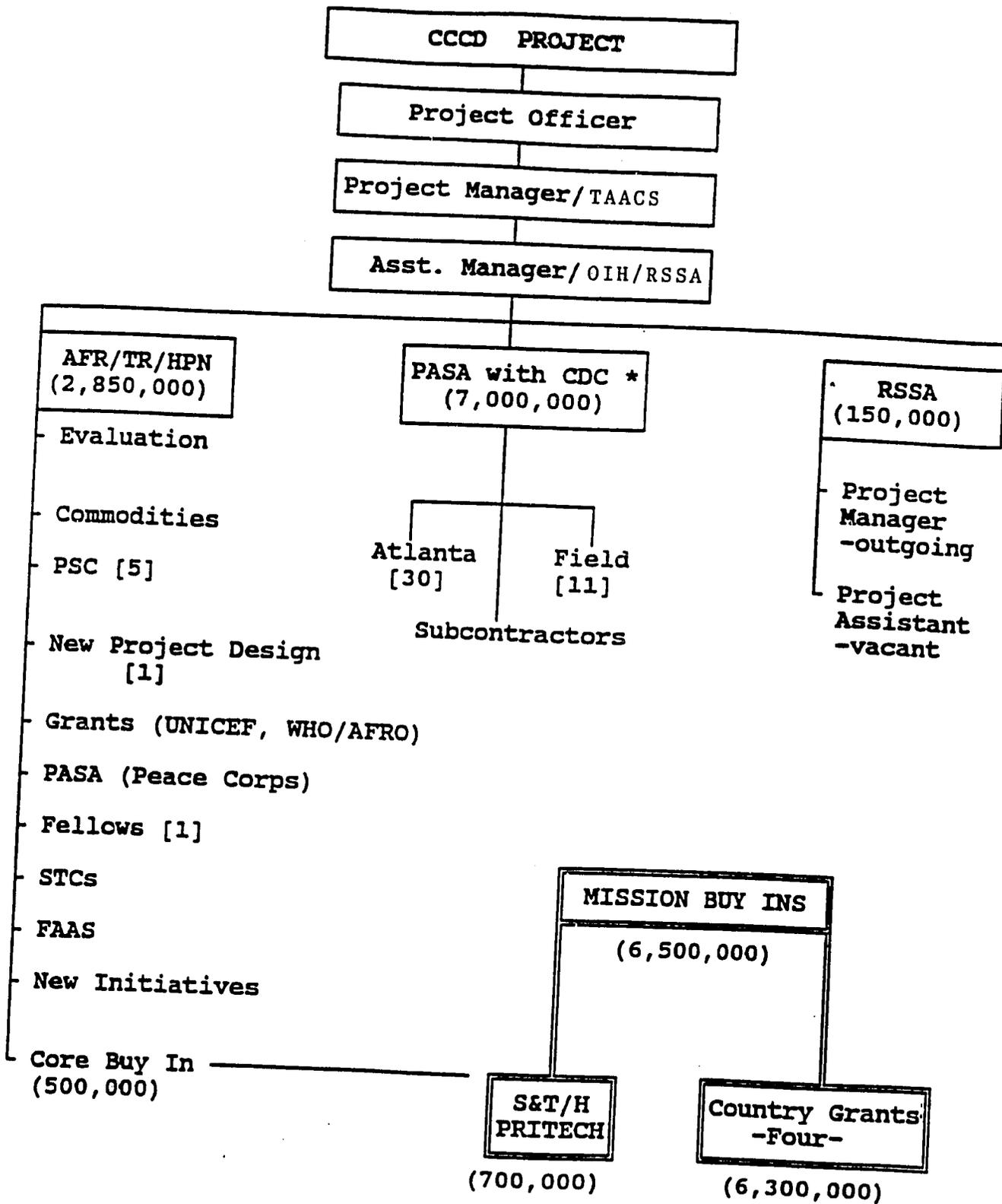
1990 Briefing packet: visit of the ACSI-CCCD regional evaluation team.  
Brazzaville, Congo.

1990 Report of the third subregion III CDD programme managers meeting,  
Lusaka Zambia. Brazzaville, Congo.

1990 Malaria: A training guide for primary health care in tropical Africa.  
Brazzaville, Congo.

1990 How to prepare a district action plan for EPI: A guide for planning a  
workshop, February 1990. Brazzaville, Congo.

APPENDIX I-4: CCCD PROJECT ORGANIZATION CHART

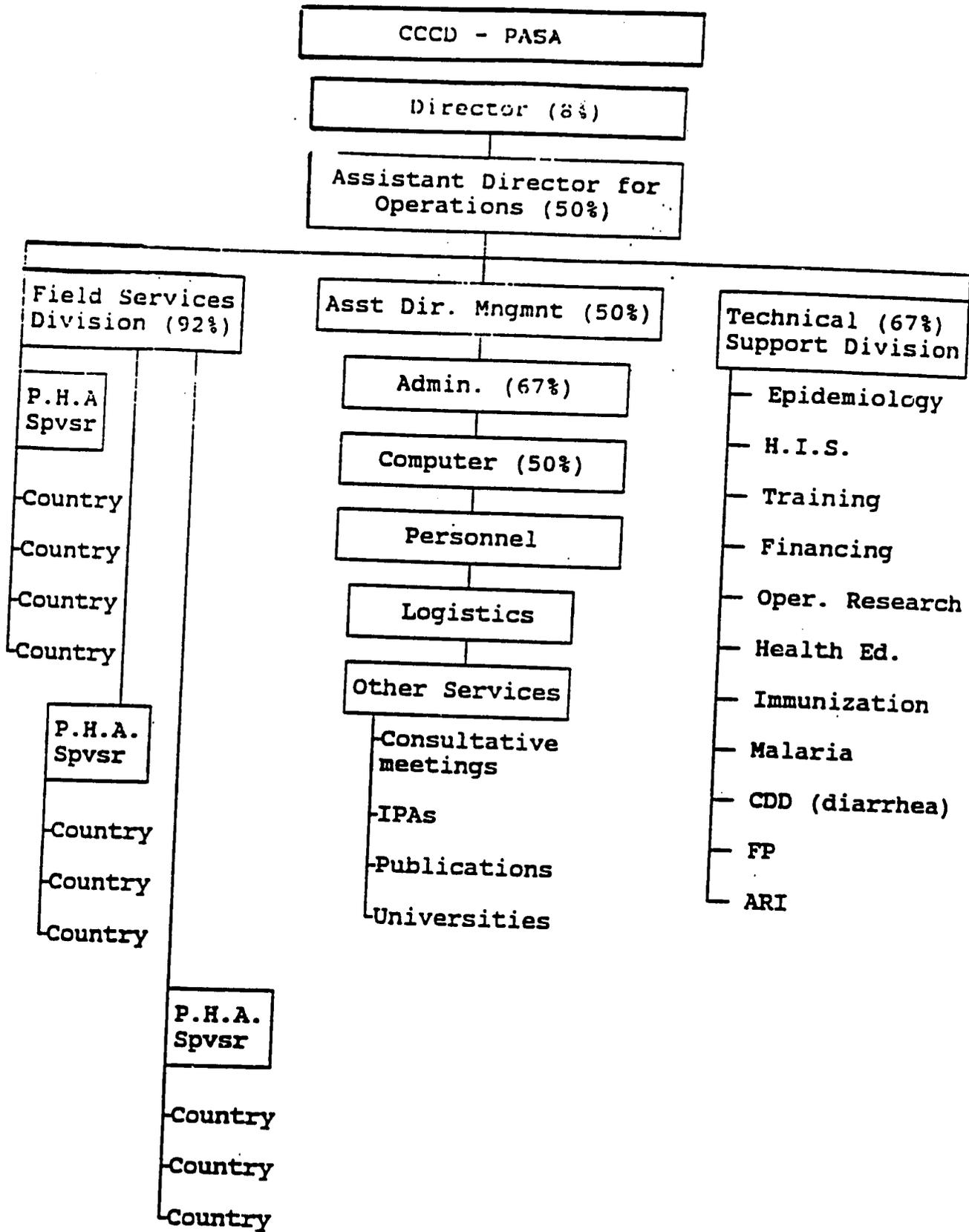


( ) = US Dollars [ ] = FTE Staff — = Core - - - = Non-core

\* Please see next page for detailed breakdown of PASA.

SOURCE = Budget FY90

APPENDIX I-5: CDC IHPO ORGANIZATION CHART



( ) = Percent of time supported by project.  
 FY 90 information.

---

---

**FINAL REPORT**

---

---

**EXTERNAL EVALUATION**  
**OF THE REGIONAL CORE SUPPORT COMPONENTS:**  
**AFRICAN CHILD SURVIVAL INITIATIVE -- COMBATTING CHILDHOOD**  
**COMMUNICABLE DISEASES PROJECT**  
**(ACSI-CCCD, No. 698-0421)**

**Volume II**

**Prepared for**

**The Bureau for Africa, Technical Resources Division**

**Agency for International Development**  
**Washington, D.C.**

**Under**  
**Contract No. AFR-0421-C-00-0047-00**  
**August, 1991**

**by**

**Anne-Marie Foltz, Team Leader**  
**Harvey Gutman**  
**Sif Ericsson**  
**John P. Raleigh**

---

---

**TvT Associates**

---

---

# CONTENTS

## Volume II

Acronyms

iii

### APPENDICES

|               |   |   |  |
|---------------|---|---|--|
| Appendix II-1 | - | Evaluation of Management Component of CCCD Regional Core Activities                             |  |
| Appendix II-2 | - | Information Systems   |  |
| Appendix II-3 | - | Training  |  |
| Appendix II-4 | - | Health Education  |  |
| Appendix II-5 | - | Operations Research/Applied Research  |  |
| Appendix II-6 | - | Sustainability  |  |
| Appendix II-7 | - | Long-term and Short-term Technical Assistance   |  |
| Appendix II-8 | - | The Organization and Management of the Africa Child Survival Initiative Project-CCCD (698-0421) |  |

### TABLES

|              |   |  |     |
|--------------|---|--|-----|
| Table II-7-1 | - | Short Technical Assistance Days under the Centers for Disease Control PASA for the CCCD Project by Country and Selected Interventions, January 1985 - September 1990 | 7-5 |
| Table II-7-2 | - | Total Short-term Technical Assistance Days Under the Centers for Disease Control PASA for the CCCD Project by Program Area, January 1985 - September 1990            | 7-6 |
| Table II-7-3 | - | Non-CDC Staff Short-term Technical Assistance Days Under the Centers for Disease Control PASA for the CCCD Project by Program Area, January 1985 - September 1990    | 7-7 |

118

## EXHIBITS

|           |   |  |      |
|-----------|---|--|------|
| Exhibit A | - | CCCD Regional Core--Major Obligating Investment                                    | 1- 7 |
| Exhibit B | - | CCCD In-Country Activities   | 1-10 |
| Exhibit C | - | Togo MOH Organization Chart  | 1-13 |
| Exhibit D | - | Central African Republic MOH Organization Chart                                    | 1-14 |
| Exhibit E | - | Zaire MOH Organization Chart   | 1-15 |
| Exhibit F | - | Cote d'Ivoire MOH Organization Chart   | 1-16 |
| Exhibit G | - | Burundi MOH Organization Chart   | 1-17 |
| Exhibit H | - | CDC Public Health Advisor Supervisory Checklist                                    | 1-26 |
| Exhibit I | - | CCCD Obligations Report Prepared by AFR/TR/PRO                                     | 1-28 |
| Exhibit J | - | Excerpt from AFR/TR/HPN Spreadsheet called CCCD MIS                                | 1-29 |
| Exhibit K | - | CDC Expenses for CCCD Using AID/FM Mandated Format for Project Financial Reporting | 1-31 |

## ACRONYMS

|             |   |
|-------------|---|
| ACSI-CCCD   | African Child Survival Initiative -- Combatting Childhood Communicable Diseases Project     |
| AFR/DP      | Office for Development Planning   |
| AFR/PRO     | Bureau for Africa, Office of Program and Regional Operations                                |
| AFR/RA      | Bureau for Africa, Office of Regional Affairs   |
| AFR/TR      | Bureau for Africa, Technical Resources Division   |
| AFR/TR/HPN  | Bureau for Africa, Technical Resources Division, Office of Health, Population and Nutrition |
| A.I.D.      | Agency for International Development  |
| AID/W       | Agency for International Development in Washington  |
| AIDS        | Acquired Immunodeficiency Syndrome  |
| ARI         | Acute Respiratory Infection   |
| BUCEN       | Bureau of the Census  |
| C.A.R.      | The Central African Republic  |
| CCCD        | Combatting Childhood Communicable Diseases Project  |
| CDC         | Centers for Disease Control   |
| CDD         | Control of Diarrheal Diseases   |
| CDIE        | Center for Development Information and Evaluation, Agency for International Development     |
| CMIS        | Contracts Management Information System   |
| EPI         | Expanded Program of Immunization  |
| E-Z vaccine | Edmonston-Zahgreb measles vaccine   |
| FAAS        | Foreign Affairs Administrative Support  |
| FACS        | Financial Accounting System   |
| FM          | Office of Financial Management  |
| FONAMES     | National Fund for Medical/Health Activities   |
| FTE         | Full-time equivalent  |
| FY          | Fiscal Year   |
| HAPA        | HIV/AIDS Prevention for Africa Project  |
| HCF         | Health Care Financing   |
| HEALTHCOM   | Communications for Child Survival Project   |
| HED         | Health Education Division   |
| HIS         | Health Information System   |
| HIV         | Human Immunodeficiency Virus  |
| HPN         | Health, Population and Nutrition  |
| IHPO        | International Health Program Office, Centers for Disease Control in Atlanta                 |
| INTRAH      | International Training in Health Project  |
| IQC         | Indefinite quantity contract  |
| KAP         | Knowledge, Attitudes and Practices  |
| LSGA        | Limited Scope Grant Agreement   |
| MOH         | Ministry of Health  |

|          |  |
|----------|--|
| MIS      | Management Information System  |
| MUHS     | Mortality and Use of Health Services survey  |
| NUTRICOM | Nutrition Project, S&T/Nutrition   |
| OCCGE    | Organization for coordination and cooperation in the struggle against endemic diseases, West Africa    |
| OCEAC    | Organization for coordination and cooperation in the struggle against endemic diseases, Central Africa |
| OE       | Operating expenses   |
| OR       | Operations research  |
| ORS      | Oral rehydration salts   |
| ORT      | Oral rehydration treatment   |
| OYB      | Operating year budget  |
| PACD     | Project Activity Completion Date   |
| PAIS     | Project Accounting Information System  |
| PASA     | Participating Agency Service Agreement   |
| PCV      | Peace Corps Volunteer  |
| PD       | Office of Program Development  |
| PEV      | <i>Programme elargi du vaccination</i> (Expanded program of immunizations)                             |
| PHA      | Public Health Advisor  |
| PIO/T    | Project Implementation Order/Technical Services  |
| PIR      | Project Implementation Report  |
| PRICOR   | Primary Health Care Operations Research Project  |
| PRITECH  | Technology for Primary Health Care Project   |
| PPB      | Planning, Programming and Budgeting  |
| PSC      | Personnel Services Contractor  |
| REACH    | Resources for Child Health   |
| REDSO    | Regional Economic Development Services Office  |
| RSSA     | Regional Support Services Agreement  |
| S&T      | Bureau for Science and Technology  |
| SANRU    | <i>Santé Rurale</i> (Basic Rural Health Project in Zaire)  |
| SHDS     | Strengthening Health Delivery Systems Project, Agency for International Development                    |
| SSS      | Sugar-salt solution for oral rehydration   |
| TA       | Technical Assistance   |
| TAACS    | Technical Advisor for AIDS and Child Survival  |
| TO       | Technical Officer, The Centers for Disease Control   |
| TOT      | Training of trainers   |
| TR       | Division of Technical Resources  |
| UNICEF   | United Nations Children's Fund   |
| USAID    | United States Agency for International Development   |
| WHO      | World Health Organization  |
| WHO/AFRO | World Health Organization, Regional Office for Africa  |

## **APPENDIX II-1**

### **EVALUATION OF MANAGEMENT COMPONENT OF CCCD REGIONAL CORE ACTIVITIES (ACSI-CCCD 698-0421)**

By John P. Raleigh, M.S., M.B.A.

#### **A. INTRODUCTION**

##### **1. Evaluation Team Composition**

A Program Management Specialist was initially engaged to serve as Team Leader of the External Evaluation Team. He began his assignment and conducted interviews with CCCD collaborating agencies at their offices in Atlanta, New York, Geneva, and Brazzaville, and visited CCCD field activities in Togo, Zaire, and Lesotho. Upon returning to the United States, he was unable to complete his assignment.

The Evaluation Team Epidemiologist and HIS specialist assumed responsibility for team leadership, and a first draft of the Evaluation Report was submitted for review on December 14, 1990. After the first draft was reviewed by AID/AFR/TR/HPN, it was decided that the Program Management sections of the report needed enhancement.

Mr. John Raleigh, M.S., M.B.A., subsequently was brought on to the Evaluation Team as Program Management Specialist. Mr. Raleigh has served as Team Leader of the External Evaluations of CCCD In-Country Activities in Togo (1989) and the Central African Republic (1990). Thus, prepared with knowledge of the CCCD field activities, he conducted interviews with various offices and divisions in the A.I.D. Africa Bureau and the Science and Technology Bureau. He also spent three days (1/29-2/1/91) in Atlanta, interviewing the staff of the International Health Programs Office (IHPO) in CDC.

##### **2. Evaluation Methodology**

Information obtained in interviews, extensive document review, and prior knowledge of field activities, have enabled the Program Management Specialist to write this appendix including sections on program management, operations research (OR), and management information systems (MIS). He also made suggestions on the remainder of the report.

The Evaluation Team received the obvious good-will and generous support of all parties during the course of preparing this report. Yet, the evaluation process was difficult to conduct because of the relative under development of the CCCD programs' management systems. Key management data was difficult to access; formats for aggregating strategic, programmatic, and financial management information were incomplete and inconsistent, making comparisons among programs difficult. Because of these inconsistencies, it was difficult to relate the guidance and the recommendations of previous Evaluation Teams to subsequent plans and performance. The team was often invited to find the information it required in voluminous files of raw source data. The limited time available and the nature of the Evaluation Team's purpose and authority did not permit this team to make up for the absence of routinely functioning and documented, substantive project analysis.

## **B. CCCD PROGRAM MANAGEMENT**

### **1. Project Background and Goals**

The African Child Survival Initiative - Combatting Childhood Communicable Disease Project (ACSI-CCCD 698-0421) was originally conceived as a U.S. contribution to a coordinated effort of donor cooperation in sub-Saharan Africa called: Concerted Action for the Development of Africa (CADA). The CADA members included Belgium, Canada, the Federal Republic of Germany, France, the United Kingdom, and the United States. The Project was to have been overseen by a CADA Advisory Council with WHO/AFRO representation. This donor coordination mechanism is reported to have fallen short of expectations. The Advisory Council is not recalled to have played a significant role, although mention of CADA (later referred to as CDA) occurs in project documentation as recently as 1988.

The project has been extraordinarily complex and challenging since its inception. The project presents special challenges to both project designers and implementors because of:

the severity of the health problems it addresses,

the inadequacy of the public health structures through which it works, and

the difficulty of serving the most dispersed, difficult-to-reach populations on the poorest, most thinly populated continent which lack adequate roads, railroads, electricity and running water.

The environmental obstacles present from the start are hard to overstate. The general debility of educational and communication facilities was (and is) apparent not simply in the low levels of community health skills and knowledge of the general public, but in the underdeveloped cadre of Public Health workers as well.

The CCCD Project has been especially complex to design and implement because it has sought to extend to children medical technologic services which were not fully understood (CDD and malaria chemotherapy and chemoprophylaxis) and because consensus on treatment protocols was lacking. In addition, the Project

offered three medical technologies and related support functions;

required inter- and intra-organizational coordination at the multilateral and bilateral, inter-country, national, regional, and local levels; and,

asked the coalition to sustain its programmatic focus and continuity for a decade or more.

A.I.D. and CDC based the CCCD Project on a series of joint studies, assessments, and pilot activities prior to 1981. The project design focused on extending the delivery of services for three medical interventions (childhood EPI, CDD, and malaria control) to 15-20 countries in Sub-Saharan Africa. (The original PASA with CDC targeted only 12 countries and was amended in 1986 to a maximum of 14 countries).

Of all the challenges and complexities, perhaps the most important has been to establish and maintain the programmatic focus necessary to accomplish Project objectives in the face of intractable logistical and environmental obstacles, before the available time, staff, and resources were spent, and the limited absorptive capacities of the African Organizations were over-extended.

The EPI intervention methodologies built upon the experience learned from pilot EPI activities conducted by A.I.D. and CDC in the Gambia, Cote d'Ivoire, and Cameroon under the SHDS Project (1975-1986). The methodologies for the other two interventions (CDD and malaria control) were known to be underdeveloped at project inception.

The CCCD Support Strategies included health training, health information systems (HIS), and operations research (OR), pioneered under SHDS, in those aspects most closely related to EPI. Both A.I.D. and CDC report that in the development community in general, health education, and the health training, HIS, and OR, the methodologies required to support CDD and malaria control were also under-developed at project inception.

The CCCD project does not appear to have attempted to build upon the health management development activities also pioneered in the SHDS Project.

## 2. Foundation for Project Management in Formal Project Design (1981):

**Goals and Objectives:** The Project Paper (1981) distinguishes CCCD from its earlier efforts by emphasizing its long-term institution building objectives:

Unlike the eradication campaigns that worked so well for smallpox this program requires building permanent national organizations to immunize all under-one-year-olds, to treat the under-five-year-old population for diarrhea and to control other selected endemic diseases in children on a sustained basis. The goal though ambitious is attainable if sufficient resources can be mobilized, people trained and programs managed...in an all out effort that should probably span over twenty years. (page 1)

Regarding CCCD management, the logical framework elaborated in the original Project Paper (1981) specified:

|  |  |
|--|--|
| <b>INPUTS:</b>                                       | Data systems for Disease Surveillance, Program Management and Evaluation.  |
| <b>OBJECTIVELY VERIFIABLE INDICATORS:</b>            | 25 Systems   |
| <b>MEANS OF VERIFICATION:</b>                        | PASA with CDC, PIO/Ts, PIO/Cs, Grant Agreements and in-country records.  |
| <b>IMPORTANT ASSUMPTIONS:</b>                        | Participating country has the ability to provide personnel, building space and other support. T/A personnel can be recruited and assigned to project as needed.  |
| <b>OUTPUTS:</b>                                      | Trained personnel, and CDD, and EPI activities operating.  |
| <b>OBJECTIVELY VERIFIABLE INDICATORS:</b>            | 4800 upper- and mid-level health personnel trained. CCCD programs (EPI/CDD) operating in a minimum of twenty countries.  |
| <b>MEANS OF VERIFICATION: IMPORTANT ASSUMPTIONS:</b> | CCCD project records, assessment of MOH programs, on-site visits, and observations of on-going training programs.<br>Participating countries will continue to place high priority on CCCD and developing PHC programs and will provide adequate resources to support these activities. |

The only identified means of verifying that program management data systems would be provided as inputs was to see that the funds were obligated for that purpose.

The only identified means of verifying that the CCCD interventions were managed properly by CCCD and the MOH as outputs, was to assess the MOH programs. The type of assessment, and whether it would focus on coverage and impact, or operational processes and capacities, was not specified. Neither was it specified whether a diagnostic assessment of the management of MOH programs would occur prior to ex post facto evaluation as an assessment of outputs.

The important assumptions do not clearly identify the designers' assumptions regarding the health management capacities of the host country Ministries of Health which might be required to support the CCCD interventions, both in the short- and long-term.

**Core Project Components:** The Regional Core funding was to provide for three broad areas of activities: a) regional inter-country activities, b) regionally provided technical support to bilateral programs, and, c) long-term technical assistance to country-specified activities.

#### Regional Inter-Country Activities

The main programmatic component which was explicitly intended to generate regional activities was collaborations with WHO/AFR in Brazzaville, largely for regional medical and managerial training, HIS, and OR. Donor coordination was also expected to occur through the CADA Advisory Council mentioned above. AID/AFR also retained a portion of Core funding to conduct special studies or provide a limited amount of ad-hoc technical assistance in support of in-country activities (e.g., developing a policy on sustainability).

#### Regional Support for Bi-lateral Programs

Three (and after 1986, four) Epidemiologists were to be based in the field with multi-country responsibilities. A pool of additional technical expertise in CDD, malaria control, HIS, health training, health education, and OR was also arranged to be on-call to the bilateral programs from Atlanta, upon request. In addition, AID/AFR retained a portion of Core funding to provide certain project inputs (e.g., vaccines) to bilateral programs and conduct evaluations of in-country activities.

#### Country Specific Activities

Under "Country Specific Activities", the Project Paper (1981) provided CCCD Country Assessment Criteria which attempted to steer away from establishing bilateral programs in countries with the greatest deficiencies in MOH management systems (due to what is identified as a presumed need for minimum absorptive capacity). The Project Paper narrative called for providing assistance in establishing bilateral MOH operational service delivery in 15-20 countries. This was to be done primarily with the technical

assistance of one Technical Officer per country. The Project Paper logical framework specified a "minimum of 20 countries."

The Project Paper, with some degree of caution, called for a provisional commitment to 7 years (1982-1988) of activities, with instructions from the Assistant Administrator for Africa to assess project progress after 2 years to determine whether funding should be continued. Even after proposing country selection criteria to weed out those with the least absorptive capacity, the designers estimated that it would take 10-20 years to achieve immunization coverage of 100 percent.

**Ambiguity in Interpreting CCCD Objectives:** The most fundamental debate regarding the CCCD Project design, since the beginning, has been about whether the project was to emphasize: 1) rapid deployment, or 2) the development of sustainable host country capacities in the delivery of targeted health services. A review of the CCCD Project Paper suggests that the project design emphasized sustainability, but staffing and activities emphasized rapid deployment.

During the preproject and design phase (1979-81), the gap between rapid deployment and sustainability may have seemed small, with both goals considered to be attainable with the mix of staff, structures, organizational arrangements, and other resources proposed in the Project Paper. But the EPI experience in the Cote d'Ivoire under the SHDS Project should have served as an early warning signal for the CCCD Project designers. In that case, EPI activities are reported to have dropped off significantly after withdrawal of donor assistance, with virtually the only remaining immunizations occurring in Abidjan.

There is no clear agreement, among those interviewed in A.I.D. and CDC, on why EPI activities were not sustained in Cote d'Ivoire. Weaknesses that might leave the MOH strategically vulnerable may not have been studied so that they could be addressed in subsequent EPI interventions. This experience may not have been a sufficient object lesson for either A.I.D. or CDC, both of which went on to design and implement EPI activities under CCCD along the lines of the SHDS EPI model.

### 3. **Informal Project Design (1982-1985):**

**PASAs and RSSAs:** The major portion of the operational capacity of CCCD implementation was acquired through Participatory Agency Service Agreements (PASAs) with three U.S. Government agencies. The PASAs were with 1) the Centers for Disease Control (CDC) of the U.S. Department of Health and Human Services, the Peace Corps, and the Bureau of the Census (BUCEN) of the Department of Commerce. (See Exhibit A). In addition, CDC agreed to provide AID/AFR a full-time CCCD Project Manager to be posted in Washington under a Resource Sharing Service Agreement (RSSA) arrangement.



EXHIBIT A

129

## CDC PASA

The A.I.D. PASAs with CDC (HZ/AFR 0135-1-79, and BAF/0421 P-HC-2233) totalling almost \$50 million for the period from March 1979 to September 1991 have been to provide: 1) in-country technical support staff in up to 12 countries (later amended to up to 14); 2) collaboration in regional technical development on health training, HIS, and OR with WHO/AFRO; and, 3) a pool of technical advisors to support the in-country programs.

After the formal CCCD design phase was completed with the approval of the Project Paper in 1981, the CDC PASA represented an informal second design phase because:

the project's targets, performance indicators, and methodologies were either modified, or further elaborated upon, in drafting the PASA document in 1982; and,

A.I.D. called upon CDC to use the staff and resources obtained under this PASA to conduct Country Assessments and design the bilateral in-country programs.

## Peace Corps PASA

The A.I.D. PASAs with the Peace Corps (BAF-0421-P-PC-3165 and DPE-5930-P-PC-6055) totalling approximately \$3 million for the period from August 1983 to December 1992, provide training and other services, principally related to ORT and child survival. The Peace Corps PASA also represented a contribution to the informal design of CCCD, since Peace Corps was given a key role in elaborating the least well developed sections of the original design (i.e. CDD activities and health education in support of CDD).

## BUCEN PASA

The A.I.D. PASA with the Bureau of the Census (BUCEN) has been to provide electronic data processing (EDP) services to AFR/TR/HPN. These included a Lotus spreadsheet entitled CCCD MIS. Specific details on the duration and level of effort of these EDP activities have been requested by the Evaluation Team, but apparently have proven to be difficult for the Project Manager to access. The BUCEN PASA also contributed to the informal CCCD project design by helping develop data collection and analysis systems, which influenced how the project was implemented and monitored.

The strengths of the Bureau of the Census in demographic and health program impact data collection and analysis, coupled with CDC's own organizational focus in these areas, led to the development of systems which do not provide A.I.D. with

managerial information sufficient to monitor institutional capacity building. BUCEN's scope of work does not indicate they were ever asked to address management issues, although the spreadsheet they helped to develop for AFR/TR/HPN has been called the CCCD MIS.

### CDC RSSA

The CDC RSSA employees provided to AID/AFR have provided significant assistance in project management. The implications of this arrangement are discussed in more detail under section: B.5. - Division of Responsibilities.

The CDC RSSA is considered a contributing component to the informal design of CCCD because of the key management role the RSSA employee played in fielding the CDC Country Assessment Teams, traveling to the field to participate in those assessments and the subsequent negotiations of the bilaterals, and even in the elaboration of the PASAs with Peace Corps and BUCEN, and the Grant Agreements with WHO and UNICEF, which are described below.

### **Core Management of Limited Scope Grant Agreements (LSGAs) - In-country Programs:**

#### Background and Goals

In accordance with the CCCD project design, AID/AFR has had Limited Scope Grant Agreements designed, negotiated, and signed in 13 African countries, obligating approximately \$70 million out of total Project regional funding of approximately \$155 million, available for the period from 1983 to 1992. (See the Technical Officer assignments on Exhibit B for the countries and approximate effective time periods for these agreements).

In preparation for the design and negotiation of LSGAs, 14 one-month Country Assessment visits were made by CDC, leading to the signing of 13 agreements followed by the dispatch of Technical Officers to the signatory countries. (See Exhibit B for the dates and locations). These country programs were formalized through bi-lateral agreements but funded out of the regional CCCD budget leading to certain design similarities. The only country which did not invite the establishment of a CCCD bi-lateral program was Ghana, which reportedly invited the British to develop a similar program under the CADA donor cooperation mechanism.



**EXHIBIT B**

The 13 bilateral agreements have certain design similarities:

The primary full-time in-country source of technical assistance is a non-physician Technical Officer with CDC training and experience in practical and nontheoretical implementations of EPI methodologies.

The point of entry into the Ministries of Health, generally, is at the level of the central unit responsible for supporting the MOH field service delivery staffs in the technical aspects of one of the interventions (generally EPI).

Technical assistance emphasizes rapid deployment for maximum impact, more than long-term MOH management reform.

Initially, several different program integration models were tested, ranging from completely horizontal to completely vertical.

Parallel support systems were established where MOH systems were inadequate and not easily reparable (generally, for cold chain and motorpool management, pharmaceutical procurement, inventory control and distribution, and finance and administration).

Each of the bilaterals also have in common, a new style for the delivery of technical assistance, which appears to be a hybrid of A.I.D. and CDC approaches, and which stands in stark contrast to the TA supported by other donors in the field of African public health. The CCCD project, building upon previous joint A.I.D. and CDC efforts in Africa, avoided the popular rhetorical debates espousing competing "grand visions" for the reform of public health, and focused on making specific practical improvements in targeted service delivery areas.

Each intervention targeted was made to work as rapidly as possible, improving MOH capacities where they were amendable, and creating parallel systems where larger, more time-consuming, and more costly reform efforts appeared to be required. The balance sought here was between: 1) the rapid deployment, high coverage and impact interests of CDC, and 2) the institutional capacity-building approach of A.I.D. It appears that the results were often skewed in favor of the CDC approach, but A.I.D.'s insistence on developing local capacities left its mark, especially at the service delivery levels.

#### Horizontal vs. Vertical Integration

The bilateral programs designed to implement the LSGAs varied from country to country as a result of: 1) the differing sizes, capacities, and structures of the Ministries of Health in the countries being assisted; and, 2) the varying policies, priorities, and

interests expressed by the host country governments during the negotiations of the bilateral agreements.

MOH organizational charts from five CCCD countries are provided here as examples of the similarities and differences in the integration models used and the varying points of entry into host country systems. (See Exhibits C, D, E, F, and G).

In theory, the integration strategy which motivated the design team for each LSGA was based upon the intention that the CCCD interventions be horizontally integrated into the MOH as much as possible, and that the point of entry be the central technical unit(s) which were as close to actual service delivery as possible. In practice, these two objectives tended to work as cross purposes, leading to either:

entry at the same level but into different units for different interventions, requiring a mechanism for inter-unit coordination; or,

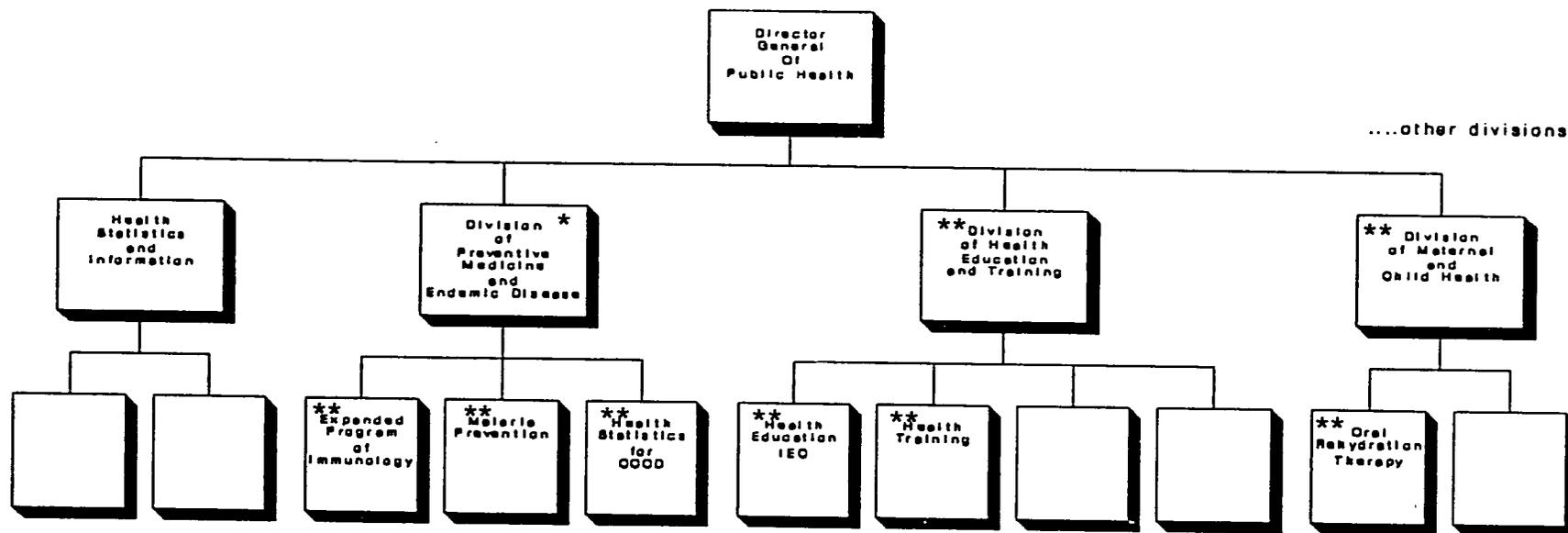
grouping the interventions together, with entry into a single unit, making coordination easier, but often resulting in no more than one intervention being integrated into its logical unit on the MOH organization chart.

The first scenario of housing interventions in different units (e.g., see Exhibit C, Togo) more closely integrated the CCCD interventions horizontally into the MOH, but it proved to be the least workable because of the lack of an effective coordination mechanism between units in most Ministries. The second scenario of housing all the CCCD interventions vertically in a single unit (e.g., see Exhibit D, Central African Republic) appears to be the most distant from the long-term goal of sustainable interventions (the horizontal integration model) that both A.I.D. and CDC agree on, but it has proved to be the most practical solution for project start-up. In fact, the Togo bilateral program was designed initially for horizontal integration but was reorganized to a vertical organization after problems occurred in coordination at the Director General level.

There has been considerable discussion among the CCCD collaborators as to whether horizontal or vertical integration is most appropriate. This discussion has centered on the perceived potential programmatic benefits of horizontally integrating the three CCCD interventions with other MOH activities (e.g., maternal and child health, family planning, and HIV/AIDS programs). There has been little discussion of the institutional infrastructure and capacity requirements for supporting the three CCCD interventions, and what additional burdens may be created as each new program component is added.

Exhibit C

Togo MOH Organization Chart  
Ministry of Public Health and Social Affairs

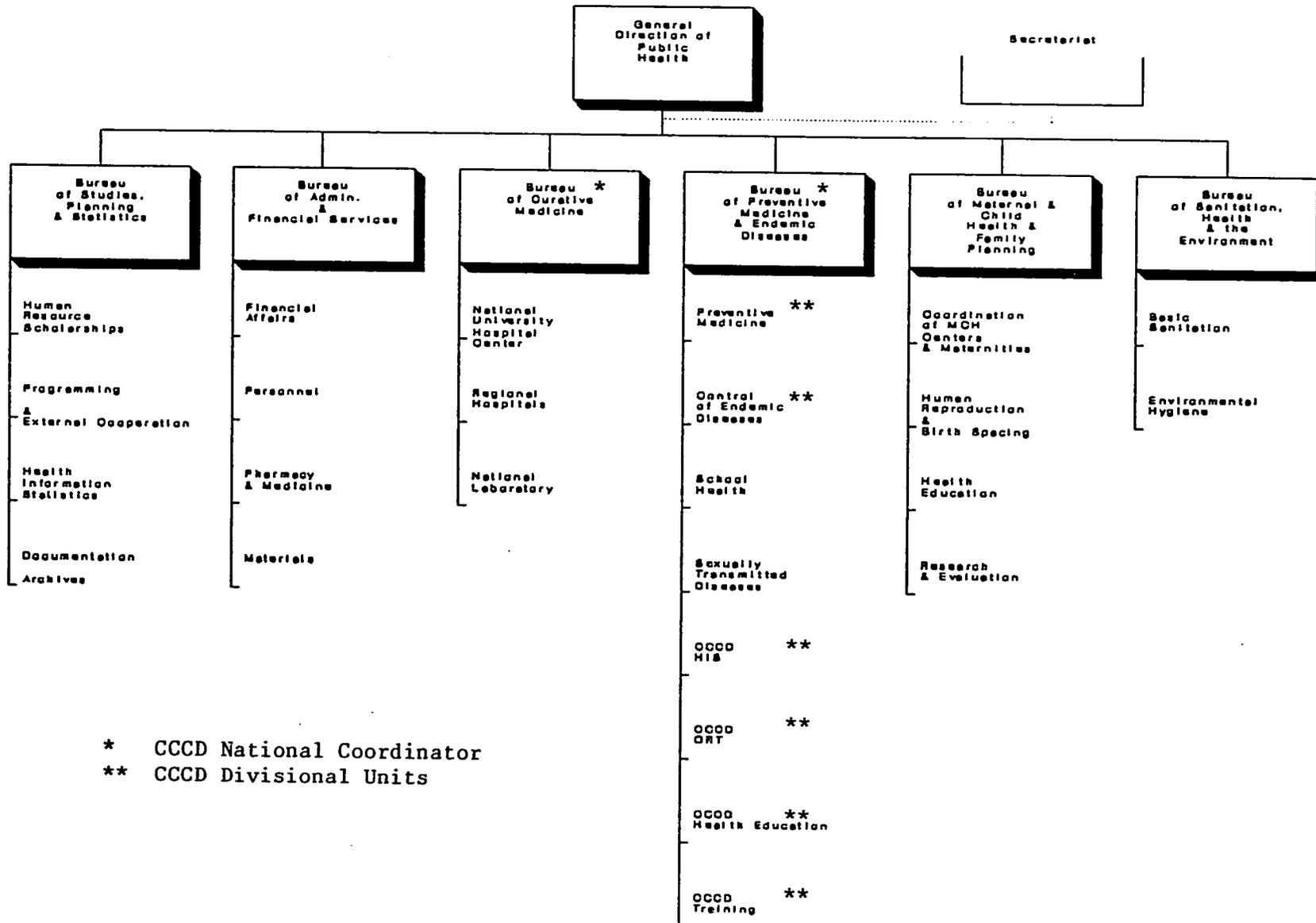


\* CCCD National Coordinator  
\*\* CCCD Divisional Units

1996

Exhibit D

The Central African Republic MOH Organization Chart  
General Director of Public Health

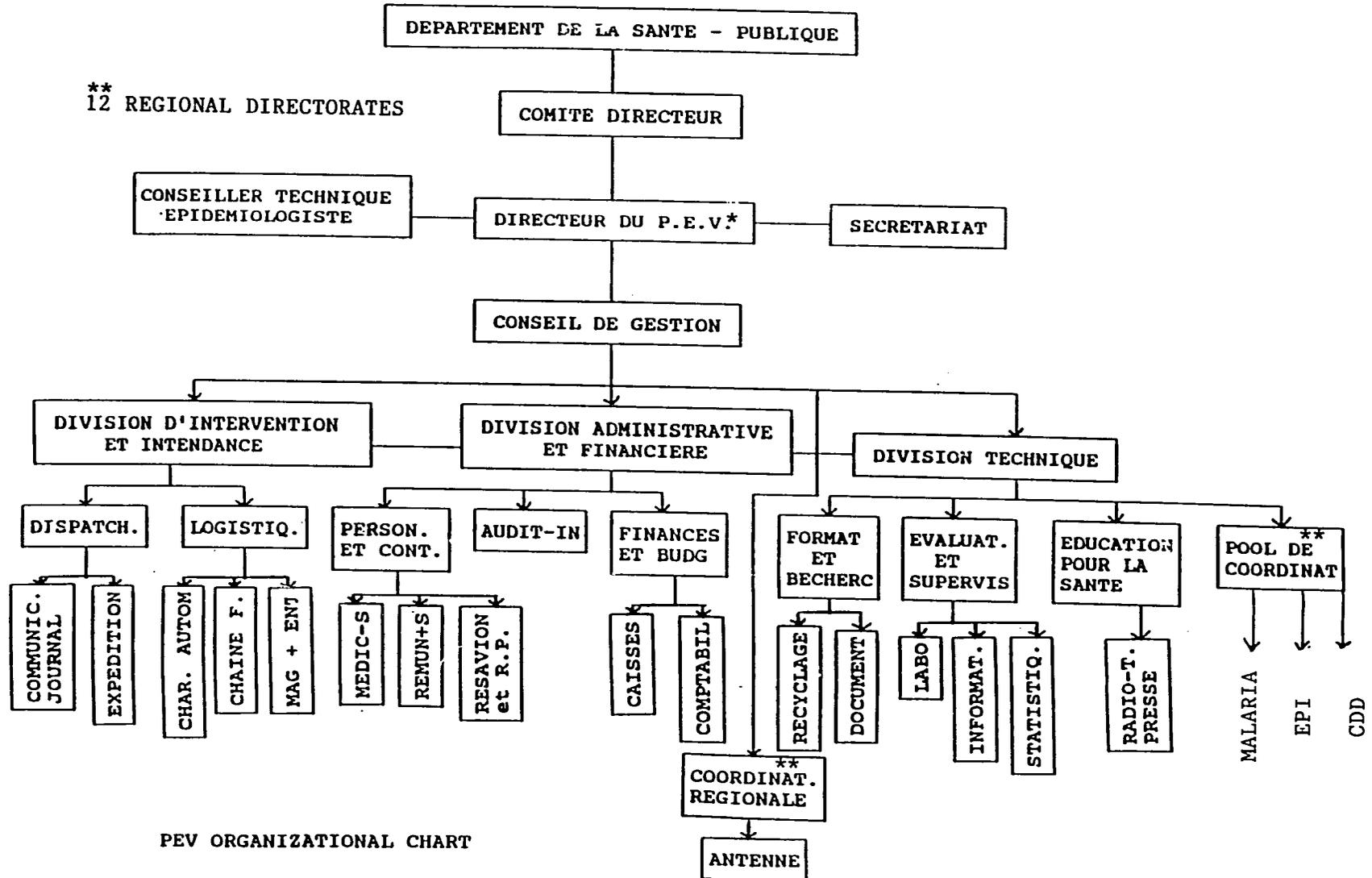


157

Exhibit E

Zaire MOH Organization Chart

ORGANIGRAMME DU PROGRAMME ELARGI DE VACCINATION ET LUTTE CONTRE LES MALADIES TRANSMISSIBLES DE L'ENFRANCE



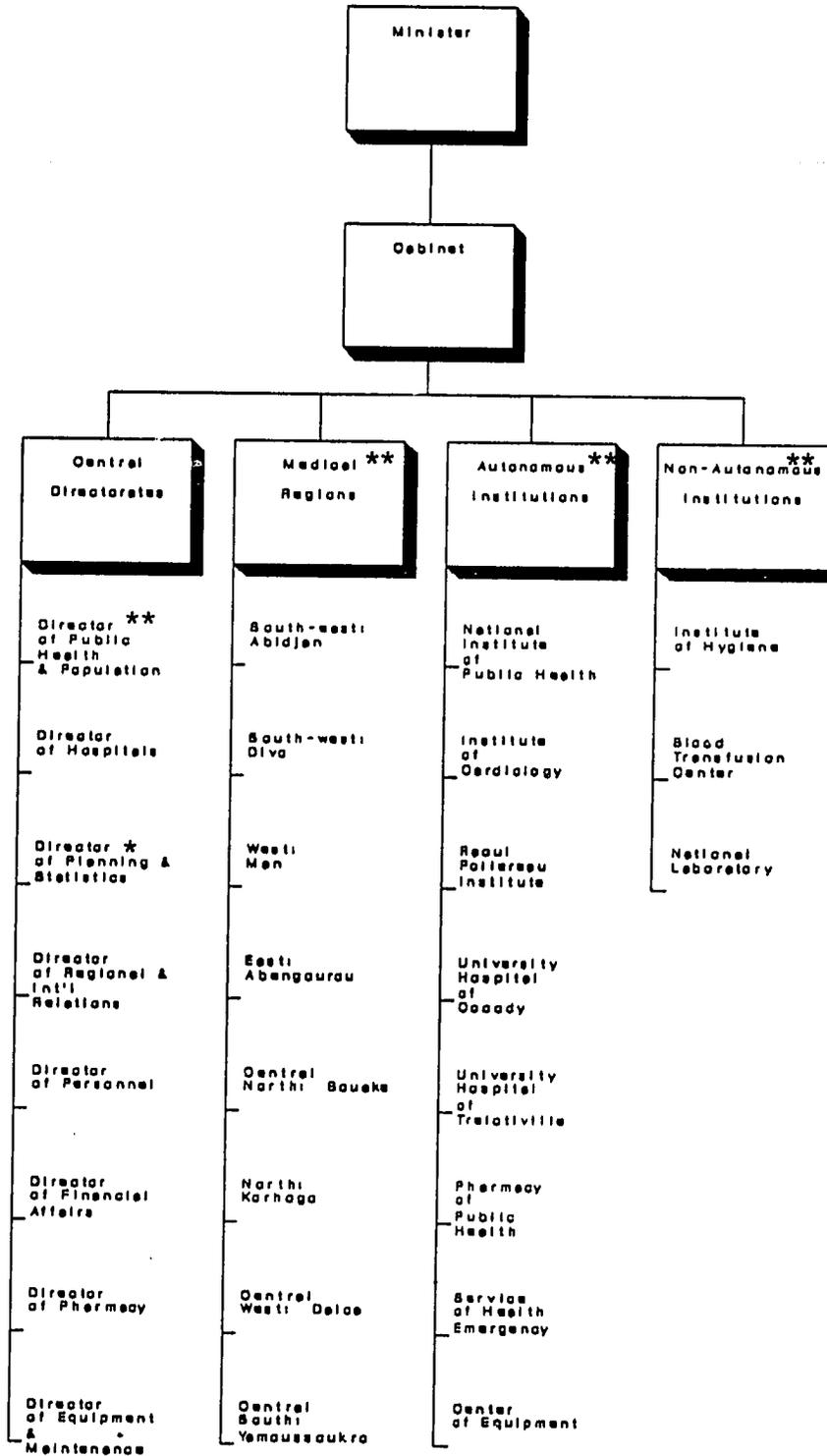
\* CCCD National Coordinator

\*\* Divisional Units

From Zaire CCCD Project Midterm Evaluation, November 1988, p. 48.

100

Exhibit F  
 Cote d'Ivoire MOH Organization Chart  
 Ministry of Public Health and Population



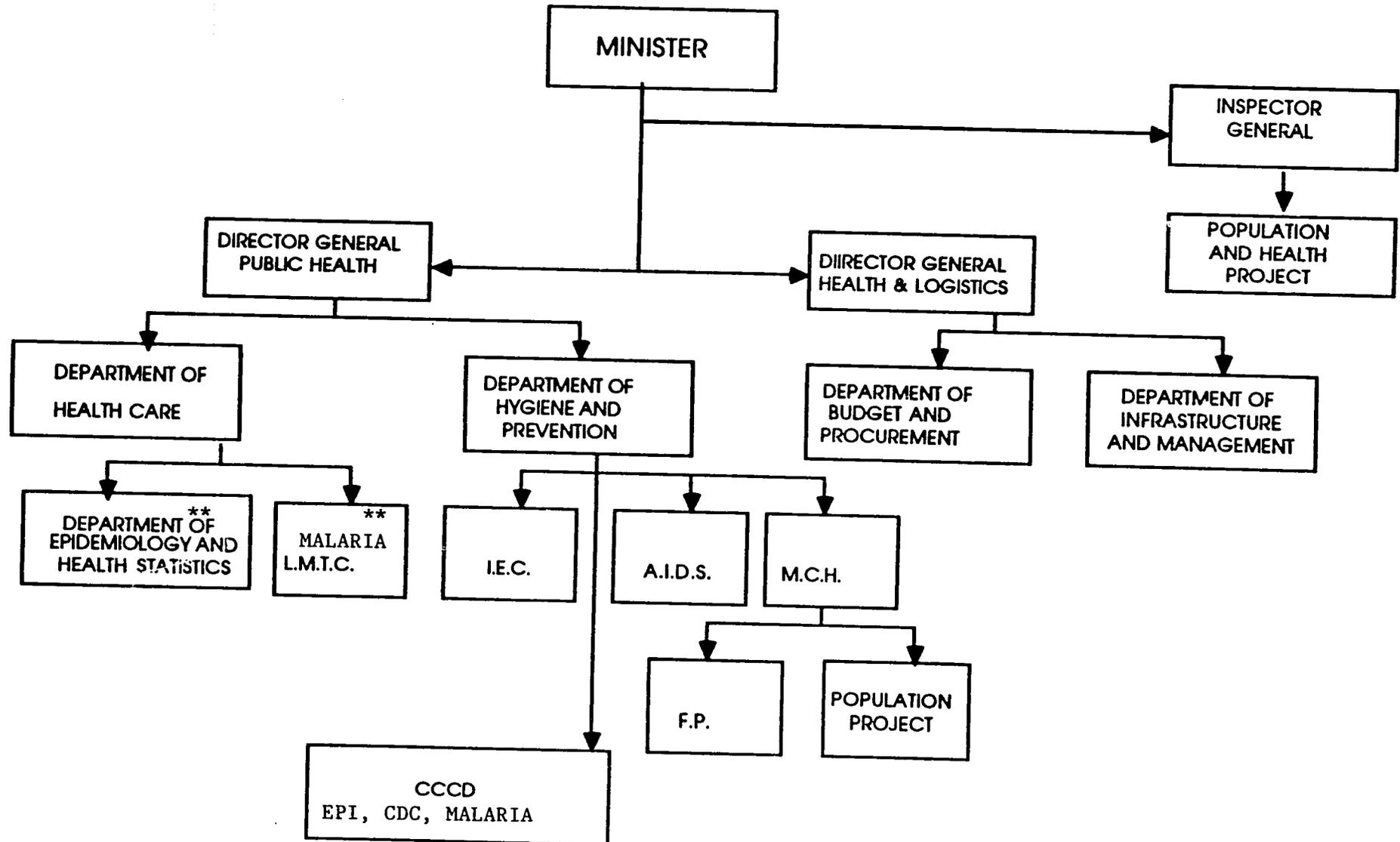
\* CCCD National Coordinator  
 \*\* CCCD Divisional Units

From: World Bank Health and Demographic Project Paper, 1984

139

Exhibit G

Burundi MOH Organization Chart



\* CCCD National Coordinator

\*\* Divisional Units

From Review of the ACSI-CCCD Project USAID/Burundi, January 1990, Annex I-2.

180

## Strategy for Sequencing Interventions

In proposing designs for CCCD bilateral programs, the CDC Country Assessment teams focused on systems requirements most directly related to supporting the rapid deployment of CCCD interventions for maximum impact on childhood morbidity and mortality. Generally, the EPI systems were programmed to begin first, according to CDC, because: 1) the host-country Ministries were better prepared to begin these activities than activities in CDD and malaria control; 2) CDC was also better prepared as a technical assistance provider to support EPI start up than other interventions; and, 3) the best knowledge available at the time indicated that beginning with EPI made the most sense strategically, providing the largest and fastest impact on mortality and morbidity for the least cost. (CDC cites the following studies to support this strategic decision: 1) "Pediatric Priorities in the Developing World," David Marley, Butterworths, London, reprinted 1979; which CDC believes has been reconfirmed more recently in "Measles Vaccination and Childhood Mortality in Rural Bangladesh," John Clemens, American Journal of Epidemiology, Vol. 128, No. 6.)

### Focus on Sustainability

Sustainability issues apparently entered into the design of CCCD bilateral programs to assure the proper skills and systems became operational at the service delivery level. CDC IHPO believes that the project design and the resource commitments could not have been adequate to both: 1) delivering the CCCD interventions, and 2) attempting a broader Ministry of Health management reform. A.I.D. apparently did expect some amount of Ministry reform and training in management, but the level of attention and resources it expected to be dedicated to this aspect of the project suggests that its expectations were modest.

The following quotes from the Project Paper (1981) refer to A.I.D.'s expectations regarding primary health care:

to the extent feasible, communicable disease control programs will be incorporated into developing country primary health (PHC) systems in Africa;

CCCD will be initiated through existing health services or primary health care systems to the extent they exist, or using curative facilities on an interim basis where necessary;

During the initial phase of the CCCD program, it is expected that several of the basic components of PHC will be established in many of the developing health care systems in sub-Saharan Africa.

CCCD provided A.I.D. an important advantage by pursuing MOH capacity-building efforts by its building-on-success, building-block approach used in CCCD (in contrast to the "grand visions of the future of PH and PHC approach" offered the host countries by others).

**Grants:** The Program Management Specialist did not have the opportunity to visit WHO/Geneva and Brazzaville, nor to review much of the documentation related to the CCCD Grants to WHO and UNICEF or the activities funded under them. The documentation that was reviewed, and the few interviews that touched on these subjects, suggest that significant problems occurred early in the project in reaching agreement with WHO/AFRO to collaborate on CCCD.

Both AID/AFR and CDC IHPO indicated that a CDC employee was sent to live in Brazzaville as a CCCD representative to WHO/AFRO before approval for such representation had been negotiated with WHO. The CCCD "Representative" remained in Brazzaville for over 2 years, never being officially recognized by AFRO. It was only after the Director of WHO/AFRO died and was replaced that a subsequent Director accepted the CCCD representative's credentials, and a grant agreement was signed.

The reason for such a misunderstanding, and the subsequent waste of time and resources, is unclear. The Project Paper (1981) had made many statements similar to the following:

WHO/AFRO is already providing training for senior and middle level epidemiologists in courses that are offered twice a year. It is planned that the CCCD effort would provide the in-country follow up to achieve a greater spread effect from training.

This implied that these plans were made with WHO/AFRO involvement and approval. The CCCD Project design team visited AFRO, and the project design was said to have been discussed with them in draft (see Project Paper, 1981).

The CDC employee posted to Brazzaville as a Liaison Officer with WHO/AFRO was to serve as the CCCD representative to the Regional Office and to provide a link between WHO/AFRO and CCCD regional and bilateral activities.

The Grant Agreement that was finally signed with WHO focused on health worker training and the sharing of HIS and OR information. Plans for joint CCCD-WHO/AFRO activities only came to partial fruition, and the expectations had to be greatly lowered regarding what the project could have, or should have, accomplished at the regional (inter-country) level.

**Buy-ins and Pass-throughs:** The Program Management Specialist did not have an opportunity to review in detail the volume and variety of activities which have been

added to CCCD through buy-ins. It is reported that the buy-in mechanism has been used beneficially to:

allow USAIDs to use bilateral funding to increase the resources available to in-country programs, as well as increase the local A.I.D. mission's involvement in setting project priorities that are integrated with other USAID efforts in the health sector; and,

allow the CCCD Project to call upon the technical services of other A.I.D. projects, primarily from the S&T Bureau and its contractors, to enhance the range of technical resources available for CDD (PRITECH: 1984-present), Healthcare Financing (REACH: 1985-present), Health Education (HEALTHCOM: 1985-present), and Child Survival (S&T/Health: 1986-present).

Buy-ins have also been used as a "pass-through" mechanism to allow Sahelian and other African Countries which are not signatories to CCCD bilateral agreements to have their health obligations counted against Africa Bureau Development Fund for Africa (DFA) ceilings. This serves as a useful purpose for those missions taking advantage of the mechanism and for the bureau, but it has imposed a bureaucratic and administrative burden upon the project managers in AFR which were ill equipped to bear the work load they had already, before these "buy-ins" and "pass-throughs" were imposed.

#### **4. Project Management as Implemented**

**Priority Attributed to CCCD:** In his 1981 cover letter to the Administrator of A.I.D. transmitting the Project Paper for approval, the Assistant Administrator for Africa stated:

The Africa Bureau is aware that this project could call for a significant share of the Health appropriation funds probably available to the Bureau for the balance of the decade....The Bureau, however, does not consider this "mortgaging" of future availabilities to be a problem. We are confident: 1) that this project is addressing a very serious health problem in Africa and merits the commitment of substantial resources; and 2) that, in the event the need arises, we can re-allocate resources to take into account actual resource levels as they become known.

As a reflection of that commitment, the level of funding A.I.D. has provided CCCD, while shifting over time, has consistently represented a significant portion of total funding for health activities for both the Africa Bureau of A.I.D. and CCD IHPO. The CCCD Project represents an even larger share of the funding that CDC IHPO has received to provide health services internationally.

AID/AFR/TR/HPN and CDC IHPO estimate that CCCD has represented the

following relative portion of total health program funding over time for their divisions or their agencies:

Table I-1

A.I.D. and CDC Relative Percentage of Health Program Funding by Fiscal Year

| Agency   | FY | 1982 | 1988 | 1990 |
|----------|----|------|------|------|
| AID/AFR  |    | 10%  | 20%  | 15%  |
| CDC IHPO |    | 19%  | 72%  | 54%  |

The high priority for funding given CCCD by the Assistant Administrator has not been matched in the staffing assigned by the Africa Bureau over the life of the Project. For most of the project cycle, a part-time A.I.D. direct-hire Project Officer has been assigned, and each Project Officer is reported to have had difficulty receiving travel funds from the bureau's OYB. CDC, as the project implementing agency, has not been subject to the same constraints. The Project has represented an opportunity to increase CDC IHPO staff, and has come increasingly to represent the major portion of its international activities. Recently, CDC has begun to diversify, to prepare for possible decreases in regional funding for CCCD activities.

**Management Functions for CCCD Core:** In the Evaluation Team interviews and various project documents, the key management functions relevant to the CCCD Core Activities have been categorized as follows:

Inter- and intra-organizational coordination and facilitation of the various multi- and bi-lateral agencies, collaborators, contractors, and partners involved in CCCD (diplomacy and trouble-shooting);

Processing the various obligating documents, PIR reports, amendments, and evaluations required by A.I.D. rules and regulations (financial tracking and administration); and,

Analyzing the planned and actual performance of the CCCD implementing organizations, individually and collectively, regarding both activities and finances, and providing strategic guidance in mid-course corrections to maximize project efficiency and effectiveness (substantive project management and direction).

It is generally agreed that AID/AFR has been able to play the first diplomatic and trouble-shooting role well. It is here especially that A.I.D. believes it has been able to contribute significantly. The second management function, financial tracking and administration, has been reported to be the most time consuming. The third function, substantive project direction, has suffered, and by AID/AFR/TR/HPN's own account, has largely been unfulfilled since the Project began.

The Project Paper (1981) specified that:

A senior project officer will be charged with the overall management responsibility of the program. A full-time physician will be assigned to the AFR/RA staff to monitor the PASA with CDC and other contracts related to the program and provide the overall technical coordination for all elements of the program. In order to provide continuity and maintain close contact with CADA technical community he will be assisted in this task by a senior physician advisor who will continue under contract to participate in the annual technical meetings, and further the collaboration between all concerned parties to the program that was started during the design phase.

It is expected the personnel of the field missions and the REDSOs can be drawn upon to assist in solving specific field management problems. Particularly, in the case of the bilateral missions when the management issues are closely related to their on-going health activities.

This description of project management responsibility identified "technical coordination" as coming from an AID/Washington direct-hire physician and problem-specific "management assistance" as coming from A.I.D. field staff.

The responsibility for central management for the CCCD project within A.I.D. was assigned to AFR/RA from 1981 to 1986. Within months of the memo from the Assistant Administrator citing the high priority of the project, AFR/RA asked CDC to send a senior manager to Washington to assume most of the project management from the Core due to what AFR called its own limited capacities. CDC provided a senior level "Project Manager" from 1981 to 1986; a mid level CDC Manager replaced him from 1986-1988. The project management responsibility was shifted to AFR/TR/HPN in 1986 and, from that time to the present, the A.I.D. Project Officer is reported to have assumed a more direct role. The project officer was supported by CDC RASA professional staff who served as project manager and assistant manager from 1988 until 1990. Beginning in 1990 a TAACS assumed the role of project manager.

Therefore, soon after project start-up, CDC was asked, in effect, to assume the primary role of monitoring its own performance under its PASAs with A.I.D. (HZ/AFR 0135-1-79, and BAF/0421-P-HC-2233). Thus, the project's goals and objectives were to

be realized through lines of authority identified and actions planned, as elaborated by the CDC staff assigned to Washington at A.I.D.'s request.

### **Management Systems:**

#### **Planning and Budgeting**

Since project funds were obligated through PASAs and Grants, each obligating document included a broad budget outlining the intended uses for the funds and provided a particular implementor for the period being authorized. Usually, these documents were amended periodically to add funding and/or extend the period or authorization. The largest tranches of funds, covering the longest planning periods, went to the CDC PASA, the Limited Scope Grant Agreements for bilateral activities, and the UNICEF Grant. For these agreements and others covering multi-year periods, annual budgets were requested by and submitted to AID/AFR to justify incremental funding.

According to both AID/AFR/TR/HPN and CDC IHPO, the Project Officer/Project Manager did not provide formal written guidance to the implementing agencies prior to their developing annual workplans or budgets. The implementing agencies developed first drafts, which were submitted to A.I.D., where they were reviewed by the Project Committee, returned to the drafter with recommendations for modification as required, and ultimately approved when found satisfactory. According to A.I.D. and CDC, most modifications to these annual documents involved changes to the budget. The budgets prepared by the different implementing agencies were aggregated by AFR, which added an additional budget component detailing its own planned expenditures (e.g., input procurement support to the bilaterals for such commodities as vaccines and such activities as evaluations and special studies). All these budget components were then compiled into one document by the Project Officer/Project Manager team and submitted to AFR/DP for the upcoming Planning, Programming and Budgeting (PPB).

By all accounts, the CCCD Project Officer/Project Manager team have never had the systems to review and compare prior year actual performance of activities and expenditures with what had been proposed in workplans and budgets. Thus, no analysis of variances between planned and actuals was attempted, and no subsequent guidance to the implementing agencies could be provided by AID/AFR, to improve either the performance of an individual implementing organization or the collective efficiency and effectiveness of the mix of implementing organizations managed under the Core.

#### **Monitoring and Supervision by AID/AFR**

The Project Officer/Project Manager team housed in AID/AFR monitors the project through frequent telephone contact with the USAID missions and the American embassies in the signatory countries which, in turn, provide the closest routine supervision of in-country activities. The focus of most of these discussions is reported to be "trouble-

shooting" administrative and logistical problems, and responding to communication failures or personality conflicts.

The Project Officer/Project Manager team also monitors the project activities through daily telephone contact with CDC, quarterly meetings and by a review of the reports provided by CDC internal and external evaluation teams and occasional exchanges of visits with the CCCD staff assigned to CDC/Atlanta. AFR/TR/HPN staff also accompany nearly all country evaluation teams serving as resource persons. This information and the administration and financial documents it produces and tracks in AFR/TR/HPN are used in twice annual meeting of the (A.I.D.) Project Committee. At the first meeting each year, the CCCD Annual Report is discussed, along with the budget requests for the up-coming year; at the second meeting, 6 months later, project progress is discussed, assessing whether project activities are consistent with AFR strategies. These meetings usually result in issues papers and action memos being prepared, which formally communicate the Agencies, guidance to each implementor.

### Monitoring and Supervision by CDC

The primary reporting instruments for CCCD have been provided by CDC in the form of the CCCD quarterly reports prepared by the CDC Technical Officers (TOs) for in-country activities in 13 countries, and CCCD annual reports prepared by the TOs for the bilaterals, and the CDC/Atlanta for the overall project. Both the country-specific and the regional reports attempted to capture all project activities and accomplishments, not just those funded under the A.I.D. PASA with CDC, though the reporting on CDC activities was the most complete.

Annual CCCD full staff meetings, bringing the Atlanta and field staff together, have been held. Every other year, these meetings have been in Atlanta, and in the alternating years they have been held in one of the host countries which are signatories to the CCCD bilaterals. The AID/AFR/TR/HPN Project Officer attended the 1990 meeting in Swaziland, and he and his predecessors have occasionally attended similar meetings in Atlanta. It is reportedly not usual that A.I.D. direct hire staff, (generally, HPN officers in the Africa Region and CCCD Project Officers) other than those posted to the country, attend the biennial meetings held in Africa, however, they were regularly invited to the meetings.

The agendas for these annual meetings are reported to be dominated by updates on the results of research studies and impact surveys, and administrative house-keeping issues. Several Technical Officers mentioned to the Evaluation Team that they wished greater attention would be given during these meetings to strategic issues, with a frank discussion of what was and was not working in project implementation.

The CDC CCCD field staff are supervised and backstopped by Public Health Advisors (PHAs) from Atlanta who visit each of their assigned countries (approximately

4 per PHA) for about 1 week per quarter. By most accounts, the PHAs have provided excellent backstopping. The quality and timeliness of the TA which they have arranged in response to requests from the TO and/or the MOH in field have been reported to be excellent as well. It is less clear that the PHAs have played a substantive supervisory role contributing to improvements in the long-term technical assistance provided in-country. A supervisory checklist was developed (Exhibit H) around 1988, for the PHAs to use on their visits to the TOs. None of the small sample of TOs that the team spoke with could recall having seen the list being used by their supervisor. CDC reports however that the checklist was not found to be useful.

The checklist appears to reinforce the backstopping functions of the PHA with very little attention drawn to supervisory and substantive programmatic issues. No mention is made of whether individual development plans--aimed at encouraging the TOs professional growth, and expanding the TOs' range of technical skills and knowledge--are to be negotiated between the TO and his supervisor. This is especially important since most of the diagnosis of MOH TA requirements is reported to be made by the TO, and each TO is reported to be known to have clear areas of technical strengths and weakness within the range of technical areas relevant to CCCD.

The range of TA strengths possessed by the individual TOs, reportedly covers the skills and knowledge related to the CCCD interventions (EPI, CDD, and Malaria Control) and the CCCD support interventions (HIS, OR, Health Training and Education). Skills in other areas of MOH institutional capacity related to CCCD (e.g. pharmaceutical procurement and distribution, motorpool management, and finance and administration) may have been outside of the range of many TOs. Most A.I.D. and CDC staff interviewed, including several TOs, thought it doubtful that the TOs possess sufficient skills in these areas to diagnose system deficits and request such assistance from Atlanta. CDC IHPO management recognized this internal need for strengthening their technical assistance capacities in about 1988, and they have indicated that they are not yet satisfied with the measures that they have taken to address it.

CDC Public Health Advisor Supervisory Checklist

Page 1

COUNTRY \_\_\_\_\_ ASSIGNEE \_\_\_\_\_  
 DATE \_\_\_\_\_ SPHA \_\_\_\_\_

SUPERVISORY CHECKLIST

| I. PERSONAL   | YES | NO | PROBLEM/COMMENTS: |
|---|-----|----|-------------------|
| Health  |     |    |                   |
| Housing   |     |    |                   |
| Personal/job satisfaction                           |     |    |                   |
| Training needs                                      |     |    |                   |
| Language needs                                      |     |    |                   |
| Vehicle   |     |    |                   |
| Petty cash  |     |    |                   |
| <b>II RELATIONS WITH AID MISSION/<br/>EMBASSY</b>   |     |    |                   |
| Rapport with HPN                                    |     |    |                   |
| Accommodation exchange                              |     |    |                   |
| Commissary  |     |    |                   |
| Pouch privileges                                    |     |    |                   |
| Travel, visas, etc.                                 |     |    |                   |
| Suballocation acct.                                 |     |    |                   |
| GSO support   |     |    |                   |
| Health Unit support                                 |     |    |                   |
| Cables (in & out)                                   |     |    |                   |
| FAAS agreement                                      |     |    |                   |
| <b>III RELATIONS WITH MOH</b>                       |     |    |                   |
| Counterpart (complaints, etc.)                      |     |    |                   |
| Office facilities                                   |     |    |                   |
| Knowledge of country                                |     |    |                   |
| Travel (X)  |     |    |                   |
| Supervision (Health Centers)                        |     |    |                   |
| Technical Competence                                |     |    |                   |
| Rapport with staff                                  |     |    |                   |
| Knowledge of MOH (policies/<br>staff) OR activities |     |    |                   |
| <b>IV RELATIONS WITH OTHER AGENCIES</b>             |     |    |                   |
| T.O. WITH: WHO                                      |     |    |                   |
| UNICEF  |     |    |                   |
| OTHER DONORS/PARTNERS                               |     |    |                   |
| USAID WITH: WHO                                     |     |    |                   |
| UNICEF  |     |    |                   |
| OTHER DONORS/PARTNERS                               |     |    |                   |

Page 2

V. RELATIONS WITH ATLANTA

Reports/Feedback  
 Communications  
 Rapport with supervisor  
 Computer needs  
 Consultants  
 Mailings  
 Personnel, Administration  
 Pay.  
 Leave  
 Access to IHPO/CDC resources

VI. TECHNICAL AREAS PROGRESS

EPI  
 CDD  
 MALARIA  
 HEALTH EDUCATION  
 TRAINING  
 OR  
 HIS  
 HEALTH FINANCING

DISCUSS PROBLEMS WHICH IMPEDE ACHIEVEMENT OF WORK PLANS AS OUTLINED IN QUARTERLY REPORT:

VII RECOMMENDATIONS:

| ACTION | RESPONSIBILITY | DATE TO BE ACCOMP |
|--------|----------------|-------------------|
|        |                |                   |
|        |                |                   |
|        |                |                   |
|        |                |                   |

TECHNICAL OFFICER \_\_\_\_\_

Supervisory PHA \_\_\_\_\_

CC: Technical Officer  
 USAID Project Officer  
 FSD Director

149

## Administration and Financial Tracking

The Project Officer/Project Manager team located in AID/AFR has had primary management responsibility for tracking the CCCD project's finances, both to move the money through the system, and to monitor its expenditure. There are several manual and computerized data bases that the management team have used for project administration. Several of these data bases were created by central A.I.D. units, and serve the entire Agency, others were established by the Africa Bureau, and one key data base was created with CCCD project funds, specifically to serve the Project Officer's need to track project expenditures against obligations (pipeline).

These five data bases, among others, are important in the Project Officer/Project Manager team's ability to track CCCD project finances. The data bases are:

**Financial Accounting System (FACS)**, prepared monthly by AID/M/FM, does not sort obligations by project. A contract for a major redesign of FACS was let early in FY 91;

**Project Accounting Information System (PAIS)**, prepared quarterly by AID/M/FM, sorts obligations by project. It is said to underestimate obligations due to incomplete data on mission buy-ins. The FACS and PAIS total obligations amounts by project usually do not reconcile.

**Contract Information Management System (CIMS)**, a Wang data base on-line, maintained by the Contracts Office to track PASAs, Grants, Contracts, etc., and the A.I.D. central procurement services related to them. Reportedly, according to the Contracts office, this data base is replete with data-entry errors. Since it is not a spreadsheet, it can only list and sort; it cannot calculate totals, balances on obligations, or expenditures.

**Obligations Performance**, a spreadsheet prepared weekly by AFR/TR/PRO. This lists the most recently approved and anticipated obligations by project for the Africa Bureau. (See Exhibit I).

**CCCD MIS**, a Lotus spreadsheet maintained by the CCCD Project Officer/Project Manager team in AFR/TR/HPN. It subtracts back expenditures from obligations providing unexpended balances. (See Exhibit J).

Exhibit I

CCCD Obligations Report Prepared by AFR/TR/PRO

AFR/TR  
FY 1991 OBLIGATION PERFORMANCE  
as of 31-Jan-91

Page 1

Page 1

| DOCUMENT TYPE      | DOCUMENT NUMBER | ACSI-CCCD 698-0421                      | FUNDS REQUESTED | FY 1991 OYB (\$000) | OLS TO DATE | PLANNED OBL DATE | OBLIGATION DATE | ACTION AGENT | PRO DOC DATE | ALLOWANCE/ CABLE DATE | DATE OBLIG. DOC RECEIVED | COMMENTS |
|--------------------|-----------------|---|-----------------|---------------------|-------------|------------------|-----------------|--------------|--------------|-----------------------|--------------------------|----------|
| <b>DFA CORE</b>    |                 |   |                 |                     |             |                  |                 |              |              |                       |                          |          |
| PIO/T              |                 | CDC-PASA -amendment                     | 7,000.0         | 5,600.0             |             |                  |                 |              |              |                       |                          |          |
| Memo               |                 | WHO/AFRO Grant (Memo)                   | 200.0           | 200.0               |             | 15-Mar-91        |                 | MS/OP/O/AFR  |              |                       |                          |          |
| Memo               |                 | FAAS (overhead/7 countries)             | 170.0           | 170.0               |             | 15-Mar-91        |                 | AA/AFR       |              |                       |                          |          |
| Allow.             |                 | PGs                                     | 180.0           | 180.0               |             | 15-Aug-91        |                 | FM/BUD       |              |                       |                          |          |
| PIO/T              |                 | Evaluations                             | 203.7           | 203.7               |             | 15-Mar-91        |                 | Missions     |              |                       |                          |          |
| PIO/T              | 1612002         | Atlantic Resources Eval. Guinea/Lesotho | 196.3           | 196.3               |             | 15-Apr-91        |                 | MS/OP/O/AFR  |              |                       |                          |          |
| PIO/T              |                 | Health Care Financing                   | 200.0           | 200.0               |             | 15-Mar-91        |                 | MS/OP/O/AFR  | 30-Jan-91    |                       |                          |          |
| Allow.             |                 | Cote D'Ivoire Training                  | 100.0           | 100.0               |             | 15-Jun-91        |                 | MS/OP/O/AFR  |              |                       |                          |          |
| PIO/T              |                 | Healthcom (Nigeria & Zaire)             | 350.0           | 150.0               |             | 15-Mar-91        |                 | Abidjan      |              |                       |                          |          |
| Memo               | 1612001         | UNICEF Grant                            | 3,000.0         | 3,000.0             | 3,000.0     | 15-Mar-91        |                 | MS/OP/O/AFR  |              |                       |                          |          |
| Memo               | 1612001-A       | UNICEF Grant                            | 600.0           | 600.0               |             | 15-Dec-90        | 30-Nov-90       | AA/AFR       | 30-Nov-90    |                       | 06-Dec-90                |          |
|                    |                 | CCCD DFA CORE SUB-TOTAL =               | 11,600.0        | 10,600.0            | 3,000.0     | 15-Feb-91        |                 |              |              |                       |                          |          |
| <b>DFA BUY-INS</b> |                 |   |                 |                     |             |                  |                 |              |              |                       |                          |          |
| Allow.             | 10587           | Cameroon                                | 250.0           | 250.0               |             |                  |                 |              |              |                       |                          |          |
| Allow.             | 8996            | Mali                                    | 300.0           | 300.0               |             |                  |                 | Cameroon     | 23-Jan-91    |                       |                          |          |
| Allow.             | 11488           | Niger                                   | 300.0           | 300.0               |             |                  |                 | Mali         | 23-Jan-91    |                       |                          |          |
| Allow.             | 6271            | Togo                                    | 622.0           | 622.0               |             |                  |                 | Niger        | 23-Jan-91    |                       |                          |          |
| Allow.             | 17520           | Uganda                                  | 300.0           | 300.0               |             |                  |                 | Togo         | 23-Jan-91    |                       |                          |          |
| Allow.             | 19962           | Nigeria                                 | 3,000.0         | 3,000.0             |             |                  |                 | Uganda       | 23-Jan-91    |                       |                          |          |
| Allow.             | 18973           | Zaire                                   | 3,000.0         | 3,000.0             |             |                  |                 | Nigeria      | 23-Jan-91    |                       |                          |          |
| Allow.             | 10587           | Eq. Guinea                              | 400.0           | 400.0               |             |                  |                 | Zaire        | 23-Jan-91    |                       |                          |          |
| Allow.             | 25969           | REDSO/W                                 | 80.0            | 80.0                |             |                  |                 | Eq. Guinea   | 23-Jan-91    |                       |                          |          |
|                    |                 | CCCD BUY-IN SUB-TOTAL =                 | 8,252.0         | 8,252.0             | 0.0         |                  |                 | REDSO/W      | 23-Jan-91    |                       |                          |          |
| <b>HEALTH CORE</b> |                 |   |                 |                     |             |                  |                 |              |              |                       |                          |          |
|                    |                 | HEALTH CORE FUNDING SUB-TOTAL =         | 0.0             | 0.0                 | 0.0         |                  |                 |              |              |                       |                          |          |
|                    |                 | CCCD TOTAL PROJECT FUNDS =              | 19,852.0        | 18,852.0            | 3,000.0     |                  |                 |              |              |                       |                          |          |

157

Exhibit J

Excerpt from AFR/TR/HPN Spreadsheet called CCCD MIS

CDC PASA

DATE OF LAST UPDATE: 04-Oct-90

NUMBER OF AMENDMENTS: 25

PARTICIPATING AGENCY SERVICE AGREEMENT (PASA) between  
The Agency for International Development,  
Department of Health and Human Services  
& Centers for Disease Control

PASA NUMBER: BAF-0421-P-HC-2233-06

START DATE: 3/02/79

END DATE: 9/30/91

TOTAL AGREEMENT AMOUNT: \$45,935,197.00

TOTAL SAHEL AMENDMENT: \$527,000.00

TOTAL SUDAN AMENDMENT: \$260,000.00

GRAND TOTAL OBLIGATED: \$46,722,197.00

| PERIOD COVERED      | DOCUMENT REF. NO. | VOUCHER NUMBER | VOUCHER AMOUNT | APPROVED AMOUNT | BALANCE |
|---------------------|-------------------|----------------|----------------|-----------------|---------|
| 1990                |                   |                |                |                 |         |
| Oct (89) - Apr (90) | 5101907           | 5101907        | 3,177,586.04   | 3,177,586.04    |         |
| 1989                |                   |                |                |                 |         |
| Oct (88) - Dec (88) | 5101170           |                | 471,156.00     | 471,156.00      |         |
| Oct (88) - FY 1989  | 5101229           |                | 1,048,888.11   | 1,048,888.11    |         |
| Jan (89) - Mar (89) | 5101248           |                | 156,765.00     | 156,765.00      |         |
| Jan (89) - Feb (89) | 5101296           | 8590421        | 709,214.32     | 709,214.32      |         |
| Oct (88) - Mar (89) | 5101353           | 9501353        | 1,570,110.26   | 1,570,110.26    |         |
| Apr (89) - Jun (89) | 5101413           |                | 315,052.50     | 315,052.50      |         |
| Jun (89) - Jul (89) | 5101443           |                | 1,091,973.82   | 1,091,973.82    |         |
| Jul (89)            | 5101516           |                | 714,594.67     | 714,594.67      |         |
| FY 1989             | 5101638           |                | 895,046.49     | 895,046.49      |         |
| Sep (89)            | PENDING           |                | 56.74          | 56.74           |         |

\*

CDC PASA (cont'd.)

SAHEL ORAL

REHYDRATION THERAPY

PASA NUMBER: BAF-0421-P-HC-2233-06,

Amendment No. 7

START DATE: 10/01/84

END DATE: 9/30/86

TOTAL AGREEMENT AMOUNT: \$527,000.00

| PERIOD COVERED                       | DOCUMENT REF. NO. | VOUCHER NUMBER | VOUCHER AMOUNT | APPROVED AMOUNT | BALANCE |
|--------------------------------------|-------------------|----------------|----------------|-----------------|---------|
| 1987                                 |                   |                |                |                 |         |
| Oct (86) - Dec (86)                  | 87-001            |                | 15,750.00      | 15,750.00       |         |
| Jan (87) - Mar (87)                  | 5100604           | 8029575        | 17,865.67      | 17,865.67       |         |
| Jan (87) - Mar (87)                  | 5100654           | 8029587        | 2,644.08       | 2,644.08        |         |
| Apr (87) - Jun (87)                  | 5011E74           | 8029596        | 13,650.00      | 13,650.00       |         |
| Apr (87) - Jul (87)                  | 5100759           | 8029614        | 152,834.60     | 152,834.60      |         |
| Aug (87) - Sep (87)                  | 5100804           | 8029635        | 20,759.18      | 20,759.18       |         |
| 1986                                 |                   |                |                |                 |         |
| Jan (86) - Mar (86)                  | 85-025            |                | 24,675.00      | 24,675.00       |         |
| Oct (85) - Dec (85)                  | 86-038            |                | 2,482.76       | 2,482.76        |         |
| Mar (86) - May (86)                  | 86-144            |                | 1,087.70       | 1,087.70        |         |
| Apr (85) - Sep (86)                  | 86-231            |                | 48,300.00      | 48,300.00       |         |
| FY 1986                              | 86-300            |                | (8,704.66)     | (8,704.66)      |         |
| 1985                                 |                   |                |                |                 |         |
|                                      |                   | 85-136         | 4,206.48       | 4,206.48        |         |
|                                      |                   | 85-214         | 21,000.00      | 21,000.00       |         |
|                                      |                   | 85-279         | 188,877.71     | 188,877.71      |         |
|                                      |                   | 85-418         | 20,974.38      | 20,974.38       |         |
| Sahel Oral Rehydration Therapy Total |                   |                | 526,402.88     | 526,402.88      | 597.12  |

\*

\* - Lacks sufficient information to analyze implications of raw data presented

152

The shortcomings of these A.I.D. financial tracking systems reportedly required the project management team in AFR/TR/HPN to spend a disproportionate time on administration. In the earlier years of the project, the manual systems used to fill the gaps in these systems are reported to be slow and inaccurate, leading to errors (such as inadvertently approving overobligations, or overexpenditures), which required the preparation of additional documents (amendments, adjustments etc.) to correct the errors. This added to the overall administrative burden, but this has now been corrected.

Exhibit K illustrates the format for reporting on expenditures that CDC received from AID/FM. The line items are those that Financial Management (FM) has standardized for all projects. It is difficult for the Project Officer to compare these expenditures reported by quarter and cumulative for life-of-project (but not annually) to anticipated expenditures in the Program Area and Country Annual Budgets that were submitted the previous year. The process, if attempted, would be time consuming. This is just one example of many reporting and formatting problems which led to virtually no substantive project analysis being done by AFR/TR/HPN. The same problem occurs in tracking activities, with the result that no analytical comparisons are done to determine the extent of variance between activities in the workplan, and those accomplished for a given year.

Exhibit A charts data provided by AFR/TR/HPN on the major obligating instruments for CCCD. It shows that during the early years of the project, the Project Officer/Project Manager team may have had some difficulty either in communication or in understanding A.I.D. rules and regulations.

What Exhibit A does not show is that similar data was requested for all the Grants and PASAs managed by AID/AFR but that only the data shown was accessible, given the limitations of staff time, and file accessibility.

The PASA with CDC was amended four times in less than 8 weeks in the closing months of Fiscal Year 1983, and amended again four times in approximately 2 months at the close of FY 1984. Amendment No. 3 to the first PASA with CDC authorizes funding for activities begun 3 months prior to the Amendment. Amendment No. 1 to the second CDC PASA authorized funding for activities begun 9 months before it was signed. Amendment No. 9 authorized funds for activities initiated 7 months before signing. Amendment No. 11 can not be found; and, Amendment No. 18 had a calculating error, obligating over \$500,000 (in two different currencies) for an activity estimated to cost half that amount. It apparently took 11 months to identify the error and make appropriate adjustments in Amendment No. 21.

Exhibit K

CDC Expenses for CCCD Using AID/FM Mandated Format  
for Project Financial Reporting

R679-0-6X

72000001

**CENTERS FOR DISEASE CONTROL  
FINANCIAL STATUS REPORT  
On an Accrual Basis**

PASA/RSSA NO. BAF-0421-P-HC-2233      PERIOD COVERED: FROM: 7/89  
PROJECT NAME: Combatting Childhood Commun. Diseases      TO: 9/30/90  
PROJECT NO: 698-0421      PASA/RSSA AGREEMENT PERIOD: FROM:  
FISCAL DATA: PIOT/OBLIG. NO.      TO:  
Appropriation No.  
Allotment No.

| Description of Budget Line Items |                          | Current Billing        | From 10/1/82 to<br>Cumulative *<br>Billing to Date |
|----------------------------------|--------------------------|------------------------|--|
| Obj. 11                          | Salaries                 | \$ 890,435.62          | \$ 11,487,300.17                                   |
| Obj. 12                          | Benefits                 | 184,803.73             | 1,919,010.27                                       |
| Obj. 21                          | Travel                   | 385,899.29             | 4,755,409.89                                       |
| Obj. 22                          | Transportation           | 34,588.47              | 927,033.46   |
| Obj. 23                          | Rent, Comm., Utilities   | 28,596.13              | 674,754.15   |
| Obj. 24                          | Printing & Reproduction  | 17,259.02              | 108,799.72   |
| Obj. 25                          | Other Services           | < 232,694.17           | 42,728,251.29                                      |
| Obj. 26                          | Supplies & Materials     | 7,052.53               | 359,154.77   |
| Obj. 31                          | Equipment                | 179,199.33             | 1,493,694.18                                       |
| Obj. 41                          | Grants                   | 75,340.00              | 1,098,991.40                                       |
| Obj. 42                          | Insurance Claims & Idem. | 40,093.00              | 63,977.02  |
|                                  | Overhead                 | 379,575.07             | 5,482,639.56                                       |
| <b>TOTALS</b>                    |                          | <b>\$ 1,489,248.02</b> | <b>\$ 40,799,015.88</b>                            |

Cumulative Funds Authorized in PASA/RSSA through  
Amendment no. \_\_\_\_\_

Comptroller, USAID/

\* Does not include cumulative expenses under original AID/CDC PASA.  
Line items not consistent with CCCD Program Budget.  
Reporting periods not comparable to annual CCCD Budgets.

Exhibit B, CCCD Field Activities, also demonstrates the limitations of A.I.D. administrative systems. All the data on the chart came from CDC within an hour of the request. AID/AFR/TR/HPN was unable to supply the information on the posting of individual health officers to the USAIDs, corresponding to the TOs postings, questioning whether it was even available any more.

The Management Specialist was invited to search the files to find the other information listed on the legend but not appearing on the chart. Some of this information would have been useful in verifying suggestions made in interviews that part of the friction in the field may have been related to staff turnover, (e.g., a Technical or Health Officer not being informed of, or refusing to honor oral understandings arrived at with the predecessor).

**Evaluation:** If the information on Exhibit B were complete, it would demonstrate that, both the Core and the Limited Scope Grant Agreements of the CCCD project have been evaluated quite frequently. As noted several times in this Program Management Section, the data available in Atlanta and Washington did not enable the Management Specialist to verify that the recommendations of the teams influenced subsequent project activities.

An extensive review of raw data, workplans, budgets, activity reports, annual and quarterly reports, etc., suggest that the evaluation recommendations touching on management and sustainability did not get implemented.

## **5. Design Corrections in Project Amendments and Extensions**

**Division of Responsibilities:** Recognizing some confusion in the field over which organization (A.I.D. or CDC) was managing CCCD, AFR/TR/HPN used the Third Project Paper Amendment (1986) to attempt to clarify the division of responsibilities. But this amendment simply confused matters further, by describing the division of responsibilities as follows:

AFR/TR is responsible for the overall implementation and coordination of the CCCD Project in Africa. AFR/TR has a staff of 2 1/4 individuals responsible for the following tasks: 1) management of the CDC/PASA; 2) management of Peace Corps PASA; 3) management of the WHO/AFRO Grant Agreement; 4) all program authorization, budgeting, planning, and program evaluations; 5) management of centralized procurement; 6) coordination of all CDC Peace Corps activities with USAID's and other components of AID; and 7) coordination with other donors.

The Centers for Disease Control is delegated authority to provide and coordinate all technical assistance to field bilateral programs and to implement inter-country

project components of epidemiological support, operations research, and health education....CDC field staff are not assigned any management responsibility for field CCCD projects with the exception of operations research. They are expected to devote all their effort to provision of and coordination of technical assistance required by field programs.

The confusion was not resolved, in part because the amendment failed to mention that two of the "2-1/4 individuals in AFR/FR" with central management responsibilities were CDC employees.

**Organizational Relationships:** An organizational chart for CCCD was also provided in the third amendment. It does not fully clarify lines of authority, areas of responsibility, or reporting relationships. A.I.D.'s relationship with WHO was clearly not the same as that with CDC, nor was the relationship between the CDC field staff and the USAID mission the same as the USAID relationship with the WHO field station. Yet they are represented the same way on the chart.

Several of the A.I.D. staff mentioned in interviews with the Evaluation Team that the CDC staff sometimes appeared to have an inflated sense of operational autonomy from A.I.D. in the field. The Evaluation Team also had opportunities to witness firsthand several occasions when CDC staff in the field indicated their autonomy from A.I.D. supervision.

After what has been reported to have been some initial friction between CCCD and WHO/AFRO during project start up, the first Internal Evaluation (1983) mentioned:

AID should attempt to be as accommodating as possible in supporting WHO/AFRO activities in CCCD. The cooperative arrangement should avoid the image and substance of WHO/AFRO functioning as an A.I.D. 'contractor'.

These distinctions were still not reflected in the CCCD Organizational Chart provided in the Third Project Paper Amendment, issued 3 years after they were first raised in the first Internal Evaluation. According to CDC IHPO, "confusion has existed since the beginning, and IHPO still hears from A.I.D. and the field that confusion continues to exist regarding the relative roles and responsibilities of A.I.D. vs. CDC staff on the management of CCCD".

**Core Management Responsibility for the Bilaterals:** The first Internal Evaluation (1983) stated:

This project has been managed by a senior project manager [A.I.D. direct-hire] able to provide approximately 50% to 60% of his time to CCCD and a physician technical manager [CDC direct hire] under a [sic] RSSA arrangement who has spent 100% of his time on CCCD. This mix has worked out reasonably well but

as the project gains momentum and the CDA cooperation aspects become more active, it will require additional management time from A.I.D.

The combination of a full-time CDC manager available to charge his own travel to CCCD Operating Expenses (OE) and a part-time A.I.D. Project Officer who had to compete for more limited travel funds from the AFR/RA Operating Year Budget (OYB), led to CDC being able to play the dominant role in initiating and shaping field activities. Yet, while CDC staff from both Atlanta and Washington, usually constituted the design teams for CCCD bi-lateral programs under the Limited Scope Grant Agreements funded from the Regional Core, CDC was not a signatory to those agreements. Their instructions from A.I.D. stated that the responsibility for those agreements, and how well the in-country activities funded under them were managed, was an A.I.D. responsibility.

In eight of the 13 countries where Limited Scope Grant Agreements were signed, A.I.D. had no Health Officer; in two of the countries, there was no A.I.D. mission. The primary routine and on-going guidance the host countries received on implementing the Grant Agreements came from the CDC field staff assigned full-time to each country (one Technical Officer for each country, and in some cases an Epidemiologist - see Exhibit B).

A.I.D. asked the CDC staff to design the in-country programs and gave them by default the major role in advising host-country Ministries of Health on how to implement the grants. This was done because AID/AFR had not assigned sufficient project management staff with travel funds who could travel to the field during the crucial stages of project development, nor sufficient health staff in the field to participate in, or monitor closely, the development and implementation of the LSGAs.

AID/AFR staff reported in the Evaluation Team interviews that CDC was relieved of formal responsibility for the quality of the in-country CCCD programs funded under the Core Regional allocations. This division of responsibility is documented later in Project Paper Amendment No. 3 (1986). (See section B.5.)

## **6. CCCD Program Sustainability**

As mentioned earlier in this section of the report under "goals and objectives" (section I.B.), the questions of whether and how CCCD was to institutionalize the CCCD interventions have been issues since the project began. Not until the CCCD Fifth Year Internal Evaluation (1987) was progress toward sustainability discussed in some detail. It defined sustainability as the ability of a program to deliver a high level of benefits after a donor ends major financial, managerial, and technical support.

The Fifth Year Evaluation also identified the "factors of sustainability [which] can be grouped into four categories: economic, project design, institutional and socio-political." The 1987 evaluation posed the following questions regarding sustainability:

What criteria should be used to monitor national capacity for sustainability?

What length of time and level of inputs will be required to increase the probability of sustainability?

What actions should be taken in countries where sustainability is doubtful?

The following year, the 1988 Project Paper Amendment called upon the CCCD Project to give increased attention to improving the institutional capacities of the ministries for sustainability.

The Executive Summary of the Amendment states:

The primary purpose of this project amendment is to better assure that national child survival policies and programs initiated with ACSI-CCCD project support are sustained.

This amendment elaborated on the "four categories of factors...that generate project sustainability" proposed by the Fifth Year Evaluation, and provided an outline of what is called a Sustainability Strategy. While the outlined strategy stated that "Demand for services is a key test for sustainability," there was less emphasis placed on the importance of the supply side (i.e. the MOH institutional capacity to provide the services over the long term). Yet the narrative of the Amendment raised the following key questions about this supply side more clearly than had previous amendments or the original project paper:

Is there a professional, managerial and operational capacity to maintain and develop each component of the [CCCD] program, individually and collectively?

The Amendment also stated:

The development of local competence and organizational systems to carry out development programs is a primary objective of external assistance. Often this assistance focuses on the technical and funding aspects of the program and does not give adequate attention to management and supervision of logistics and maintenance--both vital parts of a sustained program.

Operationally, the Sixth Project Paper Amendment (1988) does not make clear how the substantive shift to sustainability should be implemented, or how A.I.D. intended to monitor and verify its implementation. The amendment modifies the CCCD logical

104

framework by adding "sustained programs" as a program output, but does not detail any objectively verifiable indicators, means of verification or important assumptions. Two years, however, were spent by the project redefining the issues of sustainability, and CCCD project led the agency in this area.

No additions or modifications to the mix of technical skills made available to the project were proposed. No additional funds were requested, beyond those for an incremental increase in funding to continue the already ongoing activities for an additional 3 years.

As for expectations regarding financial sustainability, the Project Paper states:

The costs of continuing the immunization program once the donor input terminates have not been estimated....Program continuation may well hinge on long term donor assistance, for even the marginal cost of adding immunizations to existing systems may be unaffordable for the low income countries of sub-saharan Africa.

Because immunizations are a preventive health measure, demand is likely to be low, hence user fees are difficult to collect; the tax base of most African countries is limited; and, health insurance schemes are scarce. The result of these circumstances is a severe financial burden on governments if the immunization program is to continue beyond the life of this project.

Nearly everyone interviewed by the Evaluation Team, both in the U.S. and in the field, A.I.D., CDC, and in host-country Ministries, has agreed that the various factors contributing to sustainable host-country capacities suggested a logical sequence of activities. The first factors where host country MOH capacities would generally be expected to become sustainable would probably be in assuring community and political support, and in transferring medical skills. The next capacities to be brought to sustainability would likely involve medical and managerial systems design for the three CCCD interventions; these would be likely to be followed by the support strategies. It was generally agreed that the last area in which the host countries would be likely to become fully independent of the need for donor assistance would be in financing.

## **7. Conclusions**

After a decade of CCCD activities in sub-Saharan Africa, successful operational service delivery networks now exist in over 10 countries where they did not function adequately or exist before. These networks are more complete for EPI, than for Malaria and the Control of Diarrheal Diseases; and while they appear to be viable, for the most part, it is unlikely that they are fully sustainable.

In addition, certain aspects of sustainable capacities have been established in all the CCCD countries in several aspects of primary health care, especially in the areas of political and community support for EPI, medical skills transferred at an operational level in the central Ministries, out into the regions, and to a lesser degree to the periphery in 10 countries. Still, most host country MOH capacities are underdeveloped in the strategic, logistic, educational, administrative, and financial support functions required to sustain the CCCD interventions without donor assistance and cooperation.

The progress that the project has been able to accomplish has largely been measured by mortality and morbidity impact indicators; yet significant institutional capacities have been developed (even though they may not yet be sustainable). This progress appears to be the result of the harnessing of A.I.D.'s and CDC's own unique capacities. From their own accounts, A.I.D. has provided "a knowledge of diplomacy, and a commitment to development" and CDC "knowledge of how to go around bureaucratic obstacles to get things done". Each organization accepts that it has negatives for which the other compensates, and some friction has resulted from differences in organizational style.

There have been ambiguities and at times contradictions in the project's initial goals and objectives, the guidance it has received over time, and the way these understandings have been communicated and shared among the coalition partners. The uncertainty also appears to result from the inadequacy of the information systems used to record agreements, monitor project performance, and measure project progress.

Some A.I.D. staff expressed concern with what they perceived to be "the independence CDC has had in implementing CCCD" and "CDC's promoting their own organizational philosophy, style, and interests." One A.I.D. staff member pointed out with disapproval that the number and range of capacities of the CDC IHPO staff have increased over the life of the project, while A.I.D. has had to retrench. Yet, in separate interviews, A.I.D. staff have described the situation as A.I.D.'s having had to call upon the services of agencies such as CDC because of personnel ceilings imposed by Congress.

Given the experience that A.I.D. and CDC shared working together on the eradication of smallpox worldwide in the 1970s, and on the SHDS Project in the 1970s and '80s, both agencies were aware of the differences in their organizational philosophies and working styles. It should not have been surprising that these differences would arise since CDC had the de facto Core management role on CCCD from 1982 to 1988. By all accounts, it was largely these differences that led to the greater emphasis on a "rapid deployment" strategy for project implementation. When AID/PPC personnel raised the issue of sustainability in each internal evaluation (1983, 1985, and 1987), they were speaking from the A.I.D. perspective, emphasizing development. The substance of most of their recommendations does not appear to have been incorporated into subsequent CCCD workplans or amendments to the Project Paper or the PASA with CDC. This is

usually attributed to the fact that until 1988 a CDC employee served as Project Manager in Washington, drafting the A.I.D. documents.

The fact that a decade has passed since the CCCD project began is noteworthy not just because of the magnitude of the effort, but also because the shifts in organizational policies and priorities, reorganizations, and staff turnovers have required a concerted joint effort to sustain programmatic continuity. That interorganizational effort has, for the most part, been successful, but not without some friction, miscommunication, and disappointments along the way. Having arrived at this point, it would be unfortunate if the partners in this successful coalition were to allow the dust so raised, to blind them to the considerable achievements they have in common.

The source of much of the friction is identifiable and correctable, and should be studied as an important lesson learned from this 10-year effort. AID/AFR does not appear to have understood the means of direction and control that it has had at its disposal; nevertheless it has used them. A.I.D. communicated its primary guidance ex post facto in internal and external evaluations, while relinquishing to CDC the discretion to make this guidance operational. The PASA Agreements, workplans, budgets, and amendments to the Project Paper and the PASA, do not demonstrate that A.I.D. laid out clear and specific parameters for CDC to play its role on the project to A.I.D.'s satisfaction.

Just as one example, one of the major conclusions of the 1983 Internal Evaluation was that, "the quantitative targets should not become too rigid and drive the program to the extent of undermining the building of African institutional capabilities for self-sustaining programs." A comparison of the 1984 CCCD workplans with the one from 1983, both approved by AID/RA, does not indicate that any operational steps were planned to shift the focus from rapid deployment for maximum coverage and impact toward institution building as recommended in the 1983 evaluation.

Nowhere in the original Project Paper did A.I.D. specify what types of project activities would ensure a development focus on institution building. No diagnostic MOH capacity assessments were specified either in the Project Paper or the PASA with CDC or insisted upon in the workplans. No mention can be found in any of the project documentation of plans to: 1) assess MOH institutional capacities, or 2) to identify deficits in those capacities, or 3) to provide assistance to remedy identified deficits. As a result the initial Country Assessments done by CDC prior to designing the in-country programs were conducted in support of launching the rapid deployment of CCCD interventions to insure operational services, with parallel support systems, where MOH systems were not quickly reparable. This would have been fine in the short-term, had plans also been established for how to strengthen the MOH capacities for the long term.

An important lesson to be learned is that the gap between the two emphases (rapid deployment vs. institution building) has not simply been one of implementation.

The project designers underestimated the organizational support functions the African Ministries of Health would need to sustain the CCCD activities and over-estimated the Ministries' capacities at the project's inception. Thus, while sustainability was a goal, the staff skills, structure, activities, and resources proposed for the project did not address the full range of organizational deficits in the cooperating Ministries.

The gap between what A.I.D. aspired to accomplish and what the project could reasonably be expected to have accomplished, especially in the managerial and non-medical areas, appears to have been largely overlooked throughout the implementation process, including a half dozen project evaluations and amendments. None of the terms of reference, workplans, or evaluation recommendations addressed "management" with a broader focus than the administration and logistics surrounding a specific medical intervention at the service delivery level. To its credit, AID/PPC raised the issue of "sustainability" early and often, through its participation in periodic Internal Evaluations, encouraging the project partners to define what it meant and to begin to gauge project progress towards its accomplishment. However, high praise given in these Internal Evaluations and repeated in Project Paper and PASA amendments to the "management" courses designed and conducted by CDC and WHO encouraged and reinforced a limited focus on the definition of management as planning for supplies and material requirements at a clinic level for a specific intervention.

The AID/AFR internal management systems, especially those for administration and financial tracking, are extraordinarily inefficient and have required much staff time, leaving little time for substantive project analysis. The joint AID/CDC Project Officer/Project Manager team has been staffed since the project began by medical professionals with insufficient management skills to identify and remedy the problems inherent in the systems used in managing the CCCD Core. The various A.I.D. offices interviewed professed that the Agency has no technical expertise internally on call to assist a Project Officer develop appropriate project management systems.

The project could not have been expected to achieve the level of sustainability of the CCCD interventions, defined in the 1987 Internal Evaluation. For the MOHs to be able to operate, let alone finance, the interventions after all donor support ended would have required improvements to the nonmedical internal support systems of each MOH (e.g. pharmaceutical procurement, inventory control, and distribution; motor pool management; administration and finance; and strategic resource management at the level of the Minister and Director General) that were beyond the scope of the project.

In spite of this, the CCCD Project developed a style of technical assistance to the African Public Health sector which may prove more useful to improving long-term African institutional capacities than the grand visions for the future of public health that have become popular among some donors. The CCCD project, especially in the in-country programs, has targeted one operational area at a time, focusing on service delivery first, and achieved a string of concrete implementation successes. With each

success, the programs moved on to the next step, building on previous tangible contributions to improving public health. The A.I.D. insistence upon and the CDC cooperation in involving African health decision makers and managers in every step of the creation of these "building blocks" has laid a good foundation for trust and credibility among the host country MOHs. This should prove invaluable when larger efforts at MOH management reform are attempted. The CCCD bilateral programs have not expanded the application of this approach much beyond the improvement of service delivery for the three CCCD interventions, due to lack of appropriate staff and resources to bring about broad MOH management reform.

## **8. Recommendations**

- (1) The A.I.D. CCCD Project Officer should arrange for a consultant to review and revise the CCCD MIS spreadsheet and administrative systems, in consultation with AID/FM, the Contracts Office, AFR/TR/PRO, and AFR/DP. The scope of work should specify: a) a review of administrative and financial tracking inefficiencies and bottlenecks, and b) call for revisions that would minimize the need for manual reconciliation of the MIS with the FACS and PAIS.
- (2) A.I.D. should pursue the development of its own generic financial tracking and project management systems (both manual and automated) for Project Officers, minimizing the necessity to use and re-use project funds to re-invent spread sheets and other instruments for project management.
- (3) AID/AFR/TR should provide all the CCCD implementors (under PASAs and Contracts, and Grantees if feasible) more specific revised reporting formats that permit a more detailed comparison of planned and actual performance (for both activities and finances), requiring a brief analysis of the reasons for the variance between the two.
- (4) CDC IHPO should add appropriate management expertise to its Technical Services division. The Management Specialist(s) so added should:
  - help the PHAs revise the TO Supervisory Checklist to deal with more substantive management issues,
  - be on call to help the TOs develop diagnostic reviews of MOH systems, leading to MOH determination of an acceptable outline for a country-specific MOH MIS, and
  - be on call to help the MOH Director General (or his equivalent) to use the remaining OR funds for identifying and solving management problems). (See the MIS and OR sections of this report for more details).

- (5) AID/AFR and CDC IHPO should call upon appropriate technical assistance to review and revise the formats of all project reports to provide the same level of attention to managerial and nonmedical support functions as to the medical and service delivery aspects of the CCCD interventions.
- (6) Before the project closes out, CDC should prepare a status report, for the benefit of those pursuing follow-on activities, on the sustainability of all aspects of the CCCD interventions. The report should detail country-specific operational inventories which MOH subsystems can or cannot be expected to operate satisfactorily without donor assistance, and why or why not. The report should also attempt to draw regional generalizations and lessons learned beneficial to subsequent project/program designers and implementors.
- (7) AID/AFR should review the record of past evaluations of CCCD and seek to determine why so few of the recommendations of previous internal and external evaluation teams appear to have influenced subsequent project operations, and institute appropriate corrective measures for the future.

## **C. MANAGEMENT INFORMATION SYSTEMS**

### **1. Discussion**

The authors of the Project Paper stated:

It is primarily up to program managers to recognize the need for management information. However, program managers in most less developed countries require orientation and guidance in this matter.

There are references in project documentation to establishment as early as 1983 of a CCCD MIS. They apparently refer to the reports submitted by CDC Atlanta in compliance with the terms of its PASA with A.I.D. Currently, the CDC TAACS, serving as CCCD Project Manager, and assisting the A.I.D. Project Officer in AID/AFR/TR/HPN, uses a combination of information sources (e.g., hard copy files, microfiche, and a computer spreadsheet) which is called the CCCD MIS. The spreadsheet dates from 1988, and the hard copy files are said to contain materials mostly dating from 1987; selected earlier materials are reportedly on the microfiches. The primary utility of these is to assure timely financial administration of the project in compliance with A.I.D. rules and regulations. These administrative information sources and financial tracking systems are described in more detail in the Program Management Section of this report.

In the field, the project was to assist host country Ministries of Health in installing health information systems (HIS) that would adequately sustain the CCCD interventions.

In several reports on regional and bilateral activities, the systems which have been developed are usually described as health information systems, though sometimes they are also referred to as management information systems (MISs) for the ministry. Nearly everyone interviewed by the Evaluation Team agreed that the information processes installed under the CCCD project and currently used by the Ministries of Health in support of CCCD activities do not constitute actual management systems.

The expressed goal of assisting the Ministries to achieve long-term sustainability of the CCCD interventions implied the need to ensure that adequate management information systems would be operational before the termination of donor assistance. This goal has not been clearly addressed by the project. It was not an express part of the project design, and no identifiable effort to add the necessary technical skills to the project staff, either in Washington, Atlanta, or the field, has been made.

## **2. Conclusions**

In a few cases, the Technical Officers and the host countries have begun to integrate the annual workplans and budgets through donor coordination exercises. This is useful to laying the foundation for an MIS and should be encouraged. In most cases however, in order for adequate MIS' to be established and made operational, the Technical Officers will need to call upon additional outside expertise to work with them in their overall assistance to host country MOHs.

## **3. Recommendations**

- (1) CDC IHPO should enhance the capacities of its Technical Services Division in Atlanta to ensure that greater managerial expertise is available, when called upon by the TOs and the host countries. (This would include both full-time staff and a roster of consultants).
- (2) The TOs, with the guidance and assistance of the PHAs, should encourage the host countries to shift the focus for project management up one level in the Ministries, from the current technical services unit level (e.g. EPI, MCH, HIS, Health Education, etc.), to that of the Director General (or the equivalent). This level should be given greater assistance, including the use of the remaining OR funds, in playing a greater managerial role in coordinating across the technical service units.
- (3) The TO and the Management Specialist from Atlanta should work with the Director General and other MOH staff, both medical and nonmedical, to outline the general parameters and a good deal of the details of an appropriate country-specific MIS for the MOH. Once the outline is agreed upon, a status report should be prepared, which assesses whether each of the system components and sub-systems covered by the MIS is operating satisfactorily and can be expected to

continue to do so after termination of donor assistance. (In many cases, pieces will be missing entirely, not operational, or variously designed so as to be difficult to integrate. The assessment should elaborate on all such aspects of current status).

- (4) The "sustainability/MIS" status report should be reviewed by a multi-disciplinary team of medical and nonmedical MOH managers with an appropriate mix of technical advisors, who should analyze and sort the problems and deficits identified into three groups:

those that can be remedied relatively quickly with minor systems modifications and inservice training;

those that can only be remedied by major systems modifications and long-term training; and,

those which appear to be inextricably wrapped up in personalities and politics.

- (5) The Project staff should provide assistance to the MOH to jointly address as many of the items from the first category as possible before project completion. (The implementation of such improvements can be planned to be consecutive and not necessarily simultaneous).
- (6) The issues from the second category should be written up, so they may be brought to the attention of appropriate MOH decisionmakers, who may decide to submit some or all of them as requests to the Ministry of Planning, to project designers following CCCD, or to other donors as appropriate.
- (7) Items from the third category should be brought to the attention of the appropriate authorities, to be addressed in the proper forum. In many cases, the personal conflicts surrounding such issues may be the results of technical problems, resulting from miscommunication, or frustration at not being able to identify the technical issues (and possible solutions) involved. The personal friction and conflict, which in the beginning, may appear to be a major obstacle, may in fact only be a symptom. Thus many of these issues, upon examination, may be shifted to one of the first two categories.

## **D. CORE ASSISTANCE TO OPERATIONS RESEARCH**

### **1. Discussion**

The authors of the Project Paper stated that it was important to keep operations research (OR) as simple as possible and to provide answers to specific questions. The

CCCD project developed bilateral Limited Scope Grant Agreements, regionally funded, which proposed that a Research Review Committee, consisting of host country health professionals and expatriate technical advisor(s), should be established in each country. Research proposals were expected to be submitted to the Committee for initial funding consideration and ultimately for review of the final product.

The "applied research" proposed under the project design was to be nonacademic small studies (under \$10,000 each, on average) focusing on problem solving. The intent appeared to be to encourage a new mind-frame in MOH decision makers and managers that would result in an improved ability to deal with the obstacles to implementation.

The research was to be supported by technical assistance from CDC Atlanta in both 1) the general methodologies of defining the problem, hypothesizing and testing the solutions (process); and, 2) the technical or scientific subject matter relevant to the issue being addressed (content). The implementation of the research was to be both regional (inter-country) in close collaboration with WHO/AFRO, and country specific, in collaboration with MOH personnel. The purpose of the technical assistance from Atlanta was primarily to transfer to the African health managers, practical applied research skills.

The role of the regional (inter-country) activities to be conducted with WHO/AFRO was said in the Project Paper and other early project documents to have been planned with and approved by AFRO in Brazzaville. Apparently there was a misunderstanding, however, because AFRO had already begun its own operations research program, which differed from the CCCD's intended approach to OR. Reconciling the two, and finding appropriate modalities for cooperation, took a good deal of time for the project implementors.

The third amendment to the Project Paper (1986), which extended the project, stated:

Activities during the period 1986-1991 focus less attention on operations research due to the feasibility of obtaining assistance from other A.I.D. funded projects for that purpose. The major remaining Operations Research activity during the remainder of the project will study the efficacy of routine antimalarial chemoprophylaxis in pregnant women under conditions of increasing resistance of plasmodium falciparum to chloroquine. ...These changes are already being implemented within current project authority and result in slight changes in proportional budgets for these areas.

The effect of this amendment was to absolve the CCCD project, from 1986 to the present, of any obligation to conduct research other than the medical study specifically mentioned. OR has continued however, but mostly of medical-technical issues. While the project design documents do not clearly specify a scope of work for the research, the

implication, confirmed in the Evaluation Team's interviews was that broader managerial issues were not only allowed as topics of research, but expected. Both CDC IHPO and AID/AFR/TR/HPN agree that more OR attention should be paid to studying management problems.

## **2. Conclusions**

Consistent with the "rapid deployment" approach characteristic of the overall project implementation, the research implemented focused primarily on the content of the research and the benefits it could provide in answers to medical-technical questions. Most of the researchers were non-African. The intent of using the research to create a new frame of mind in the health manager was partially accomplished by involving them in selecting topics to be studied, reviewing the results, and drawing implications for policy making and management decision making. The goal of transferring the research methodologies to increasingly more capable and autonomous African researchers does not appear to have been accomplished.

The research that has been conducted has been primarily in a few countries. In several of the in-country programs funded under the Limited Scope Grant Agreements, there has been virtually no activity at all funded out of the OR line item. This fact, the non-Africanization of the researchers, and the somewhat academic bent to the research topics selected, appears to result from the original project design. The implementing agency, CDC, was instructed to encourage the formation of Research Review Committees in each country, to which those desiring to do research would submit proposals and requests for funding.

The Research Review Committee is clearly an academic model, not likely to result in the gathering of managers to ponder implementation problems.

## **4. Recommendations**

- (1) The responsibility for applied research should be integrated into the MOH management structure. As discussed in the Program Management, and the MIS sections of this report, the responsibility and the resources for applied research should be shifted to the next managerial level above the current CCCD National Coordinators, generally the Director General or his equivalent.
- (2) The TO and the Program Management Specialist(s) from Atlanta should assist the Director General in identifying and addressing problems and obstacles which may be either medical, technical, or managerial in nature and devising appropriate means of testing solutions. These should include removing impediments to greater horizontal integration of the CCCD interventions and the pursuit of a fully operational MOH MIS.

## APPENDIX II-2

### INFORMATION SYSTEMS

By Anne-Marie Foltz, Ph.D.

In this section we analyze the objectives for information systems under the project, the strategies the CCCD program managers used to achieve these objectives, and assess the appropriateness of these approaches, with recommendations for the future.

#### A. OBJECTIVES

The 1981 Project Paper envisioned "Data Systems for Disease Surveillance, Program Management and Evaluation" as one of the four major components of the project's regional and country-specific activities. There were three objectives for these systems (p. 19a):

- Develop and strengthen surveillance systems of major causes of morbidity and mortality (i.e. epidemiologic surveillance systems);
- Develop and strengthen management information systems for needs assessment and problem identification; and
- Identification of indicators and proxies for monitoring and evaluating program performance and impact.

The focus of these objectives was narrowed in the 3rd project amendment (1986) to information systems capable of providing information on "national immunization, ORT and malaria treatment activities of a quantity sufficient for informed program management" (p. 6). The text went on to state that existing health information systems "are normally more than adequate for the purposes of implementing CCCD health information system components."<sup>1</sup>

In line with this focus, the Project was to develop by Fiscal year 1987, a database of child survival indicators from CCCD countries (p. 11).

The sixth project amendment (1988) added impact indicators to the list of four original support strategies.

<sup>1</sup>In retrospect, this assumption that existing national information systems were adequate to provide needed data seems wildly optimistic. Its assertion in a project amendment suggests some of the misconceptions under which project implementors had to labor.

These modifications of objectives, although not of seeming major import, have had the effect of nudging the project focus over the course of its history from supporting African management/health information systems in general, to supporting them for highly specific purposes (target intervention reporting, impact reporting). They have also emphasized the role of the implementing agency, by giving it the task of creating a child survival database.

## **B. STRATEGIES**

The Project has used six interrelated strategies to implement its objectives: computerization; epidemiologic surveillance systems; improvement of sentinel site or specialized reporting; improvement of national routine reporting; surveys to assess program impact; and development of country-based and regional feedback mechanisms.

### **1. Computerization**

The first strategy decision was implemented very early in the project. This was to move, as CDC officials termed it, from pencil and paper systems to computerized systems. From the earliest workplans as well as from interviews, the computerization of systems was described as the major focus of HIS activity.

During the course of the project, the Core has purchased and installed 80 computers in 11 of the 13 participating countries (excluding Congo and Rwanda). It has also provided training courses in computer use for nationals in these countries. As a result, in the countries remaining in the project to date, computerized storage, retrieval, and analysis of data are carried on at the central level. For data input and analysis, CDC consultants have introduced and trained nationals to use EPI-INFO, a user-friendly software package developed by CDC which is particularly appropriate for epidemiological analyses. The computers are also used by Ministry nationals as well as CCCD resident advisors and technical officers for surveys, outbreak investigations, and special studies.

As a result of this computerization, CDC IHPO officials can point proudly to the example of Togo, which previously took many years to produce its annual statistical report and which now produces at least a draft of its report within three months of the end of the year. Technical officers have been able for the past few years at the annual meeting to deliver to CDC IHPO diskettes of data (in Dbase) from their country, including data on immunizations, EPI target disease incidence, malaria and diarrheal disease incidence as well as some information on ORT use and for selected sites in some countries (e.g., Togo, Burundi), inpatient morbidity and mortality. Some of the data come from sentinel site reporting, some from national reporting systems, and some from surveys. IHPO staff then compile and analyze these data for the preparation of annual reports.

The evaluation team requested data from CDC to create a table on immunization coverage and measles incidence (see Volume I, page 23). Where CDC data were unavailable, we supplemented them with published WHO data. CCCD data are available for analysis from the Technical officers' diskettes, but to date, neither AID/W nor CDC IHPO has developed a database of child survival indicators from the CCCD Project data.

Computerization was also a major activity within CDC IHPO. Its management information system, for example, provided rapidly to the evaluation team information on the scope of activities of short-term technical assistance, on training, and on the status of CDC-generated research.

The introduction of computers into the CCCD countries has permitted central Ministry statistical services to process rapidly data received from the field. Concerns have been voiced about the sustainability of these systems. In two of the countries we visited, Togo and Zaire, Ministry officials do not seem to have addressed the issues of maintaining the systems when technical assistance ends to avoid their remaining dependent upon donors for maintenance, repair, and replacement of equipment.

Attracting, motivating, and keeping qualified personnel to program and maintain the computerized system is another problem endemic to many African countries. In Togo, the one well trained and energetic director of the statistics division was about to retire with no sign that the government was attempting to replace him with someone qualified. When he goes, most observers felt the system would go. In Zaire, the breakdown of leadership in the PEV-CCCD unit had led to a lapse in maintenance of the databases, the computers, and the output of analyses.

Computerization has had decided advantages for information systems, but the continued utility of computers requires a degree of development of institutional capacity, organization, and commitment which the fragile African administrative structures lacked and which have not yet received the same support and attention as the actual installation of computers and computer training of personnel.

## **2. Epidemiologic Surveillance**

The second strategy was to improve epidemiologic surveillance, a strategy which cut across the others and which had been the most carefully delineated in the project paper (p. 20):

...CDC will post three epidemiologists in Africa...These staff will split their time between regional communicable disease control organizations; individual country counterpart training and disease control activities; outbreak investigations; research; and regional training. In addition, two Atlanta-based epidemiologists will back up the field personnel.

Activities were to include: 1) enrollment of African communicable disease control managers in Epidemic Intelligence Services (EIS) three-week courses at CDC, 2) on the job training of counterparts, and 3) evaluations of country data systems for disease control.

The model for this strategy was CDC's experience in providing technical assistance for epidemiologic surveillance domestically for states and localities. By placing epidemiologists at selected sites, by providing formal training and on the job training for counterparts, and by making back-up personnel available, the Project would be replicating in Africa the model CDC had successfully used and was continuing to use to develop the epidemiologic surveillance capacity of state and local health departments.

CDC deployed two regional epidemiologists: one to Cote d'Ivoire in 1983 to serve the western region, one to Malawi in 1984 to serve the eastern region. It became quickly evident that the two regional medical epidemiologists were not being effectively used by the regional organizations or by the countries within the regions. They lacked an institutional base within those countries and with the difficulties of inter-country travel, they had as much difficulty traveling around their regions as if they had been based in Atlanta. Eventually, they began functioning as de facto country-based epidemiologists and were not replaced in Cote D'Ivoire after 1987 or Malawi after 1988. Country-based epidemiologists were placed in Nigeria and Zaire.

The Fifth Project Evaluation (1987) recommended a formal review of CCCD epidemiologic activities since much dissatisfaction had been voiced about the epidemiologists' multiple roles and activities.<sup>2</sup> The evaluator's recommendations laid the groundwork for the decisions to place epidemiologists in Zaire and Nigeria and for providing back-up from Atlanta for the other countries. Epidemiologists who had served in the field told our evaluation team that they felt they were much more effective and useful to the countries when they were residents than when they were Atlanta-based backstoppers.<sup>3</sup>

<sup>2</sup>The epidemiologists also had major responsibility for promoting and carrying out research. This promotion included training for research as well as identifying appropriate research projects and researchers. For more on this point, see Appendix II-5, Operations Research/Applied Research.

<sup>3</sup>Our evaluation team was asked to look into the question of whether Atlanta-based epidemiologists were less costly than field-based ones. CDC estimated the later cost \$280,000 a year while the former cost about \$200,000 a year (Carol C. Goettl to Harvey E. Gutman, Letter, October 23, 1990 and Carol Goettl to John Raleigh, personal communication, February 1991). The comparability of these figures is not easy to access. Nor is it easy to evaluate the comparative impact. However, the greater availability of the field-based epidemiologists for host country needs makes it hard to believe they were

The epidemiologists, whether based in the region, the country, or Atlanta, provided support for disease surveillance, conducted special studies (such as active surveillance of polio in Zaire), assisted with disease outbreak investigations, provided technical support for ORT and HIS, and trained counterparts where they were available.

One of the problems was finding an appropriate institutional base for the medical epidemiologists to assure that their activities could be institutionalized. In Zaire, for example, the CCCD program and hence the epidemiologist, was part of the EPI (PEV) program unit which operated almost autonomously vis a vis the Ministry of Health. This is not necessarily the most appropriate institutional base for national epidemiologists, but here, at least, there were counterparts who could be trained to replace the expatriates even if the EPI structure was a constraint. In Malawi, the epidemiologist said he had no real counterparts in the Ministry between 1984 and 1988. As a result, he could carry out many of the tasks of a medical epidemiologist but could not train a Malawian to replace him.

In Zaire, we were told, the CDC epidemiologists tended to work more on their own research projects than as trainers for building local programs. Although at least two excellent national epidemiologists have been trained by the CCCD program, both were absent at the time of our visit (one having been hired by an international organization). Thus, we were unable to evaluate the extent to which in-country epidemiologic surveillance capacity had been increased during eight years of technical assistance, but we were left with the impression that it had not yet been successfully institutionalized.

The CDC model of technical assistance for epidemiologic surveillance which has worked successfully in the United States seems not to have reaped similar results in Africa under the CCCD Project. The reasons for this may have less to do with the activities and skills of the epidemiologists than with the situation in African Ministries of Health. In the application of the model to the United States, State and local health departments had already been receiving assistance for institutional development from the federal government for nearly 20 years before the CDC program began, while physicians available to be trained in epidemiologic methods were not in short supply. Neither condition obtains in most African countries, even today. African Ministries of Health are fragile institutions with little capacity for expansion, limited budgets (particularly during the 1980's), and limited organizational skills. Physicians are a rare commodity and in high demand. As a result, project designers may have overestimated the capacity of African Ministries of Health to absorb epidemiologic surveillance services.

Nor is it easy to evaluate the comparative impact. However, the greater availability of the field-based epidemiologists for host country needs makes it hard to believe they were not more effective (as they believe they were).

### 3. Sentinel Site and Specialized Reporting

The third strategy was to gather data on CCCD target activities by developing sentinel site reporting in the participating countries and/or by preparing specialized reports through national routine reporting systems. This strategy, we were told, was framed to respond as expeditiously as possible to the requirements of the project objective to gather data on target activities while avoiding getting bogged down in the more daunting task of improving health information systems for countries where such systems were not well developed. The decision to proceed with the development of these alternate data collection systems was in itself a tacit recognition among project implementors, that despite the statement to the contrary in the third project amendment, existing health information institutions were not adequate for the purposes of implementing CCCD health information system components.

In all countries, as part of the EPI program, improved methods to monitor program activities, e.g. doses of vaccine delivered, were introduced by CCCD technical assistance as part of the extension of the program. Training was provided in data collection and record-keeping. These data were then collected and analyzed usually by computer by the Ministry of Health agency in charge of the program. They have provided satisfactory methods to assess EPI program activities.

Data collected from sentinel sites, although not necessarily representative of a country, if regularly collected and analyzed, are valuable for disease surveillance. Sentinel site reporting for measles was introduced in Cote d'Ivoire and Lesotho, for targeted inpatient morbidity and mortality reporting in CAR, Liberia, and Zaire; for targeted outpatient morbidity in CAR, Nigeria, and Zaire. As rule, the CCCD Project did not assure local level training and follow-up monitoring for facilities participating in the sentinel site system surveillance.

Sentinel sites, although expedient, still required ministries to develop management and supervisory systems at least for the participating sites, which in some larger countries, such as Nigeria and Zaire, numbered over 100. Meanwhile, these facilities usually still had reporting requirements from other agencies.

Getting regular data reports from sentinel sites has not proved easy in two of the countries the team visited. We were told that in Lesotho, the sentinel measles reporting was not functioning well and had been dropped in favor of the routine reporting system which was in place before the project began. In Zaire, among the 120 facilities ostensibly in the system, we were told that an irregular number reported and that the number of facilities reporting that appeared on published reports was "theoretical." In Zaire, we also learned that clinic nurses, responding to a large number of reporting requirements, some of them overlapping, from different programs (of which CCCD contributed only a part), were maintaining at least a dozen notebooks daily. In one clinic, a conscientious

nurse showed us 14 notebooks that he and his staff used to record their activities. They said they found the reporting requirements time-consuming and burdensome.

In some countries, such as Togo, separate reports on CCCD targets, such as data on ORT and chloroquine use, and malaria and diarrheal disease incidence, were added to the routine reporting systems. As a result, clinic nurses, in order to fill out their monthly reports, were required to go through their register of patients three times, once for the routine disease report, once for the diarrheal disease report, and once for the malaria report. They acknowledged they made frequent errors following this tedious process.

The strategy of designing expedient systems to obtain program-specific data provided the CCCD Project with the data it needed to evaluate its activities. It also created duplicated and overlapping tasks for those at the bottom of the data collection chain.

#### **4. Improvements to National Facility-based Routine Reporting Systems**

The fourth strategy, which received less attention than the preceding three, was to improve, where possible, existing routine reporting systems. In Burundi, the C.A.R., and Togo, CCCD staff working with Ministry of Health officials succeeded in shortening the pre-existing lengthy lists of reportable diseases. Some of these diseases were of no significance to the countries; others were undiagnosable by the techniques available. In Togo, for example, the list was reduced to a manageable 50 diseases which will eventually provide the Ministry with more usable information. Meanwhile, Togo still has some problems to work through since its implementation was not accompanied by the creation of a national guide for diagnostic classification to assure conformity in reporting. Nor have health workers yet been trained to record diagnoses correctly.

In Rwanda, the CCCD Project technical assistants helped the Ministry improve its reporting system so that it could be used for surveillance and monitoring of health facility activities and performance. We were informed by recent visitors to Rwanda that this system is still functioning satisfactorily even though Rwanda stopped participating in the CCCD Project in 1988.

In 1984, when the CCCD Project signed a contract with WHO/AFRO, the intention was that 20 percent of the funds would go toward the development of health information systems. By the end of 1986, WHO/AFRO had presented a proposal which would focus improvements for developing management information at the district level. A.I.D. felt that this undertaking was too long-term considering the brief time that remained in the contract (to 1988) and suggested that they produce "a workable plan that could produce some useful short-term results." As a result, this particular regional approach to health information system development was abandoned. Meanwhile, WHO Geneva had begun developing its CEIS computerized reporting system for immunizations

which WHO/AFRO has been introducing into selected countries. The CEIS system is installed in the EPI administrative unit, usually as a system separate from other routine reporting systems.

Perhaps most significant for the routine reporting systems, which required processing of data from large numbers of facilities, was the CCCD's introduction of computers at the central level to permit more rapid data entry and analysis. As a result, routine reporting systems on diseases have improved in selected CCCD countries. What have not been affected or improved are the management and logistics data systems on activities (with the exception of EPI), resources, and personnel which central and regional Ministry officials need in order to plan and administer their programs. Although establishing such systems were part of the original project paper's objectives, these goals had faded by the time of the Third Amendment in 1986. By focusing on the selected interventions, the CCCD Project was able to tease out some of the data it needed to assess its three interventions, but at the cost of not providing broader management information to ministries. Major improvements were made at the central data processing level, not at the base. These systems still run a high GIGO risk because the problems of data collection at the base were not directly addressed by the project.

## **5. Measuring Project Impact**

The fifth strategy was to develop the means to measure project impact through the development and implementation of surveys. Since 1986, the CCCD Core has contributed assistance to Ministries of Health carrying out immunization coverage surveys, sometimes combined with ORS use surveys. These surveys, which use standardized WHO cluster techniques, are usually joint efforts by host countries and groups of donors (UNICEF, WHO, and others). The contribution of each donor varies from country to country from year to year. At various times the CCCD Project has contributed staff time, vehicles, and assistance with analyses to these surveys, such as those that have taken place annually in Togo or every two to three years in Lesotho.

CDC epidemiologists have also carried out research to find improved impact indicators. Such research in Burundi, for example, led to the development of an improved way to estimate neonatal tetanus toxoid coverage by ascertaining the mother's vaccination status at the child's post-natal check-up.

The major activity in measuring project impact was the Mortality and Use of Health Services (MUHS) surveys which were carried out originally in three counties in Liberia, one region in Togo, and in two health zones in Zaire in 1984, and which were followed up in Liberia and Zaire in 1988-89. Methodological problems in the first wave of surveys in 1984, produced child mortality rates so low that resurveys were carried out in 1985 in a sample of the original clusters in all three countries. To estimate the changes in utilization of health services and mortality, the CDC IHPO Core carried out

follow-up surveys in two counties in Liberia in 1988-89 and in one health zone in Zaire in 1989.

The results, reported in a series of papers being prepared for publication and made available in draft form to the evaluation team, suggest that the increase in CCCD supported immunizations and other selective interventions, such as ORT, resulted in a significant decrease in child mortality in two counties in Liberia and one health zone in Zaire.

It is beyond the scope of this evaluation to assess the validity of these conclusions, and A.I.D. has not independently reviewed the findings, but we will note some of the concerns about these studies which were raised during interviews. Some respondents questioned whether the sample size of the final surveys was large enough to permit the detection of real differences in mortality rates and whether the sample selection in the field using the WHO methods was appropriate. Other methodological issues raised were: 1) the lack of control regions (the health zone in Zaire initially designated as a control had been administratively merged into the experimental zone over the course of the project), 2) whether the low immunization coverage achieved in Liberia was sufficient to explain the declining mortality rates, and 3) whether the small samples and lack of reporting of confidence limits in Zaire limited interpretation of findings.

Finally, questions were raised about what conclusions to draw from the findings: is immunization coverage, particularly measles vaccination coverage the appropriate explanatory variable given that other variables, not studied, such as socioeconomic ones may be important factors? what is the meaning of these findings given that data from nearly all other African countries also indicate a secular decline in infant and child mortality rates during this period? even if immunization coverage explains mortality decline, can the existence of improved health services be credited to CCCD Project activities since many other donors were active (and frequently more so than CCCD) in these regions?

There were also raised questions about costs and the sustainability of MUHS surveys. The surveys were, in fact, designed to provide project impact indicators, not to establish permanent systems of gathering information. CDC estimated the total costs of the surveys variously at \$250,000 for all surveys,<sup>4</sup> and \$250,00 for Zaire alone.<sup>5</sup> These estimates seem low compared to DHS surveys which estimate costs of \$250,000 for a single survey. CDC conducted MUHS surveys in three countries in 1984, resurveys in

<sup>4</sup>Joe Davis, Draft review of Draft Core Evaluation, 9 January 1991.

<sup>5</sup>A.A. Vernon, W.R. Taylor, A. Biey, et al. Changes in Use of Health Services in A Rural Health Zone in Zaire: A Public Health Case Study. Draft, Atlanta, GA: Centers for Disease Control, no date, p. 16-17.

three countries in 1985, and follow-up surveys in two countries in 1988-1989, for a total of eight surveys. CDC's cost estimates do not seem to include all the costs for in-country work. Nor do they include, for example, 238 days of technical assistance to Liberia in 1988 for operations research which, we were told, was for the expert staff conducting the MUHS survey. To keep those experts in the field for that number of days could cost more than \$200,000.

During the course of the project, questions were raised from time to time about whether the MUHS surveys should be undertaken and once begun, whether continued. When the issues were examined, as in the Third Annual Evaluation (1985) and Fourth Annual Evaluation (1986), the recommendations were that they should be continued. The issue of cost was not raised in the evaluation documents.

The Core designed the MUHS surveys and supervised implementation, hiring and training nationals as interviewers. The Core also took responsibility for analysis which was handled by CDC in Atlanta and by experts at Johns Hopkins University. Because of the implementation design, it was not expected that the host countries would develop their own institutional capacity and they did not do so. Since the surveys were carried out in very small areas, their results, however they are eventually evaluated, are not likely to provide much guidance to Ministry of Health planners for assessing health needs and future resources except in those targeted areas where the surveys took place.

CCCD program implementors considered alternative sources for mortality indicators. We were told they did not attempt to work with or improve existing vital statistics systems because in the CCCD countries vital events registration was inadequate for developing mortality data and circumstances were not appropriate for development of such systems. We do not know if country-by-country analyses were carried out or whether these conclusions were drawn as a part of the early country assessments, although for Lesotho, the only country assessment we reviewed, the issue was not addressed. We tend to agree with the conclusion that vital events registration is poorly developed in these countries. Whether such registration systems can be or should be developed and whether such systems can bring additional benefits such as data for population estimates, health catchment areas, and democratization efforts, these are significant researchable questions which should be addressed.

The CCCD Project promoted the introduction of an alternative method of assessing mortality, the Brass-Macrae method which inquires into the fate of preceding births among women at the time of a subsequent delivery. The technique, to be successful, requires good supervision in maternities to assure reliable data collection and reporting. This technique was introduced to CCCD country representatives by CDC consultants at consultative conferences and elicited a good deal of interest, with follow-up support provided by CDC public health advisors. In Zaire, we were told the PEV had begun to collect data on preceding births at selected maternities. We found that Zaire had implemented the system without establishing criteria for selecting the maternities,

and without providing training for those collecting the data. As a result, some skepticism was voiced (and with which we concur) whether this technique, which requires close administrative monitoring would produce useable results. More research on the organizational requirements for successful implementation of the technique might be helpful here.

## **6. Feedback Mechanisms**

The sixth strategy was to assist host countries and WHO-AFRO to develop feedback mechanisms to regional and local health workers through the publication of quarterly epidemiological bulletins. In all the countries, the CCCD Project through technical assistance and by making funds available, encouraged Ministries of Health statistical services to produce bulletins. Five countries, Nigeria, Zaire, Burundi, the C.A.R., and Lesotho had produced epidemiological bulletins by 1989. All but Lesotho began publication in 1989. Nigeria produced a journal of primary health care which contained news from health zones and addressed organizational as well as epidemiological issues. Burundi's and Zaire's bulletins focused on CCCD target interventions, while the C.A.R.'s bulletins offered statistical information but also analyzed the participation of health facilities in the newly implemented information system.

Lesotho has had the most ambitious and informative bulletins and has been publishing them for five years. They include scholarly articles on disease control, prevalence, immunization surveys, as well as population estimates and immunization and notifiable disease reporting. We were told this is the one bulletin which was well institutionalized: the Ministry has been paying for it out of its own budget for the past few issues, and had designated a Basotho editor to replace the expatriate who is about to leave.

In Zaire, only two bulletins were published in 1989, and we were told no more could be published because they lacked funds. In a few other countries, such as Togo for example, the statistics service prepares and distributes a quarterly print-out of health statistics, but these are not highly readable documents.

We were unable to ascertain how much the bulletins published were used or appreciated by regional and local health workers.

The WHO-AFRO bulletin, which is funded from the Core published four issues for 1989 and one for 1990. However, the last two issues were actually published in October 1990. The editor said it was not intended as a scholarly journal, but directed to health workers. For example, the most recent issue was devoted to setting out the WHO recommendations for malaria prophylaxis and treatment, as well as prevention strategies though the use of impregnated bednets. Recent issues also contained country reports on morbidity and mortality from infectious diseases.

The editor said they receive few submissions of articles (no more than four during the past year), and most are of poor quality which is why they do not publish them. The CCCD Project research is apparently not submitted to the WHO/AFRO Bulletin for publication. WHO publishes 7,000 copies of the bulletin and distributes them to the WHO representative in each country. The distribution beyond that level is unknown. We were unable to obtain evaluations from in country health workers to see what they thought of the bulletins.

The impression one gets is that the bulletins are in an embryonic state and may even be running ahead of country capacities to generate data. It certainly seems to be running ahead of country capacity to generate and publish research (Lesotho excepted) as well as ahead of country willingness to institutionalize and pick up the costs (again, Lesotho excepted). The WHO/AFRO bulletin seems to be still in search of its mission. If it is supposed to be a regional equivalent of the U.S. MMWR (Morbidity and Mortality Weekly Report published by the CDC), then it will need first to receive better epidemiologic reporting from the countries. If it is supposed to be a forum for assisting regional and local health workers, then it will need shorter and more specific articles about solutions to operational issues which concern these workers, rather than limiting itself to disseminating standards. Input from local and regional health workers would help.

## **B. Appropriateness of Approaches: Constraints and Lessons**

Considerable short-term technical assistance from the CDC PASA has gone into HIS development. In fiscal 1984, this amounted to more than 12 person months.<sup>6</sup> From 1985 to 1990, 1100 person days (10.2 percent of CDC PASA technical assistance), went toward this endeavor. In addition, since Technical Officers are computer literate, they play significant roles in promoting, training, and assisting with the computerization of local information systems.

For a brief period in 1986-1987, the U.S. Bureau of the Census, International Office, provided technical assistance for developing and testing health utilization surveys in Cote d'Ivoire and for assessing health information systems in Liberia. AID/W also requested in early 1990 BUCEN's assistance to develop a spreadsheet to track project obligations. This system was completed in October 1990, permitting the program managers in A.I.D. to monitor activities expeditiously.

### **1. Models for Information Systems**

The CCCD Project found it useful to approach each country's information system development as a separate problem to be resolved in the context of that country's

<sup>6</sup>CCCD Third Annual Evaluation, 1985, p. 31.

particular situation. This explains the wide variety of approaches that were used such as sentinel site reporting in some countries and national reporting systems in others. The project also used three models for implementing information systems: computerization of central Ministry data, epidemiologic surveillance systems, and epidemiologic bulletins. Although all the approaches were implemented to greater or lesser extent, some of the problems they encountered suggest some of the constraints confronting application of these models.

The computerization of central Ministry data processing was instituted in nearly all project countries. This new technology has presented great advantages for data processing in the central Ministry. The emphasis on this one aspect of information systems, however, has distracted attention from the system as a whole. The usefulness of an information system is dependent not only on the final data processing but on what occurs every step of the way, from the time a clinic nurse first records a datum to the time a central ministry planner uses the data to allocate resources. In the CCCD approach to HIS development, the computerization model has taken precedence over the systems model of which computerization is a small and not always a necessary part, as witnessed by the many countries which survived for centuries without the benefit of computers.

The epidemiologic surveillance system model was drawn from CDC's continuing successful experience with providing technical support to state and local health departments in the United States. One must consider the state of development of African Ministries of Health compared to U.S. health departments to understand why the model has not been as useful in Africa. In the United States, State and local health departments were well organized and functioning institutions by the time the CDC Epidemic Intelligence Service was instituted in the 1950s. The health departments had functioning laboratories, statistics departments, regulatory powers, and qualified staff. They had achieved this state through increased financing from local coffers matched by grants from the federal government starting in the 1920s, as well as through considerable public and private investment in public health training. In Africa, few of these conditions exist. African Ministries of Health have not yet succeeded in building the basic infrastructure which was recognized as being absolutely necessary for health departments in the United States during the early part of this century. As a result, the considerable inputs and activities of epidemiologic support offered by the CCCD Project could not find an institutional base in which to flourish and be sustained. The epidemiologists provided excellent support and advice in disease surveillance, research, and control, but were less well placed and qualified to help Ministries develop the organizational and management tools they would need in the long-run to carry on this work.

For similar reasons, the epidemiologic feedback bulletins, as important as they may be in the long run, have had difficulty in getting established and incorporated as part of Ministry activities and concerns.

## **2. Point of Administrative Entry to Information Systems**

The CCCD Project, focused as it was on three selected interventions, entered Ministries of Health where these three program interventions were housed. The usual focal point for the CCCD activities was the EPI program which was usually housed in a directorate down the chain of command in the Ministry and far removed from the Director General. Whatever changes the project succeeded in making in information systems were viewed as program specific, not of general interest. The data collection and analysis instituted by the project were viewed as being owned by the program, not by the Ministry. The Project could, for example, assist the Togo EPI program to collect immunization data, the malaria program to collect malaria data, and the diarrheal disease program to collect diarrheal disease data, but because of the Project's organizational location, it could not bring about changes in the whole data collection and analysis systems to avoid duplication. Most successful was the reporting on EPI activities where the project could have the most input; least successful was diarrheal disease reporting where the project had the least input (since it was located in a different administrative division).

The constraints of this selective administrative approach became more evident as the project expanded from EPI to the other interventions. The exception that we saw to this approach is Lesotho, where the CCCD Project activities and information system improvements were integrated into the Ministry MCH division receiving support from highest levels of the Ministry from the beginning. These continue to work well and may prove an instructive case study in why integrated information systems and integrated delivery systems work well.

## **3. Sustainability of Systems**

Whether an information system is sustained depends on its perceived utility by host nationals, whether it meets their needs for program impact assessment, for policy formulation, and for management decisions. From the host nationals' point of view, the latter is often the most important. In a country such as Lesotho, the information system was already well developed; the CCCD Project could help it along through computerization and other activities, and the government seems committed to sustaining it. In two other countries we visited, the prospects seem less sure. In Zaire, there appeared to be little government commitment to investing in the system developed, or in maintaining the computerized data systems in the PEV. In Togo, Ministry officials voiced much pride in the statistical yearbooks the CCCD Project had assisted in publishing, but we learned that the Ministry officials when developing a World Bank program analysis earlier that year had not used those data and that the Ministry had made no progress toward replacing the indispensable director of the Statistics Unit when he retires. In the Ministry, the statistics unit developed and supported by the CCCD Project was viewed as part of epidemiology/immunization activities and irrelevant to the

needs and concerns of the rest of the ministry, such as the delivery of maternal and child health services.

The limited epidemiologic focus of CCCD information systems meets some of the needs of Ministry officials at the central level and few of the needs of regional and local health workers. The unmet needs are in the domain of management information for surveillance and monitoring of activities and resources. Since having a successful information system depends on the cooperation of data collectors and users, improving the utility of the information systems for these health workers and officials is a necessary element to assuring sustainability of systems.

#### **4. Impact Indicators**

Infant mortality is a favored indicator on the international scene for measuring progress in child survival. In the absence of sources of these data through vital registration systems such as are found in developed countries, the CCCD Project settled on the MUHS surveys as the means of estimation. The surveys themselves proved more difficult and more costly to implement than had been expected, and less informative for host governments than would be desired. As a result, the CCCD Project began suggesting the use of the alternative Brass-Macrae technique, which has advantages, but also drawbacks and which is not well tested.

If infant mortality continues to be an indicator that is desired by donors and host countries alike, then alternative means of measuring it need to be devised. At present, for Africa, not enough is known about the relative benefits, the administrative requirements, and the costs of three of these methods, vital registration, surveys, and the Brass-Macrae system. For example, vital statistics registration, although having high administrative requirements brings benefits beyond infant mortality estimates and beyond the health sector, such as data on population movements, denominators for establishing catchment service areas, data on population for democratization efforts, not to mention the ability to establish identity cards (something all African countries require of their citizens). The benefits and costs of instituting a permanent administrative framework for such a system must be weighed against the costs and benefits of doing surveys whose institutional effect is more ephemeral and whose data are episodic.

Program impact indicators which measured the outcome of project activities, such as immunization coverage and ORS use were more readily available and could be collected.

The experience of the CCCD Project in measuring project impact is that it is neither easy nor inexpensive. Surveys, particularly, are expensive and leave the least behind in terms of sustainable results for host country administrators. More attention needs to be directed in the future to impact indicators which can serve host countries' management needs as well as donor impact assessment needs, indicators which are easy

and relatively inexpensive to collect, and which are sustainable because the host country has an interest in them. Before launching more attempts at measurement, it might be well to step back to research and evaluate the experience to date with these indicators.

#### **D. RECOMMENDATIONS**

##### **1. For the Last Years of the Project**

- 1) We recommend that emphasis be given to the sustainability of information systems already in place, to integrate CCCD systems with other Ministry systems, and to assist host countries to develop a sense of ownership and commitment in terms of financing and personnel to the existing computerized systems in the central ministries.
- 2) We recommend that the CCCD Project managers review and modify insofar as possible the reporting systems it has instituted to assure CCCD it receives data relevant to assessing project impact but which does not create duplicated tasks for the health worker at the bottom of the data collection chain.
- 3) Finally, to improve the quality of data, we recommend that the project tie the health information system in with a supervisory system that will provide training for local and regional health workers in reporting data (and filling out reports) and in how to use the data for their own needs.

##### **2. For a Future Project**

- 1) We recommend research be directed in two areas:
  - first, to learn from the experience of other projects and donors across the African continent what methods of organizing health information systems produce useful and reliable information in these countries;
  - second, to develop understanding of the relative advantages, of administrative and cost requirements and efficacy of project impact indicators for morbidity and mortality, (e.g. surveys, vital statistics, Brass-Macrae).
- 2) We recommend that, in future projects, A.I.D. support African Ministries of Health to develop integrated routine reporting systems that can provide information for management needs as well as program impact indicators. Information systems should be viewed as means of reinforcing and supporting administrative structures.

- 3) From the results of research, A.I.D. should provide assistance to African Ministries of Health to develop less expensive program impact indicators that can serve multiple purposes for planning and management at local, regional, and central (and donor) levels.

## APPENDIX II-3

### TRAINING

By Sif Ericsson, Ph.D.

There have been numerous training providers in the CCCD Project, including CDC, Peace Corps, and the African Office of the World Health Organization (WHO/AFRO). Most of the training has been provided by WHO/AFRO. Training was also provided through a PASA with Peace Corps and through CCCD buy-ins to projects centrally funded by the A.I.D. Science and Technology Bureau: HEALTHCOM, the African Regional Health Education Center (ARHEC), and the School of Public Health in Zaire.

#### A. THE CDC PASA

Even though training was recognized as a necessary support service to the CCCD countries, it has not been a major part of the CDC Core support activities. The Core has supported only one CDC training staff person and some outside consultants.

Initially, the CDC used the training materials and approach which had been developed for the WHO/CDC EPI modules, i.e., conducting national workshops with national facilitators and providing limited external support. Follow-up activities and additional training were the responsibility of the TO. Generally, the TO arranged and planned the courses and assisted the facilitators with the courses for senior and midlevel managers, mainly in EPI. An HIS course was also developed and used. During the first few years, courses for refrigerator technicians were arranged in cooperation with WHO and UNICEF. The modules were adapted for national use, and training in EPI for peripheral health workers was added. Pre and post-tests were developed in order to assess the effectiveness of the training. This was complemented in 1989 with instruments developed in Nigeria that measure practical skills. CDC will encourage their use in other CCCD countries.

By 1984, it was evident that improvements were needed in the conduct of the courses. The facilitators were not using participatory training methods, and there was evidence that the training was less effective than desired. Thus, two regional courses on the training of trainers (TOT) were given in 1985 and 1986, focusing on experiential training methods. These courses were followed up in some countries with national TOT courses. The effort, however, was not sufficient to provide a critical mass of trainers using participatory training methods in all the CCCD countries. Also, it soon became evident that the countries preferred to use WHO training modules rather than materials developed by the CCCD project. Therefore, CDC developed facilitator guides to use with the WHO training modules in the CCCD countries. These facilitator guides use

participatory methods and draw on the practical experiences and problems of the health workers. CDC has not shared these guides with WHO/AFRO, and they have not been used outside the CCCD countries.

The CDC Training Coordinator had advocated the assessment of the performance of trained health workers to determine what training they needed. But no assessments were done until 1985, when CDC began emphasizing the identification of actual skill deficiencies of personnel and tailoring training to overcoming these deficiencies. By 1989, faculty assessments had been performed in eight countries, and important performance problems had been identified. For example, problems were found in the information and education given to children's caretakers. Other deficiencies had also been noted in immunization coverage surveys, which indicated that vaccinations were sometimes given too early.

Some of these performance problems were due to faulty training but, more often, they reflected the lack of regular supervision and necessary resources. Training was also provided to supervisors. Four countries now use supervisory checklists for the EPI program. In addition, seven countries are conducting on-the-job training.

The use of facility assessments to identify training needs and establish a link between training and supervision could have been introduced earlier and developed more extensively if sufficient attention had been given to training at the beginning of the project. The CDC Technical Coordinator and the current Manager of Technical Services should be credited with developing this approach and persuading the country Technical Officers to experiment with this approach, which has the potential of producing significant improvements in the performance of the health workers.

Most of the countries do not establish annual training plans to coordinate the activities of the MOH and all the donors in the health field. They also do not have full-time trainers who have been trained in using the training material and appropriate teaching methods. Although CDC has tried to influence countries to adopt in-service training programs, doing so has been heavily dependent on the interests and skills of the TO. The development of in-service training has been most successful in Lesotho and the C.A.R.

Pre-service training has never been an objective of the CDC PASA. In some CCCD countries, other projects worked with the schools of medicine, nursing, and midwifery to introduce the CCCD interventions into the school's curriculum. The CDC Training Coordinator recognizes the need for future developments in this direction which should be an objective of the follow-on project.

Support strategies received limited attention and funds from CDC. This is also true for training, although it was recognized from the beginning that training was necessary in order to implement the programs. However, it was up to the Technical

Officer in each country to request assistance from the CDC Training Coordinator. Such requests were thus dependent on the Technical Officer's interest and his or her recognition of the needs for training. The success of the training activities became a function of the Technical Officer's interest and involvement. This accounts for the uneven development of training capabilities in the different countries. For example, in Togo most of the training is conducted by the CCCD National Coordinator, assisted by the Technical Officer. In contrast, in the C.A.R. national training materials were developed in EPI and CCD by nationals and introduced at national workshops where Regional Trainers were taught to use the materials.

CDC has also provided some management training in Atlanta for Program Managers in the CCCD counties. This training has also been appreciated by the participants, but there is little indication that it has made any difference in the management of the in-country projects.

## **B. WHO/AFRO**

The first part of the WHO/AFRO regional training grant (1985-1989) financed 52 different courses that were attended by about 1,000 participants. There were 16 English, 27 French, three Portuguese and five bilingual (French/English) courses.

The WHO/AFRO Regional Training Program had these major objectives:

- to provide trained senior epidemiologists in each country in the region;
- to train midlevel district managers in epidemiology;
- to train a group of trainers in each country who could use the WHO training modules in national training courses;
- to train a sufficient number of program managers for each country in the three main areas of child survival: EPI; and CDD;
- to train midlevel managers in all countries in EPI, CDD and malaria control; and
- to train health personnel to establish and manage an ORT corner in the health facility.

In order to achieve these objectives, training modules have been developed for all the areas listed above. The grant has financed the development, translation, and duplication of the training modules developed in ARI, malaria control and epidemiology. Training materials for other areas were developed by WHO Geneva (sometimes in cooperation with CDC). The EPI modules were already available when the CCCD

Project started, and regional training had been used in 1977. The remaining materials were developed in the following order: senior-level epidemiology, CDD, ARI, midlevel epidemiology, and malaria control. This cycle of development mirrors the introduction of the different programs in the CCCD project countries. In most of the courses given during the last 2 years, CDD and EPI training were combined into one course.

The training methodology in CDD, ARI and malaria control is the same as the one introduced in the EPI modules. The courses generally are given for 5-12 days, with up to 30 participants. Each course has a course director, one or two facilitators from WHO, and six to eight facilitators from the country in which the training is given. In addition to ensuring a low trainer-to-participant ratio, this strategy also provides a pool of people in each country who can give courses using the modules.

Selection of participants for training is based on criteria supplied to the countries by WHO/AFRO. The participants in each course are required to read sections in the training modules and carry out activities indicated at the end of the reading. These activities and the readings are then discussed in a group with a facilitator. In general, there is no evaluation of the participant's skills and knowledge at the beginning and end of the course. Also, there has been no follow-up of participants in the different courses to assess the appropriateness of the training or the selection of the participants.

However, despite the lack of follow-up, it is evident that the training has had an important impact on the different child survival activities in the region. In all countries in the region, not only the CCCD countries, trained health care workers are maintaining the cold chain, vaccinating children, and providing ORT. These people have been trained either in the WHO courses or by trainers using the WHO modules, sometimes adapting the modules to specific conditions in the country. This is an important contribution of the CCCD project. The introduction of the ARI and malaria control modules will probably lead to increased attention to and improvement in these services in the region.

The main problem with the WHO/AFRO training has been the lack of follow-up of the participants in order to assess how they have used their training, evaluate their needs for further training, and provide data for revision of the training modules. Revisions, based on feedback from trainers and participants, have been done in some of the earlier modules, but these revisions have not been based on an evaluation of the skills of the people trained in the courses.

The method used by WHO/AFRO to train the facilitators has not been satisfactory. The trainers have not learned how to use participatory training methods and have also not received assistance in how to adapt the WHO modules to the specific conditions in their countries. Partly, this is a function of the training materials. The modules are designed to be partly self-instructional, and the role of the facilitator is limited to checking the participants' answers to exercises and discussing the results of the

exercises (case studies, role plays, coverage surveys, etc.). As a result, the TOT has had a very narrow focus which may have limited the usefulness of the national training.

Courses in epidemiology have had less impact than other courses on activities in the country programs. The follow-up evaluation of some participants in the 3-month epidemiology courses, though incomplete, showed that most participants have not had the opportunity to use skills acquired in the course. This may be due partly to the research orientation of the course, but it is also a function of the selection of the participants and the lack of senior personnel in the region. Very few, if any, of the participants have the time to devote to epidemiological investigations and surveillance.

The midlevel epidemiology course was field-tested in 1988-1989. Thus, there has not been sufficient time for this course to have had an impact on the performance of the midlevel managers or to carry out an evaluation of the participants' learning. It has a practical orientation; hence, it may lead to improved epidemiological surveillance on the district level.

WHO/AFRO has also trained nursing and midwifery school trainers in the use of a problem-solving approach to training. WHO/AFRO courses focused on teaching participants to develop modules in EPI, CDD and ARI for use in the schools.

The WHO/AFRO regional training has also served to introduce new or changed policies in areas of child survival as they have emerged as important factors in the program. The introduction of standard policies for malaria control and ARI into the child survival program is an example of this. In addition, the current WHO/AFRO training grant allows for the production of a new training course, aimed at integrating the child survival areas with a special focus on the need for supervision and use of health information at the district level. In the new grant, funds are also available for evaluation of the courses, and for some follow-up activities. These will allow WHO/AFRO to conduct some training needs assessments and to revise materials based on feedback from the former course participants.

### **C. OTHER TRAINING EFFORTS**

Most additional training in the CCCD project has been in health education. The Peace Corps PASA included funding for some in-service training of PCVs and their counterparts. This training has been instrumental in providing some sustainability in the PCVs' work at the post in Togo, for instance. However, these efforts have been local and not had much impact on health education in most of the areas of the country.

HEALTHCOM has also provided some training for health workers and media personnel. In Zaire, HEALTHCOM provided training in health education for teachers at some nursing schools. It also trained, community mobilizers to deliver messages about immunizations and ORT in their local communities.

In regional training of health educators and program managers at ARHEC, Nigeria (three courses) and the School of Public Health in Zaire (two courses), participants have been trained to plan health education programs. A 4-week course was designed, based on needs assessments and results in country plans for health education activities. Each course focused on one of the CCCD interventions (EPI, CDD, or malaria control). The participants were to return to their respective countries, obtain funding for their plans, and then implement and evaluate the activities. The courses were rated very highly by the participants, especially the health educators.

There are 11 training modules, each focused on a step in the planning, implementation, and evaluation of a health education program. The modules contain objectives, a short text explaining the principles of each step, exercises, and additional readings. The exercises, including some case studies and a field trip, are related to development of the country plan. Each module is taught in the following way. The participants read the text in the module the night before training. The readings are then discussed and clarified in a plenary session. Then, the participants work in country groups on exercises. Their work is presented and discussed in a plenary session. At the end, a facilitator provides a synthesis of the discussions and the module. The last week of training is devoted to discussions of the country plans.

Even though the teaching method is participatory, the content of the course is theoretical. The work on the plans involves the use of national data. There is no indication in the written course materials that the information is evaluated or discussed. There is no discussion of health education plans which have been implemented and their successes or failures. The focus is on the development of the plan and presupposes to a large extent that the participants are familiar enough with the strategies they select to be able to implement them and to know that they will work.

A follow-up visit to the participants' programs 6 months after training was made by trainers, who assessed the status of the developed plan and provided technical assistance. They found that the participants had problems obtaining funding for their plans and had not been successful in implementing their plans. However, in a second follow-up visit to Nigerian participants, the trainers found that some participants had started the implementation, and others had obtained official approval for their plan. However, none of the participants had implemented a plan, evaluated the results, and then continued to develop a plan for further activities. Thus, it is too early to tell if the participants have developed sufficient skills in planning and evaluation to work without technical assistance.

There was also some indication during the follow-up visits that the developed plans were not sufficiently tied to the specific conditions in the countries and had to be modified to adapt the plan to the country's situation. This was especially true in countries other than Zaire and Nigeria.

## **D. ANALYSIS AND SYNTHESIS**

The interventions introduced in the CCCD program were new and unfamiliar to most of the health workers. Thus, training was one of the major support strategies in the program. The health center staff needed to be trained in order to carry out the activities. Management and supervisory systems had to be put into place, and people had to be trained in order for these systems to function well.

Training has been carried out fairly successfully to accomplish the first objective -- the delivery of health services. This can be seen from the success and the impact of the interventions, especially in the EPI program. Training in management and supervision has also taken place, but it is less evident that it has been effective. This is due partly to problems in logistics, and partly to the fact that much of the training has been theoretical and not related to actual in-country conditions. Also, the focus of the training has not been on development of skills and problem solving, but on providing the knowledge necessary to deliver the services.

The EPI modules and subsequent materials were originally developed to be practically self-instructional and to require little input from trained facilitators. The modules are not very interesting and require extensive reading. Facilitators have not been trained, which means that they are not able to provide additional exercises and input in order to make the training more interesting or experiential. CDC has developed facilitators' guides for the modules, but these have not been shared with WHO/AFRO, the main user and distributor of the materials. Thus these guides have not had a major impact on the use of the modules.

Trainers have not been trained in the use of participatory methods, and tend to use didactic and very teacher-centered methods. There have been few attempts to train trainers, which has retarded the development of better materials and the establishment of training capacity in participatory countries.

In addition, most training has not been properly evaluated, either during the training or afterwards. The design of training has not been based on an assessment of needs, or on evaluation of the participants' previous experiences, skills and knowledge. There has been no assessment of how much participants have learned in the courses or how they are applying new learning in their work. Needs assessment may not be needed when the topic of training is a new technology. However, it is also true that in training health personnel, the level of previous knowledge should be taken into account. Using assessments, linking training and supervision, and providing on-the-job training are steps in the right direction. Given the length of the project, these methods should have been introduced much earlier and should have influenced the training courses.

In-service training programs have not been established in most countries. This is due both to lack of TOT and to lack of understanding of the need for such programs.

Training is expensive, and requires planning and a fairly large investment in human resources. The CCCD project has not made it a priority to influence the MOH regarding the need for and value of training. It has not always advocated the need for national commitment to continuous training of health workers. Training is still regarded as an activity which only occurs with donor funding; very few countries are willing to commit their own funds or personnel for these activities.

Another factor limiting the institutionalization of training has been that it is usually done in workshops or seminars at the central or regional levels, rather than at the district level. Thus, training requires personnel to leave their work stations (which are sometimes left unattended) and assemble in a central place, as well as the payment of transport and per diem, increasing the cost of training. Since training selection criteria are not always explicit or respected, people are sometimes trained unnecessarily, further decreasing the cost-effectiveness of the training. In addition, frequent staff transfers may mean that even though health workers have been trained to run a program, they are soon replaced by others who have not received the training, which may result in program implementation problems.

A solution to the problems discussed above is, of course, the linking of training and supervision and the assignment of the training function to a combined trainer/supervisor who is responsible for the upgrading of the skills of the personnel in his or her district. If training is localized in the district, and the supervisor is properly trained, training can be carried out during regular supervisory visits. It can be based on an assessment of skill deficiencies and targeted to the actual needs of personnel. This would require an integrated examination of the health system and a different attitude about training among the decision-makers, resulting changes in policies within the health system.

Having training done by local supervisors will decrease the need for workshops and seminars. It would also allow for a more rational selection of health workers to be sent for training: those who need it and would benefit the most from the workshop or seminar.

Another area not fully considered in the CCCD training is the need to train future health workers in the intervention strategies. This is true both for physicians and for paramedical personnel. At this time, strategies for training them are not integrated into the curricula. This leads to the need for continuing in-service training to make sure that the program continues. Working with medical and paramedical schools is a difficult task, since their training at this time is very hospital-oriented, and the preventive aspects of the interventions will meet considerable resistance from the current training staff. However, training in the interventions is a necessary precondition to further promote the interventions and to provide qualified and motivated staff at the health facilities. It

should be noted, too, that attitudes about health service delivery are formed during pre-service training, and including prevention in such training would improve the delivery of prevention services.

So far this discussion has only dealt with the interventions which are currently part of the CCCD project. However, other topics, such as family planning, nutrition, and HIV education need to be integrated into pre-service training. There is also a remaining need for further development of training materials, and for regional training to introduce topics into countries which still have not fully considered these interventions as part of their health care strategies. If possible, cooperation with international agencies such as WHO/AFRO, UNICEF and UNFPA should be emphasized to strengthen training.

What strategies should be adopted regarding training in future projects? The discussion above points to the following emphases:

continue on the regional level to develop new and revise already-available training materials for interventions related to child survival, with technical assistance given as needed for in-country adaptation of the training materials;

emphasize training of health facility managers in the use of MIS, supervision, and management and the training of health workers in health education;

train central staff in management, including the use of MIS for decisionmaking, and in planning, monitoring and evaluating health services;

improve supervision by allocating training resources to this area and training the supervisors to conduct training needs assessments and on-the-job training;

encourage governments to provide personnel and financial resources to institutionalized in-service training programs. The programs should include:

- a training division in the MOH charged with responsibility for carrying out the program;
- full-time regional trainers skilled in the use of participatory training techniques;
- annual training plans which are implemented, monitored and evaluated on a regular basis;

- a policy of assigning of personnel, selecting trainees, and evaluating trainees based on a cycle of regular supervision, performance evaluation of health workers, and promotion according to performance; and
- decentralized workshops and seminars.

work with pre-service training schools to introduce child survival strategies into the training, to emphasize health education and preventive health strategies, and to introduce supervisory and management training into the medical school curriculum; and

increased donor coordination of training resources with increased decision-making power allocated to the government as they develop in-country training capabilities.

## **APPENDIX II-4**

### **HEALTH EDUCATION**

By Sif Ericsson, Ph.D.

When the project started in 1981, health education was not a support strategy, although it was included among the objectives. This can be seen from the workplans. The workplan for 1982-1983 indicates only that health education objectives and activities will be developed by A.I.D. In 1983, AID/Washington signed a PASA with the Peace Corps with the understanding that the Peace Corp Volunteers (PCVs) would work in health education in some of the CCCD countries. The same year, CDC hired a health educator to be in charge of health education activities within the project. Later, AID/Washington bought into the Communications for Child Survival Project (HEALTHCOM) in 1986/87 to support health education activities in Zaire, Lesotho, Nigeria, Swaziland, and Malawi.

This review will first discuss the various efforts of the different CORE components and then provide an overview of the health education effort financed by the CCCD project.

#### **A. THE PEACE CORPS PASA**

The Peace Corps has used health education funds mainly for pre-service and in-service training of the PCVs and for some evaluation activities. PCVs were trained in Togo, Zaire, Lesotho, Liberia, the Central African Republic (C.A.R.), and Swaziland. The most successful effort was in Togo; it will be described here since it represents the health education model the Peace Corps is using.

The pre-service training for PVC's is conducted for 12 weeks in French-speaking countries and 8 weeks in English-speaking countries. The technical training is 100 - 200 hours and consists of classroom sessions, field visits, and individual work. The topics studied include primary health care, the CCCD interventions, health education, and supervision. The PVC trainees are also introduced to the medical systems in which they will work.

After the training, the PCV works mostly on the district level with his or her counterpart who is usually the primary healthcare coordinator or has a similar position. The PCVs work for the Ministries of Health (MOH) and thus report directly to the physician in charge of the district. The in-service training is conducted two to four times during the 2-year period the PCVs work in the field, and the PCV counterparts are usually invited to participate in it. The topics for this training depend on the needs identified during the PCVs' work in the field. In Togo, topics included organizing and working with community development committees, conducting baseline surveys of current

practices, working with focus groups, conducting force-field analysis, conducting health education campaigns, and evaluating the results of health education.

In Togo, the main strategy was to set up teams of two health educators in each prefecture. Each team was assigned a PCV for 2 years. The teams were to work with a village, conduct a baseline survey of practices, set up a village health committee, train volunteers, and conduct 3-month campaigns in the village for the Expanded Program of Immunization (EPI), Control of Diarrheal Disease (CDD) and malaria control. The results of the three campaigns were then to be evaluated.

Currently three volunteers are working on the regional level, one in each region. As a result of these activities, there are now functioning health education teams in each prefecture, and health education campaigns have been carried out in one village in each prefecture. The health education team is supposed to carry out similar campaigns on its own in other villages but, because of transportation problems, it is difficult to predict whether the work will continue or not. The PCV had transportation, but the health educators had to depend on the transport available to government employees. Also, when the PCV leaves, the supervision, attention and support which have been provided to the team will end, which may mean that the work is not continued. Adequate supervision is usually a key to continued high performance. There is also a need to coordinate the work of the health education team with the delivery of other services.

In Togo, two PCVs were also assigned to work with the national health education unit. They developed health education materials, especially for an EPI campaign, and worked on a health education plan and a monitoring system for health education activities in the country. The health education materials they developed are still used, but the artist they trained is no longer working with the government.

The programs in other countries follow the same model. In Zaire, the PCVs are mainly working in the *Sante Rural* (SANRU) zones, and in the C.A.R. they are working at the prefecture level. In the C.A.R., the focus has changed from health education in villages to participation in supervisory activities and work with health facilities rather than with village development committees. This development is in line with the new policy of strengthening existing health facilities by working with the health center nurse to improve outreach and service delivery.

## **B. THE CDC PASA**

A health educator was hired by the project in 1983 to provide technical assistance to the CCCD countries. Her work has consisted mainly of responding to requests from the Technical Officers (TOs), giving technical assistance to the Peace Corps to coordinate the PCVs' activities with the CCCD bilateral projects, developing health education materials to incorporate in the national training of midlevel managers, and setting up a health education course at the African Regional Health Education Center (ARHEC),

Nigeria, and the School of Public Health in Zaire. (See the Appendix II-3 on training for a discussion of the course).

The Health Education Specialist worked with the TOs to provide support to the government in strengthening the capabilities of the health education units. The work of the PCVs in Togo is an example of this effort. The main strategy was to identify a National Coordinator and to develop a health education program for the CCCD interventions. In addition, patient health education was incorporated into national training modules.

The activities have focused on strengthening health education activities by the health workers and developing an evaluation strategy for health education activities. Evaluations included the collection of baseline and post-activity knowledge, attitudes and practices (KAP) data for the three interventions. In addition, some mass campaign activities have been conducted. For example, a consultant was used to assist the Cote d'Ivoire with a mass media campaign on EPI. The focus on patient education can be explained partly by the fact that there are difficulties in working with the ministries of information/communication in many African countries, and mass media may not be a very effective way of achieving behavior change. This is underscored by the fact that most KAP studies have shown a relatively high knowledge of the three interventions among the mothers, but not a corresponding change in practices.

Health education activities in the CCCD countries have been intervention-specific, often geographically limited, and/or limited in time (i.e., campaigns or social mobilization efforts). They have also been limited by the TOs' interest and involvement in health education, especially in the countries without Peace Corps or HEALTHCOM involvement. An additional factor is the lack of funds available for health education activities within the CDC PASA. Until 1988, when an anthropologist was hired, the CDC Core support of health education was carried out by one person, covering all CCCD countries with some outside experts hired as needed. That should be compared with the technical assistance given to specific interventions, health information systems, and operational research. In general, health education and training have had the lowest CDC/Atlanta budget throughout the project.

### **C. HEALTHCOM**

HEALTHCOM has been active in five of the 13 CCCD countries. This review is based mainly on the data gathered by the evaluation team in Lesotho and Togo, since the team was not able to visit the other countries. HEALTHCOM worked at the national level in Lesotho and in two zones in Zaire. The project has ended in Lesotho, while an extension has been signed with the government of Zaire to continue the project on a national level, increasing the number of zones. A final evaluation of the first stage of the project is currently being conducted.

In all countries, HEALTHCOM has had a Resident Advisor. This advisor worked closely with the CCCD bilateral project in Lesotho. In Zaire, the advisor was posted in a zone outside the capital and was responsible to a different department of the MOH than the CCCD project. This created communication problems. At the same time, the Resident Advisor worked closely with the CCCD activities conducted in the zone in which she was posted. Problems were encountered since she worked without a local counterpart; thus, some of the activities she undertook did not involve the local MOH officials.

In each country, KAP studies were used to establish baseline knowledge. The strategies in both countries involved using situational analysis with focus groups or small KAP studies to identify the knowledge, attitudes and practices in health subjects. The results were used to develop educational materials which were pretested and revised before diffusion either by the mass media or by the health workers in patient education.

The HEALTHCOM advisor in Lesotho trained the Health Education Division (HED) staff in the HEALTHCOM methodology, in planning and reporting activities, and in the use of the new equipment provided in HEALTHCOM. In addition, he provided technical assistance in the development and diffusion of health education messages through mass media and assisted the CCCD project in the development of pamphlets and flipcharts for use by healthcare workers in EPI and CDD health education. Materials were also developed for use in the schools by teachers and for incorporation into the health worker training modules.

The final evaluation of the Project showed that there was no significant change in immunization coverage. Oral Rehydration Therapy (ORT) was more widely used, especially in the health centers, but knowledge about ORT and the use of sugar salt solution (SSS) and the Oral Rehydration Salt (ORS) packets had not increased significantly. The increased use of ORT is partly due to the health education messages, but also to the fact that the government has adopted an official policy under which health workers are now distributing ORS packets regularly to all health facilities.

Although the Residential Advisor in Lesotho worked closely with HED, he was not assigned a specific counterpart. The evaluation showed that only one of the staff members in HED was able to articulate the HEALTHCOM methodology; some of the others were aware of the need to pretest messages before their use. In the evaluation, and among people we interviewed in Lesotho, serious doubts were expressed about HED's willingness to continue to use the HEALTHCOM methodology, especially since the Director is not committed to the approach and is not a strong manager.

In Zaire, the Residential Advisor has worked mostly in the zone in which she is posted. In the other rural zone included in the project, the majority of the health education activities have been conducted by SANRU. The strategy of using situational analysis with focus groups on small KAP studies was also used in Zaire. Diffusion of

messages has also been accomplished by training women in the community to use health education posters in gatherings with other women. In addition, the Residential Advisor has given courses in health education for health zone supervisors and journalists. The local MOH officials appreciated her efforts but felt that they were not sufficiently involved in her activities. These feelings are probably a result of the fact that no local counterpart was assigned, and that HEALTHCOM's activities were planned with The National Fund for Medical/Health Activities (FONAMES) in the capital rather than with the local officials. The result is that no one felt capable of developing materials and conducting KAP studies without continued technical assistance.

The HEALTHCOM methodology, as used in the two countries, has not been a success, especially with regard to the sustainability of activities. In Lesotho, the managerial problems in HED severely restricted the impact of the Residential Advisor; in Zaire, the vertical structure of the program limited local involvement and thus diminished program results. In both countries, health education materials have been developed and continue to be used. But the evaluation of Lesotho, like similar evaluations in the past, indicates that the impact of health education activities is limited and probably not cost-effective. The methodology used by HEALTHCOM, although theoretically very effective, has not had the impact anticipated. This may be because of a problem in the use of the methodology, but it may also be that sophisticated planning and development efforts, although needed, are being attempted prematurely. Due to the weak structure of the health education units in these countries, the lack of trained health educators, even on the central level, and the limited knowledge about successful uses of health education strategies, there is a need for operations research on the use of different methodologies, different methods of communication, and different communicators.

#### **D. ANALYSIS AND SYNTHESIS**

Primary health care (PHC) focuses attention on health education and community mobilization. To modify people's behavior, it is necessary to provide information about the desired changes and to motivate people to act on the basis of that information. Thus, the CCCD project included health education as a support strategy.

The PHC approach has shown that health education is a difficult, labor-intensive, and thus costly, strategy, with limited impact. The experiences in the CCCD project have underscored this finding. The two strategies of mass media campaigns and patient education which have been used successfully in industrialized and other developing countries did not work as well in the African countries.

The reasons are mainly social, cultural, and economic. Dependence on traditional ways of treating illness and mistrust of new information made women less likely to change their behavior, even when they understood and retained the messages. Poverty and reliance on traditional healers rather than the new modern health system limited the women's use of the health facilities.

At the same time, the lack of resources, adequate management, and supervision made any changes in the health system difficult. The introduction of health education created another vertical unit within a governmental bureaucracy with limited human and financial resources. In addition, the health system--focused on treating disease rather than preventing it--was slow to change. In this situation, it is difficult to envision what methods should be used to influence and motivate a change in direction.

The CCCD project delayed introducing health education as a support strategy. No targets were established for health education and the efforts have not been as vigorous as they could have been. Even with these restrictions, the CCCD project has made some progress. The Peace Corps effort, using the community mobilization approach, has been moderately successful but has not had a significant impact because of its limited scope. Health education materials have been produced for use by health workers in health talks at the health facilities. Training modules incorporate health education. Health education efforts have increased the community's knowledge of the interventions and have made health workers aware of the need to educate patients, in addition to treating the diseases and providing the vaccinations. The efforts to strengthen the MOH health education units have had very little effect, but there is a potential that additional work in the area could have a significant impact.

Mass media campaigns have been carried out in most of the CCCD countries. These campaigns have increased the community's knowledge of the interventions, but have not had any sustained impact on its practices. This can be shown by the fact that although immunization coverage in Cote d'Ivoire increased during the campaign, it later fell back to the previous level. A major reason for this result is probably that such campaigns have to be integrated into a national health education program and sustained at some level after the initial effort.

Health education efforts have concentrated on training health workers to provide better information to the patients and to provide materials for the health talks given at the health centers. However, this has not been integrated with a program improving supervision and providing motivation and support for the health education activities. The health workers are not motivated to do outreach activities, so they generally are only reaching the women who already visit the health facility for preventive services. Although the health workers may have been successful in communicating the information, they may not have been able to persuade the women to change well established habits. Operations research is needed to explore such factors. The efforts in some countries in family planning programs may provide some direction to such research. At this time, however, operations research in health education has been limited to KAP studies.

It is conceivable that even if more resources had been available for health education, the results would not have been different. The project did not establish targets for health education. This oversight is probably due to the fact that the CCCD

project focused on measuring impact rather than process. Impact indicators are very hard to establish for health education since it cannot be measured as a support service independently of the other health service delivery activities. In addition, the methods used emphasized providing information to the community about the three interventions rather than dealing with the problems of sustainability of the efforts and the need to persuade in addition to inform.

The limited range of the health education effort so far points to the need to change strategies. The fact that knowledge of the interventions is fairly high without a corresponding level in practices means that the methods have to focus on persuading people to change their behavior rather than just informing them.

The methods used to market and advertise commercial products may be an avenue to explore. Some of the successful efforts to promote family planning can provide other insights into what strategies to employ. It is evident, however, that even as the current efforts should continue, it is also necessary to explore new and innovative methods in order to achieve the desired impact.

What strategies should be adopted regarding health education in future projects? The discussion above points to the following emphases:

provide regional training in health education, not only in planning programs, but also in implementing health education activities to strengthen national capabilities in health education;

encourage governments to provide human and financial resources to institutionalized health education programs. These programs should include:

- a division of the MOH charged with responsibilities for carrying out the program and responsible for all aspects of health education;
- full-time, well trained regional health educators with responsibilities for coordinating the program and supervising the health workers regarding health education;
- annual health education plans which are implemented, monitored and evaluated on a regular basis; and
- health education plans with an integrated approach to health education incorporating not only the CCCD interventions, but also other aspects such as family planning, HIV education, etc.

continue to emphasize training in health education for health workers;

work with pre-service training schools to emphasize health education and preventive health strategies in the curriculum;

conduct operations research to find effective methods for health education with a focus on innovations in strategies, methods of communication, and use of communicators or media;

- experiment with advertising and marketing strategies used to promote commercial products; and
- coordinate patient health education efforts with sustained community mobilization efforts, including health center outreach and use of mass media.

## APPENDIX II-5

### OPERATIONS RESEARCH/APPLIED RESEARCH

By Anne-Marie Foltz, Ph.D

Throughout the history of the CCCD project, research carried out under its aegis was referred to as operations research. This became a misnomer in terms of how the original objectives were redefined and met. As Emanuel Joseph noted in his review of CDC Operations Research<sup>1</sup>, operations research involves three phases of problem solving: problem definition and systematic analysis; solution development; and solution validation. OR helps decision-makers apply existing knowledge and choose among options in order to accomplish specific objectives.

What the CCCD project was expected to carry out and what it did carry out was not operations nor even "operational" research. The CCCD project carried out "applied research" and this is the term we will use in our discussion of project strategies and activities.

In this appendix we will discuss project objectives, the strategies followed, accomplishments, constraints and lessons learned, and end with our recommendations.

#### A. OBJECTIVES

Operations research was specified in the project paper to:

...conduct and assist others to conduct studies on health services and operations, cost effectiveness studies and controlled field trials of various interventions; so as to provide answers to specific questions posed by those responsible for carrying out communicable disease control activities (p. 22).

This component of CCCD project activities will include applied field research to address deficiencies in knowledge, which provides significant obstacles to achievement of project objectives as well as activities directed towards the study of ways to more efficiently and effectively utilize current knowledge (p. 60).

<sup>1</sup> Emanuel Joseph, CDC Operational Research in ACSI-CCCD: A Review and Evaluation of Original Research by African Investigators in the ACSI-CCCD Program, Morehouse School of Medicine, August 1990, p. 4.

2011

The intent from these paragraphs is to do applied research as well as operations research. The CCCD project managers enlarged the scope of research. As Joseph noted in his 1989 review of the CCCD project's operations research studies by African investigators:

The perspective taken by CCCD has therefore been a broader one, particularly in interpreting the range of research activities undertaken, and have included biomedical research, clinical trials, epidemiologic studies, and basic descriptive studies of problem definition (p. 5).

Thus, almost any type of research deemed important to project coordinators was supported. In retrospect, it seems that the CCCD program could have referred to the research as applied research.

The Project paper gave examples of four types of research activities which might be carried out: data systems; services delivery and program implementation; training; and health education and promotion. Subjects of research were expected to relate to the project's four support strategies.

The second objective for the CCCD project stated in the project paper was to train African nationals in research.

It is primarily up to program managers to recognize the need for management information. However, program managers in most less developed countries require orientation and guidance in this matter....Most of the study proposals will be initiated by the people responsible for making the programs work (p. 60).

This objective makes it appear that the main persons carrying on research would be African program managers, not African academics. The projects were expected to be small-scale with maximum grants of \$5000. Only a few studies, such as extensive field trials or mathematical modeling, were expected to be more expensive (Project Paper, 1981, p. 23).

The expectation stated in the project paper and reiterated in early evaluations was that organizations, such as WHO-AFRO and other A.I.D. projects, would eventually take on some of the responsibilities for assisting in applied research. The Third Project Amendment stated (p. 13):

Activities during the period 1986-1991 focus less attention on operations research due to the feasibility of obtaining assisting from other AID funded projects for that purpose. The major remaining operations research activity during the remainder of the project will study the efficacy of routine antimalarial chemoprophylaxis in pregnant women....

Although project implementors did undertake a major clinical trial on antimalarial prophylaxis (the Mangochi trial), they did not lessen their research activities in other areas. Nor were these activities taken up by other organizations in CCCD countries.

## **B. STRATEGIES**

Over the course of the project, the two objectives, carrying out research and training African investigators to do problem-solving research, proved to be competing. The CDC, as the major implementing agency responsible for research, found itself searching, never completely successfully, for the strategies which would permit it to support both objectives. When it became clear that training African investigators was going to have limited success because of the limited availability of research capacity and the lack of institutional support, CDC focused on achieving the first objective, to carry out broadly based research, and to do so, if possible, with African investigators.

The attempt to make these objectives more compatible with each other may have triggered the redefinition/reinterpretation of the second objective which appeared in the CCCD program's 1987 Annual Report. This objective was redirected broadly to research, not just toward operational problems (p. 18):

Develop capability of African investigators to plan, carry out, analyze, and publish research.

### **1. Applied Research by African Investigators**

The strategy adopted to encourage research by Africans was to establish regional Review Committees to review and allocate grants for research by African investigators. By 1984, two Committees were established, one for West Africa, and one in East/Southern Africa. The Committees were supported by medical epidemiologists posted by CDC, one each to West Africa (Cote d'Ivoire) and East Africa (Malawi), with one posted as well to Zaire. They were described in the guidelines drawn up to solicit proposals as being available to assist in "designing operational research studies, in setting up these studies and in analyzing data and interpreting results."<sup>2</sup>

The guidelines listed such priority research topics as epidemiology, surveillance methodology, survey techniques, impact evaluation, and health education. In the examples of possible CCCD operational research projects, three categories of research were specified: immunizable diseases, diarrheal diseases, and malaria. This seemed to indicate a shift in research priorities away from the Project Paper objectives of giving

<sup>2</sup> Combatting Childhood Communicable Diseases in Africa through CCCD Operational Research. (CDC: Atlanta, 1984). We were told this brochure served as the guidelines for the East and Southern Africa review committees.

206

prominence to the support strategies and toward focusing on the three interventions. The guidelines, by setting out what topics would be considered appropriate, helped set the research agenda for studies by African investigators.

In East Africa, where the committee was quite active, grants were made of up to \$10,000. By 1990, 21 studies, mainly by university-based researchers in East and Southern African had been produced through this committee's activities.<sup>3</sup> In West Africa, only eight grants were made because of the difficulty of getting an adequate number of proposals. The eight studies were conducted by investigators in two countries, Cote d'Ivoire and Liberia, with the majority in Cote d'Ivoire.

The regional epidemiologist in Malawi commented that the task of promoting this research was extremely difficult. First, there was not an appropriate regional funding mechanism; second, it was difficult to travel to the different countries in his region; third, stimulating proposals and providing assistance to African investigators was much more time consuming than expected and involved being available in the investigators' countries when needed; finally, the lack of a regional institutional base complicated the task. The CDC regional epidemiologists had to balance the demands of these tasks (under their job descriptions they were expected to stimulate five to 10 research studies per year) with their other tasks of providing support for epidemiologic surveillance activities (see Appendix II-2).

Virtually all the research proposals funded through the regional committee model came from university researchers, not program managers, as the project paper had originally intended. It was also noted that, particularly in the Francophone countries, the capacity for and interest in research, even at universities, was extremely limited. Therefore, the mechanism of making grants available was often insufficient to stimulate research.

These problems helped lead to a revised strategy which, after 1987, placed the medical epidemiologists in country-specific assignments in Nigeria and Zaire, the two largest child survival countries. In Nigeria, a national research review committee was established. Guidelines were drafted that were specific to Nigerian interests, but which used as a model those developed for the East/Southern Africa review committee. Again, the guidelines served as a kind of research agenda for those submitting protocols and those on the committee reviewing them. By 1990, 30 protocols for research projects (mainly from university personnel and funded at a maximum of \$5000), had been approved and were being completed in a timely manner.

Research Review Committees were also established in other countries, but we were unable to evaluate their activity. The committees in Togo and Zaire were not

<sup>3</sup> See Joseph's (1990) list of studies he reviewed, Part II.

active at the time of our visit. In Zaire, we were told, except for research on malaria, which was carried out by a physician trained under the CCCD program, and a CDC-initiated clinical trial on measles vaccine, the major research activities by African investigators during the past two years had been through the PRICOR project and had been funded by bilateral funds by the USAID mission. These studies were, in fact, operations research carried out by program managers.

Joseph (1990) noted the contribution of the three branches of CDC, malaria, immunization, and CDD to African research development, giving particular note to the malaria branch as having the highest involvement. Another strategy for assisting African researchers was a course in protocol development, originally developed by the SHDS project, which was organized in six countries between 1986 to 1990.

By mid 1990, 38 original studies had been completed by African investigators (Joseph, 1990). Of these, 26 (68 percent) came from Anglophone countries which comprised only 5 out of 13 (38 percent) CCCD countries. Eight of the 11 countries contributing studies were in East or Southern African. Two of the countries which contributed a total of 10 studies, were not in the CCCD program.

Among the 13 CCCD countries, 9 countries were represented by at least one study from an African investigator. The four non-participating countries were all Francophone, the C.A.R., Congo, Guinea, and Togo. Francophone countries accounted for only 12 of the 28 studies (43 percent) from CCCD countries although they accounted for 62 percent of the countries.

These different ways of presenting the findings suggest two conclusions: it was easier to generate research in East/Southern Africa; and it was easier to generate research in Anglophone countries (of which there were more in East/Southern Africa). The most likely explanation is that Anglophone countries tended to have more highly developed university systems which could respond more successfully to the CCCD model for research and the research process which were more oriented toward university qualified researchers, rather than program managers. In none of the CCCD countries were the existing institutions sufficiently developed to support and sustain the research model employed.

## **2. CDC-initiated Applied Research**

As a result of the difficulties in developing research by African investigators, the bulk of the research eventually carried on in these countries under the CCCD project was initiated and carried out by CDC investigators, with some input from African investigators.

The overall research agenda for CDC activities was never clearly articulated. Joseph noted (p. 23):

...the conduct of research (and research promotion) has been relatively unfocused and has left gaps in many areas of basic information necessary for program implementation and health services planning. What has often occurred are "projects of convenience" which may address specific problems, but not necessarily in a fashion which allows findings to be readily utilized or are not consistent with existing host government priorities or capabilities.

Joseph was focusing on research by African investigators, but his statement reflects accurately our impression of all the research. Decisions about what research to conduct were made, we were told, by the CDC unit charged with overseeing one of the three interventions. The IHPO appointed a Research Coordinator: his task was mainly to keep track of activities and to improve communications particularly about African investigator research, not to make decisions about research directions.<sup>4</sup>

The Malaria Branch charted the clearest agenda for its research activities, an agenda it pursued closely and vigorously and which resulted in the largest number of published studies. Among the many studies carried out were several of chloroquine resistance, the Mangochi clinical trial of chemoprophylaxis in pregnancy, the use of bednets, and a study of the home treatment of febrile children.

The Immunization Branch was less focused in its research until 1988 when, using the delphi method and circulating a list of research topics to a group of Africans and Americans, it developed an agenda of priority research topics it has since followed. Among its studies are those relating to the improvement of various vaccines including the E-Z measles vaccine trial, sero-surveys, outbreak investigations, missed opportunities in vaccination, and the development of improved indicators and survey methods.

The least developed research agenda has been that of the Diarrheal Disease Branch which has centered its activities mainly around Knowledge Attitudes Practices (KAP) studies to understand mothers' behavior relating to diarrheal disease in infants. Studies documented the excessive use of salt in home solutions and the costs of oral rehydration therapy.

<sup>4</sup> When we asked CDC for a list of CDC-initiated studies, we were referred to two sources, the 1989-90 printouts of "status of TSD operations research" which lists ongoing research, and the list of published studies appearing in the 1989-1990 annual report. These two lists overlap but taken together, they still do not do full justice to the extent of research carried out by CDC under the CCCD project since early studies which were not published are not listed in either source. The print-out limits itself to research for which IHPO or the immunization division is responsible. It does not include all the research for which the malaria branch is responsible, e.g. the Mangochi study.

The significant observation here is that the research agenda was set by those units charged with carrying out interventions. The concerns of these units were with solving important technical problems, such as improving the technology (vaccines, ORS, malaria prophylaxis). Not appearing on the agenda were studies of how to organize services to make their delivery more effective, or for diarrheal disease, how to evaluate a health education program, or self-care for malaria.

CDC IHPO's printout, Status of TSD (Technical Services Division) Operations Research, for 1989, lists CCCD activities by four interventions (including ARI for Lesotho) and a fifth category called at first, "non-specific interventions," and later, "other." This latter category included formative research studies to improve or assess training methods and two cost-analyses studies. Other than these two types of studies, the research agenda has not focused on the support strategies, nor on implementation or organizational issues except as they relate directly to one of the interventions. This narrow focus has constrained the program from being able to analyze management issues which cut across interventions.

Nearly all the studies we have discussed above were country specific, but their findings have regional implications. They could be and were carried over from one country to the next. This was particularly true, for example, for the Malaria Branch's support of research on in-vivo chloroquine resistance, first in a few countries, with Africans originally trained going to other CCCD countries to train others. This process illustrates one of the advantages of a regional project.

Two major studies, the Mangochi Project and the E-Z measles vaccine trials, are clinical trials whose findings have implications for the region as a whole and serve as examples of countries becoming regional laboratories. They illustrate both the advantages of a regional project having access to a country for carrying out such research, as well as some of the disadvantages.

The WHO strategy has been to recommend malaria chemoprophylaxis for all women during pregnancy since epidemiological studies had shown that malaria infection was associated with an increased risk of low birth weight. The Mangochi, Malawi clinical trial was begun to assess the efficacy of this strategy. From 1987-1989, more than 4000 pregnant women were enrolled in the trial and assigned to one of four treatment groups. Preliminary results have shown that prophylaxis with mefloquine can lead to decreased proportions of low-birthweight infants, particularly in first and second pregnancies.

One of the early findings was that women's compliance with the chemoprophylaxis regime was extremely poor and in order to carry out the trial, carefully controlled drug delivery systems had to be instituted. Such systems cannot expect to be maintained routinely, and therefore the positive results of the trial are not likely to be replicable in African settings. Meanwhile, although the lessons for policy in Africa are significant (the

WHO recommended policy may not be effective), ministries of health of the CCCD countries have yet to translate these findings into policy.

The trials of the Edmonston-Zagreb (E-Z) vaccine responds to the finding that children under 9 months of age (the recommended age for effective Schwarz vaccination) were, in Zaire, highly vulnerable to measles. Thus, the need to institute a vaccine which could be given at an earlier age. A number of similar trials of measles vaccines were already ongoing or recently completed, some in Africa, some in lesser developed countries in other parts of the world. The E-Z trial had enrolled over 1000 children by June 1990 in four groups testing different doses at two ages of delivery, 3.5 months and 6 months.

Some reservations have been voiced about the appropriateness of these trials for the countries where they are held. A Malawian official told the Evaluation team that the Mangochi trial should not have been instituted since it would not directly benefit Malawi. This concern was echoed by a recent official visitor to Malawi who noted that despite four years of malaria research in the Mangochi area, 60 percent of the population is infected with the malaria parasite. The E-Z trial in Kinshasa is occurring at a time when Zaire was beginning to experience political dislocation and the administrative unit of the EPI program was in severe disarray and having trouble carrying out its basic activities. One can question whether this was the best moment to introduce into Zaire a clinical trial which requires close monitoring and technical assistance while providing little in the way of sustainable institutional benefits.

The studies, particularly those initiated by CDC, have been of high quality. The care with which they were carried out might sometimes lead to a long time lag between research and return of a final draft to the field. Research results were usually published in American or international journals and not generally circulated back to Africa. The WHO/AFRO bulletin could have been a regional African forum for published results of the CCCD project, but its editors said they rarely received manuscripts. Since most of the research published usually had expatriates as principal investigators (55 out of 63 articles listed in the 1989-1990 Annual Report), it is not surprising these investigators chose to publish in the most prestigious international journals, not necessarily those directed toward the Africa region. Even for African authors, publication in an international journal is more attractive for their careers.

Publications were not necessarily useful to the African region for another reason: although eight of the 13 CCCD countries were Francophone, only six papers were published in French language journals (with an additional five in the bilingual WHO bulletin). Thus, only 17 percent of the published articles were available in the language of the majority of CCCD countries.

During our travels, our team noted an ambivalence toward CDC's approach to research. Although those in the field praised the quality of CDC's research, we also

heard much discomfort about CDC's promotion of its research agenda. For example, although Ministry officials in project countries were particularly concerned about getting assistance to control malaria, they were most frequently critical of the malaria branch. One respondent noted: "Every time they come out, they have their own agenda. They don't listen." Another country, we were told: "refused to be a laboratory for CDC."

### **3. A.I.D.-initiated Applied Research**

A.I.D. in Washington promoted research through three S&T projects, REACH, HEALTHCOM, and PRITECH. Under REACH, studies were carried out on cost recovery in a selected number of countries. HEALTHCOM and PRITECH's research activities were more limited and focused on developing appropriate communications and training materials. The Evaluation team was asked to comment on the CCCD Project's contribution to the Bureau for Africa's research agenda for health which we will do below. However, we need to note that in the absence of documentation, we were unable to ascertain the Bureau's agenda before 1990.

### **4. Overview of Research Strategies**

How much of the CCCD's effort/activities/funding was taken up by applied research? The project reported to the Center for International Health Information that 10 percent of its funding went for research.<sup>5</sup> This estimate of 10 percent was also given for the CDC PASA.

CDC was responsible for supporting both the African-initiated research and its own research. In terms of long-term technical assistance, CDC estimated that research took up 50 percent of the medical epidemiologists' time and less than 10 percent of the technical officers' time. Although the category "operations research" was reported to comprise only 2.5 percent of short-term CDC technical assistance days, when program areas reviewed their technical assistance, they reported that applied research accounted for nearly half of short-term technical assistant days, particularly those assigned to the four interventions: immunizations (47.4 percent), Malaria (44.4 percent), diarrheal disease, (48.9 percent), and ARI (56.4 percent).

These findings suggest that applied research constitutes an important part of CCCD activity, particularly for CDC. We believe that the actual extent of research activity is higher than the 10 percent reported overall and would estimate applied research activities comprising from one-third to one-half of all project activities.

<sup>5</sup> USAID Funding for Health Research FY 1985-FY 1991. Arlington, Center for International Health Information, April 1990), p. 1.

212

## **C. APPROPRIATENESS OF APPROACHES: CONSTRAINTS AND LESSONS**

### **1. Accomplishments, and their Effects on Policy**

If accomplishments are any measure of whether the strategies worked, then the number of studies completed, the effects on policy, and on the Africa Bureau's research agenda show that the strategies had an effect.

The intensity of research activity is attested to by the 63 papers about the CCCD project which had been published or were in press by 1990 (these are listed in the 1989-90 Annual Report). Over 85 percent of the authors were non-Africans, but Africans were frequent co-authors. All the papers but six (three on health education, two on primary care, and one on survey methods), focused on interventions. The majority of these papers (34) were on malaria research, reflecting the particular strength of this branch of CDC. Fifteen papers were on immunizations and six on diarrheal disease. Meningitis and ARI each had one published paper. When one turns from the published to as yet unpublished and more recent applied research, one notes an increase in research on support strategies over time.

Findings from research were regularly presented at the biennial consultative meetings. These forums gave African researchers an opportunity to present their findings and to have them discussed in a professional setting. The forums also gave CCCD project implementors the opportunity to disseminate important findings and to generate interest in new research.

During interviews, CCCD program staff frequently cited examples of how applied research had affected policy and caused policy changes. For example, findings from research on chloroquine resistant malaria, have led Ministries of Health in CCCD countries to institute or modify policies on the appropriate treatment doses of drugs. In Togo, for example, when the first in vivo studies of chloroquine resistance were carried out in 1987, government officials reviewed their recommendations and concluded that although some resistance was being encountered, it was not sufficient to change their policy of recommending 10mg/kg for treatment doses. However, two years later, after another series of studies show increased chloroquine resistance, authorities changed the policy to recommending an increased dose of 25 mg/kg. In 1989 in Lesotho, when analysis of measles cases pointed to the increased incidence of measles cases among school children, despite successful immunization of the population under two years old, the Ministry of Health instituted a measles immunization campaign for school children. Cost-recovery studies in CAR, Guinea, and Liberia helped spur the way for policy reforms in health financing. Studies of the hazards of home-made sugar-salt solutions have encouraged countries to use ORS packets, even manufacturing the packets themselves.

The Core's documentation of the spread of chloroquine-resistant malaria across Africa and the need to devise new methods of combatting it has also affected AFR/TR policy. It has raised the consciousness of the Africa Bureau about malaria as a major disease problem for the continent and as one that will need continued problem-solving activities applied. As a result, increased funding became available after 1990 for malaria research.

Nevertheless, the research component of the CCCD project did not turn out quite as had been originally expected. The research agenda for the project as a whole was never clearly defined neither in Washington nor in Atlanta, although some sub-agendas did receive clear priorities. Many findings from research were applicable and were applied, with the propensity to provide assistance for solutions to medical-technical problems, rather than organizational problems. Africans did carry out some of the research, although not to the extent intended. The Africans who did so were university-based, not program managers. We now examine some of the constraints which affected these results.

## 2. Constraints and Lessons

Aside from the usual external constraints of project development such as difficult environments and lack of institutional capacity, four constraints internal to project design and implementation operated on the research component of the CCCD program, shaped its course, and limited its approach: the management of the research agenda; the academic model used for encouraging African investigators; the limited use of regional approaches to understanding project effectiveness; and the focus on technical as opposed to organizational problem-solving. We focus on these internal constraints.

**Setting the Research Agenda:** The Project Paper (1981: pp. 22, 22a-22b) had established operations research as one of four support strategies and had laid out a suggested research agenda which stressed research in four areas: data systems, services delivery and program implementation, training, and health education. Project implementors neither in AID/W nor in CDC set out clearly the procedures by which this overall agenda would be established. As a result, most of the decisions were taken in an ad hoc fashion, in the project's early days mainly by CDC, but after 1986 by CDC and the AID/W project officer.

Out of this process emerged the present process where research topics are selected by the division responsible for the interventions, in consultation with the appropriate technical services. This process, in turn, seems to have led to research directed toward solving technical problems relating to each of the interventions, while leaving unresearched, for example, the services delivery and program implementation issues which cut across the interventions which would answer questions about the best ways to organize and deliver the interventions as a group.

The advantages of the intervention by intervention approach were that it permitted CDC particularly, to research and provide findings on important issues in the medical/technical applications of interventions (e.g., appropriate vaccines and vaccine strategies, appropriate ORS, incidence of chloroquine resistant malaria). These are in the domain in which CDC has the greatest strengths, epidemiological research. But it leaves unanswered significant operational questions, such as: What are the best ways to apply these findings? What organizational settings are effective and are sustainable for delivering health services? How does one best distribute drugs to assure their availability for malaria and ARI among other needs? What are the most appropriate and sustainable information systems? What educational methods are effective for changing health behavior? Are there lessons to be learned from the CCCD project not only across interventions but across countries?

**The Academic Model:** The establishment of research review committees for developing African-initiated research is an academic model directed toward those having university skills, not necessarily program managers as originally envisioned. CDC, which was charged with implementing this project component, followed closely the university model in many of its activities. CDC generously supplied technical backstoppers and experts to the project who were acclaimed scholars in their fields or young researchers starting their careers. This model has had clear advantages in terms of the quality of the work produced. Throughout our travels, this evaluation team heard nothing but praise for the excellence of expertise provided by CDC.

One disadvantage of the academic model, followed by the regional Review Committees, is that it constrained the CCCD project from dealing with operational issues which were less likely within the academic scope of CDC experts and were less amenable to some of the more traditional approaches. This is not to say that the research was theoretical. It was applied, and it did focus on problem solving, but mainly for medical-technical issues. Nevertheless, the project has tended to turn away from research on management/organizational/implementation issues toward those more relevant to its academic agenda.

A second disadvantage has been that African universities have not been at a sufficient level of development to take advantage of the academic support that the project offers in applied research. This accounts for the poor showing of submissions to the West African Research Review Committee, for the difficulties of getting research projects completed in a timely manner; for the eventual abandonment of the regional Review Committees; and for the uncertainty about the sustainability of the country-specific research review committees.

African program managers need assistance to understand what they should be doing to make their programs work; the research undertaken under the CCCD Project, so far, has not responded to these needs. The issue then becomes to find a research

agenda which is relevant to the in-country managers and which will assist them to find solutions to priority problems they have identified.

**Balance between Regional and Country-specific Research:** Regional projects offer the opportunity for cross-national research. The malaria branch took advantage of this aspect of the CCCD project to study the spread of chloroquine resistant malaria across Africa. It did not confine itself entirely to CCCD countries, finding funding mechanisms to support activities elsewhere in Africa. However, most research carried out under the project was country-specific with findings rapidly diffused to other countries.

Two aspects of a regional project were insufficiently exploited. The first was a leadership role: to assess what lessons might be learned or what research might be undertaken (through the review of research and/or activities) in the region as a whole, (not just the CCCD countries), for child survival issues affecting the whole health sector. For example, during this same period A.I.D. was assisting information system and planning capacity development in at least four African countries, Burkina Faso, Niger, Chad, and Kenya. This presented an opportunity for exchanges and potential for research across the region. Another example are the many child survival activities undertaken through bilateral projects by non-CCCD countries. Did these approaches produce results different from CCCD's activities? We were given no indications that such use was made of the CCCD project's research capacity.

The second aspect which was relatively unexploited was the potential for comparative research. Most project research was country specific. We were able to identify only one study, Dunlop and Evlo (1988), which was comparative. A regional project could answer questions such as the most effective means of organizing services delivery for the three interventions? What organizational structures function best? Why did immunization coverage level off in several participating countries before reaching targets?

**Medical/technical vs. Organizational Problem-Solving:** As one reviews the research, the emphasis on medical/technical problem-solving is both striking and not surprising. It is not surprising that CDC which had the major responsibility for developing and implementing the research agenda, emphasized technical issues, those areas in which it had already considerable expertise. Nor did AID/W attempt to counterbalance this focus by commissioning research for organizational and administrative problem-solving, except in the case of the cost-recovery studies carried out by REACH. As a result, research on many of the constraints on program implementation, on the "ways to more efficiently and effectively utilize current knowledge," (Program Paper, 1981, p. 60) which required understanding of organizational constraints, was rarely undertaken

## **D. RECOMMENDATIONS**

1. We recommend that during the time remaining for the project and for future projects, AID/W focus its research agenda toward management and organizational issues which will permit it to assess what delivery and administrative mechanisms are most effective for providing health services for child survival. These issues should be studied both across interventions and across countries to take advantage of what can be learned from regional activities.
2. We recommend that regional projects be used a mechanism for synthesizing and disseminating research findings from across the region.
3. To assist in the development of indicators for assessing project and program progress, we recommend research be directed toward assessing the costs and effectiveness of alternative types of health information systems and that these analyses examine the systems' viability, costs, and relative advantages, from the local level where data are collected through regional and central levels where the data are analyzed and used.

## APPENDIX II-6

### SUSTAINABILITY

By Anne-Marie Foltz, Ph.D.

#### A. OBJECTIVES

The issues of sustainability and institutionalization of project activities were not directly addressed in the original Project Paper. The Project's purpose was stated to be first:

...to provide a regional mechanism to strengthen the African health organizations as they prepare themselves to undertake CCCD and the second is to assist them with implementing delivery of disease control services themselves.<sup>1</sup>

The Action Memorandum cover to the Project Paper was a little more direct.<sup>2</sup> The objective of the Project is to increase the ability of African governments to:

-control measles, polio, tuberculosis, diphtheria, pertussis, and tetanus (through enhancing their capacities to develop and administer immunization programs);

-provide simple and effective treatment for the control of diarrheal disease...

Both these statements implicitly endorse the notion of capacity building for African institutions and subsequent statements suggest that the Project build upon and integrate into existing systems:

To the extent feasible, communicable disease control programs will be incorporated into developing primary health care (PHC) systems in Africa (p. 30).

CCCD services will be initiated through existing health services or primary care systems....(p. 31).

<sup>1</sup>Agency for International Development. Combatting Childhood Communicable Diseases (CCCD) Project (698-0421) - Project Authorization Amendment. September 15, 1981. p. 12.

<sup>2</sup>Action Memorandum for the Administrator. September 25, 1981. p. 31.

But the Project Paper introduced a note of ambiguity when it said:

Although not part of this program, it is noted that a functioning health delivery system and infrastructure is an essential part of a successful long range program to combat childhood communicable diseases and expand primary health care coverage.<sup>3</sup>

This ambiguity underlay much confusion in the Project's early years, permitting some project managers to maintain that sustainability was not part of program objectives until formally codified in 1988, while permitting others to maintain that it was a concern right from the beginning. As it turned out, even those who talked about sustainability were unable to do much to bring it about. Moreover, as we were told: "for CCCD personnel, until 1988, sustainability meant only health care financing."

The 1988 Sixth Project Amendment states:

The primary purpose of this project amendment is to better assure that national child survival policies and programs initiated with ACSI-CCCD Project support are sustained....These 3 years will provide host-countries additional time to not only demonstrate greater project impact but also to develop the necessary institutional capability to sustain these activities once A.I.D. assistance is completed (p.3).

## **B. STRATEGIES**

Until 1988, the major CCCD sustainability activity was in research on cost-recovery and financing. Under the REACH contract, health care financing studies were carried out in five countries (the C.A.R., 1986, 1987, Guinea, 1986, Liberia, 1986, Rwanda, 1986, Burundi, 1987). The results in these studies were gradually translated into policy. Guinea conducted another study in 1989, and in Liberia, some cost recovery schemes were implemented. In Liberia, this took the form of a revolving drug fund. By this time, UNICEF had become active with its Bamako Initiative, particularly in Guinea, so these activities were no longer solely the province of the CCCD Project.

As early as 1983, the Mid-Term Evaluation had voiced concerns about sustainability, both financial and institutional, asking that priority be given to the development of "key African personnel in management and supervisory positions in a PHC (primary health care) organization structure" (p. 15). Later evaluations (1985, 1986) were concerned particularly about recurrent costs and self financing, but the 1987

<sup>3</sup>Agency for International Development, Combatting Childhood Communicable Diseases (CCCD) Project (698-0421) - Project Authorization Amendment. September 15, 1981. p. 31.

evaluation returned to the institutional as well as financial issues and concluded that the project needed to develop a strategy for building sustainable programs in each project country.

Attention was given to the latter recommendation. AID/W commissioned a paper from URC to assist the Project to develop a sustainability strategy. It also commissioned a comparative analysis of CCCD countries' health care financing. Meanwhile, the REACH Project was asked to lead discussions on health care financing at the Yamoussoukro Consultative Conference early in 1988. The commissioned papers were completed in August 1988, and the sustainability strategy--as it came to be called--was incorporated into the Sixth Project Amendment of 1988.

It was another two years before AID/W finalized the sustainability strategy which provides guidelines for project implementors to develop sustainability activities and to measure progress toward the attainment of goals. The strategy adopted takes as its basis, with slight modifications in wording, the five factors identified in the Center for Development Information and Evaluation (CDIE) studies as promoting sustainability: 1) perceived effectiveness; 2) integration of activities into administrative structures and institution strengthening; 3) significant increase of funding from national resources during the life of the project; 4) strong training component; and 5) constituency building through a process of mutually respectful negotiation.<sup>4</sup>

On some of the criteria, the Project has been doing well, particularly in demonstrating effectiveness and maintaining with host governments a mutually respectful negotiating process. On other elements, the record has been less good. Development of in-country training capacity has never received the same strong support from the Core as have the interventions or other strategies. Although more attention was given to it after 1988, this has not altered the basic balance of concerns.

Host government financial contributions of 15 to 25 percent of CCCD Project costs had originally been specified in the Limited Scope Grant Agreements. However, by 1988, as Dunlop and Evlo (1988) noted, adherence to these agreements was spotty, at best. Thus, the project was not meeting the sustainability criterion of increasing funding from national resources. There were good reasons for this failure, given these countries' declining economic prospects, but they also dimmed the prospects for sustainability. The encouraging aspects in this domain were the cost-recovery activities in limited areas of Guinea and Liberia and the policy changes in the C.A.R. which will permit eventually the government to recover costs in health facilities.

<sup>4</sup>Bossert, Thomas, Can They Get Along Without Us: Sustainability of Donor-Supported Health Projects in Central America and Africa, 1990, and ACSI-CCCD, A.I.D., Sustainability Strategy, December 1990.

Most misunderstood has been the criterion of integration of program activities into the administrative structure. CCCD Program Managers consider that since the program is operating within national Ministry of Health institutions, this indicates integration. However, the vertical programs within which CCCD activities are being carried out are not integrated into the Ministry as a whole. The CCCD program is not assisting the Ministries to build an integrated institutional base for its activities, except in those few countries which have insisted on maintaining an integrated structure, such as Lesotho. Little institution building in the sense of this criterion appears to have taken place in CCCD countries as a result of project activities.

Adding sustainability as a support strategy in 1988 did not promote major changes in CCCD activities, except for adding new management burdens with no new resources allocated for implementation. It may have been late in the Project's history for major mid-course corrections, but this was not a real change of direction so much as a codification of concerns voiced earlier. We were told that although there was support for the strategy in Washington, it tended to evaporate as it went down the implementation chain of command. Even the task of drafting in detail the strategy and the appropriate indicators took two years to complete. Among the host countries, we were told, the commitment to sustainability varied considerably. This was reflected in the participating countries' varying budgetary commitments and the unwillingness or inability to assign sufficient personnel to sustain project initiatives.

Some actions to promote sustainability took place. At the end of 1988, when project renewal agreements were drafted, sustainability objectives were written into the agreements in six countries. CDC brought on a health economist who carried out a number of studies of cost-effectiveness of ORT units, and ARI and chloroquine use in different project countries. In the C.A.R., the government made a policy change permitting cost recovery spurred on in part by the activities of an USAID Officer seconded by a like-minded CCCD Technical Officer.

The CCCD Project was one of the first A.I.D. projects to include sustainability objectives. It deserves praise for this despite its shortcomings in achieving these objectives. The CCCD Project's short history with the sustainability strategy provides a few lessons. First, if institution building and self financing are major objectives for a project (and we agree that they should be), they need to be built in from the beginning with the full support of all host countries involved. Second, a project which focuses on a few interventions is probably not a good vehicle for promoting major institutional or policy changes in financing and organizing health services. Moreover, by taking a facility-based, medical approach to health services, opportunities may be missed for community participation in organization and financing. Third, changes in the institutions and their financing mechanisms to promote sustainability need a minimum of 10 years.

## APPENDIX II-7

### LONG-TERM AND SHORT TERM TECHNICAL ASSISTANCE

By Anne-Marie Foltz, Ph.D.

CDC technical assistance (TA) over the course of the project was provided by Technical Officers (TOs) in the field, Long-term Medical Epidemiologists based either in the field or Atlanta, and Short-term Technical Assistants drawn from the Atlanta CDC staff or occasional external consultants who traveled out to the field. The long term TOs were not considered part of the Core and therefore are not considered in this evaluation. However, since they were supported by the Core and affected Core activities, some commentary on the long-term TOs is warranted.

#### A. LONG-TERM TECHNICAL OFFICERS (TO)

Long-term Technical Officers functioned in-country essentially as project coordinators. Their role was like that of long-term field staff used by A.I.D. contractors. An unusually large amount of technical back-up was available to the TOs from CDC Atlanta.

During the first years of the project, CDC assigned the TOs without consulting the host country or USAID missions. This practice was not well appreciated by either organization and was replaced by a policy of submitting the names of candidates for approval to the two organizations.

The interests and technical capacities of the TOs varied considerably and helped determine what the characteristics of the TA program would be in any particular country and which types of TA would most likely be requested from Atlanta. Most of the TOs were good at promoting the three intervention strategies, particularly immunizations. Whether they promoted support strategies depended heavily on their interest and/or capacity in that particular strategy: those with a background in training or health education emphasized those areas; computer buffs focused more on computerization of the information systems. Operations research was a difficult area for most of the TOs and was left to the medical epidemiologists or, in Zaire, to PRICOR.

#### B. LONG-TERM MEDICAL EPIDEMIOLOGISTS

The Long-term Medical Epidemiologists were effective in monitoring and promoting research and in assisting Ministries with epidemiologic problems. Their roles and the objectives of their placement in the field, however, were never satisfactorily defined. This reflected uncertainty about whether they were supposed to be

222

epidemiologic surveillance officers, trainers of national epidemiologic surveillance officers, researchers, promoters of operations research, supervisors of operations research, trainers of researchers, developers of health information systems, technical advisors for the health information system (HIS) and oral rehydration therapy (ORT), or administrators, or all of the above.

Different strategies were used to discover how epidemiologists could be used most effectively. The original strategy was to use them as regional epidemiologists, with ties to the French-supported regional disease surveillance agencies, OCEAC and OCCGE<sup>1</sup>, with one based in Abidjan for the Western Region and one in Malawi for the Eastern Region. It became quickly evident that the medical epidemiologists were not being effectively used by the regions nor the countries because they did not have an institutional base to work from and because it was as difficult for them to travel around the region from their bases as it would have been if they had been based in Atlanta. Essentially, they became de facto epidemiologists for the countries in which they were based. They were not replaced in Cote d'Ivoire after 1987 or in Malawi after 1988. Following this country model, epidemiologists were also placed in Zaire (1982-1990) and Nigeria (1987-present), the two largest project countries.

Even as country-based epidemiologists, their roles were not clear. In Zaire, two national epidemiologists were trained under the program but, at the time of our evaluation visit, one was no longer working in Zaire, and the other was absent. As a result, we were unable to evaluate whether in-country capacity in epidemiology had been much advanced by the long presence of technical assistance, even if much successful activity in disease surveillance had taken place during the period.

The medical epidemiologists' tenuous institutional base and their difficulty in finding appropriate counterparts complicated attempts at institutionalizing their activities. The medical epidemiologists tended to work more on their own research projects than as trainers for building local programs. Therefore, there was a limited transfer of technical skills. The problem here lay not so much with the way the medical epidemiologists approached their tasks, but more in the fact that the capacity of nationals in these countries was not sufficiently developed to take advantage of having this technical assistance available to train national counterparts.

For the medical epidemiologists, efforts to help develop operations research proved to be frustrating exercises. Success was attained in Nigeria where more than 30 research studies were funded by Nigerian researchers; 18 of these had been completed by May 1990. One could question whether epidemiologists without institutional bases and

<sup>1</sup>OCEAC is the Organization for coordination and cooperation in the struggle against endemic diseases, Central Africa. OCCGE is the Organization for coordination and cooperation in the struggle against endemic diseases, West Africa.

not in management positions are the best-placed persons to encourage operations research.

As the project progressed, CDC moved toward replacing the epidemiologists in the field with technical assistance specialists from Atlanta who could provide support to several countries. CDC saw this deployment of technical assistance specialists as a means of facilitating capacity building. It was also less costly than placing medical epidemiologists in the field (costing about half as much to post someone in Atlanta as in the field).<sup>2</sup> It is the impression of this evaluation team that, since it had never been clear what capacity was supposed to have been built by the Medical Epidemiologists and since, in the only country we visited which had full-time epidemiologists, their effect had seemed minimal, their purpose and roles remain as uncertain now as they have been from the start.

Certainly, host countries need assistance in disease surveillance, but whether this requires the help of a research-oriented epidemiologist or of a management-oriented health specialist is a question that should be raised at this juncture. The epidemiologists provided excellent support and advice in disease surveillance, research and control, but were less able to assist the Ministries in developing the organizational and management tools and skills they would need to carry on this work over time.

### **C. SHORT-TERM TECHNICAL ASSISTANCE (TA)**

CDC Atlanta provided well qualified short-term technical assistants to the field, and their work was highly appreciated in the host countries when it was provided in response to expressed country requests and needs. The large amount of assistance available (an average of 1,886 person days per year or 7.25 FTE) is an unusually large amount of back-up for a project of this sort (Table 7-1). Some of the people we interviewed suggested this was excessive. One of the advantages of CDC as an implementing agency was that 75 percent of short-term technical assistance could be provided by CDC staff who were available to go into the field at short notice.

The amount of technical assistance received was not closely related to the size of the country or to the needs of its programs for assistance. Although Nigeria and Zaire were among the most frequent to receive short-term assistance, small countries such as Malawi and Togo received almost the equivalent of one full-time expert yearly between 1985 and 1990. For some of these smaller countries, the number of TA person days appeared to be in excess of the country's absorptive capacities. Host country nationals

<sup>2</sup> Carol C. Goettl to Harvey E. Gutman, Letter, October 23, 1990. The estimated annual costs for a medical epidemiologist based in Africa were \$280,296; \$158,965 for one based in Atlanta.

commented on the frequency of visits which were time consuming for them; they wondered whether the visits were all necessary.

TABLE 7-1

Short-term Technical Assistance Days Under The Centers for Disease Control PAS/  
for the CCCD Project by County and Selected Interventions  
January 1985 - September 1990

| Country       | Consultant Days |         |                                 | Days by Selected Interventions |       |     |
|---------------|-----------------|---------|---------------------------------|--------------------------------|-------|-----|
|               | Number          | Percent | Average<br>of Total<br>day/year | Malaria<br>Number              | EPI   | CDD |
| Nigeria       | 1,908           | 17.6    | 477                             | 325                            | 102   | 34  |
| Malawi        | 1,295           | 11.9    | 225                             | 990                            | 12    | -   |
| Zaire         | 1,278           | 11.8    | 222                             | 203                            | 162   | 75  |
| Togo          | 1,105           | 10.2    | 192                             | 137                            | 152   | 40  |
| Liberia       | 967             | 8.9     | 168                             | -                              | 222   | 32  |
| Swaziland     | 774             | 7.1     | 135                             | 167                            | 82    | 40  |
| Lesotho       | 740             | 6.8     | 129                             | -                              | 173   | 125 |
| Guinea        | 656             | 6.0     | 114                             | 27                             | 62    | 52  |
| Cote d'Ivoire | 580             | 5.3     | 122                             | 75                             | 9     | 20  |
| Burundi       | 540             | 5.0     | 94                              | 6                              | 139   | 124 |
| C.A.R.        | 510             | 4.7     | 89                              | -                              | 27    | 136 |
| Rwanda        | 333             | 3.1     | 83                              | 121                            | 10    | 14  |
| Congo         | 157             | 1.4     | 52                              | -                              | 62    | 3   |
| Total         | 10,843          | 100.0   | 1,886                           | 2,051                          | 1,214 | 695 |

Note: The average number of days per year has been adjusted to the number of years the country participated in the CDC program:

- Malawi's program ended in 1988, but CDC continued to provide technical assistance for malaria research: 391 person days in 1989 and 308 person days in 1990.
- Rwanda's program was terminated in 1988.
- Congo's program was terminated in 1987.
- Ivory Coast's program began in 1986.
- Nigeria's program began in 1987.

Source: CDC Atlanta, computer printout from MIS

The interventions that received the most short-term TA were malaria (18.9 percent), training (16.6 percent), and health education (11.9 percent). They were followed closely by EPI, HIS, and Internal Review (Table 7-2). A large part of the malaria technical assistance (nearly half) went to Malawi for the continuing Mangochi clinical trial which took up considerable resources from the Core even after the bilateral project ended in 1988. It is possible that this high amount of TA for malaria simply reflected the high level of technical resources available in that field within the CDC. Availability of resources may have been driving the use.

TABLE 7-2

Total Short-term Technical Assistance Days Under the Centers for Disease Control PASA for the CCCD Project by Program Area  
January 1985 - September 1980

| Program Area          | Number of Days | Percent of Total |
|-----------------------|----------------|------------------|
| Internal Review       | 1,058          | 9.8              |
| Supervision           | 714            | 6.6              |
| Malaria               | 2,051          | 18.9             |
| Training              | 1,795          | 16.6             |
| Health Education      | 1,292          | 11.9             |
| EPI                   | 1,214          | 11.2             |
| HIS                   | 1,110          | 10.2             |
| CDD                   | 695            | 6.4              |
| OR                    | 274            | 2.5              |
| Management            | 152            | 1.4              |
| Health Care Financing | 148            | 1.4              |
| Other                 | 340            | 3.1              |
| Total                 | 10,843         | 100.0            |

Source: CDC Atlanta, computer printout from MIS.

Training and health education were the two strategies for which CDC had to turn to outside experts most frequently (Table 7-3). Sixty percent of training TA and 58.5 percent of health education TA was provided by outside experts. Despite the importance of these strategies to the project, CDC never succeeded in building the in-house technical capacity to implement them to the extent it did with the intervention strategies such as malaria, EPI and CDD. Only 1.4 percent of TA went for assistance in management.

227

When CDC needed expertise in this field, it had to go outside its walls 63 percent of the time. This illustrates how limited CDC's resources are for providing back up for management and institutional development.

TABLE 7-3

Non-Staff Days of Short-term Technical Assistance Under  
the Centers for Disease Control PASA  
for the CCCLD Project by Program Area  
January 1985 - September 1980

| Program Area          | Total No. of<br>TA Days | No. of Non-<br>Staff Days | Percent<br>of Total |
|-----------------------|-------------------------|---------------------------|---------------------|
| Internal Review       | 1,058                   | 56                        | 5.3                 |
| Supervision           | 714                     | 0                         | 0                   |
| Malaria               | 2,051                   | 0                         | 0                   |
| Training              | 1,795                   | 1,084                     | 60.4                |
| Health Education      | 1,292                   | 756                       | 58.5                |
| EPI                   | 1,214                   | 275                       | 22.7                |
| HIS                   | 1,110                   | 282                       | 25.4                |
| CDD                   | 695                     | 7                         | 1.0                 |
| OR                    | 274                     | 148                       | 54.0                |
| Management            | 152                     | 95                        | 62.5                |
| Health Care Financing | 148                     | 15                        | 10.1                |
| Other                 | 340                     | 50                        | 14.7                |

Source: CDC Atlanta, Computer printout from MIS

One should keep in mind that CDC was not the only technical assistance provider. WHO/AFRO provided a goodly proportion of the training. In addition, small amounts of TA in health education, health financing, CDD, and operations research were available to country programs through mission buy-ins to the centrally funded projects of HEALTHCOM, REACH, PRITECH, and PRICOR.

**D. CONCLUSIONS ON TECHNICAL ASSISTANCE**

Few, if any, technical assistance efforts command the amount of support provided by the CCCD project. It could be argued that this first phase of a long effort required

an extra measure of operational and technical initiatives to get off the ground, especially in previously neglected areas. The project was assigned to CDC without open bidding, based partly on Congressional pressure, but also because of CDC's immunization experience in Africa and its worldwide reputation for technical excellence. Ten years ago, CDC appeared to be the only organization capable of taking on a project of this magnitude.

Today, the situation is different. The technical interventions have been standardized, and the needs for TA have shifted to management, supervision, training, health education, and related areas. Other organizations have similar and possibly even superior expertise in these areas.

CDC IHPO, which has a legitimate and important role to play in international health, should not have to depend for most of its resources on a single A.I.D. project. CDC IHPO's justified mission in international health should receive direct funding from Congress to pursue its vital research and disease surveillance activities rather than having it depend so substantially on A.I.D. child survival projects.

The experience of technical assistance in the CCCD program also suggests the following lessons: that the skills and capacities of in-country coordinators such as the TOs can, to a large extent, shape the direction of an in-country program; that the assignment of long term technical experts, such as medical epidemiologists, requires a clear statement of objectives and how they are to assist host countries in order for them to be able to function most effectively; that short term technical assistants, however qualified, can be used in excess of a country's absorptive capacity and that the excessive use of such expertise makes is expensive and perhaps inefficient. It may also engender host country dependency rather than encouraging them to take on tasks themselves.

## APPENDIX II-8

### THE ORGANIZATION AND MANAGEMENT OF THE AFRICA CHILD SURVIVAL INITIATIVE PROJECT-CCCD (698-0421)

By James Shepperd, M.D.  
ACSI-CCCD PROJECT OFFICER  
AFR/TR/HPN

#### A. INTRODUCTION

The purpose of the organization and management section is to describe how the ACSI-CCCD project is organized and how the management functions are carried out. The project is designed to work with African governments, and enable them to implement the three interventions: 1) the expanded program for immunization (EPI), 2) the control of diarrheal diseases (CDD), and 3) treatment of malaria.

The project has its seat in the Division for Health Population and Nutrition in the Office of Technical Resources within the Bureau for Africa in the Agency for International Development. The project is regional, and is therefore, managed in this office rather than in the USAID field missions. The project has a management steering committee called the Project Committee which consists of representatives from the Africa Bureau's Office of Technical Resources (TR), the Office for Program Development (PD), the Office for Development Planning (DP) and Budget, and from the Regional Desks within the Bureau. Other members of the committee include the General Counsel's Office and representatives from the Bureau of Science and Technology, Office of Health. The Office of Technical Resource reports to the Deputy Assistant Administrator for the Bureau for Africa. The principal project executive is called the Project Officer, who is a Technical Officer assigned to the Africa Technical Resources Office. This officer has been a physician technical resource manager for the last four years. Prior to that, the Project Officer was either a project development officer or the chief of the HPN Division. From 1981 to 1988, the major responsibility for project management was delegated to full time staff at the Centers for Disease Control who reported to the A.I.D. Project Officer (See Appendices I-4 and I-5 for organization charts).

The management structure of TR/HPN is responsible for the Core budget and activities. The major implementors were funded through the Core operating year budget (OYB). The implementors are the Centers for Disease Control, through a PASA; the Africa Regional Office of the World Health Organization, through a grant; the headquarters of UNICEF through a grant; the PRITECH, HEALTHCOM, REACH, and the Healthcare Financing project conducted by contracts. A variety of other contractors provided commodities and upon request, consulting, and evaluation services. Core administration also provided funds to the missions for the purpose of hiring

administrative Personal Services Contractors (PSC). In summary, the major function of the Core in the HPN Office has been to assure that the financing of the above activities were managed on an annual basis through written agreements and funding instruments. It also monitored performance invoices with matched vouchers received from the operating organizations.

In the early days of the project, each of the participating countries in Africa received Limited Scope Grant Agreement (LSGA). These LSGAs provided funds for the host country governments to purchase vehicles, to provide fuel and maintenance for them, to provide funds for training and travel for host country officials. These funds also permitted them to "buy-into" S&T/Health contracts as required by the needs of that particular country. Money was sent to the A.I.D. offices in the 13 African countries through the means of an OYB transfer. The funding functions were conducted by preparing financial instruments where necessary. Contracts office and other offices of the Africa Bureau are responsible for preparation of contracts on a timely basis. In addition, some missions requested support from the project using buy-ins under ACSI-CCCD. These "buy-ins" and "pass-throughs" were monitored as financial instruments to record their obligations and vouchers in the project financial management information system. Reports were provided by the S&T/Health contractors and presentations made to AFR/TR on a regular basis.

## **B. POLICY BASIS FOR MANAGING THE PROJECT**

The policy of the Africa Bureau/HPN office was to: provide the basic funding for projects/activities of the implementors listed above, develop appropriate solutions for problems that arose in the process of implementation, resolve policy issues related to making the project and the initiative for child survival successful. As a result of this policy position, the project took on an extraordinarily broad scope of activities as indicated by the long list above. Starting in 1988, when the Development Fund for Africa changed its focus from funding and managing operations from Washington to a de-centralized approach with field missions receiving more money and more responsibility. The number of core activities listed began to decline after that time. They became centralized primarily through the grants to the United Nations agencies and PASA with the U.S. Centers for Disease Control and Evaluations. Commodities, vaccines, and S&T/Health projects were discontinued.

The policy and practice of the AFR Project Officer has been to resolve issues in implementation with the major implementors. This involves a series of meetings to attempt to improve or influence the policies of the implementors, such as UNICEF and WHO, through policy dialogue. For example, the UNICEF EPI approach called for short-term intensive campaigns resulting in rapid increases in the number of children immunized, placed high priority temporarily on immunization with little sustained effort by host countries. Through policy dialogue, A.I.D. was able to redirect UNICEF toward a policy of sustained acceleration and growth in immunization coverage.

### **C. POLICIES ADDRESSED BY THE CORE OF THE PROJECT**

As stated above, the project management's responsibility was to address any problem, policy or practice which impeded the initiative for child survival. This required repeated and recurrent policy analysis by individual countries, the implementors such as CDC, UNICEF, WHO, and other project collaborators. As a result of this need, the project established a regular series of working groups and sessions with UNICEF which met approximately every six months. The Africa Bureau is now joined by the Science and Technology Bureau creating a forum for discussion of global child survival activities, particularly those which relate to Africa. It has led to a determination of which interventions will be included in the A.I.D. child survival package offered to the countries of the world, and Africa in particular.

At the country level, the Centers for Disease Control is primarily responsible for implementation policies, particularly those related to the EPI, diarrheal disease and malarial control. As a result of this long term effort, 55 new policies in each of these areas have been established. Newly formulated policies have been based upon assessments made by the Centers for Disease Control in the field, or resulting from practices established by the Global Advisory Group on EPI, and from CCCD research findings and from other groups such as PRITECH and HEALTHCOM.

### **D. MANAGEMENT OF THE PASA**

A PASA agreement was implemented between the Centers for Disease Control, the major contractor of the Core and the Bureau for Africa in 1981. The management committee consists of the Project Officer, the Project Manager, and Assistant Project Manager in AFR; and the Director of the CCCD project, Director of the Field Support Division and the Director for Technical Services Division at the Centers for Disease Control. The agreement with the Centers for Disease Control is based upon an annual workplan and budget submitted by the CDC to the Bureau for Africa. This workplan and budget sets out activities for the year based upon the objectives of the project. This document is reviewed by the Africa Bureau Project Officer as well as the Project Committee. The program funding level and authorization established for the PASA are authorized in a PIO/T. Two PIO/T per year have been the practice based on availability of funds.

The management of the CDC PASA is conducted by the Project Officer, Project Manager and Assistant Manager who meet on a quarterly basis with the management team from the Centers of Disease Control International Health Program Office (IHPO). These management meetings review the progress of each country program, its support strategies and implementation. The quarterly reports of the countries, as well as the annual report are also reviewed. Discussion of management problems that have arisen with staffing, funding, research review, training, etc. are carried out during those meetings and decisions are made jointly. These meetings alternate between Washington and

Atlanta. The Project Officer travels not less than twice a year to Atlanta for these purposes. Meetings usually require a minimum of two days for this review. Various units participating in the project at the Centers for Disease Control include Malaria Branch and the Family Planning Branch, Special Pathogens Branch. Other offices may be called in as needed, such as the Epidemiologic Intelligence Service and so forth. The PASA supports approximately 40 people at the Centers for Disease Control on a full or part time basis. Management of the internal workings of the IHPO will be discussed later. Once the funding effort is approved by the Project Committee and by the administrators of the Bureau, it is submitted to the Contracts Office, where the PASA is made into a contract agreement. The PASA is signed off by the Office of International Health at the Department of Health and Human Services and by the Director of the Centers for Disease Control. The International Health Program Office Administration prepares the vouchers which are transmitted electronically to the Financial Management Office of A.I.D., and are then submitted in writing to the Project Office for signature. The vouchers are recorded in the FACS and PAIS reports of the Agency Financial Management Office (FM).

Vouchers from implementors (grants, contracts or PASA) are recorded in the CCCD Management Information System established in the AFR/TR/HPN Office. All vouchers are recorded before being certified to be paid and returned to FM via the Controller in the Africa Bureau. From time to time, a financial management review is conducted by the Project Officer with the help of outside consultants. To date only one cost overrun has been discovered. This occurred in 1986.

#### **E. AFR/TR/HPN ROLE IN MANAGEMENT OF COUNTRY PROGRAMS**

Starting in 1988, the Bureau made a determination that project management of country-specific programs was to be delegated to the USAID missions to the extent possible. As a result of this decision, country OYBs were required to support the CCCD project starting in 1989. Each country began to use its own OYB to fund the LSGAs to purchase commodities and supplies and vaccines and any other equipment needed. It was also used to obtain technical assistance needed outside of the CDC PASA. This new approach for country-specific activities has, in most countries, resulted in a decision by the mission to develop a bi-lateral project, which is a desired outcome although not part of the project design.

Country-specific activities are not reviewed directly by the project managers in Washington, as they are the Mission's responsibility, except as part of a PASA quarterly review with CDC (above). Country level progress is reviewed through reports prepared by the Centers for Disease Control and external evaluations. When problems are discovered by the evaluation of these country programs, recommendations are made to the mission to address this problem. At this point, evaluations are a joint activity of the USAID missions, and the project management in HPN.

As a result of internal and external annual evaluations, adjustments and corrections of the problems of implementation have been made in a timely manner. As a result, project implementation has moved forward rapidly and disbursement of funds at this point stands at about 80% of obligations, with new obligations being made each year. The Missions annually submit requests for the technical assistance they need from the HPN Office in terms of new programs they wish to implement, such as health care financing in several countries, integration of family planning into child survival, etc. These plans are reviewed and approved by the project managers and funded through the LSGA or the CDC PASA, or both. In that way, new initiatives consistent with new Africa Bureau policies, such as sustainability, can be rapidly put in place without a complete project re-design. The Project Officer has promoted the policy and practice of transferring the full responsibility for country-specific activities to the Mission HPN Officer over the past three years. This has resulted in a greater sense of independence and mission ownership. This policy has worked well except with a few missions that do not have an HPN Officer (Guinea and C.A.R.).

#### **F. MANAGEMENT OF THE GRANT TO UNICEF**

In 1985, it was decided to grant funds to the UNICEF headquarters to conduct part of the Nigeria CCCD country-specific activities. The Assistant Administrator for the Africa Bureau signed the grant on behalf of the Agency, and funds were transferred from AID/Washington to Headquarters UNICEF. The grant for Nigeria was managed by the Lagos, Nigeria, Office of UNICEF. Funds were provided for the purchase of vehicles and commodities, vaccines, cold chair equipment, etc; support for training programs, for social mobilization; and support for staff and Lagos UNICEF office. During the past two years AFR/HPN monitored the coordination of UNICEF activities and the efforts of other implementors in Nigeria. That included the Technical Officer for CCCD, the local staff, as well as S&T contract organizations, HEALTHCOM and PRITECH. When the Lagos Mission staff grew to sufficient size, the responsibility for review was transferred to the field. At present the Project Officer relies upon the annual report by the UNICEF/Nigeria office and the report from the Technical Officer of CCCD for the decisions of whether to provide the next tranche of funds for the grant. Because of frequent disagreements over strategies for campaigns and accelerations, the Project Officer with colleagues from the Science and Technology Bureau conducted policy dialogues with the UNICEF headquarters in New York and set up the meetings which have occurred at least semi-annually since 1987 to mesh the programs and carry out the evaluations jointly. This year, the mission will have to decide whether to make a new grant.

#### **G. WHO/AFRO**

The Africa Regional Office of the World Health Organization in Brazzaville has been a partner in the project since 1984. The role of WHO/AFRO has been to serve as an advocate for the principles of child survival as a selective interventions of the primary

health care strategy, and to perform training of healthcare Technical Resources Managers in all the countries of the region, whether they had CCCD country-specific activities or not. This training program has provided training in epidemiology, Family Planning, expanded program of immunization, diarrheal disease control, and malaria. Approximately 5,000 people from 30 countries have been trained through this grant to WHO. WHO was also given responsibility for collecting epidemiologic data from priority countries of Africa and producing an epidemiologic bulletin based upon this data and upon research findings related to child survival interventions. To date, eight issues of this Epidemiologic bulletin have been produced. These bulletins are disseminated to all the countries in the WHO/AFRO region.

The AFRO grant is monitored by a series of evaluations that have been conducted over the years and by annual visits by the Project Officer to WHO/AFRO. The grant has been renewed once. The latest grant requires the development of new teaching materials, and modules for training in the above areas. Family planning training was added to the group of subjects which will be provided in the courses. Because of the burden of developing these modules, the Core also provided funds for additional consultation services to the AFRO offices for the purpose of pulling together the modules, and field testing them. They are now revising them according to the responses from a series of courses. AFRO representatives have been invited to participate in various evaluations, but because of AFRO's lack of staff, they have been unable to play a meaningful role in this particular aspect.

## **H. VACCINES AND COMMODITIES**

At the inception of the project in 1981, measles and other vaccines were only sporadically available in many African countries because of lack of foreign exchange, poor management practices, and inability to plan and distribute the vaccines. As a result, the CCCD project first began to purchase the vaccines through American suppliers. When the American vaccines were no longer offered at close to cost, a European supplier was contracted for annual provisions of about 1-2 million doses per year. Starting in about 1985, UNICEF became the major supplier of vaccines, therefore the project role in purchasing vaccines diminished. At this time, few vaccines are being provided through the CORE budget. In 1990, one of the major contributors to the UNICEF immunization program for purchase of vaccines was unwilling or unable to fulfill its commitment to UNICEF and emergency grant of \$3.5 million was made to UNICEF for the purchase of vaccines.

## **I. PURCHASE OF COMMODITIES**

In the beginning of the project, countries required syringes, needles, sterilizers, etc. in order to implement immunization efforts. The project purchased chloroquine tablets, oral rehydration salts, teaching materials and so forth. These purchases were arranged by the Core through a purchasing service agent who took the orders each year, and

delivered the commodities to the USAID missions. As the missions began to take over the management of the project, the need for this purchasing services agent diminished and at this point, only one mission is using this service. This contract will be terminated at the Project Activity Computation Date (PACD) ending in 1991.

#### **J. PERSONAL SERVICES CONTRACTORS-ADMINISTRATIVE OFFICERS**

At the inception of the country-specific programs, most missions identified a need for a person to handle the administrative paperwork for the purchase of commodities, services, etc. Some missions hired their own personal services contractors (PSC) to do this work. These mission-based personnel were funded through transfers of OYBs to the missions from AFR Core. Starting in 1988, more and more of the missions were willing to pay for PSCs out of their own program money except for those missions with little or no operating year budget. Thus, the practice as a function of the Core budget has essentially ceased. The only countries still receiving this aid are: Côte d'Ivoire, Swaziland, and Guinea. If these countries develop their own bilateral projects, they will have the authorization and funds under which to hire PSCs.

#### **K. FAAS**

The FAAS is a charge by U.S. embassies in the participating countries for services they provide to the CDC employees. Technical Officers and Epidemiologists are U.S. direct hires of the Centers for Disease Control, therefore, their housing and other general support provided in the countries is the same as those provided to A.I.D. employees. There is a charge for this service, which varies from country to country, but nevertheless it has been paid through the Core budget. Charges are established by the State Department for each country, and these costs will be assumed by the missions as they take on the full responsibility of the project at the end of this fiscal year.

#### **L. S&T PROJECTS**

There are five major S&T projects involved in CCCD. They are: PRITECH, HEALTHCOM, REACH, Healthcare Financing Project, and NUTRICOM. They will be discussed in order.

##### **1. PRITECH (Technical Services for Primary Healthcare)**

The purpose of this project originally was to provide support for all child survival interventions. However, because of the heavy demand for oral rehydration therapy activities in Africa, and because of the International Health Program Office had little or no resources for implementation of diarrheal disease control, an arrangement was made through PRITECH for these services. Early in the project, CCCD was also constrained from operating in the Sahelian countries, and therefore, a special funding arrangement was added into the project by the Sahel Development Fund in the amount of \$500,000.

With this fund, the project was able to operate in Senegal, Mauritania, Gambia, Mali, Niger, Chad, and Burkina Faso. PRITECH provided technical assistance for implementation of oral rehydration therapy. These activities were monitored through regular reports from PRITECH to the Project Officer and through regular meetings with PRITECH. The PRITECH regional coordinator based in Dakar, Senegal reports to the HPN office at least twice a year, and provides regular reporting through the CTO and the S&T Health Office. In one country, Nigeria, a separate agreement was made with PRITECH to provide all the diarrheal disease control inputs to that country. The PRITECH officer was to report to the CCCD Technical Officer. This arrangement broke down when there was no agreement between the Mission Technical Officer and Government of Nigeria over just exactly what programs were to be carried out by PRITECH. Currently, PRITECH is working only in the Sahelian countries under the CCCD authorization. PRITECH has also worked under CCCD authorization early in the project in Cameroon, in Zaire, and Malawi.

## **2. HEALTHCOM (Health Communications)**

Technical Assistance to the Project was purchased by the Core initially for work in Nigeria, Swaziland, Lesotho, and Zaire. HEALTHCOM placed a full time staff member in those countries for development and implementation of approaches to health communications. After 1988, no new Core agreements were made and the Missions took responsibility for funding their own individual contracts with HEALTHCOM. The Project Officer reviews the reports from HEALTHCOM and certifies the HEALTHCOM vouchers. The HEALTHCOM CTO in the Science and Technology Bureau is the point of contact with HEALTHCOM, although HEALTHCOM staff are in frequent contact with the project management. Regular report and conferences constitute monitoring by AFR/TR. HEALTHCOM is installed as part of CCCD in the field.

## **3. REACH Project**

The REACH Project was designed to provide expertise and technical assistance in EPI and healthcare financing. Because of the overwhelming popularity of the effort to carry out healthcare financing in the CCCD countries, as well as others, the REACH project has focused on healthcare financing. The Core budget of CCCD bought into the REACH Project for the purpose of conducting training programs in healthcare financing for the 1988 Health Officers' Conference in Yamoussoukrou, Cote d'Ivoire and for consultations and training programs in several CCCD countries. In the Central African Republic, a new policy and program for healthcare financing was developed by the REACH Project. Technical assistance has been provided to Guinea, Burundi, Zaire, and other participating countries in the CCCD project. A series of pamphlets, articles, training materials, etc. has been produced by REACH reflecting their CCCD experience. When the REACH project terminated, the Project Officer commenced negotiations with the Healthcare Financing Project to carry on the activities started in the CCCD countries.

#### **4. NUTRICOM**

Funding was provided by CCCD to the S&T Nutrition Office Project to provide nutrition education and IEC in a variety of African countries.

#### **M. DISSEMINATION OF PROJECT FINDINGS AND INFORMATION**

Dissemination of CCCD project findings and research information has been conducted through three major activities. First, the annual consultative meetings held alternately in Unicoi, Georgia or in a host country in Africa. The second means of dissemination of information is through publications of articles prepared by the various implementors. The number of journal articles prepared by CDC is approximately 100. They have appeared in journals ranging from the American Journal of Tropical Medicine, the American Journal of Public Health, the New England Journal of Medicine, and Journal of the American Medical Association, etc. Articles appearing in other journals include those prepared by contractors, and they have appeared in the Journal of Science and Social Medicine, American Journal of Public Health, Journal of Health Education, Journal of International Health, etc. The third means is a variety of conferences such as the American Public Health Association, the Association for Tropical Medicine, the international Health meetings, and a variety of smaller fora throughout the world.

Consultative meeting in Africa provides a forum for worldwide experts in interventions and support strategies to make presentations and have discussions. Major contributors to this forum at this time are participants from the African countries who present the results of their implementation work on healthcare financing, research carried out on the various interventions, and so forth. These subjects may range from immunology of various diseases, to feeding of children with diarrhea, to cold chain experiences, subjects of basic science, applied research, some epidemiologic findings. These reports are the results of training, studies, surveys, quality assurance efforts, and so forth. These meetings attract well over 200 people with representatives from a variety of United Nations agencies, participating governments, Centers for Disease Control, A.I.D., and other organizations. The plans for child survival and A.I.D. health, population, and nutrition programs are also discussed with participants from the various countries. Representatives from participating countries as well as those not in the CCCD program attend. A.I.D. HPN officer participation has been disappointing. The continuing education opportunity for HPN officers is one that should not be missed. Included in last year's program were topics in family planning, nutrition, and HIV/AIDS. The complete spectrum of A.I.D. HPN program issues were on the agenda in 1991.

The Unicoi meetings are primarily focused on the work of the personnel from A.I.D. and the Centers for Disease Control. Presentations at that meeting are made by TAACS, the Technical Officers and the epidemiologist at CDC. Presentations also have been made by A.I.D. officers who are working on A.I.D.'s plans for the future of the

225

CCCD Project. Included in both meetings are Technical Advisors for AIDS and child survival experts assigned to various countries around the world. They also make presentations on their work. This meeting is also used to handle administrative details for field staff and TAACS. This is an opportunity for intensive review of the country programs and the management information system reports that have been annually completed by Technical Officers. The Unicoi meeting is also a forum for exchange of data, technical experiences, computer learning, computer programming, and a vast amount of technologic information-sharing that is conducted at all levels. The various new technologies are presented such as the AFR/TR/HPN data management system new computer applications, such as "EPI-INFO," and training materials. This is essentially a miniature convention for those involved in child survival activities. The African country representatives have not participated in the Unicoi meetings. AFR has recommended that they be included in all the meetings of the CCCD project. Expense considerations will have to be taken into account to make this a viable recommendation.

## **N. OPERATIONS OF THE INTERNATIONAL HEALTH PROGRAM OFFICE**

### **1. Organization**

The International Health Program Office (IHPO) at the Centers for Disease Control, the Department of Health and Human Services is the primary implementing organization. It is located in Atlanta along with the main offices of the Centers for Disease Control. The IHPO Director is the Assistant Director of the Centers for Disease Control for International Programs. There is a Program Manager for the CCCD project who is also the Director of the Division for Field Services. The Field Services Division is primarily responsible for supervising the activities of the Technical Officers and epidemiologist in the field. There are also Public Health Advisors, who provide direct support for Technical Officers, and who handle programmatic as well as administrative needs. The Technical Support Division provides technical backstopping for the countries, mainly through the provision of medical epidemiologist, training, health education, healthcare financing, and other technical resources for project implementation, analysis and research.

The third component of IHPO is the Administrative Office. The Administrative Office handles the financing of the PASA, personnel, logistics, supplies, etc. The fourth component is, the Directorate of IHPO which provides all other kinds of general support including bio-statistics, and computer science.

Initially, the IHPO focused primarily on CCCD, but in recent years it has taken on other international project responsibilities both from A.I.D. bureaus, other U.S. Government agencies and WHO. The other A.I.D. projects in the IHPO are funded by the Office for Refugee and Disaster Relief, and the Science and Technology Bureau. The projects funded by S&T/Health include the TAACS program, the Data for Decision-Making program, a PASA for vector borne disease control, and a PASA for child

survival. The technical support from these projects are available to countries throughout the world, and not just Africa. Many of the officers of the International Health Program are supported through the CCCD project, but a portion of their time is allocated to meet other international needs around the world.

The experts in the International Health Program Office provide technical support for a variety of international advisory groups such as the Global Advisory Group on Immunizations, the AIDS Advisory Group, the Viral Diseases Advisory Group, and so forth. The administrative structure of the International Health Program's Office also permits it to tap into other offices and divisions of CDC. These include arrangements with the Malaria Branch of the Tropical Disease Division, the Special Pathogens Office for dealing with outbreaks of meningitis and diarrheal diseases. The Special Pathogens Office provides the highly technical support needed for identifying uncommon diseases, for development of vaccines, and epidemiologic outreach services. This is available both to USAID and to the World Health Organization in Geneva. Other offices whose resources are coordinated by the IHPO include the Epidemiologic Progress Office, which provides training for epidemiologists. The Family Planning Branch provides technical assistance for the family planning efforts now being put in place through CCCD. The Center for AIDS Activities at CDC provides input for AIDS programs within the CCCD. At one point, an epidemiologist was provided through the CCCD project to WHO/AFRO for the purpose of developing AIDS prevention programs in Africa prior to the development of the Africa Bureau's own HIV/AIDS prevention for Africa Project (HAPA).

## **2. Administrative**

Administrative Officers at CDC are responsible for all personnel management of the staff in the International Health Program Office, Technical Officers overseas, contract personnel, IPA's, interns, visiting scientists and so forth. The Personnel Officer is also responsible for CDC staff working on the RSSA assignments, and for project management in AFR/HPN. The administrative staff is also responsible for handling the finances of the project. They receive the funds through the PASA, and manage the payment of the people overseas as well as those in Atlanta. All of their allowances and expenses for the people overseas are handled by the administrator through "sub-allocations" into U.S. embassy accounts overseas and managed by the Budget and Finance Offices there. The Technical Officers draw down on these accounts to fund their training and travel and field operations in general. It may include hiring of foreign service nationals, and any other activities they need to fund. In general, the sub-allocations are relatively small in size, except in Nigeria where they are as high as \$500,000 per year. The administrative office compiles the project expenses and prepares vouchers which are submitted to the Project Officer for approval. This office also prepares the annual budget submission for the workplan.

The administrative office purchases some equipment for the project, including computers and vehicles for the Technical Officers in the field and anything else needed to make the project function properly. The flow of small parts and repair service contracts arranged by this office are predominantly for computer hardware. The financial management of between 5-10 million dollars a year have necessitated the use of a management information system for this particular aspect of the project. There are also administrative chores to be carried out such as recruiting of personnel, and making contract agreements and sub-agreements with various contractors to the IHPO such as Emory University, University of North Carolina, and the Association of Schools of Public Health.

### 3. Technical Services

The following is a discussion of the various components of the Technical Services Division:

**Immunization:** CCCD immunization intervention is very large and has its own branch of medical epidemiologists. These epidemiologist monitor the activities of implementation in the field, and assist the Technical Officers in preparing reports on the epidemiology of the expanded program of immunization (EPI). This group compliments the other technical support efforts involved in this intervention such as training, health education, operations research, healthcare financing, epidemiologic surveillance and health information systems.

**Diarrheal Disease:** Diarrheal disease is a smaller component of the Technical Services Division. It is also responsible for the technical quality of diarrheal disease control. It coordinates the support efforts, working with the Public Health Advisor and the Technical Officers in the field.

**Malaria:** The Malaria Branch is primarily responsible for activities related to malaria control, and again, is responsible for overseeing interventions working in cooperation with the Public Health Advisor and with the technical support staff for Health Education, OR, Training, etc. This somewhat different arrangement for malaria control is due to the fact that no malariologist are assigned to IHPO, rather there is a sub-agreement between the Malaria Branch and IHPO.

**Epidemiologic Surveillance:** Epidemiologic surveillance for the project in general, is carried out by full or part time specialized epidemiologist relating to the interventions of the CCCD project. The epidemiologic surveillance systems are installed in each country by the epidemiologist and Technical Officer. The technical inputs are provided by epidemiologists who are stationed in Atlanta and visit on a periodic basis to support the surveillance activities in the host country.

**Health Information Systems:** Health information systems have been installed in most of the countries by medical epidemiologists and Technical Officers. The Technical Officer supports in-country activities of the system. Training for health information systems computer services are provided at the University of Kinshasa School of Public Health in programs for training people to perform computer operations. A specialist in computer programs and software and hardware is located in the Director's office at IHPO. This person travels to each of the countries to provide them with support for hardware and software, installing the computer program called EPI/INFO which is the standard reporting software for the IHPO and the International AIDS Program. This person is available on call and is in extremely heavy demand. Each of the Technical Officers has been trained to provide training in computer programming and to operate at least four software programs which include EPI/INFO, DB Master, WordPerfect and Lotus. This technology is transferred to local nationals who have been provided with computers in the Ministries of Health, and with support by CCCD.

**Health Education:** The Health Education unit is responsible for designing and implementing health education programs for immunization, diarrheal disease, and malaria. In those countries where no HEALTHCOM contractor is present, the responsibility falls on the Health Education unit in the Technical Resources Division. Health Education Programs, at the clinical level, have been supplemented by a sub-project of CCCD. It is the regional training program for health education planners and managers. These training programs are provided annually in English at Ibadan University, in Nigeria, where a WHO Center for Health Education was established in the early 1980's or late '70's, and a new program at the University of Kinshasa School of Public Health. These regional programs in training health education program managers are available for all of the CCCD countries. Development of this program at Ibadan and Kinshasa was contracted to the University of North Carolina, which trained the teachers of those institutions to put on annual short courses, six weeks in duration. A new activity of the health education units is to provide training programs in malaria. This has become a new area of priority emphasis at the request of A.I.D.

**Training Unit:** The Training Unit has a small staff and carries out various types of training in Africa for mid-level managers of EPI, diarrheal disease and malaria programs. Because the staff is small, the majority of the training is carried out through the use of consultants hired by CCCD to develop, implement, and evaluate training programs. They then have to revise, correct, and strengthen these programs. Training has not been the forte of the project and an assessment of the results of training is part of the Core evaluation.

**Operations Research:** Operations Research is carried out on two levels. Some OR is carried out because of CDC interest. These are conducted by the medical epidemiologist based in Atlanta. This research includes such subjects as field testing the Edmonston/Zagreb vaccine in Kinshasa, Zaire and the Mangochi Malaria Study on chemo-prophylaxis of pregnant women. Also studies on the use of bed nets to protect

people from malaria are underway in several locations. A variety of studies related to EPI and diarrheal disease have been conducted by the staff of the Centers for Disease Control.

African investigators have been trained to conduct Operations Research by the medical epidemiologist and others, using materials primarily developed in the predecessor project, SHDS (698-0398). In most countries, a research review committee has been established which replaced the regional research review committees. Operations research is well established in large countries like Nigeria where there is a critical mass of investigators with a rich research tradition. Operations Research conducted by local nationals is funded through the Limited Scope Grant Agreements. An analysis of Operations Research in the project was made by Dr. Emanuel Joseph under contract to the Association for the Schools of Public Health. The research findings of both the CDC investigators and the African investigators are presented at the bi-annual Africa consultative meeting. The next consultant meeting is scheduled for 1992, in a yet unidentified country.

**Health Care Financing:** Healthcare financing work under the project was carried out under an IPA to a faculty member at the Emory University, Department of Economics. A number of studies of healthcare financing schemes and the economics of financing the interventions of EPI, CCCD, and malaria were conducted. The results of these studies have been made well-known and published in the literature. Because of the interest generated in healthcare financing, a CDC staff member has been sent to the Wharton School of Finance and Commerce to become a resident health economist in IHPO.

#### 4. **Reporting of IHPO to A.I.D.**

Each year the IHPO prepares an annual report on the activities of the IHPO office in general and submits it to A.I.D., the major source of funding, as well as to the Department of Health and Human Services which also provides some funding for the office.

The CCCD Project annual report covers the achievements of the specific interventions and support strategies in CCCD countries. This report contains charts and graphs demonstrating the changes in vaccine coverage, mortality and morbidity due to the various diseases. These reports show trends in morbidity and mortality for all diseases under surveillance. Quarterly reports are prepared by the field Technical Officers and submitted to A.I.D. reporting on the interim progress on annual objectives of the country-specific programs. This report contains some administrative detail such as questions of staffing and purchasing, and so forth. It also analyzes the constraints to implementation and makes recommendations how the major implementor can correct them. These reports are useful to A.I.D. in making some corrections. However, they are not quite as timely as necessary for immediate management needs, except when they

show early trends of the various diseases. They are useful to management as they reflect the needs for changes in procedures and practices. For example, the decline in visits to demonstration centers for oral rehydration therapy was reflected first in the quarterly reports. Another administrative detail from these reports was the difficulty missions have in spending the money in Limited Scope Grant Agreements. This occurred because of the A.I.D. administrative requirements for disbursement of these funds to the governments of the various African countries.

**Special Reports:** Upon the request of project managers, special reports are provided by CDC such as summaries of on-going operations research going on, analysis of the financial pipelines, status reports on employees, staffing, or any other special issues which may require attention on an ad hoc basis rather than a routine basis. Most of these reports provide the basis of discussions during the quarterly management meetings or regular communications from A.I.D. to CDC.

#### **O. COMMUNICATIONS BETWEEN A.I.D. AND CDC**

A.I.D. and CDC established communications links several years ago using computer communications such as DIALCOM. Both organizations maintained FTS telephone linkages and phone calls are made on an order of 10 per day by the various staff members on both sides, with facsimile machines facilitating transmission of documents. Visits by CDC personnel to A.I.D. offices occurs at least once a week. An effort is being made to coordinate cable traffic so all CCCD cables sent out by HPN are cleared with CDC, and all CDC cables are cleared with A.I.D. This does not prevent the frequent telephone communications both between offices and with the field. Serious efforts are made to backup all telephone agreements and decisions with a cable so that everyone can be notified and reach agreement on what needs to be done or what decisions have been taken, what schedules have been made and so forth. Correspondence files are maintained at the HPN and duplicate files are maintained at CDC.

#### **P. USE OF THE PROJECT FOR OTHER PURPOSES**

Throughout the life of the project, the CCCD has served as a vehicle for special initiatives of the Africa Bureau, in the area of health population and nutrition. Because of the wide authority of the project to do child survival, family planning, HIV/AIDS and nutrition, special programs such as the original initiative for HIV/AIDS was authorized and funded through the CCCD project. More recently a special grant was given to UNICEF to provide vaccines and supplies for eight African countries. Funds have been placed in the project for family planning with involvement of the Population Council and the Association for Voluntary Sterilization. In 1988, the various lacuna were discovered when the Development Fund for Africa was established. One gap would have resulted in termination of access to authority to carry out child survival in those countries which were in the Sahel or had otherwise not been participating in the CCCD project. At that

time, permission was given to the missions to pass money through the CCCD project under the broad authorization of the regional project. These non-CCCD missions can "buy through" to obtain S&T/H technical inputs. Buy-throughs have amounted to approximately \$8,000,000 a year. CCCD does not attempt to manage these buy-throughs in terms of technical sufficiency, but records charges against the ceiling of the project.

#### **Q. PROJECT STAFFING**

The CCCD project is monitored and managed by the Project Officer and two Project Managers, one of which is a TAACS formally with Rotary International, the other provided under the RSSA arrangement with the HRSA Department of Health and Human Services. Along with the RSSA salary funding, there is a provision for the staff members to travel. Unlike the regular Project Officer, who depends upon operating expense money, there is no limitation to the Project Managers travel.

#### **R. AGREEMENTS AND CONTRACTS**

There is a Peace Corps PASA, which provided a \$100,000 a year agreement to train Peace Corps Volunteers in oral rehydration therapy health education in four countries. A RSSA with Department of Agriculture provides clerical support, training, and a professional staff person to help design the "follow-on" project. An OYB transfer made to the child-survival support project provided a consultant to work with WHO/AFRO in developing modules and training materials. Child Survival and AAAS fellows have been supported.

8(a) firms do not figure predominantly in the implementation of CCCD project. None of them were implementors, but were used in project evaluation primarily and in project design through IQCs as well as contracts. One advantage of working with 8(a) firms is helping them with their development. We see them progress through the early phases of their 8(a) apprenticeship to become strong competitors. The 8(a) firms used represent a variety of minority and small businesses including black, women-owned and Hispanic-owned firms. Contracts ranged in size from \$35,000 for a health education study, to \$200,000 for two evaluations. Occasionally, 8(a) firms were unable to perform tasks that they were assigned and therefore a great deal of time was spent with them. This resulted in a large investment of time by the HPN staff. African consultants were used frequently. The practice of the project is to employ a variety of consultants wherever possible for the evaluations and project designs.