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Pritech II Mid-Term Evaluation

**Mid-Term Evaluation of
PRITECH II
(Technologies for Primary Health Care Project)**

Prepared for the
Agency for International Development
Bureau for Science & Technology
Office of Health



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(Technologies for Primary Health Care Project)**

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iv
ACRONYMS	v
TABLES.....	vi
EXECUTIVE SUMMARY	vii
I. INTRODUCTION.....	1
A. Evolution of Control of Diarrheal Diseases (CDD)	1
Recommendations.....	3
B. Programmatic Evolution of CDD	4
Recommendations.....	5
C. Estimating Diarrheal Impact on Diarrhea-Disease Control Programs	5
Recommendation.....	7
D. Historical Overview of PRITECH I and PRITECH II Projects.....	7
E. Evaluation Objectives and Methodology	8
II. TECHNICAL EVALUATION	10
A. Project Goals and Objectives	10
Recommendations.....	10
B. Project Design.....	11
Recommendation.....	13
C. Project Implementation	13
D. Country Programs.....	13
Findings	15
E. Accelerated Effort for the Country Program Component.....	18
Recommendations.....	19
F. Health Systems Support (HSS)	19
Recommendation.....	20
G. Information Dissemination.....	20
Recommendations.....	22
H. Research and Development.....	22
Recommendations.....	23

III. MAJOR TECHNICAL ISSUES	25
A. Technical Leadership and Coordination in Multiple-Donor Programs	25
B. Oral Rehydration Salts vs. Control of Diarrheal Diseases	25
C. Agenda for the Future	26
Recommendations.....	27
D. Acute Watery vs. Persistent Diarrhea.....	27
Recommendations.....	27
E. Policy Development and Policy Research (R & D)	28
Recommendations.....	29
F. Adequacy of PRITECH Approach to Private Sector.....	30
Recommendations.....	31
G. Adequacy of Approach to Sustainability.....	32
Recommendation.....	33
H. Project Evolution from "Catalytic" to "Analytic".....	34
Recommendation.....	35
I. Integration of CDD Into PHC Programs	35
IV. PROJECT MANAGEMENT	37
A. Adequacy of Project Leadership.....	37
Recommendations.....	39
B. Adequacy of Management Structure and Operation.....	39
Recommendations.....	40
C. Adequacy of Staffing Pattern	40
Recommendation.....	41
D. Responsiveness to S&T/H and Missions	41
Recommendations.....	42
V. FINANCIAL AND ADMINISTRATIVE.....	43
A. Analysis of Project Expenditures	43
B. Financial Considerations	46
Recommendations.....	47
C. Adequacy of Financial Management and Reporting	47
Recommendation.....	48
D. Contractual Requirements.....	48
Recommendation.....	49
E. Administrative Constraints	49
Recommendations.....	49

VI. BEYOND PRITECH II 51

- A. Diarrheal disease control as a priority investment 51**
- B. Continued support of diarrheal disease control 51**
- C. Focus areas of future USAID CDD efforts 52**
- D. PRITECH III as a logical organization for such an undertaking 52**

APPENDICES

APPENDIX A Scope of Work A-1

APPENDIX B Persons Contacted B-1

APPENDIX C Documents consulted..... C-1

APPENDIX D Global CDD Policy Development and Policy Interpretation/Adaptation .. D-1

APPENDIX E Pakistan PHC Evaluation -- excerpts from sections on CDD and related topics: Evaluation Team Site Visit Reports E-1

APPENDIX F Evaluation Team Site Visit Reports F-1

- F(1)** Kenya, PRITECH Regional Office, Nairobi -- East/Central Africa F-1
- F(2)** Kenya F-3
- F(3)** Zambia..... F-9
- F(4)** Senegal, PRITECH Regional Office -- Sahel..... F-13
- F(5)** Mali F-19
- F(6)** Niger F-28
- F(7)** Senegal..... F-35
- F(8)** WHO..... F-41

APPENDIX G PRITECH Summary Reports of Selected Countries

- G(1)** Bolivia G-1
- G(2)** Cameroon G-6
- G(3)** Mexico..... G-10
- G(4)** Philippines..... G-13

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The team is aware of the important contributions this project has made towards the international effort to save the lives of children. Productive dialogue among outstanding CDD specialists who have devoted much of their time to this activity has added further understanding and sensitivity to the complex, interdisciplinary nature of health technology and behavioral change programs involving public health workers and mothers.

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ACRONYMS

A.I.D.	Agency for International Development
ADDR	Applied Diarrheal Disease Research Project
AED	Academy for Educational Development
CARITAS	Catholic Relief Service Affiliates in Latin America
CCCD	Combatting Childhood Communicable Diseases Project
CDC	Center for Disease Control, Atlanta, Georgia
CDD	Control of Diarrheal Diseases
CEDPA	Centre for Development and Population Activities
CRS	Catholic Relief Service
EPI	Expanded Program on Immunization
FVA/PVC	A.I.D.'s Bureau for Food for Peace and Voluntary Assistance
HEALTHCOM	Health Communication Project
ICORT	International Conference on Oral Rehydration Therapy
INCAP	Nutrition Institute for Central America & Panama
ISTI	International Science and Technology Institute
JHU	Johns Hopkins School of Hygiene and Public Health
MSH	Management Sciences for Health
NGO	Non-governmental Organization
ORANA	Sahel Regional Nutrition Research Organization
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PAHO	Pan American Health Organization
PATH	Program for Appropriate Technologies for Health
PRICOR	Primary Health Care Operation Research Project
PRITECH	Technologies for Primary Health Care Project
PVO	Private Voluntary Organization
REACH	Resources for Child Health Project
ROCAP	Regional Office for Central America & Panama, A.I.D.
S&T/H	A.I.D.'s Bureau for Science & Technology, Office of Health
SIDA	Swedish International Development Agency
SSS	Sugar Salt Solution
TAG	Technical Advisory Group for PRITECH
UNICEF	United Nations International Children's Emergency Fund
USAID	A.I.D. Mission Overseas
WHO	World Health Organization

TABLES

Table I-1	Changes In ORT Use Rates in PRITECH Countries	6
Table V-1	Planned and Actual Expenditures to September 30, 1990	43
Table V-2	Expenditures By Activity To September 30, 1990.....	44
Table V-3	PRITLCH Pipeline Analysis	45
Table V-4	Actual and Projected Expenditures by Activity (October 1987 - September 1992)....	46
Table V-5	PRITECH Deliverables	48

EXECUTIVE SUMMARY

OVERVIEW

The international effort in the 1980s to reduce deaths and illnesses due to childhood diarrhea dramatically altered management of acute watery diarrhea. The potentially fatal nature of childhood diarrhea due to dehydration is now much better understood in most developing countries. Nearly all developing countries have official control of diarrheal disease (CDD) programs, and the use rates of oral rehydration therapy (ORT) in health facilities and the home have increased dramatically in the past ten years.

In particular, oral rehydration salt (ORS) solutions have become the preferred method of therapy at the facility level. Home use of ORS and other locally available fluids is now recognized as proper treatment of diarrheal dehydration. Other discoveries, such as the role of nutrition and breastfeeding in CDD and the identification of different types of diarrhea, bolster the capacity of health workers to prevent and treat diarrheal disease.

Improvements in the treatment of diarrhea save the lives of children. The World Health Organization (WHO) estimates that in 1982, diarrhea caused 33 percent of all the deaths in the under-five age group. Today, the figure has been reduced to 24 percent, translating into about 1.5 million saved lives per year. This substantial reduction in human suffering and improved quality of life occurred despite increased incidents of famine, civil strife, and destructive economic policies.

The evaluation team found that the Agency for International Development (A.I.D.) has been the world leader in promoting and implementing CDD programs in developing countries. A.I.D.-funded projects have provided essential technical assistance, applied research, and direct funding to CDD efforts around the world. The Technologies for Primary Health Care Project (PRITECH) has been the mainstay of A.I.D.'s program to combat childhood diarrheal disease. A.I.D. and PRITECH can take legitimate credit for many CDD program initiatives in a number of developing countries.

The team found that PRITECH, A.I.D., and other donors have done an excellent job in raising awareness about childhood diarrheal disease, gaining the commitment of governments to adopt CDD policies, starting up specific program activities, and raising levels of ORT use. CDD is a relatively new intervention compared to other primary health programs. CDD programs did not really take hold until the latter part of the 1980s, but a few have matured and are on the verge of becoming institutionalized. Many more are still in their infancy and will require considerable assistance before becoming sustainable health interventions.

The major challenge and opportunity for these new programs and PRITECH is to make the difficult shift from promotional, start-up activities to fully institutionalized and financially viable programs

that reach needy populations in the most efficient manner. As such, institutionalization requires flexibility and adaptability to local health and economic conditions. Only when the institutionalized phase is attained will mortality and morbidity continue to be reduced. This implies that CDD programs should focus on such issues as effective resource allocation, local public and private financial support, integration with other primary health care measures, and policy improvements that will sustain treatments and behaviors. To succeed, CDD programs need to develop more effective methods of program planning and policy development.

There has been a considerable increase in knowledge of how to prevent and treat childhood diarrheal disease. First, ORS has been shown to be highly effective for the treatment of moderately and severely dehydrated children, both at the facility level and at home. In various countries, ORS use has dramatically reduced hospital admissions due to dehydration. Second, home-available fluids combined with proper feeding are effective for preventing dehydration and for treating mild dehydration. Third, health practitioners know more today about the types of diarrhea that cause death and illness among children.

Thanks to numerous surveys since 1985, such as the Demographic and Health Surveys, WHO diarrheal disease surveys, and the World Bank's living standards measurement surveys, the availability of specific country-level information about childhood diarrheal disease has grown enormously. This new information should permit program managers and donors to identify the groups most in need and to provide the most appropriate services.

These findings offer A.I.D. and PRITECH exciting new possibilities for expanding the effective treatment and prevention of childhood diarrhea. The findings also suggest that CDD managers and donors must become more sophisticated in the design and implementation of program components. In particular, donors and governments need to adapt WHO guidelines to fit local conditions. As treatment expands, so does the importance of having well-conceived local policies and operational guidelines.

PRITECH is the principal worldwide program that provides technical and financial assistance for the implementation of CDD programs and activities. The first phase of PRITECH was awarded to Management Sciences for Health (MSH) and was carried out during 1983-1988. The second phase (PRITECH II) covers the period 1987-1992. MSH is again the prime contractor with the Academy for Educational Development, Johns Hopkins University, and the Program for Appropriate Technologies for Health (PATH) as the principal subcontractors.

OVERALL PERFORMANCE

The evaluation team concluded that the PRITECH project has many strengths which have been responsible for much of its success. The project's key strength is its design, which permits a highly flexible work program. Thus, PRITECH can be involved in a range of issues and activities. This flexibility allows PRITECH to fill a special niche in CDD work that host governments and other donors greatly appreciate. The project design calls for sustained country programs, permitting long-term work in a single country. This longer-term focus and on-site presence of PRITECH staff has significantly enhanced project effectiveness in all focus countries. The team

believes that in several of the countries visited during the evaluation, the PRITECH project has been the principal motivator of progress.

A second strength is PRITECH's field and headquarters staff. MSH has done a good job of recruiting and hiring qualified, dedicated professionals who can perform well independently. Although policy development is not cited specifically in PRITECH documents as a project component, staff have become involved in policy development work. Because of sustained country support, the general high degree of staff expertise, and its role as facilitator, PRITECH is in a position to influence favorably the policy environment for control of diarrheal diseases.

A third strength is PRITECH's unique ability to work directly with the commercial private sector. The project has shown promise in stimulating greater participation of private companies in the sale of ORS.

Finally, because of its promotional orientation, PRITECH has been especially effective at creating local CDD programs. Its assistance in this area has included formulating CDD programs and helping to design, train and attract other donor funding for CDD activities.

The evaluation team firmly believes that the following weaknesses in the PRITECH project are not the result of CDD constraints in general or the design of the project. Rather, PRITECH's current weaknesses stem almost entirely from the deficiencies in project implementation in the past two years. In short, the team concludes that an apparent weakening of high-level support within A.I.D. combined with certain contractor management deficiencies, have hampered project evolution. PRITECH appears to have simply maintained its activities during the past two to three years rather than moved ahead to meet new challenges posed by the changing CDD environment.

The fact that PRITECH has been less proactive for several years does not imply that valuable activities have ceased. To the contrary, a number of sustained country programs experienced substantial progress in certain areas, and the central staff has endeavored to push activities along. However, the team concludes that because of its relative passivity, PRITECH has not been able to take full advantage of the changing CDD institutional and technical environment.

As noted, two main factors account for PRITECH's performance in the past several years. For the first five years, the CDD program enjoyed prominent visibility at the highest levels of A.I.D. However, attention at the Administrator and Assistant Administrator level has shifted in recent years to issues of economic policy. This shift has occurred simultaneously with new funding mechanisms, for example the Development Fund for Africa, that remove functional account spending requirements. This encourages missions to focus their assistance on one or two priority areas, thereby reducing the management burden. The new assistance focus, especially in Africa, has lowered the mission and regional bureau demand for centrally managed human resource projects such as PRITECH.

Most important, PRITECH has lacked strong technical and managerial capability in its home office since the departure of its founding director in 1988 and the technical director in 1989. Neither of these positions had been successfully filled as of the end of 1990. Project staff have substituted

admirably in a temporary capacity. However, the team concludes that the absence of these key persons has slowed the project progress at a time when it most needed invigorating and decisive leadership to meet the challenges offered by new CDD opportunities. As a result of these events, PRITECH is significantly behind in its schedule of activities. The project is meeting its main deliverable of 12 to 15 sustained country programs in those countries that receive the full range of PRITECH multi-year technical assistance. Although the project has 12 sustained country programs ongoing, nearly all of them have large activity and financial pipelines. The buy-in pipeline for country programs amounted to \$4.4 million at the end of the project's third year (September 30, 1990).

PRITECH's central office is responsible for intermittent country activities, which is the second most important project component in terms of level of effort. By the end of the project's third year, only 5 of the required 15 country activities had been initiated. At the same time, the central office pipeline of S&T/H funds amounted to \$7.4 million. PRITECH staff estimate that the project will be underspent by 23 percent at the end of its five-year life, even taking into account the nearly 40 percent increase in average monthly billings planned for the project's final two years.

In addition to the discovery that the project was lagging in its schedule of activities and spending, the evaluation team concluded that PRITECH was also slowed in its technical development due to the lack of management direction. (The team attributes most of this to the absence of a full-time project director and technical director for much of the past two years.) The project does not appear to have a guiding scientific strategy to meet the challenges facing CDD programs. Similarly, the project does not routinely utilize existing data and information on CDD for essential planning and programming at the country level. Consequently, the team had difficulty identifying country specific strategies and objectives.

Despite these lapses, the team resolved that PRITECH is worthy of the full support of A.I.D. and that it can fulfill its considerable potential and scope of work if the following mid-course corrections are undertaken quickly. The team's general recommendations are abridged from those in the text of the evaluation.

RECOMMENDATIONS:

1. MSH needs to urgently recruit and hire a first-rate Project Director. Emphasis should be in descending order on management ability, knowledge of A.I.D. assistance programs, interpersonal skills, and technical knowledge in that order. The Project Director should be given explicit authority to make decisions leading to full and successful project implementation.
2. MSH needs to urgently recruit and hire a Technical Director. MSH must cast a wider net in recruiting for this position (for example, advertise in international magazines and journals). If this is not feasible in the next several months, PRITECH should appoint one of its staff as Acting Technical Director. In either case, it is essential that the person selected should be given the authority to direct technical aspects of the work.

3. **S&T/H should apply for a no-cost extension of the PRITECH contract which would extend the effort until at least September 1993. PRITECH should prepare a detailed plan showing S&T/H how it proposes to achieve its deliverables for each component. In addition, PRITECH should prepare a detailed financial projection showing how it will allocate its remaining \$24 million.**
4. **PRITECH should significantly increase its spending on country programs and accelerate the establishment of new sustained country programs.**
5. **PRITECH should analyze carefully its staffing pattern to assure that its financial resources are effectively spent in the central office to achieve project objectives set forth in the contract and in its strategy for the remainder of the project.**

SELECTED KEY ISSUES

1. The Changing CDD Environment: Implications for PRITECH

The CDD environment has changed in two fundamental ways since PRITECH was established. First, whereas there were only a few CDD programs in the early 1980s, there are now programs of some sort in nearly all developing countries. As noted, much progress has been achieved and many programs are on the threshold of becoming institutionalized and sustainable. This progress shifts the focus of technical assistance away from promotion and start-up to effective implementation. More effective implementation requires that CDD programs and PRITECH undertake activities whose design is based upon the growing information about health status, health programs, and human behavior. This information must be incorporated into country-level program planning and implementation in order to establish universal control of diarrheal disease. Recent survey and technical information on diarrheal disease must be reviewed, digested and adapted into the PRITECH country assistance strategy and developing country CDD programs and policies.

Second, at the outset of PRITECH it was thought that the universal use of ORT principally by using ORS would solve most of the mortality and morbidity associated with diarrheal dehydration. This assumption has proven true for the case management of acute watery diarrhea and is saving tens of thousands of lives in developing country facilities and homes. However, in the past five years, researchers have confirmed that diarrheas other than acute watery (such as dysentery and persistent diarrhea) are also inflicting numerous deaths on Third World children. Other findings have shown that in many countries, local fluids prepared at home can serve the same function as ORS in prevention of dehydration and rehydration in mild and moderate dehydration cases. Yet other studies demonstrate the efficacy of regular feeding and breastfeeding in the treatment and prevention of diarrheal dehydration.

From an institutional viewpoint, many health programs in developing countries are facing the problems associated with integrating the management and delivery of primary health interventions.

Policies and programs which ignore these decentralization issues do not provide maximum aid to these implementation efforts.

These findings strongly imply that national CDD programs and policies should be adapted to local conditions and customs to provide the most effective norms and guidelines for the control of diarrheal disease. A logical step at the country level is to modify WHO guidelines to fit the local environment. PRITECH could use an approach based on WHO guidelines for analyzing local information and operational policies. Resultant country strategies would provide a solid basis for assessing needs, promoting operational norms for public health facilities, private providers and producers, and home case management. In most countries, ORS would remain the preferred treatment for dehydration at the public and private facility level.

The evaluation team concludes that these findings offer an unparalleled opportunity to expand the potential effectiveness of ORT in preventing and combatting the pernicious effects of childhood diarrheal disease.

RECOMMENDATIONS:

1. PRITECH needs to place more emphasis on technical assistance designed to help CDD programs in strategy development and program planning. To achieve this, the project needs to better assess and analyze information, and to provide technical guidance from its central office to PRITECH representatives and national CDD programs.
2. To implement effective diarrheal disease control measures, PRITECH should continue to assist countries in the articulation of policy options and policy guidelines regarding fluid and dietary management.
3. In collaboration with WHO and UNICEF, PRITECH must discern the role of ORS and home available fluids. Current thinking emphasizes the use of home available fluids for home treatment and use of the ORS packet at public and private facilities. PRITECH should give highest priority to identifying the most appropriate role for ORS in national CDD programs.
4. Using existing information and data sources, PRITECH should revise its goals and objectives to include the need for policy articulation and the development of a national framework to assist in program planning. Specific targets for the remainder of the project should be set for sustained country programs.

2. The Role of CDD Programs in A.I.D.

As emphasized in this report, CDD programs are an integral component in the global effort to reduce childhood deaths and illnesses in developing countries. Donor-assisted CDD programs have been shown to have significantly improved health status. Indications are that there is

enormous need and potential to expand efforts to avert millions of additional deaths. Since A.I.D. is the world leader in the implementation of CDD programs, the Agency needs to continue its own advocacy to achieve Congress' stated objectives to provide resources to support child survival activities. Should A.I.D.'s enthusiasm wane for CDD programs at this critical juncture, the huge gains already made would not be fully realized, and many lives might not be saved. PRITECH can contribute to keeping this vital effort visible in the following ways.

RECOMMENDATIONS:

1. PRITECH, its sponsors in S&T/Health, and its colleagues need to assure that CDD efforts remain high on the agenda of policymakers in the U.S. and abroad. This can be accomplished through the effective dissemination of information on CDD activities and their beneficial effects.
2. PRITECH may desire to prepare written materials, press releases, or videos to educate policymakers and the public about the positive impacts of CDD programs, and the need for continued activities.

3. The Role of the Private Sector in CDD

The business aspect of private sector health is important to CDD in developing countries for two reasons. First, in many countries, especially in Asia and Latin America, mothers seek medical care and advice from for-profit, private providers. Second, the medically accepted treatment for childhood diarrheal dehydration is ORS. In almost all countries, ORS is produced and distributed for public and commercial use by the for-profit private sector. Therefore, as long as ORS is an accepted and preferred therapy for diarrheal dehydration at any level of care, the private sector will play a critical role in successful CDD programs. Its role is a major determinant of all aspects of ORS-based CDD programs including: (1) access; (2) availability; (3) effectiveness; (4) cost; (5) quality, and; (6) sustainability.

PRITECH acknowledges the critical role of the private sector in its plans and strategies. However, since its inception in 1983, PRITECH has devoted almost all resources to public sector activities. A.I.D. and PRITECH decided early on that the public sector would receive the major support from the project.

Since 1988 there has been a change in the environment affecting CDD programs. Now that CDD programs have been established in numerous countries with rising demand for financial resources and commodities, donor and government attention focuses on building sustainable programs. Thus, the essential need to build sustainable programs refocuses attention on the private sector and its over 400 producers and distributors of ORS worldwide.

The private sector is at once a tremendous asset, and a potential liability. When appropriately integrated into a national CDD strategy, the private sector can positively impact many public programs. If the private sector is not drawn into a partnership to achieve national CDD goals, it may develop programs potentially counterproductive to the public good. Appropriate government

policies and guidelines are often the most effective means of regulating the behavior of manufacturers and distributors.

PRITECH has taken two approaches to the private sector: (1) expand the commercial marketing of ORS; and (2) integrate private providers (e.g. NGOs, traditional healers, employers) into national CDD programs. The evaluation team approves of PRITECH's nascent efforts to expand the role of the private sector in ORT programs through direct promotional activities. The team concludes that carefully conceived private sector work is critical to the success of CDD programs worldwide, and that PRITECH can play a key role in shaping private sector involvement in the spread of appropriate ORT technologies. In fact, among the major technical assistance groups (including UNICEF and WHO), PRITECH is perhaps the best suited to stimulate and incorporate the private sector into CDD programs.

RECOMMENDATIONS:

1. PRITECH should expand its private sector activities with a particular focus on policy development, the regulatory environment, local production and distribution, and private providers. To accomplish this, PRITECH needs to hire one or two additional staff with skills in policy analysis and development, and the production, distribution and marketing of ORS.
2. PRITECH will want to develop a private sector strategy which sets forth general principles for conducting private sector work. PRITECH should involve WHO in its strategy development to ensure WHO's support.
3. Emphasis in PRITECH's private sector approach should be placed on conforming national CDD program and guidelines with the activities of private producers, marketers, and providers.

CDD ISSUES FOR THE FUTURE

This section addresses some of the key elements to consider regarding the future of PRITECH and A.I.D.'s CDD program.

1. The evaluation team wishes to strongly endorse the importance of continued investment in diarrheal disease control for five reasons:
 1. First, diarrheal disease control remains a major cause of morbidity and mortality in the developing world, accounting for as many as a third of all childhood deaths.

2. **Second, it is an area in which great strides have been made with remarkable opportunities for continued progress.**
3. **Third, the establishment and development of CDD programs has been a major factor in the development of a health infrastructure extending well beyond diarrheal control in many countries.**
4. **Fourth, any diminution in investment levels would seriously jeopardize progress made in the past, particularly in countries with new CDD programs or in countries with health budgets heavily dependent on external support.**
5. **Fifth, the need for continued investment in this area and the fact that A.I.D. is the major bilateral donor (and a major contributor to the diarrheal portfolio of the other three international donors of UNICEF, WHO and the World Bank), places an enormous responsibility on A.I.D. Without continued levels of investment, the global effort will be hampered substantially. The next point then becomes:**

2. Continued support of diarrhea disease control involves two levels of support:

- 2A. A specific diarrheal disease portfolio/program approach should be maintained at this time rather than integrating it with other technical fields.**

The team finds the answer to be unequivocal: the continuation of disease-specific approach is essential. While the obligation to aid countries to address broader national policies (including integration) is one of the major challenges facing development efforts, such questions can be adequately addressed through the vehicle of a disease-specific program. It is fortunate that given the importance of maintaining the focus on diarrheal disease control both goals can be met through a program approach.

- 2B. Within this approach the following focus areas are suggested for A.I.D.'s future CDD efforts.**

The diarrheal disease portfolio has included support of basic technological efforts (such as vaccine development), national capacity building (particularly research and quality control assessment capacity), and implementation programs. Clearly these remain priority areas. Additionally, two operational areas emerge as important to the team: 1) examination of the effectiveness of specific activities, and 2) national priority/policy development.

These two areas are highly interrelated. The examination of effectiveness is a conceptual area that has received minimal attention in international health. Because most of the technologies and interventions available to CDD rely on behavioral change, a serious look at how and why behavior changes is an essential first step. As successful strategies for prompting behavioral changes are

developed, pragmatic approaches for cost-options must be introduced. As national policy makers choose between limited expenditure options, development of effective behavioral strategies is crucial. Only through such analytic strategies can the second task of policy/priority determination be seriously undertaken.

3. Future CDD--an integrated implementation project

To date the basic technology, capacity building and implementation efforts appear to have been basically independent with overlap occurring more by chance than design. Early in the development of a field, this type of approach is defensible, and perhaps even preferable. However, diarrheal disease control is no longer a young field and such an approach may need to be broadened. An integrated implementation project which draws from these experiences should evolve and provide the basis for the next project phase.

Coordination between A.I.D. projects and other donors involved in CDD activities (WHO, UNICEF and the World Bank) and academic and research institution heavily involved in CDD (Johns Hopkins School of Hygiene and Public Health, London School of Tropical Medicine, and the International Centre for Diarrheal Disease Research - Bangladesh, for example) is important to maximize the accumulated experience in this field. This coordination should continue as a priority activity. The lead for this donor coordination should be S&T/Health. A.I.D. efforts in CDD are broader than any single donor, and A.I.D.'s research portfolio in CDD is greater than any other single donor. This next effort will require an exacting and iterative interaction between the implementation project and research-oriented projects. The Office of Health should initiate the vehicle for effecting this interaction.

As a follow-on, S&T/Health should consider expanding the scope of the next PRITECH. This project should be capable of recognizing that programmatic research and capacity building are essential components of implementation and build in these areas. As such, the project must have both a strong central "vision" and technically competent field staff to effect such an integrated program.

I. INTRODUCTION

I. A. Evolution of Control of Diarrheal Diseases

During the past decade, control of diarrheal diseases (CDD) programs have been successfully established in over 100 countries. Despite this impressive accomplishment, diarrheal diseases continue to account for as much as 30 percent of childhood mortality and a substantial proportion of childhood morbidity. The direct and indirect morbidities associated with diarrhea result in significant human suffering and economic cost. While the public health community devoted its initial attention to the mortality associated with the acute watery diarrheas, a recognition of the substantial morbidity and mortality associated with dysentery and persistent diarrhea has grown in recent years. In part, the new understanding of these diarrheas as substantial contributors to diarrheal-related illness and death may have resulted from the success of the CDD programs in combatting death due to acute watery diarrhea. Similarly, as case fatalities due to acute watery diarrhea have declined, the importance of malnutrition as both a complication and aggravating factor in diarrheal episodes has become more apparent. As such, the technical task of controlling diarrheal diseases has become increasingly complex as a result of previously successful efforts to introduce the concept of early and aggressive oral rehydration therapy (ORT).

Diarrheal disease control has two principle components: (1) diarrheal disease prevention; and (2) diarrheal disease case management. While the basic recognition of both a preventive and a curative component of diarrheal management has not changed, the application and understanding of the principles have evolved considerably during the past decade. In many cases, distinction between these two approaches may be more superficial than real.

Diarrheal Disease Prevention

Historically, diarrheal preventions have emphasized vaccines and behavioral interventions focusing on water sanitation, the institution of prolonged breastfeeding, and the use of proper weaning foods.

Assessments of preventive efforts indicate that in the foreseeable future, vaccines will not offer a complete resolution to the problem. Some vaccines currently in use, such as measles and typhoid vaccines, afford considerable protection against diarrheal disease morbidity and mortality. Promising research efforts suggest that others will soon be available. However, for many causes of diarrhea no vaccines appear to be imminent. Moreover, the technical availability of a vaccine does not ensure accessibility at the field level or its use by the target population. Similarly, while hygiene and breastfeeding messages may be straightforward, changing behavior is a long and difficult process requiring substantial investment of time and resources.

Diarrheal Disease Case Management

The finding two decades ago that glucose mediated absorption of sodium and water across the small intestinal mucosa (oral rehydration salts or sugar-salt solution -- ORS or SSS) has served as the cornerstone for the establishment of the case management approach to diarrheal episodes in CDD programs. This discovery remains a major scientific triumph of the 20th century. However, the application of this finding to the control of diarrheal diseases has undergone considerable change and development through intensive laboratory and field research. This accumulating experience has demonstrated that (particularly for the child with diarrhea but without significant dehydration) there is a wide range of acceptable fluid options; that is, there is considerable latitude or robustness in the choice of fluid and the issue is more one of than type within certain defined but wide limits. Concurrent with this evolving understanding of fluid therapy was a reaffirmation of the importance of feeding not only after an episode of diarrhea (a point which has been a cornerstone of diarrhea management for some time) but during an episode of diarrhea as well. Studies have convincingly demonstrated that most food types are not harmful during an episode of diarrhea and as nutrient absorption is significant, such foods are, in fact helpful. It is important to realize that this relatively large endorsement of feeding during diarrhea is recent and was a point of considerable discussion and investigation for quite some time. Even now, certain food types, particularly in the very young, remain suspect and/or under investigation.

CDD program case management efforts have generally had two major foci: case management at health facilities and home management of diarrhea.

Facility Case Management

Compared to home treatment, the basic principles of case management for the watery diarrheas at health facilities have been stable in recent years. Essentially, the approach has been to determine the degree of dehydration and to treat it with oral rehydration, usually glucose-based oral rehydration salts (ORS), although there has been some variation over time in preferences between packaged glucose-ORS versus packaged rice-ORS. Concerns prevail about possible adverse effects of rice-ORS in infants and its potential for misuse as a food.

Unless further research shows that rice-ORS has additional substantial benefits, glucose-ORS will remain the treatment of choice. Even at health centers, however, national resource limitations may require restrictions on who receives ORS and who receives teaching in the use of ORT. On site treatment of moderate and severely dehydrated cases has prompted the formation of ORT corners. Intravenous hydration is to be reserved for the most severe cases of dehydration, particularly those in which the patient is unable to drink. In recent years, the importance of nutritional assessment and follow-up has been established. Long-term follow-up requires home management strategies that are less well established.

Facility-based management of dysentery and chronic diarrhea has received less attention, and is consequently not as well developed. In general, a basic tenet that bloody stools require chemotherapeutic treatment is generally accepted. Algorithms for directing the choice of antibiotic and/or microbiologic assessment at the country or regional level must be developed. Treatment of chronic diarrhea is in a nascent stage, with common protocols being established.

Home Case Management

While the basic importance of increasing fluid intake for the home management of diarrhea has never been in question, the application of this principle has evolved considerably and has included ORS (in this situation for dehydration prevention rather than rehydration), sugar salt solutions, food-based fluids, and plain fluids such as water. Each of these solutions is associated with its own biomedical and/or sociocultural problems which vary from country to country and region to region. Recognizing that no single fluid could meet all these needs, consensus is growing for country-level selection of beverages during episodes of diarrhea as the first step in home management. As the controversy surrounding the safety of continued feeding during infant diarrhea has been resolved, home therapy for diarrhea has been expanded to include continued feeding. Recently, the importance of the use of regular weaning foods during diarrhea has been underscored. As such, home management of diarrhea has evolved into fluid and feeding therapy.

This evolution has afforded a logical bridge between home management of acute watery diarrhea and that of chronic diarrhea, where the major therapeutic intervention available is feeding. An essential component however will also be recognition of chronic diarrhea as a condition requiring professional intervention. Likewise, principles for the home management of dysentery is consistent with continued feeding and care from a professional. Ironically, given the overall emphasis on the acute watery diarrheas in the past decade compared to dysentery and/or chronic diarrhea, less clear are the indicators for when professional care should be sought in the course of an episode of acute watery diarrhea. Like the choice of basic fluids, this decision can be guided by general overriding principles, but should be worked out by national CDD programs.

It is clear that the traditional distinction between prevention and case management in the approach to diarrhea disease control has become increasingly obscured as the importance of appropriate dietary practices and the necessity for effecting behavioral change predominates in both aspects. Such a merging is likely to predominate in our approach to chronic diarrhea as we gain further understanding of the causative factors.

RECOMMENDATIONS:

Although an historical overview does not usually conclude with a recommendation, the expanding knowledge of effective CDD merits prescriptive evaluation.

We recommend that the goals and objectives of the central staff of PRITECH and their relationships with the field staff, subcontractors, and other technical resources be re-evaluated in light of two emerging aspects of effective diarrheal disease control:

1. The implementation of appropriate diarrheal disease control now requires a specific articulation of policy options and determination/selection of national policies regarding fluid and dietary management of diarrhea. These policies must reflect consideration of:

- differences in home versus facility management of diarrhea
 - changed perceptions of the role and type of fluid and food given during diarrheal episodes;
 - differing contributions of dysentery, chronic diarrhea, and watery diarrhea to morbidity and mortality;
 - alternative therapeutic/preventive strategies required or available to address different types of diarrhea.
2. As behavioral change of both health professionals and community consumers are essential to all prevention and therapeutic maneuvers, specific impediments to effecting these changes must be identified as a part of all intervention efforts, and specific strategies to overcome these impediments must be selected.

I. B. Programmatic Evolution of Control of Diarrheal Diseases

Over 100 countries have established national CDD programs. In general, these are discrete ministry of health programs. The continued pre-eminence of diarrhea as a cause of morbidity and mortality demands CDD programs at the national level. However, many governments are re-evaluating the relationship of CDD programs to other national health activities, (e.g., the Sahelian countries) in response to declining resources and increasing health needs. To permit equitable resource allocation between health and nonhealth sector activities, governments are decentralizing the decisionmaking process. In an attempt to maximize national resources, many African health care systems are pursuing the functional integration of selected health activities, and encouraging privatization (see site visit reports, appendix F).

As such, CDD programs are *de-facto*, being confronted with the new mandates of comparing efficiency of their inputs with those of other health activities, and of aiding national health and district governments in their quest for seeking innovative measures for combining resources to decrease expenditure and increase return. That national and international CDD technical personnel may not have been trained or experienced in these roles is an inadequate excuse for non-action. Whether or not the managerial and financial challenge is desired by health professionals, it has assumed a dominant role in national level health planning and must be responsibly addressed.

The international health community can no longer indulge in philosophical debates about the virtues of integrated versus vertical programs, or of centralized versus decentralized decisionmaking. Many countries have already begun to effect these changes.

CDD personnel must go beyond diarrheal disease efforts and embrace a broader perspective with continual re-evaluation of the role of CDD efforts within the national or regional epidemiology.

The evaluation team strongly believes that the effectiveness of CDD programs and A.I.D.'s support of these programs can be strengthened under a changing environment.

RECOMMENDATIONS:

PRITECH, in concert with the World Health Organization, the United Nations Children's Fund and other A.I.D. missions, must recognize the new need for helping governments assess the best way to formulate indigenous CDD programs. This assistance should be based on rigorous analysis of:

- morbidity and mortality by socioeconomic characteristics and geography,
- existing health infrastructure and activities,
- potential approaches to disease control,
- available resources.

PRITECH's Washington, D.C. office, through the use of consultants from the Johns Hopkins School of Hygiene and Public Health, WHO, and other available consultants should develop methods to train regional and country personnel to conduct analyses. **PRITECH** should maintain its current practice of selecting highly qualified field representatives, but should more purposefully train and update the managerial and technical skills of these representatives to enable them to effectively conduct these difficult tasks.

I. C. Estimating the Impact of Diarrheal Disease Control Programs

While anecdotal information and the limited survey data available are encouraging, eventually CDD programs will have to measure program impact. This will have to include a reasonably accurate estimate of diarrhea-related mortality rates for specific countries, preferably by type of diarrheal syndrome (dehydrating, bloody/febrile, persistent) and, if possible, a method of comparison with pre-CDD rates (perhaps stated as diarrheal deaths prevented annually). This information will be necessary to measure progress toward control targets, and to justify resource allocations within the programs. Such summative evaluations of specific public health interventions are widely acknowledged to be supremely difficult and costly. As if this were not difficult enough, another question must be answered. How much of the decrease is due to the program? Since a community-based randomized trial is needed for a valid answer, public health specialists agree that the links between achieving intermediate CDD objectives, high ORT use rates, and decreasing diarrheal mortality can be demonstrated using a few model "control" countries.

Although changes in diarrheal mortality rates can be measured through a death certificate system, it is difficult to construct and duplicate such a system in most developing countries. Alternatively, mortality information could be gathered through facility-based surveys (which would only measure cases brought to facilities), or through repeated household surveys of the WHO or demographic health surveys. The sample size for a survey to measure diarrheal mortality rates is much larger and more expensive than that needed for measuring diarrheal incidence and ORT use rates. Since

CDD case management has little preventive effect, changes in diarrheal incidence would not be a useful impact measure until the preventive aspects of CDD programs are in place. For the short-term, therefore, measuring CDD intermediate objectives, such as ORT use, quality of case management, and incidence of diarrhea, are the proxy measures for incidences of serious diarrhea.

Are these measures working? Information available from most country programs pertains to ORT access and use, and quality of ORT. In some cases, diarrheal hospitalization rates are also available. Except for Mexico, the team knows of no formal studies of changing rates of hospitalization for diarrheal diseases during CDD program implementation, but observed examples of impressive decreases in hospitalization rates in the University of Lusaka National Teaching Hospital and Siaya District Hospital in Kenya.

In a sample of PRITECH countries, the rates of ORT use for the most recent diarrheal episode (the most useful indicator of program activity) rose between 1984-85 and 1987-89 in every country examined (Table I-1).

TABLE I-1

**Changes in ORT Use Rates in Selected PRITECH Countries
1984-85 to 1987-89
(Percent)**

Country	1984-85	1987-89	1990
Zambia	5.0	74.2	0
Kenya	23.0	63.0	>90
Niger	0.6	38.0	0
Mali	2.0	40.6	0
Senegal	2.6	27.0	0

Source: Center for International Health Information.

Comparing the relationship between infant and child mortality from diarrheal diseases to all-causes mortality in Egypt from 1978 through 1988 reveals an impressive, although not definitive, time-association reduction in diarrheal mortality in infants and children aged one to five. While infant and child diarrheal mortality was decreasing in 1970, the rate increased in about 1978, at the time that non-diarrheal mortality reached a plateau. Analysis of the seasonality of infant/child deaths (diarrheal deaths are closely concentrated in May-August) also bears out this time association. Unfortunately, no data are available on geographic variation in CDD program implementation to compare with local mortality rates. However, in sum, CDD programs using oral rehydration have made a striking impact on the rate of diarrheal hospitalizations and deaths in a number of developing countries.

RECOMMENDATION:

PRITECH should track simple indicators of the impact of ORT programs to demonstrate the benefits and effectiveness of CDD programs. For example, measuring reductions in hospitalizations for diarrheal dehydration in representative facilities.

I. D. Historical Overview of PRITECH I and II Projects

In 1982, at the initiation of PRITECH I, diarrheal disease was the leading cause of death in children under five years old and accounted for over one-third of the estimated 14 million deaths in this age group each year. WHO estimates for 1990 are that diarrhea caused about 24 percent of deaths in the the under five age group, a reduction of about 30 percent relative to 1982. This reduction is even more impressive against the effect that the EPI has had on under-age five mortality from vaccine-preventable diseases during the same period. Yet an estimated 3.7 million children died from diarrhea in 1990. (Rapid population growth in countries afflicted with high rates of diarrheal disease partly accounts for the continued elevated absolute numbers of deaths.)

The focus of the PRITECH II contract is to continue A.I.D.'s effort to promote and encourage national CDD programs to reduce further infant and child deaths due to diarrheal dehydration. The emphasis is on a comprehensive approach to case management to prevent or treat acutely dehydrating diarrhea.

PRITECH is also to conduct practical trials on the nutritional support of children with diarrhea to prevent weight loss and malnutrition, and to establish an information bank on diarrhea-related topics.

PRITECH II intends to work towards three general purposes:

1. Strengthen CDD/ORT programs in developing countries through case management, including providing fluids, feeding, and referral; through promotion of preventive hygienic practices; and through other health-related interventions.
2. Develop and support a repository of up-to-date information, research results, and technical expertise to serve A.I.D., its contractors, private voluntary organizations, and provide technical leadership for collaboration with other multilateral and bilateral donors working in CDD.
3. Provide technical assistance for programs relating to other childhood diseases that increase the severity of diarrheal diseases.

To achieve these purposes the PRITECH II contract calls for the following four outputs:

1. **Country Programs:** Provide direct technical and limited financial support to planning and implementing CDD programs, specifically:

- (a) 12 sustained programs with comprehensive commitments lasting two-four years;
 - (b) 12 to 15 intermittent programs with limited support; and
 - (c) up to 100 *ad hoc*, short-term activities supported by USAID buy-ins.
2. **Health Systems Support:** Provide short-term, *ad hoc* technical assistance to child survival programs outside the CDD area on topics related to diarrheal disease morbidity and mortality (up to 250 person-months).
 3. **Information Dissemination:** Provide an information center, a technical literature update series, and four or five large-scale technical conferences/workshops (83 person-months).
 4. **Research and Development:** Design and carry out operational research or problem-solving studies addressing problems identified in country programs, including social and behavioral studies of feeding practices and constraints, effectiveness of home-prepared foods, identification of dehydration by mothers, effectiveness of health education, information systems, case management policies, and use of ORT by physicians and pharmacists, without duplicating A.I.D.- funded research done by the Primary Health Care Operation Research Project, the Centers for Disease Control, and the Applied Diarrheal Disease Research Project. The contractor is required to collaborate with the country program staff and counterparts in designing and implementing such studies.

I. E. Evaluation Objectives and Methodology

This evaluation has two general objectives. The team's primary task was to "evaluate the performance of PRITECH, and to a certain extent A.I.D./S&T/H, in delivering what was proposed in the PRITECH II Project Paper and the MSH response proposal." This evaluation of the contractor was to be based on how well it had accomplished the stipulations in the contract's scope of work. The team was to examine the quality of PRITECH's work in promoting growth, effectiveness and efficiency in national and nongovernmental organizations' (NGO) CDD activities, and in effecting the intermediate objectives of better national CDD policies, trained personnel, communications programs, and useful results from operations research studies. The team was also to consider the relevance of the contractor's work to in-country CDD efforts, and how economically it has carried out these activities. Finally, the team was to recommend how these activities could be accomplished more efficiently and more effectively.

The second and more difficult objective was to "assess the current status of the global ORT/CDD initiative and A.I.D.'s and PRITECH's role in that initiative." That is, what is the global CDD environment in which PRITECH has operated? This part of the evaluation was aimed at addressing such topics as the available evidence on the changing incidence and relative proportions of different clinical types of serious diarrheal disease, the available methods of program monitoring and

evaluation and how much light they shed on diarrheal epidemiology, the technical evolution of oral rehydration and other therapies for diarrhea, the role of NGOs and private practitioners in this work, and the integration of CDD programs with other primary health care programs in-country.

The five-member review team was organized by the ASSIST Project of the Pragma Corporation and its members are listed in the acknowledgements section.

The period of the review was from October 15 through November 28, 1990. A debriefing was held for A.I.D.'s Bureau for Science and Technology, Office of Health (S&T/H) staff on December 17. The initial two weeks of the review were carried out in Washington, and included some 50 interviews with appropriate personnel from PRITECH, S&T/H, other contractors, UNICEF, and other donor agencies.

The team also spent two weeks in the field visiting PRITECH sustained activity countries to assess the programs on site. Two team members visited Mali, Niger and Senegal, while three members visited Zambia and Kenya. Team members visited many health centers and hospitals in areas of program activity, as well as officers of the country CDD and related primary health care programs. (See appendix B for a list of persons interviewed in each country, and appendix A. For site visit reports). Some team members also interviewed staff at a WHO/CDD program in Geneva.

The team's final decisions were arrived at by consensus. The team members were all struck by the similarity of the general conclusions the two field teams reached during their country visits, and by the degree of consensus as to findings, conclusions, and recommendations.

II. TECHNICAL EVALUATION

II. A. Project Goals and Objectives

PRITECH II contributes to the goal of reducing morbidity and mortality among infants and young children in developing countries. In pursuing this goal, the project supports A.I.D.'s worldwide effort to achieve child survival targets. The most important objectives are to strengthen CDD/ORT and child survival programs in developing countries through appropriate case management, including feeding, providing fluids, and referring cases; promotion of preventive hygienic and sanitation practices; and the introduction of other health-related interventions.

The PRITECH II work plan outlines how the project intends to achieve its overall goal. The general objectives of PRITECH country programs are to:

- improve the technical content of national CDD programs by enhancing the case management of diarrhea in clinics and homes;
- institutionalize ORT program activities and strengthen the management of CDD programs;
- stimulate the supply of ORS and ORT services from the private sector, including both commercial and nonprofit organizations.

The thrust of the PRITECH II project is at the field level. PRITECH has moved away from the promotion of CDD/ORT (PRITECH I) to actual implementation of CDD programs (PRITECH II). As such, PRITECH works in the areas of policy, communication, training, and research to achieve project objectives.

Measuring the success of PRITECH is complex because, beyond deliverables, it has been difficult to articulate and quantify successes. Furthermore, the contract does not require accountable program effectiveness. Proximate indicators, such as correct preparation of ORS, promptness of ORT initiation, or number of health workers trained in CDD case management, have been measured for many countries and could be used as a measure of program effectiveness. At any rate, PRITECH does not have specific objectives for its main activities other than establishing and carrying out sustained country programs, and so on. At a minimum, sustained country programs should have clear, quantifiable objectives and targets related to program impacts at the country level.

RECOMMENDATIONS:

1. The project should endeavor to set more specific goals, objectives, and targets for the remainder of its duration, especially in sustained country programs.

2. PRITECH should routinely collect and analyze existing data related to CDD. Such data will provide the basis for:

- refining goals and objectives;
- making the most appropriate use of resources (program and budget planning for PRITECH and host country programs);
- prioritizing future program activities.

Existing methodologies for rapid epidemiological assessment should be employed.

II. B. Project Design

Designed in cooperation with WHO, PRITECH II is a CDD implementation program that uses WHO policy guidelines to develop country programs. The project design is well suited to country-level implementation of general CDD policy and permits:

- broad interpretation of the components of the global CDD policy to guide national policy determination. (executors: PRITECH central staff and senior level managerial, financial, and technical personnel; subcontractors; field personnel);
- field implementation of the national policy. (executors: PRITECH regional and country representatives and national CDD personnel, national and international consultants);
- selection of appropriate technology and managerial approaches at the country level. (executors: all the above);
- flexible approach to intensity of support. (*ad hoc*, intermittent, or sustained program; graduation to bilateral program).

Long-range analytic strategy to accomplish these goals has not been undertaken as successfully during the last three years. A broad action plan incorporating analysis of current morbidity and mortality data and recommending long-range strategies based on concepts of cost-efficacy and community support is needed. In short, PRITECH has remained in a promotive, catalytic phase for too long.

Examples of additional needs in policy interpretation, long-range planning, and analysis include:

1. More adequate and proactive attention to the changing role of ORS: ORT will remain one of the cornerstones of the PRITECH II Project. The lack of evolution in some countries has resulted in:
 - promotional activities for ORS use that could:
 - not be supported by sufficient in-country ORS production,

- decrease equity of ORS (prescribing the purchase of ORS packets when home fluids and proper feeding are available),
 - reduce the availability of ORS at health facilities (limited supplies of ORS packets distributed to mothers when home fluids and feeding would be sufficient),
 - imply the superiority of ORS in all cases of diarrhea, thereby suggesting that home fluids and feeding are insufficient;
 - consideration of allocating resources to other CDD activities in addition to ORT/ORS that might have greater current community efficiency and relevance.
2. The need to provide more vigorous leadership (in close cooperation with WHO) in identifying and prioritizing operational/applied research questions of importance to the general field of diarrheal disease control measures.
 3. The need to increase ongoing professional interaction with technical and research agencies to achieve cohesion and, more important, to maximize the impact of limited resources in a field with growing needs. A.I.D. needs to do more to facilitate this cooperation, for example, by agreeing to regular formal and informal PRITECH contact with other A.I.D. contractors working in CDD and child survival without prior clearance by the cognizant technical officer (CTO). (Note that PRITECH's CTO has generally promoted such cooperation.)
 4. The need to increase emphasis on developing analytic systems for resource allocation at a global or national level based on changing epidemiological patterns, changing capability of health services, and/or changing technologies.

It should be noted, however, that aspects of policy implementation have been successful even in the absence of a long range strategy.

PRITECH II has effectively aided many countries in selection of appropriate technology and management approaches to develop and fund CDD programs as a high priority child survival activity. Due to its selection of many excellent field personnel and its support for independent decision making, PRITECH has helped many countries assume ownership of basic CDD measures (See Appendices E, F, and G).

Moreover, in some countries, PRITECH II personnel have communicated the need for process evaluation as well as impact evaluation to national CDD personnel. For example, in the Sahel, observation is conducted of PRITECH CDD nursing curricula prior to evaluating their impact on actual nursing performance. If use of the teaching modules is found to be inappropriate, nurses are retrained. Only when the materials are considered acceptable will the modules' impact on student performance be assessed. Zambia also provides a good example of this effective approach.

These perceived needs can be partly explained by PRITECH's lack of a project director¹ and a technical director. These positions should be filled as soon as possible.

RECOMMENDATION:

The goals and objectives of PRITECH II should be to revitalize the focus on CDD policy interpretation and determination at the national level. This focus should take into account progress already made in host country acceptance of CDD (including ORT/ORS) as a high priority in their primary health care and child survival programs.

II. C. Project Implementation

The scope of work for the PRITECH II contract states that the "major component of the contract shall provide direct technical and limited financial support to planning and implementing Control of Diarrheal Disease (CDD) programs. Support shall be categorized per country according to relative level of intensity and commitment, and shall be planned, budgeted, and managed accordingly. There shall be three country program categories in the contract: a) Sustained Programs; b) Intermittent; and c) Ad Hoc."

II. D. Sustained Country Programs

In terms of level of effort and success to date, the sustained country programs component of the PRITECH II project is one of the most important. Sustained programs are underway or completed in 13 countries (Bolivia, Burkina Faso, Cameroon, Kenya, Mali, Mauritania, Mexico, Niger, Pakistan, Philippines, Senegal, Sudan, and Zambia) with five to six new country programs under preparation mainly in Africa. The scope of work envisaged 12 to 15 programs during the five years of the project.

Intermittent country programs are ongoing in another 5 countries, compared to the 15 cited in the scope of work. *Ad hoc* assignments are provided on an as needed basis to countries not participating in the more active country programs. Of the 100 ad hoc assignments foreseen under the scope of work, PRITECH II has received 8 requests to date.

Thus, the number of sustained programs -- the core of PRITECH II activities -- is on target. However, the intermittent and ad hoc components of the project have been underutilized.. This may be because as PRITECH-supported CDD programs graduate to bilateral country projects, they are integrated into broader based, national child survival projects. From that point, any technical assistance is obtained through those activities rather than PRITECH II. PRITECH might wish to investigate why these two components of the project are not being used more actively, and re-adjust its resources accordingly.

¹ Note: Since the report was written, the contractor, MSH, recruited a project director. However, a technical director vacancy remains.

Ideally, sustained country programs are characterized by the presence of a PRITECH resident representative with supporting specialist staff, and a full range of technical and administrative support equipped to handle the control of diarrheal disease and public health policies, planning and programing, training, technical assistance for management information systems and health information systems (with emphasis on CDD data), and other activities. PRITECH also supplies logistic and marketing support services related to the production and distribution of oral rehydration salts and assistance with establishing diarrhea training units and ORT program depending on country needs.

One of the most important results of the sustained program has been the help given to host governments to develop and implement viable CDD policies. In these countries, ORT and the use of public sector health facilities has been widely accepted. CDD services are based on ORT.

Under PRITECH II, there is renewed emphasis on the use of the private sector. PRITECH II is focusing on private sector activities not only to market ORS, but also to involve private practitioners (doctors, nurses, pharmacists, and traditional healers) and providers (private clinics and hospitals). Efforts include enlisting the support of private voluntary organizations or NGOs now providing health services, especially to mothers and children. New initiatives focusing on home fluids are also being implemented.

PRITECH's annual report for 1990 points out that it has attempted to focus its efforts on three broad objectives thus far:

1. To strengthen and institutionalize national ORT/CDD programs based in ministries of health to the point that they are sustainable by:
 - providing additional training opportunities for CDD staff,
 - promoting and supporting breastfeeding as a key preventative component,
 - helping countries to develop a realistic and comprehensive strategy to manage diarrhea in the home through appropriate feeding practices, strengthening countries capacities to evaluate their programs.

2. To extend the ORT/CDD program beyond the coverage of ministries of health public sector programs by:
 - expanding the marketing and sales of ORS packets through nongovernmental channels,
 - promoting an expansion of appropriate case management of diarrhea through training traditional healers,
 - promoting appropriate diarrhea case management through indigenous NGOs,
 - modifying the practices of private physicians and pharmacists.

3. To support worldwide CDD efforts, including country programs, by providing:

- technical and program information;
- educational, training, and information-exchange workshops and conferences;
- expert consultants.

FINDINGS

Although the sustained country programs still face tremendous challenges and have yet to achieve sustainability, the evaluation team was very favorably impressed by many aspects of the progress made to date. The team found the PRITECH II project well received in the countries visited (see appendix A). Although not reviewed extensively, the team also found positive reactions from the other PRITECH countries.

The team understands that the success of the CDD programs represents a cooperative effort, often involving the host country, WHO, UNICEF, the World Bank, private voluntary organizations, and one or more bilateral donors. While PRITECH is a major player in the countries where it has a sustained program, it cannot succeed unless the host country and major international and bilateral donors also take an interest and provide adequate resources. PRITECH's country representatives were very impressive, well chosen, and able to promote and coordinate PRITECH's in-country activities with key players. This ability to work closely with host governments and other donors is one of the strong points of the project and the field staff.

The team's technical analysis led to a number of suggestions for improvement in the remaining years of the project. However, the team is well aware that certain suggestions could not have been made were it not for this substantial progress to date and the strong support of host governments.

As already mentioned, the team visited five African countries. It did not visit any PRITECH projects in Latin America and the Caribbean (LAC) or the Asia/Near East regions. However, these regions have required a different approach under the PRITECH project as they are more sophisticated and advanced in their use and institutionalization of CDD. Generally speaking their literacy levels and per capita incomes are higher than in much of Sub-Saharan Africa, particularly in the Sahel. To give more balance to the evaluation, the following paragraphs describe several of the PRITECH projects in LAC and Asia/Near East based on discussions and readings, as well as projects in Africa.

AFRICA

The team found its visits to five Sub-Saharan African countries and PRITECH II's East and West Africa regional offices invaluable. Not only did the evaluation team have an opportunity to witness the work of and talk to other donors (WHO, UNICEF, PVOs) and health professionals implementing the CDD programs in their countries, it came away with a better understanding of

the constraints to and magnitude of the job in Africa and the importance of a long-term commitment from national and international donors.

The team was very favorably impressed with PRITECH's Sahel office and its successful role in assisting the Sahelian countries move ahead with their CDD programs despite their low literacy rates, especially among women (three to five percent), and low per capita income (\$200-400). The East Africa regional office in Nairobi also shows promise and has three countries almost ready for sustained country programs (see appendix A for the regional offices and the countries).

Although the team did not visit Cameroon, it noted that the program in Cameroon has been successful over a relatively short period of time. The Cameroon national CDD program, which was launched in early 1987, and written and signed by the minister in December 1988, describes policies and goals through 1991. In addition, CDD has become a line item in the Cameroonian budget. These efforts have culminated in a USAID-funded PRITECH project: a formal agreement signed between the Government of Cameroon and USAID for the provision of PRITECH assistance throughout the life of the PRITECH II project (see appendix G(2)).

ASIA

Indonesia has apparently made considerable strides in decentralizing its CDD program, obtaining budget support, and gaining acceptance among the population with well-targeted health education and communication programs. Partly as a result of PRITECH support, the CDD program has now established government-financed program management at the national and provincial levels.

In the Philippines, the CDD program assisted by PRITECH has concentrated on hospitals and other health facilities using ORS. These efforts, which have also focused on improving the quality of case management, have been very encouraging, although much remains to be done. Opportunities for private sector involvement are also encouraging (see appendix G(4)).

The Pakistan PRITECH program has been merged into a bilateral child survival project that will provide approximately \$30 million of support to the CDD program (see appendix E). PRITECH helped the government design and organize a national system of diarrhea training units that became the basis for this major A.I.D. investment. PRITECH's field staff in Pakistan was resourceful, energetic, and effective. Now that a bilateral child survival team of experts is in place to work with the public sector, PRITECH is shifting its attention to the private sector.

LATIN AMERICA AND THE CARIBBEAN

In the Latin America and Caribbean region, the number of PRITECH II activities is limited. A.I.D. gives this region lower priority for PRITECH effort, perhaps because it perceives LAC countries to be further along in the development process than Sub-Saharan African countries. Bolivia is of special interest because of the project's work with a consortium of PVOs since 1988. The two-person PRITECH team furnished to Bolivia includes a pediatrician, who advises PVOs on

all aspects of child survival with the emphasis on CDD. This program has been very valuable in helping the PVOS implement their own program, but much remains to be done on a national scale.

The Mexican program is of particular interest since PRITECH support is channeled through the Pan American Health Organization. This support consists of three elements: (1) training and supervising health staff; (2) seminars for pediatrics professors, and (3) a communication strategy that seeks to reach the dispersed, rural, mostly indigenous population. PRITECH believes this program is a model for other Latin American countries. The effort to change medical curricula to include ORT/CDD throughout the different medical schools is significant, and if successful would over time reduce substantially the need for in-service training of health workers. Private sector opportunities for ORS are also a strong possibility (see Appendix G(3)).

Awareness and acceptance of oral rehydration therapy and the use of oral rehydration salts (packets of sugar salt solution) have increased in LAC with the assistance of the resident representative and resources available at regional and central PRITECH offices. The externalities of the PRITECH program have also been very positive. For example, with PRITECH help, countries have formulated national CDD policies, developed multi-year plans and budgets, reinforced education and communications programs developed for mothers and health workers, instituted data collection systems for CDD, and introduced management and supervisory visits for CDD activities. PRITECH's contribution to the development of these programs and the provision of training in information and management systems has had and continues to have a broad, positive impact on child survival activities in general.

The team found that the USAID health, population and nutrition officers and WHO and UNICEF representatives were also very positive about PRITECH's role in supporting country CDD programs. Host country ministries of health consider the long-term PRITECH resident representative as an important in-country resource.

The focus of PRITECH's resident representatives is gradually beginning to change from the introductory or catalytic role prominent under PRITECH I to a broader, more analytic/programmatic one that emphasizes case management, not only in primary health care facilities, but also in the home. Not only does this programmatic approach cover the ORT/ORS activities currently in place, but the broader aspects of CDD: achieving changes in behavior among the health professionals and mothers.

In recent months, the dialogue on a number of these activities, which involve other A.I.D. contractors and donors (including WHO and UNICEF), has moved ahead. There is a growing consensus on how to approach the more difficult task of integrating and institutionalizing CDD in country programs. The team is encouraged by these initiatives and the evolution in thinking among the international and academic communities concerning CDD policies. The team considers

PRITECH II's participation in the programmatic and policy dialogue to be entirely appropriate and of high priority.

II. E. Accelerated Effort for the Country Program Component

PRITECH is to be commended for the high quality of its country representatives, regional staff, and field consultants. Much of their work is outstanding, although there remain overall country problems to be resolved before sustainability is achieved. In many ways, the institutionalization phase is more complicated and important than achieving sustainability of these country programs. However, despite the focus in the project, expenditures on country programs have not kept up with planned targets since PRITECH II began. As of September 30, 1990, only 23 percent of the budget allocated for country programs had been spent. This is partly because during the first year most of the costs were covered by PRITECH I funds.

Even so, the team concludes that 23 percent is a low utilization rate of funds, considering that most of the 12 to 13 sustained country programs were already operational at the end of PRITECH I, and underway when the costs were transferred to the PRITECH II budget in 1988.

Given the high priority accorded CDD programs by the host countries and their demonstrated success when PRITECH country representatives are in residence, the program component should be accelerated by encouraging selected developing countries to use Pritech II services. ORT is a proven technology which works, is affordable, and has already saved the lives of millions of infants and young children. The ORS packets have proved their worth, and a number of developing countries have begun to manufacture them. Since the value of the technology has already been demonstrated and many developing countries have been successfully helped to develop policies and programs adapted to their needs, serious management attention should be given to earmarking funds for new sustained country programs.

In this context, PRITECH II should increase its efforts to bring at least three or four of the five or six new country programs (Malawi, Mozambique, Zaire, Madagascar, and Nigeria) now being developed or under consideration into operation without delay. (This suggestion is made based on the assumption that A.I.D. will accept the one-year, no cost extension recommended by this evaluation, and that S&T/H will respond favorably to the evaluation team's strong recommendation made later that A.I.D. support for the implementation of CDD programs be continued through 1997.)

As noted above, while the regional and country representatives have done very well in their catalytic and promotional roles, they are only recently moving ahead to consider broader based interdisciplinary projects support activities only fully begun in year three. In the past year, PRITECH has begun to work with WHO, and other contractors to consider such topics as when ORS packets should be used and how to develop effective country-level, community level, and facility-based strategies. The evaluation team fully supports these recent initiatives provided for under PRITECH II.

PRITECH II has developed and executed a number of implementation activities, surveys, operational research activities, and policy studies as opportunity merited. The evaluation team commends these activities. However, they would have been even more impressive if they had been carried out in the context of national CDD policies and programs. Once the two senior management positions are filled, there should be more detailed analysis and direction from

PRITECH II headquarters, thereby permitting the enhancement and acceleration of this analytical, programmatic role.

The evaluation team reviewed a draft document outlining PRITECH's plans for 1991. This document does not spell out how PRITECH plans to achieve its goals for the balance of the project. The team believes that an overall strategy and plan (with budget) should be developed setting out targets for the project to achieve by Fall 1993 provided S&T/H approves a no-cost extension.

One helpful programmatic step would be to ask PRITECH's regional and country representatives in the 12 sustained country programs to develop strategies for their countries. Such an exercise would enhance the dialogue between the field and the central office and provide opportunities to share priorities, and focus PRITECH II activities for the remainder of its duration.

RECOMMENDATIONS:

To avoid duplication, the team has not repeated the various technical, administrative, and financial recommendations pertaining to country programs. The following recommendations should be considered within the framework of a very positive evaluation of the quality and value of the sustained country programs. However, with \$24 million left in the project, the team feels that prompt implementation of these recommendations would increase the project's effectiveness.

1. Given the importance and success of the sustained country program component of the project, PRITECH should increase its level of support to reach the planned levels. In several countries, this would include hiring additional country-based staff.
2. PRITECH should give priority to recruiting three to five new candidates for sustained country programs.
3. PRITECH should begin preparing a detailed strategy to cover the balance of the project.
4. PRITECH's core and senior regional staff should give more priority and effort to analyzing and/or disseminating country-specific data and information that country representatives and CDD programs can use for programming and planning activities.

II. F. Health Systems Support (HSS)

The team evaluated the health systems support (HSS) element of the PRITECH project through interviews with Danielle Grant and Cynthia Long of PRITECH and examination of documents such as the the draft 1990 annual report. Unfortunately, the team did not visit any country missions that had requested HSS, and one of the apparent shortcomings of this activity is that few written evaluations of HSS technical assistance are available to permit a review of the recipients' perceptions of the quality of this service.

Short-term, *ad hoc* technical assistance consultations are divided into a CDD-related component that has had very few requests or buy-ins, and a non-CDD component that has had many requests and buy-ins from missions. Since the beginning of the project, PRITECH has carried out 102 HSS technical assistance consultations for about 40 countries, of which about 70 percent were supported by mission buy-ins. PRITECH can "fill a request for technical assistance in ten days or so if an appropriate consultant is available, and if the paperwork for the mission is not complex."

The standard written evaluation form that PRITECH sends to the requesting health, population and nutrition officer is returned to PRITECH less than 10 percent of the time. Therefore, no formal, written evaluation is available for most HSS consultations. The possibility of following up the consultation with a brief telephone interview with the health, population and nutrition officer might be a useful procedure.

The evidence suggests that HSS assistance consultations have been generally well received in-country. Many missions have made repeat requests for HSS, and buy-ins are running well ahead of the expected level. Both the central HSS budget and the buy-in ceiling will be fully used by the end of project year five without any need for extension.

A more difficult question is why the *ad hoc* CDD-related, short-term technical assistance has been less fully used. It was seen as a way for PRITECH to get a foot in the door of mission programs, but has not adequately served this function. Possibly PRITECH needs to publicize the existence of this project component more fully by marketing its availability and usefulness to missions without CDD programs.

RECOMMENDATION:

More money should be programmed into the central HSS budget if the project is extended to a sixth year. S&T/H should continue to provide such vehicles for missions to procure short-term technical assistance in the area of child survival. PRITECH should publicize the existence of its CDD-related, *ad hoc*, short-term technical assistance, especially through its publications and updates.

II. G. Information Dissemination

The PRITECH Information Center collects information about diarrheal disease control, making it available to USAIDs, ministries of health, and health practitioners worldwide. The Information Center responds to mission information requests of all types and publishes the Technical Literature Update (TLU), which reviews the most recent publications relevant to diarrheal disease control.

The Information Center appears to have raised its visibility appreciably during the past year. Information requests increased from 490 in fiscal year 1989 to 1,492 in fiscal year 1990. Of the information requests in fiscal year 1989, 42 percent came from health, population and nutrition

officers. There are several reasons why the number of information requests may have increased:

1. TLUs and the PRITECH bibliography are getting higher visibility in the field (the PRITECH bibliography is often distributed at regional health conferences).
2. The monthly acquisitions list was sent to more people, and missions are beginning to share the list with their counterparts more often.
3. The in-depth evaluation of the PRITECH Information Center last year discovered that the Information Center could answer questions about PRITECH and key technical issues. As a result, the PRITECH's staff in the field and in Washington have been using the Information Center more.
4. The PRITECH Information Center started publishing the TLU in French and Spanish, thereby increasing its utility.

PRITECH II conducted a survey in November 1988 to determine the utilization, satisfaction and demand for the Technical Literature Update. The general response was favorable. Most of the readers found the TLU to be very readable and quite useful. Based on the survey's results, PRITECH began to publish the TLU in both French and Spanish, and to include more social-science behavior-oriented articles in a bound form.

Two years ago, the Information Center was formally integrated with PRITECH's other divisions and assigned additional responsibilities. As a result, the Information Center staff:

- write the PRITECH weekly report to S&T,
- write the monthly news bulletin to field officers and contractors,
- assist PRITECH technical staff and S&T/H,
- attend all country review meetings and write decisions of meeting,
- anticipate project information needs,
- write the quarterly highlights report for S&T and other contractors,
- provide PRITECH technical officers with general child survival updates.

The center's staff coordinate and collaborate closely with other S&T projects. Collaboration among S&T/H projects has not been easy because:

- each A.I.D. project uses a different type of software,
- some S&T projects charge other S&T projects for information,
- S&T/H prohibits S&T projects from using the ISTI Center for International Health Information directly,
- financially, the A.I.D. structure does not accommodate collaborative work between projects.

PRITECH does little public relations work and has only one brochure that does not seem to be distributed widely throughout the development community.

RECOMMENDATIONS:

1. **S&T/H should consider requiring all projects to use the A.I.D. Information Center (CDIE) software. When a project is completed, all information can be fed into the A.I.D. database.**
2. **S&T/H should consider requiring that projects share information free of charge.**
3. **PRITECH should publish more documentation to increase the usefulness of the results of the PRITECH project and raise the profile of PRITECH. Where appropriate, the papers should undergo rigorous external peer review. In addition, PRITECH should develop promotional materials and distribute a yearly *Lessons Learned* brochure. Rather than sponsoring full-scale conferences, such as the International Conference on Oral Rehydration Therapy, PRITECH might have seminars on country findings and on specific areas addressed by the publications.**
4. **A.I.D. has had much experience in evaluating the impact of information systems. PRITECH should review what A.I.D. has done in this area, and consider evaluating the impact of its own information dissemination effort.**

II. H. Research and Development

At a time of intense competition for limited global health resources, PRITECH has become the primary implementation agency for CDD activities. The review team believes that acceptance of such a substantial responsibility obligates PRITECH to ensure the effectiveness and efficacy of implementation efforts. Therefore, applied and evaluation research must be an essential component of its mandate.

The selection of appropriate research topics for a project concerned with implementation, design, and conduct is complicated and potentially controversial. Competing issues include questions that are of global and local importance, epidemiological rather than programmatic, and with a political rather than a scientific agenda. The selection and limitation of research questions may be difficult for inexperienced investigators.

From the evaluation team's perspective, the selection of appropriate research questions is more of a problem than issues related to research, design and implementation. While it is beyond the scope of this document to address fully and resolve the issue of global versus local research initiatives, the team suggests that with long-range planning, problems are more easily resolved. In any case, issues of global importance are also of local importance.

Less perplexing are questions relating to the design and conduct of research. Funds for applied and operational research are scarce, and therefore, its scope must be limited. Inexpensive research is likely to require more precise planning. Techniques in rapid epidemiologic

assessment include the use of industry methodologies that are still new. Knowledgeable application of such techniques can secure essential data at minimal cost both in terms of time and personnel.

Given the services and resources available under PRITECH, the team does not feel that research should be dictated by the presence or absence of local technical expertise. To the extent that PRITECH is a development project, if local expertise is missing, an expatriate technical expert can help develop local expertise for subsequent research projects. PRITECH would maximize its contribution by restricting the scope of research questions to a few main areas.

The team feels that it is entirely appropriate to use PRITECH research and development and/or technical assistance funds to provide the applied operational research, studies and technical advice needed to effectively adapt these general global policies to specific country needs.

RECOMMENDATIONS:

1. PRITECH should recognize and accept its mandate to conduct applied/operational research as specified in the contract scope of work.
2. PRITECH should recognize that as the leading global implementation agency for CDD, it must develop a research agenda that addresses both global and local implementation issues.
3. PRITECH should obtain the technical resources needed to identify and prioritize implementation issues so that it can:
 - resolve apparent conflicts between issues of global importance and those of national importance;
 - resolve potential differences with other major agencies working in the field of diarrheal diseases (WHO, the Applied Diarrheal Disease Research Project, UNICEF);
 - identify those issues having the most detrimental effect on implementation, and areas in which PRITECH could have a comparative research advantage;
 - focus on selected research activities.
4. PRITECH should make use of available resources to achieve these goals. It could:
 - avail itself of WHO's initiative to establish a joint research technical assistance group led by A.I.D.;
 - obtain additional research direction and focus from its subcontractors (JHU);

access technical adaptations relevant to PRITECH's research needs from other agencies (for example, Water and Sanitation for Health Project's initiative in rapid epidemiologic assessment, the Primary Health Care Operation Research Project's initiatives in quality of care assessment), and adapt them to CDD activities.

III. MAJOR TECHNICAL ISSUES

III. A. Technical Leadership and Coordination in Multiple Donor Programs

The seven years since PRITECH I's inception have been marked by remarkable changes in technical knowledge and recommendations for diarrheal disease control. Recurrent issues for PRITECH have been: What should it be doing technically? And what research needs to be done? The answers to those questions need to be stated in terms of comprehensive plans rather than individual ad hoc technical decisions.

The coordination of technical activities between WHO/CDD and PRITECH is essential. Technical policy in international CDD programs must be acknowledged to belong to WHO. A conference in May 1990 brought WHO, UNICEF, and other scientists together, and brought about consensus on how to approach technical issues. In Dr. James Tulloch's view PRITECH has an extraordinarily valuable role to play in implementing CDD activities in developing countries.¹

The team saw a number of potential opportunities for PRITECH to coordinate activities with other donor projects, such as the Resources for Child Health Project and Nutrition Communications Project. S&T/H needs to promote coordination by assuring contractors that such cooperation is desired, and is in fact an unwritten "deliverable."

III. B. Oral Rehydration Salts versus Control of Diarrheal Diseases

The cornerstone of the case management approach to diarrheal disease control was the discovery that glucose-mediated absorption of sodium and water remains intact during diarrhea. Lightweight and affordable ingredients could be easily packaged. Everyone drinks water, and so, use of the new solution would be virtually assured once people were aware of it.

It was, therefore, almost inevitable that the main focus of CDD activity at the beginning of the decade was a formulation of ORS, a position which was specifically reaffirmed in the USAID diarrheal disease control strategy in 1986. A decade of experience now shows that the technology of ORS formulation is but a part of diarrheal disease control.

The earlier policy of nearly single-minded pursuit of oral rehydration therapy is worthy of comment. Was this approach a mistake? We believe it was not, but served to establish the foundation for subsequent child survival efforts and health care in general.

¹Dr. Tulloch is the Director of the Control of Diarrheal Diseases and Acute Respiratory Diseases Division at the World Health Organization in Geneva, Switzerland.

A decade ago, the health infrastructure of many developing countries could only support simple programs. An ORS distribution and education program offered this advantage. Careful evaluation and development of alternative glucose-based recipes made possible hydration alternatives, redirecting attention to the importance of nutrition and weaning foods in a broader view of diarrheal disease management. The way people address health care issues has changed. Implementation efforts at both the health facility level and in the community. There is greater understanding of the many factors leading to quality care. As such, a single intervention (promotion of ORS/sugar salt solution) within a vertical program (the diarrheal disease program) has had a profound impact on primary health care delivery and access.

III. C. Agenda for the Future

Where should the focus of the CDD program be? While we can no longer assert that there is a simple response to this question, there is a compelling and realistic agenda. Case management of diarrheal diseases requires attention to the type of diarrhea (watery versus chronic versus dysentery). Within each of these types of diarrheas, treatment includes assessment of hydration, nutrition, and infection. Home maintenance will vary on a country by country basis, with some countries preferring first line treatment with home fluids (either plain fluids or food-based fluids), others preferring sugar salt solution, and still others opting for ORS. Policies must be determined at a country level and take into account the salt and glucose content of available food-based fluids. A WHO, UNICEF, Johns Hopkins University consensus report from a 1990 joint conference held in Baltimore sets out the conditions to be considered in detail. [Note that the use of cereal-based ORS instead of glucose-based ORS remains under evaluation, but current knowledge does not support the development of programs based on such an approach.] Nor is this to recommend conducting new efficacy studies, since several are already underway and the necessary data will become available on policy based decisions. The signs and symptoms indicating that a child is failing home treatment have been generally described by WHO, but again local circumstances (including perceptions of diarrhea and ORT, health seeking behavior, and availability of facilities) require further specifications for the design and implementation of diarrheal disease control programs.

Diarrhea and malnutrition can no longer be viewed as separate case management issues. Diarrhea contributes to malnutrition through decreased food intake and increased metabolism of nutritional reserves. As well, diarrhea episodes are longer in malnourished infants and children. Feeding with breast milk and certain other stable foods during an episode of diarrhea is safe, and a high percentage of nutrients will be absorbed. Animal milk mixed with cereal also appears to be safe, although the continued use of undiluted animal milk (particularly in infants less than six months of age) is controversial. Thus, there is no rationale for withholding food during diarrhea. Moreover, an inappropriate diet inbetween diarrheal episodes can lead to malnutrition, further exacerbating diarrhea. Proper feeding between diarrheal episodes must also be regarded as a form of diarrheal case management. Efforts should be directed toward identifying nutritionally sound and locally acceptable diets that can be fed at all times.

As the weaning period is the time of greatest decline in nutritional status and the period of greatest risk of diarrhea, appropriate foods for the weaning period must be identified.

RECOMMENDATIONS:

1. **PRITECH should continue to move beyond ORS, but only within the context of the overall CDD effort. Breastfeeding and proper feeding practices should be promoted within the CDD context.**
2. **In collaboration with WHO and UNICEF, PRITECH must clarify the role of ORS and home-available fluids. Current thinking on the subject emphasizes the use of home-available fluids for home treatment and use of the ORS packet at public and private facilities. PRITECH should give highest priority to identifying the most appropriate role for ORS in national CDD programs.**

III. D. Acute, Watery versus Persistent Diarrhea

Basic knowledge of the epidemiologic patterns of diarrhea is essential. A country program focused exclusively on watery diarrheas where 50 percent of all diarrheas and 70 percent of diarrheal deaths are due to dysentery will not reduce childhood morbidity or mortality. If a country is not experiencing a problem with persistent diarrhea, a major campaign against this disease would be ill-advised. Understanding of diarrheal disease control has advanced to the stage where different types of diarrhea are subjected to different treatments.

Issues in hydration are generally less important in dysentery and persistent diarrheas. Whereas most watery diarrheas do not require chemotherapy, general management of dysenteries require use of an antibiotic. To prevent and treat persistent diarrhea, use of a chemotherapeutic agent may become a part of case management (although currently such treatment remains experimental). As their complications may be more insidious and delayed in onset, both dysentery and persistent diarrhea require more intensive and prolonged follow-up by trained personnel than acute watery diarrheas, but given the prolonged nature of these illnesses treatment may be especially difficult to effect.

Approaches to the dysenteries and chronic diarrheas are more health systems-oriented than approaches to watery diarrhea. These types of diarrheas are different from watery diarrhea, and both health workers and the community cannot fit them into a neat feeding pattern of "push fluids." Moreover, any dysentery and persistent diarrheas, interventions which are often of an exploratory nature should be closely coordinated with WHO.

RECOMMENDATIONS:

1. **PRITECH must develop strategies and methodologies to analyze existing data and identify additional data on morbidity and mortality.**
2. **Analytic frameworks should guide resource allocation of diagnostic, therapeutic and preventative supplies; training of health workers; communications efforts toward the community; and alterations in health services/facilities.**

3. Implementation research involving persistent diarrhea and dysentery will almost always involve technical decisions that remain unresolved. As such, implementation research should be undertaken in consultation with WHO.

III. E. Policy Research and Development (R&D)

The evaluation team concluded that policy research and development continues to be a critical element in the successful institutionalization of effective CDD programs. As noted, the need for clear and reality-based policy grows in importance as CDD programs mature and as technologies are adapted to country environments. Policy needs include the following:

- developing an overall *national policy* that assigns responsibility and sets goals and objectives;
- developing *sectoral policies* (allocations within a sector, sectoral strategies for health, regulations and codes);
- developing *operational policies* at the implementation level, which include norms or operational guidelines for the administration of ORT at all levels, specific CDD program strategies that rationalize the targeting of public and private resources to known needs, programming and budgeting (which are essential to implementing a strategy), and action plans that specify the steps to be taken;
- conducting *analysis and research* that will shape operational policies and help determine or modify national strategies.

Although PRITECH has contributed to the development of national CDD policies in several of its emphasis countries, PRITECH representatives and consultants have played important roles in helping develop operational level policies (examples being the national guidelines in Zambia and the ban on anti-diarrheals in Pakistan). Although these successful efforts are to be commended, the evaluation team recommends that PRITECH carry its policy development and research work further in the final years of the project.

The team concluded that the needs for policy development are so great, especially in the development of appropriate operational policies, that PRITECH should take care to focus its attention on CDD implementation efforts and not become side-tracked on other, albeit important, content areas such as Acute Respiratory Infections.

What kind of information is necessary to help countries improve their CDD strategies and operational policies? This information should include community- and facility-based data concerning incidence of diarrhea by district and socioeconomic grouping, namely socioeconomic characteristics of mothers and fathers; percentage of households with radios; percentage of mothers of different characteristics who utilize health facilities; percentage of those receiving ORS; percentage who know how to correctly mix ORS; percentage who understand ORT; and so on.

For those countries where they have been carried out, demographic and health surveys and surveys done by other organizations can provide much of this information.

Analyzing this information to answer a host of questions about CDD in a country is relatively inexpensive, quick, and easy. Demographic and health survey country tapes cost \$250 dollars and can be easily analyzed on personal computers using the Statistical Package for the Social Sciences (SPSS). In Kenya, for example, simple analysis provides leads about the effectiveness of the communications program there (for example, are women with radios utilizing health facilities at higher rates than those without? Who are the mothers who take their children to facilities, and who are the ones that stay at home and use *uji*, a mixture of cornmeal, sugar and milk (similar to porridge)? What are the occupations of the fathers whose wives do not utilize facilities?). Such analysis could also direct program managers to districts with poor ORS distribution or poor training since the data show what percentage of mothers presenting received ORS.

Planners could also obtain information on diarrheal episodes by type, target, and severity to help calculate the percentage of episodes requiring rehydration therapy. This information might only be available for some facilities, and perhaps only after a specific information collection activity.

With this kind of data and an analytical framework, PRITECH and its country counterparts will be positioned to undertake the challenge of helping to develop or improve national, sectoral, and especially operational-level diarrheal disease policies. The process of improving operational policies logically translates into designing strategies and planning, programming, and budgeting for activities.

RECOMMENDATIONS:

1. PRITECH should make policy work a specific component of its country activities and reporting formats (since to some degree most field workers already carry out this important activity).
2. In an exploratory fashion in a limited number of countries, PRITECH and A.I.D. should undertake development and application of an analytical framework to aid countries in addressing broader issues of health policy (for example, role of the private sector, integration efforts, and implementation of decentralization).
3. As a routine part of its technical assistance to sustained and intermittent country programs, PRITECH should provide brief technical analyses of existing survey data. These analyses should provide information and policy analyses to guide PRITECH country representatives and headquarters specialists in their technical assistance activities.
4. Where essential information on key implementation issues does not exist, PRITECH should carry out brief research projects that can answer key policy questions.

III. F. Adequacy of PRITECH Approach to the Private Sector

The private sector health business is important to CDD in developing countries for two reasons. First, in many countries, especially in Asia and Latin America, mothers seek medical care and advice from for-profit, private providers, whereas in Africa, mothers are more likely to seek care from nonprofit NGOs. Second, the medically accepted treatment for childhood diarrheal dehydration is ORS. In almost all countries, ORS is produced and distributed for public and commercial use by the for-profit, private sector. Therefore, as long as ORS is an accepted and preferred therapy for diarrheal dehydration in the home, the private sector will play a critical role in successful CDD programs. Its role is a major determinant of all aspects of ORS-based CDD programs including (a) access, (b) availability, (c) effectiveness, (d) cost, (e) quality, and (f) sustainability.

When developing its strategies, PRITECH acknowledges the private sector's critical role. However, since its inception in 1983, PRITECH has devoted almost all its resources to public sector activities based on an early A.I.D. and PRITECH decision that the project would focus on the public sector. In addition, S&T/H had other projects that addressed private production issues (for example, the SUPPORT Project), and, in the 1980s, CDD programs experienced little difficulty in obtaining ORS supplies from the large donors who provided unlimited quantities of ORS to recipient governments.

Since 1988, the environment affecting CDD programs has changed. Now that CDD programs are established in many countries and the demand for financial resources and commodities is rising rapidly, donor and government attention is focusing on building sustainable programs. Sustainable programs are those in which appropriate CDD interventions are an integral part of the public primary health care system and are ingrained in the minds of mothers and private providers. Inherent in sustainable programs is the ability to purchase and distribute low-cost ORS, and the adoption of proper ORT treatment therapies by mothers and private providers. The need to build sustainable programs has focused attention on the private sector and its over 400 producers and distributors of ORS worldwide.

The private sector is at once a tremendous asset and a potential liability. When appropriately integrated into a national CDD strategy, the private sector can multiply the impact of public programs. If the private sector is not drawn into a partnership to achieve national CDD goals, it can develop programs that could be counterproductive to the public good. For example, promoting ORS for mild dehydration would be undesirable if an appropriate home-based fluid were commonly available and used. The overselling of ORS to consumers could diminish its perceived value and the use of effective and inexpensive home fluids. However, potentially counterproductive private behavior is most easily controlled by clear and effective regulatory policies.

Because of its tremendous influence on people's behavior in connection with health issues, PRITECH has developed a growing interest in promoting ORT and ORS through private manufacturers, distributors, and providers. PRITECH has taken two approaches to the private sector. The first is to expand the commercial marketing of ORS, and the second is to integrate

private providers (for example, NGOs, traditional healers, employers) into national CDD programs.

PRITECH's "commercialization" program has been underway for two years and appears to have succeeded in several countries. In Pakistan, PRITECH played a major role in stimulating an expansion of ORS production and distribution. Expectations are that this expansion will greatly increase ORS sales and use. In addition, PRITECH contributed to the policy dialogue in Pakistan that eventually led to a ban on anti-diarrheals; a significant step forward in the nation's CDD program. Other very promising promotional activities have taken place in Honduras, Mali, Mexico, the Philippines, and Zaire.

There is considerable demand for private sector activities in PRITECH. The evaluation team found that CDD program managers and ORS producers in Zambia and Kenya were "waiting for the PRITECH private sector specialist visit." The promising Philippines work needs to be pursued, as do follow-up activities in India.

Given the importance of the private sector and the demand for technical assistance, PRITECH is short-handed in this area with only one full-time staff member devoted to this effort. Further, PRITECH has expended just two percent of its budget on for-profit, private sector activities.

The evaluation team concluded that private sector work is critical to the success of CDD programs worldwide, and PRITECH can play a key role in shaping private sector involvement in the spread of appropriate ORT technologies. Among the major technical assistance groups (including UNICEF and WHO), PRITECH is perhaps the best suited to stimulate and incorporate the private sector into CDD programs.

RECOMMENDATIONS:

1. PRITECH should expand its private sector activities with particular focus on policy development, the regulatory environment, local production and distribution, and private providers. To accomplish this, PRITECH needs to hire one or two additional staff skilled in policy analysis and development and the production, distribution, and marketing of ORS.
2. PRITECH should develop a private sector strategy that sets forth general principles for conducting private sector work. This strategy should be reviewed with WHO to assure agreement on approaches. Clearly, this cannot be a generic formula, since different guidelines would apply to different countries. However, an agreed strategy would ensure a common approach to efforts to expand private involvement.
3. Emphasis on PRITECH's private sector to conform national CDD program guidelines and activities of private producers, marketers, and providers.

III. G. Adequacy of Approach to Sustainability

According to its contract, PRITECH must examine the sustainability of at least one national CDD program. The objective is to learn more about primary public and private health care systems. A.I.D. is especially interested in supporting primary health care activities that can be financially, managerially, and technically independent for an extended period of time once donors terminate their support (see OECD, Development Assistance Committee, "Sustainability of Development Programs," 1988).

The evaluation team concluded that examining the sustainability issue in the context of CDD is a good idea that PRITECH should pursue on a limited basis. The project has already taken steps in this direction. PRITECH has held an initial meeting of experts, prepared a scope of work for a study, presented alternative scenarios to the S&T/H CTO for consideration. In addition, PRITECH commissioned a "think piece" on sustainability to help guide its staff.

None of these efforts has produced a definition of sustainability in the CDD context or advanced an analytical framework with which to assess CDD program progress toward sustainability. The evaluation team feels that developing an agreed-upon definition and an analytic framework will allow PRITECH technical staff, CDD program managers, and A.I.D. personnel to at least communicate with a common conceptual approach. An analytic framework could be developed in the form of a country matrix that scores CDD programs on a series of key sustainability indicators. These sustainability indicators could initially be quite simple and subjective, but as knowledge and experience grows, could become fairly sophisticated, and in some cases quantifiable. Overall "sustainability scores" could be used to measure a program's progress toward sustainability, compare programs across countries, and to indicate areas requiring specific technical assistance.

What are key indicators of sustainability? To answer this question for CDD programs, it is necessary to agree upon the socioeconomic environment that determines sustainability. The evaluation team proposes that CDD sustainability is determined by a country's policy and regulatory environment, institutional capabilities, financial condition, and behavioral practices. These four categories appear in nearly all the literature on sustainability.

Each of these four categories can be broken down into specific indicators by country. Possibilities are suggested below:

Policy:

- national policy established,
- operational guidelines established and implemented,
- responsible government agency designed to oversee program.

Institutional:

- CDD program is organized and functioning,
- ORT is accepted practice in the public and private sectors,
- a certain percentage of public and private health personnel are practicing proper ORT.

Financial:

- access to low-cost ORS or other therapy,
- government paying for CDD program and commodities,
- private sector fully involved.

Behavioral:

- knowledge of ORT,
- effective use of ORT,
- communities fully involved.

Each indicator would then receive a grade of 0 = nonexistent; 1 = being considered, 2 = initiated, and 3 = successfully implemented/established. Under this system an analysis of Zambia's policy sustainability would show that the program has reached a sustained level.

Use of this matrix demonstrates clearly that PRITECH's activities and CDD program are having a large, positive impact on the long-term achievement of sustainable programs. Since all CDD programs are of recent origin, the largest gains have come in the policy and institutional areas. Because the effectiveness of interventions of the CDD type must be proven over time to government officials and public and private health consumers, gains necessarily take longer. Nevertheless, what emerges from such an analysis is that CDD programs are moving toward sustainability. An analytical matrix of the type described above would also help outside observers (for example, A.I.D. officials, high-level host government officials, the public) and PRITECH staff understand how CDD programs progress toward sustainability, and issues that still need to be addressed.

The evaluation team recommends that PRITECH consider developing a sustainability matrix that would clarify indicators and develop a realistic assessment system. The team believes that this approach can be accomplished at very low-cost and disseminated to PRITECH staff for input. It could be updated once a year at PRITECH annual meetings to be published and follow the lines of the notable Lapham and Mauldin works on population program effectiveness.

RECOMMENDATION:

PRITECH should develop a definition of sustainability in the CDD context and devise an analytical framework for assessing progress in its principal countries on an annual basis.

III. H. Project Evolution from Catalytic to Analytic

PRITECH I was a catalytic project. The implications of this role differed at the national and international levels.

In the national sphere, the purpose of a catalytic organization was to raise awareness and recognition of diarrhea as a disease that is potentially life-threatening and costly, but preventable and treatable. The increased awareness among national leaders culminated in the creation of national CDD programs. In collaboration with PRITECH and other donors, the national CDD programs served to transmit information to the general public. The programs were charged with the enormous task of developing awareness, acceptance, and use of appropriate treatment. Given that such strategies often had to be introduced in settings where the target audience had no understanding of disease transmission and/or the pathophysiology of hydration, the messages were deliberately simple, and whenever possible, uniform (for example, use ORS for all episodes of diarrhea). The interventions were generally targeted toward decisionmakers to gain some community acceptance.

At the international level, efforts in this catalytic phase were directed toward increasing donor awareness of the availability of suitable strategies and providing external support for national leaders who were considering establishing diarrheal disease control programs as a national priority. These goals were achieved through international conferences and workshops, and through newsletters and diarrheal journals.

Simultaneously, research institutions were conducting in-depth efficacy trials to help identify the most cost-effective approaches and alternatives. They evaluated multiple formulations of sugar salt solutions and ORS and examined different delivery methods in the field.

PRITECH I served both these mandates well. However, the tasks have now changed. Country needs have advanced from simple awareness of program options to full implementation, and the problems that entails. In countries with established programs, there are now major payoffs for allocating financial and human resources to those programs. The task of technical assistance is becoming more analytic than catalytic in nature. Thus, it is incumbent upon **PRITECH II** to accept this changed mandate and assume a more analytic role, particularly in its sustained programs.

At a national level an analytical role would permit strategic planning based on analysis of existing data and identification of target groups and alternative strategies. Analysis of existing data allows for prioritization of diarrheal types. Such exercises reflect disease morbidity and mortality patterns in-country. Moreover, the relative importance of diarrheal disease control compared to other national health problems must be periodically reassessed, which may result in a reallocation of funds and other resources.

To date, most communication campaigns have been based on the assumption that all community members must be reached. Strategies have not been developed to address the need for differing approaches to identify and reach different target groups. Exploration of different approaches has

proceeded in a haphazard fashion and the private sector's role in these efforts has not been carefully explored.

Methodologies employed by other technological interventions with a potential to embellish CDD activities have not been systematically explored. Diarrheal disease activities complement other activities, such as the Expanded Program on Immunization, nutrition, acute respiratory infections, and opportunities for complementary activity must be sought and developed. Such amalgamation of effort may not only enhance the program's chance of achieving sustainability, but will aid in the effective use of ever diminishing national resources.

The mandate at the international level has also changed. PRITECH should educate USAID that the absence of a simple and globally uniform solution for CDD does not mean that substantial progress has not been made. but rather that the health community can no longer assume that simple solutions are available for difficult problems. Insistence at the international level on such trivialization of complex issues undermines scientific progress and national development. *The recognition that complex does not mean impossible and that national leaders must be equipped to handle these issues will be the challenge of the 1990s for diarrheal disease control, and for primary health care in general.*

RECOMMENDATION:

The recommendations pertinent to this discussion have already been covered elsewhere (see sections on the evolution of CDD; project design; acute, watery versus persistent diarrhea; and policy research and development).

III. I. Integrating CDD into Primary Health Care Programs

In all five countries the team visited, the CDD/ORT activities at the local provider level (hospitals, health centers) were integrated with other primary health care activities, such as the Expanded Program on Immunization, family planning, growth monitoring, prenatal care, and in some cases curative care. An area where more effective integration might be desirable was between ORT case management and growth monitoring/ nutritional advice. Scales were often not available in the ORT area. At the level of national program management, a specific CDD management team was working in Kenya and Zambia, but in the Sahelian countries only CDD coordinators, recently appointed and with multiple duties, were available. While the former situation appeared to cause problems because of a lack of coordination (for example, multiple uncoordinated training courses, duplicative supervisory visits), it did result in relatively clear responsibility and accountability for CDD program efforts. The programs seemed to suffer from some lack of accountability in the more fully integrated Sahelian countries.

PRITECH has made relatively little effort to promote integration and coordination with other primary health care programs in Kenya and Zambia, but the CDD programs were so new there that this is to be expected. One promising example of potential coordination was found in Kenya where the Resources for Child Health Project representative had just begun holding a monthly meeting

with the CDD staff (including PRITECH staff) to coordinate activities. Coordination is possible in many areas: integrated activities between the relatively strong Expanded Program on Immunization and CDD programs; reporting/information systems, newsletters, training, and perhaps logistics. The respective contractors should be strongly encouraged to promote such coordination.

Interviews with various contractors on how to promote cooperation/integration between related contractors revealed that A.I.D. will have to take the responsibility for encouraging cooperation as an unwritten "deliverable." Expectations for close coordination should be in the context of a specific program activity in a specific setting, rather than a general order to "cooperate." In addition, contractors can sometimes take the responsibility for promoting a policy of coordination between programs to the ministry of health.

IV. PROJECT MANAGEMENT

IV. A. Adequacy of Project Leadership

PRITECH I was noted for its good leadership. The PRITECH I project director remained with PRITECH II for its first year of operation, while the technical director stayed until September 1989. A new project director was appointed at the end of year one for the remainder of the project. However, Management Sciences for Health (MSH) removed the new project director after ten months of service due to conflicts among the staff about technical and programmatic approaches.

For the past 15 months, PRITECH has been without a project director and a technical director. The deputy director has been the acting director, while the previous technical director and other specialists have been sharing the role of technical director. MSH has been searching for Project and Technical Directors, but has not succeeded in recruiting qualified candidates. The project director position has been hard to fill because the contractor has apparently avoided offering the higher than FS-1 salaries commanded by highly qualified candidates. The technical director position is especially difficult to fill because, according to MSH, most of the qualified individuals are academics who will not leave their current tenured positions for a "soft money" job.

The evaluation team concluded that MSH's inability to recruit and install a project and technical directors in the critical third year of the project has been a major deficiency in the implementation of PRITECH II. From both the technical and contractual standpoints, the absence of these key people has caused the project to drift. While field representatives and project specialists carried on with country activities according to locally developed plans, those in charge of leading the project in Washington, D.C. appear to have stalled on how the project should proceed in key technical areas. The absence of the top two project personnel has placed an unfair burden on those charged with temporarily managing project development.

The result was the preparation of a number of 1990 draft plans and strategies that expanded upon or redirected project components and technical approaches, but played a minimal role in country work. These drafts were submitted to the A.I.D. CTO for review and approval. Under this system, much technical decisionmaking appears to originate from A.I.D. The evaluation team concludes that PRITECH needs to take more technical leadership in presenting its views and strategies to A.I.D.

The paucity of leadership has had additional implications for management and technical work. Preparation for this six-week, mid-term evaluation of PRITECH is a good example. It was planned and scheduled long in advance of its start date in October 1990. Despite the fact that the project's fiscal year ends in September, no annual report for year three had been prepared by the start of the evaluation. The evaluation team finally received a draft report in late November. In addition, the team found in its visits to Africa that field representatives had received little direction on how to prepare for this evaluation.

In terms of technical leadership, during the initial briefing to the evaluation team, PRITECH presented its version of key technical issues. PRITECH's "Draft Strategy" at the end of the evaluation period contained a different set of key issues, revealing a lack of overall vision indicative of the absence of strong technical leadership.

PRITECH documents contain hardly any data analysis. Much has been written on CDD and related issues. Surveys, especially the Demographic and Health Surveys, have produced a wealth of information that is available for only the cost of a data tape and simple analysis. PRITECH itself has a \$1.5 million research budget to collect and analyze information critical to successful CDD. In addition, the project has access to some of the best and most knowledgeable experts in the world on CDD and related issues. Yet, despite these resources, it is difficult to find plans and strategies based on technical and political analyses. PRITECH has expended only 13 percent of its research budget. Experts who are consultants on PRITECH do not appear to participate in the preparation of central program plans. Rather, plans appear to be built on discrete proposals submitted by field staff and Washington-based staff. In addition, the evaluation team found little evidence of written country strategies to guide local programs and decisionmaking. PRITECH did conduct a series of evaluations of its sustained country programs, but the evaluation team found that some were very broad-based and not easily adaptable to a country strategy.

As a result, the evaluation team had problems in understanding how PRITECH makes technical decisions about investing project funds (this is not to say, however, that funds have been spent unwisely). PRITECH planning documents do not adequately evaluate what has been done, what the key issues are, what the literature and data say about what works, the potential impacts of different interventions, reasonable program and geographic targets, and necessary steps to achieve targets. Therefore, they lack direction. Kenya is a good example of the shortfall in applying technical findings to the country program. The demographic and health survey published in October 1989 (7,000+ households) showed that 84 percent of Kenyan women treated diarrhea in the home with available fluids (mainly uji). Such a finding might have caused PRITECH managers to quickly direct some of its research budget to investigate the medical appropriateness of uji. This would have been especially important in view of Kenya's pressing need to clarify its national CDD policy.

With stronger management and technical leadership, PRITECH could base its plans and strategies on more solid technical analyses, have a clearer sense of key technical issues, present justifications for its plans and strategies, and guide staff. Other donors would have a better idea of PRITECH's objectives and technical approaches. In addition, S&T/H would also be more confident about approving activity proposals and receiving technical advice from the project.

The need to strengthen technical leadership in PRITECH's Washington office raises the question of the respective roles of the headquarters and field offices. The evaluation team believes that as the PRITECH I and II programs have evolved from promotional and catalytic to implementation and institutionalization, the Washington office should become more analytical in its technical support of field staff and national CDD programs. PRITECH's Washington office should have the expertise to provide a strong technical assistance program to backstop country activities. This technical assistance would include technical analyses and guidance to field staff in the design and management of activities and research.

RECOMMENDATIONS:

1. **MSH urgently needs to hire a first-rate project director.¹ This may require paying a competitive market rate for such a person (higher than FS-1 maximum) and obtaining a salary waiver if necessary. Emphasis should be placed on management ability, knowledge of A.I.D. assistance programs, interpersonal skills, and technical knowledge in that order. The project director should be given explicit written authority to make decisions leading to full and successful project implementation. In view of the relatively short time remaining on the project, MSH may want to consider providing a guarantee of longer employment in order to secure a qualified director.**
2. **MSH urgently needs to hire a technical director. MSH must cast a wider net in recruiting for this position (for example, advertise in international magazines and journals). This position could be filled by either a mid-level or senior person who has good technical skills. This person should have field experience, be able to make sound judgements about technical approaches, prioritize PRITECH technical agendas, and marshal the human and financial resources to provide the necessary technical leadership. If this is not feasible in the next several months, PRITECH should appoint one of its staff as the acting technical director. In either case, the person selected must be vested with the authority to direct technical aspects of the work.**
3. **MSH may desire to conduct a position analysis of its Washington-based staff in view of project plans and programs for the next three years. The purpose of this would be to assure that the the skills and structure of its Washington staff are appropriate to country program needs and the office's technical and management role.**

IV. B. Adequacy of Management Structure and Operation

The management and operation of PRITECH is divided into three branches: Program Operations Division oversees the implementation of all project activities; the Technical Program Division provides technical resources for project activities, including information collection and dissemination; and the Program Support Division is responsible for all financial and administrative matters, and handles all systems support activities, including short-term technical assistance requests. There is some overlap in duties (for example, some operations staff also work as technical specialists).

Within the Program Operations Division are four senior program managers who are responsible for all the field-based staff, including country representatives and country technical and support staff. Two of these senior program managers are based in Washington, D.C., one is in Nairobi, Kenya, and one is in Dakar, Senegal. One of the senior program managers is also head of operations, and

¹ Just prior to publication, in late December 1990, the team was pleased to note that PRITECH had recruited a project director. However, the technical director position remained vacant as of that date.

thus has line authority over the other three. Altogether, 21 people work on PRITECH in the Washington, D.C. home office, and 19 work in field positions.

The evaluation team thought that the organizational structure was adequate to the task of carrying out the complex mix of PRITECH activities. The field staff interviewed by the team felt they were well-supported by the Washington-based staff.

Operationally, lines of authority are less clear. Whereas the senior program manager in Nairobi is in theory the manager of Zambian operations, it was clear in Lusaka that operational responsibility rested in Washington. In West Africa, the senior program manager was clearly directing regional operations. In addition, it was difficult for the evaluation team to discern what authority was vested in the local representatives.

Local representatives (at least in Zambia and Kenya) appear to have less authority in technical and budgetary matters. For example, these local representatives had limited knowledge of the amounts of their annual budgets. Host country CDD managers had even less idea of what PRITECH was spending and what financial and human resources were available from PRITECH at the outset of each year. In this system, each budgeted activity, no matter the size, must be submitted to Washington for approval. This makes it difficult for national CDD programs to factor in PRITECH support and plan their annual activities.

RECOMMENDATIONS:

1. PRITECH may want to clarify individual responsibilities and lines of authority for country representatives and senior program managers. (The evaluation team understands that PRITECH is considering reorganizing its operations staff. This reorganization presents an obvious opportunity to clarify lines of authority.)
2. Country representatives and senior program managers should be given annual budgets with which to plan their activities.

IV. C. Adequacy of Staffing Pattern

The PRITECH project is multifaceted, thereby requiring a variety of skills. Since the principal function involves designing, managing, and funding multiple activities, most staff need to have good managerial skills and a basic technical understanding of primary health care issues. Beyond these basic needs, PRITECH must have access to professionals skilled in the health field, especially medical science. In addition, PRITECH requires persons with experience in logistics, communications and education, policy development, training, commercial marketing, financial management, operational research, and policy analysis.

The 42 persons who work on PRITECH represent nearly all of these fields. For this evaluation, the team was able to review the resumes of 30 staff. Of the 12 in the Washington, D.C. office, three of the full-time professionals have a formal education in the health field (two MDs and one

DPH.). One part-time staff member also has a health degree (MD). The remainder have masters degrees in economics, public administration, business, library science and information systems. One person has a PhD in communications, while one has a law degree. The experience and expertise of nearly all the Washington-based staff (as it pertains to primary health care) is in the direct delivery or management of public health services. This is consistent with PRITECH's implementation orientation.

The 18 field staff resumes reviewed for this evaluation show a larger proportion of staff with a formal education in health. This staff includes seven medical doctors and six masters of public health among its members. Another field staff member has an EdD with a specialization in community health. The field staff includes persons with considerable overseas work experience and several who are junior with limited experience. As with the Washington, D.C. staff, much of the experience and expertise of this staff is in the delivery and management of health services.

The permanent staff is supplemented by institutional staff from the participating organizations and by consultants. The team's impressions are that this latter group (as it is employed for direct CDD work) has a major strength in research, but is involved only in limited ways in project research.

For its 1991 strategy, PRITECH states that it will concentrate on three main areas: institutionalizing government ORT/CDD programs, especially through policy improvements; stimulating private sector involvement in ORT; and supporting education, information dissemination, and training. For two of these areas -- policy development and the private sector -- the current staffing pattern is limited. The evaluation team also concluded that the project needs staff strengthening in the area of research. This latter need may be addressed through the hiring of a technical director, and possibly a project director.

RECOMMENDATION:

1. PRITECH should consider adding expertise for work with the private sector (including commercial activities and with NGOs), and in policy development to meet its technical goals for the remainder of the project. Qualified individuals should be allocated to specific country activities rather than to general project management in Washington, D.C.

IV. D. Responsiveness to S&T/H and Missions

The evaluation team concluded that the PRITECH project is generally responsive to missions and S&T/H. While several missions visited during this evaluation expressed frustration at some aspects of the work, most of the issues pertained to contractual matters involving A.I.D.'s Contracts Office.

Some areas could be strengthened. First, S&T/H may wish to give stronger encouragement to the relationship between PRITECH and the PVO community. Second, S&T/H may want to stimulate more coordination among the various S&T/H CDD projects.

As a result of the S&T/H cooperating agencies meeting, S&T/H has decided to develop a strategy to communicate research findings and program impacts to other donors. Collaboration between PRITECH (the major CDD implementing project), the Primary Health Care Operation Research Project (the major CDD research project), HealthCom and the Applied Diarrheal Disease Research Project has increased during the last year. S&T/H should encourage initiatives. S&T/H has also decided to explore the feasibility of improving the technology of communications among the cooperating agencies.

RECOMMENDATIONS:

1. S&T/H should explore potential areas of collaboration between PRITECH and the PVO community.
2. S&T/H should continue to follow up on the initiatives proposed at the cooperating agencies meeting.

V. FINANCIAL AND ADMINISTRATIVE

V. A. Analysis of Project Expenditures

PRITECH II is a \$35.9 million effort being implemented over a five-year period. According to the original project budget, PRITECH planned to spend \$19.79 million, or 55.1 percent of its budget during the first three years to September 1990. Instead, PRITECH has expended approximately \$11.83 million, or 32.9 percent, of its planned budget. Spending levels by line item are presented in table V-1 which shows that spending has been 40 percent less than anticipated in the project's first three years.

TABLE V-1

**Planned and Actual Expenditures
September 30, 1990
(Millions of Dollars)**

Line Item	Planned	Actual	Difference (%)
Personnel	3.45	2.37	- 31 %
Consultants	.39	.63	+62 %
Overhead	2.95	2.24	-24 %
Travel/Transport	1.55	1.04	-33 %
Allowances	.53	.17	-68 %
Field Office Support	1.00	.62	-38 %
Equipment/Local Programs	1.87	.29	-84 %
Subcontracts	6.88	3.16	-54 %
ODCs	1.16	1.31	+13 %
TOTAL	19.79	11.83	-40 %

NOTE: Numbers do not add precisely due to rounding

The line items that have been most underspent are equipment and local programs, allowances, subcontracts, and field office support. All line items, with the exceptions of consultants and ODCs, have been substantially underspent.

An analysis of expenditures by activity reveals a similar pattern of underspending. Table V-2 shows the life of project budget by activity and the actual amount spent during the first three years.

TABLE V-2

**Expenditures By Activity To Date
September 30, 1990
(Millions of Dollars)**

Activity	Total Budget	Expenditure	
		To Date	Percent of Budget Spent
Country Programs	22.16	5.00	23%
Systems Support	3.00	1.76	59%
Research and Development	3.52	.65	18%
Management	7.25	4.42	60%
TOTAL	35.93	11.83	33%

As Table V-2 shows, country programs have accounted for less than a quarter of its life of project budget, while research and development expenditures have not reached one-fifth of their total budget in the project's first three years. Project funds are being spent on the major U.S.- based activities (project management and systems support) at a rate exceeding an even burn rate over the life of the project. Project management accounted for 37 percent of PRITECH expenditures (and 35 percent of total person-months) during its first three years. This is nearly double the 20 percent envisioned for project management over the life of the project. Thus, maintaining the current level of expenditures implies much higher expenditure on management than envisioned at the outset of the project. These costs could rise even further if the project is extended for a sixth year and MSH hires project and technical directors.

Several reasons account for the spending shortfalls. First, PRITECH I (September 1983-September 1988) had a one-year overlap with PRITECH II. Nine of PRITECH's current 12 sustained programs were emphasis countries under the previous project and were receiving funding in 1987/88 from PRITECH I. As a result, almost all PRITECH II year one expenditures were for Washington-based activities, such as management, health systems support, conferences, and research.

Second, A.I.D. encouraged PRITECH to seek the majority of its funding through buy-ins due to potential cutbacks in S&T/H core funds for the project. This meant that central funds were devoted more to marketing buy-ins than to country activities. Reliance on buy-ins tends to produce delays at the outset because even after a buy-in has been agreed to, it takes time to program the monies at the country level and obtain local personnel and consultants. The focus on buy-ins also resulted in resistance to committing central funds for country activities in the project's first years.

Third, PRITECH did not have project or technical directors in year three. While PRITECH had a project director in year two, apparently considerable internal controversy arose over the approach to project implementation. This debate contributed to the slow start-up of new PRITECH activities. For example, even though it is now year four of the project, new sustained country efforts are still being planned. Indecision remains about some major deliverables (for example, research, and conferences).

Fourth, and perhaps most important, PRITECH's expenditures have lagged because of a shift in thinking about A.I.D.'s development assistance program. For the first five years, A.I.D.'s CDD program enjoyed prominent visibility. CDD programs and their startling successes in the mid-1980s captured the attention of the highest levels of A.I.D. In recent years, however, attention at the Administrator and Assistant Administrator levels has shifted away from the social sectors to broader issues of economic policy. This shift has occurred simultaneously with new funding modes (for example, the Development Fund for Africa) which remove functional account spending requirements. This mode also encourages missions to focus their assistance on one or two priority areas, while at the same time reducing the management burden by cutting back in others and reducing staff. The new assistance focus, especially in Africa, has lowered the demand for human resource projects on the part of USAID missions and regional bureaus, and has been partly responsible for the less than expected demand for PRITECH.

The result is an \$8.0 million shortfall in anticipated expenditures through year three. This means that 77 percent of PRITECH's budget for country programs (by far the largest single component) must be spent in the project's final 24 months. Similarly, 82 percent of the research and development budget remains to be expended in the final two years. The entire sponsored conference budget remains to be programmed or redirected. The implication of these figures is that the project has, to date, carried out either fewer or smaller-scaled activities than originally planned.

A further important consequence of underspending is that PRITECH has built a large pipeline as Table V-3 shows.

TABLE V-3

**PRITECH Pipeline Analysis
(Millions of Dollars)**

	Obligated to 9/30/90	Expenditures to 9/30/90	Pipeline
S&T/H	12.91	7.39	5.52
Buy-ins	9.14	4.44	4.70
TOTAL	22.05	11.83	10.22

The monthly expenditure rate for PRITECH in year three of the project was \$476,000. At this rate, the project has nearly enough remaining funds to last until the termination date in 1992. In addition, S&T/H has planned additional obligations for fiscal years 1991 and fiscal years

1992, and several missions have already initiated additional buy-ins. With this ample funding, how will PRITECH spend its substantial funds in the remaining timeframe?

As noted, PRITECH's total budget is \$35.9 million. As of the end of the third year of the five-year effort, PRITECH had \$24.1 million of this budget left. At the outset of the evaluation, the team requested from PRITECH an analysis of how the project planned to spend the remainder of its funds. The sketchy figures produced in response to this request reveal that PRITECH intends to spend \$15.8 million in project years four and five, for a five-year projected total of \$27.7 million. The projection assumes that monthly expenditures will increase from an average of \$476,000 in year three to \$660,000 in years four and five. This will leave \$8.2 million unallocated if the project concludes on time.

The PRITECH projections, when combined with past expenditures, reveal some interesting patterns for the five-year life of the project (Table V-4).

TABLE V-4

**Actual and Projected Expenditures By Activity
(October 1987-September 1992)
(Millions of Dollars)**

	Budget	Expenditures	Difference(%)
Country Programs	22.16	12.50	-44%
Systems Support	3.00	4.03	+34%
Research and Dev.	3.52	1.73	-51%
Management	7.25	9.42	+30%
TOTAL	35.93	27.68	-23%

According to PRITECH projections, at the end of five years country programs and research will be significantly underspent, while management and systems support will exceed expected expenditures. If the project is extended to a sixth year, management expenditures will exceed the budgeted amount by 64 percent. Since PRITECH's principal aim is to strengthen case management in country programs, these large differentials should be of concern to PRITECH and A.I.D. managers.

V. B. Financial Considerations

All involved in the project agree that PRITECH's main focus is sustained country programs. These programs are largely carried out by local representatives and staff who appear to be relatively low-cost compared to Washington-based technical and operational staff. Sustained

country programs are fully underway in 12 countries, and this number meets the requirements of the contract. Several more sustained country efforts are now starting. These programs have been achieved at substantially less cost than anticipated.

Other activities such as intermittent country programs, research and development, new initiatives, and program support are largely carried out by Washington-based staff. The project is behind in these activities compared to sustained country programs. However, expenditures for Washington-based staff are exceeding anticipated levels. This suggests that country-based activities are much more cost-effective for PRITECH, and that the relationship between Washington-based costs and country program costs needs to be examined in light of project objectives.

RECOMMENDATIONS:

1. S&T/H should apply for a no-cost extension of the PRITECH contract that would extend the effort until at least September 1993. PRITECH should prepare a detailed plan showing how it proposes to allocate its remaining \$24 million.
2. PRITECH should significantly increase its spending on country programs, which are the main focus of the project.
3. PRITECH should carefully analyze its staffing pattern to assure that its financial resources are effectively spent, especially in the central office, to achieve project objectives set forth in the contract.

V. C. Adequacy of Financial Management and Reporting

PRITECH produces a variety of documents that track activities from financial and deliverable perspectives. The financial accounting is especially good with up to date information available on almost all aspects of the work. The financial reporting system is taxing in terms of the labor that it takes to maintain, however, it is necessary in order to comply with extensive A.I.D. reporting requirements.

While the project has excellent retrospective data on its financial picture, its financial planning appears underdeveloped (for example, analyzing the financial implications of past expenditure patterns, estimating financial commitments, projecting future expenditures based on program plans, comparing projected expenditures and levels of effort to deliverable requirements, analyzing the budget consequences of alternative program plans). For a project that has large amounts of financial resources yet to be spent and key deliverables yet to be planned, the capacity to plan is essential for effective management.

On the technical side, PRITECH produces a series of progress reports and annual work plans on a regular basis. These reports are thorough and provide the reader with a good sense of the

overall project. The field representatives produce monthly reports that are excellent and provide a running commentary on their many activities. Presumably, annual reports are due at the end of the year that they cover. Although year three ended in September 1990, the evaluation team did not receive a draft of the annual report until late November. A more timely submission of this report would have been useful, at least for the evaluation team.

RECOMMENDATION:

PRITECH must take additional steps to increase its financial planning capacity.

V. D. Contractual Requirements

PRITECH project deliverables are a mix of activities and levels of effort. Because of the lack of definition and quantification of project outputs and the change in research directions, measuring progress by traditional means is problematic. Table V-5 shows how the project is proceeding against these different deliverables and what remains to be accomplished by the end of the contract.

TABLE V-5

**PRITECH Deliverables
(Number or person months)**

Deliverable	Contractual Requirement	To September 1990	Skill Required
Country Programs			
Sustained	12	12	0
Intermittent	12-15	5	7-10
Ad Hoc Assignments	100	8	92
Health Systems Support	250 p.m.	127 p.m.	123 p.m.
<u>Information Dissemination</u>			
Information Center	83 p.m.	18 p.m.	65 p.m.
Technical Literature Updates	30	45	0
Conferences	5	0	5
Sponsored	41 p.m.	0	41 p.m.
Supported	50	13	37
Research and Development^(a)	60 studies	Unspecified	Unspecified

a. In April 1990, PRITECH requested that it redirect the research and development funds to a broader range of activities. The majority of the funding for this component will go to new initiatives that were agreed to by S&T/H in May 1990.

PRITECH's principal work is the sustained country program component. In terms of the project's overall level of effort, sustained country programs should account for 50 percent of all labor. Table V-5 shows that PRITECH will meet its deliverables for this key project component. The next largest component is the intermittent country programs. This component should account for about 20 percent of the total level of effort. PRITECH is presumably behind schedule with this component since only five intermittent country programs are underway. The shortfall here is considerable, with seven to ten programs to be carried out in the remaining months of the project.

With the exception of health systems support and information center activities, the remaining deliverables appear to be behind schedule. According to project managers, demand from the field or AID/W for the ad hoc assignments has been small. Delays with conferences and research are attributable to the lengthy process of deciding what was technically desirable for these components.

RECOMMENDATION:

Given the limited time remaining in the project (either 21 or 33 months as of 12/31/90), PRITECH should develop a plan for achieving its deliverables. This plan should show S&T/H how it will achieve these objectives for each component, and propose alternative objectives if the original ones are no longer technically feasible or desirable.

V. E. Administrative Constraints

The evaluation team identified two administrative constraints affecting the technical quality of PRITECH's work. The first involves the length of time it takes to obtain approvals for local consultants. These consultants are critical to PRITECH's training and research needs in the field. PRITECH field representatives usually submit requests for approval of consultants to PRITECH/Washington. These are then forwarded to the AID/W Contracts Office for final approval. This procedure has taken up to five months in some cases (with most of the delay occurring at A.I.D.), so that approvals are received or denied long after the consultant was needed. This process appears to cause unnecessary anguish among PRITECH staff, the consultants, and the local CDD program managers.

A second constraint involves the length of time it takes to obtain approvals for field activities and expenditures. Nearly all expenditures in the field must be approved in advance by the PRITECH/Washington office. These approvals have taken longer than desired in some cases.

RECOMMENDATIONS:

1. PRITECH should thoroughly brief field representatives on rate setting for consultants so that everyone is aware of the procedures and regulations before the process begins. PRITECH should consider giving the field representatives the authority to approve

local consultants within A.I.D. guidelines for certain maximum amounts (perhaps \$500 per consultant per activity).

2. PRITECH country representatives should have an annual budget that allows them to make specified levels of commitments (perhaps up to \$3,000) during the year for unanticipated activities. PRITECH's Washington office should turn around other requests for field activities and expenditures not requiring A.I.D. Contracts Office involvement in no more than two weeks.

VI. BEYOND PRITECH II

To identify involvement in diarrheal disease control beyond PRITECH II, decision makers must contemplate several considerations as set out below:

VI. A. Diarrheal Disease Control as a Priority Investment.

The evaluation team strongly endorses continued investment in diarrheal disease control for five reasons:

1. Diarrheal disease remains a major cause of morbidity and mortality in the developing world, accounting for as many as a third of all childhood deaths.
2. Diarrheal disease control is an area in which great strides have been attained.
3. The establishment and development of CDD programs has been a major factor in the development of a health infrastructure extending well beyond diarrheal control in many countries. This cascade effect will expand into national policy articulation and analysis. Without the vehicle of a well-established and technically developed field to serve as a mechanism for effecting such changes, the evaluation team feels that USAID's impact on policy development and implementation would be less effective.
4. Not only would a decrease in investment diminish future progress, it would seriously jeopardize progress already made, particularly in countries with new CDD programs or in countries with health budgets that are heavily dependent on external support.
5. Given that a continued investment in this area is essential, the fact that A.I.D. is the major bilateral donor and a major contributor to the diarrheal portfolio of the other three international donors in the field (UNICEF, WHO and the World Bank) places an enormous responsibility on USAID. Failure to continue the current level of investment will hamper the global effort.

VI. B. Continued Support of Diarrheal Disease Control.

This consideration can be split into two parts:

- (1) Should a specific diarrheal disease portfolio/program approach be maintained or should this effort be integrated with other technical fields?

The team believes that continuing the disease-specific approach is essential. While the obligation to help countries address broader issues of national policy determination, including

integration, is one of the major challenges facing development efforts, such issues can be adequately addressed through the vehicle of a disease-specific program.

(2) What should the focus areas of USAID's CDD efforts be?

The diarrheal disease program has included support of basic technology efforts (for example, vaccine development), national capacity building (particularly in research and quality control assessment), and implementation programs. Clearly these remain priority areas. However, two other areas, which have been addressed, but perhaps not yet approached as serious undertakings, emerge: examination of the effectiveness of specific activities and determination of national priorities and policies.

Obviously these two latter areas are highly interrelated. The examination of effectiveness is an enormous conceptual area that has received minimal attention in international health. Because most of the technologies and interventions available to CDD rely on behavioral change (be it of the consumer, the health practitioner or the policymaker), a serious examination of ways to bring about change and analyze the success of these efforts is an essential first step toward effecting behavioral change at any level. As successful strategies for initiating such changes are developed, pragmatic approaches for cost options must be introduced, as national policymakers are increasingly forced to choose between expenditure options. Only through such analytic strategies can the second task -- determining priorities and policies-- be seriously undertaken.

VI. C. Focus Areas of Future USAID CDD Efforts

To date, the basic technical, capacity building, and implementation efforts appear to have been independent, with overlap occurring more by chance than by design. Early in the development of a field such as approach is defensible, probably even preferable. However, diarrheal disease control is no longer a young field and as indicated by the new areas that we believe the CDD should incorporate, such a fragmented approach is no longer appropriate.

The degree of coordination between USAID projects and other donors involved in CDD activities, to maximize the accumulated experience in this field, must be improved. S&T/H should lead this effort for two reasons. First, the USAID's efforts in CDD are broader than those of any single donor. Second, the research portfolio of USAID in CDD is greater than that of any other single donor.

VI. D. PRITECH III as a Logical Organization for Such an Undertaking

Clearly, in an implementation project such as this (but more expansive in scope) PRITECH is the ideal candidate for such a role. This project must recognize that programmatic research

and capacity building are essential components of implementation and focus on these areas to foster implementation efforts. To effect such an integrated program, the project, as it continues in the future, should have both a strong central vision and technologically competent field staff.

However, given PRITECH II's apparent reluctance, to date, to undertake an analytical role in diarrheal disease control and its continuing delay in finding adequate technical leadership, the evaluation team is cautious in endorsing continuation of the current project until a number of the recommendations for improvement suggested in this evaluation have been implemented.

APPENDIX A

SCOPE OF WORK FOR PRITECH II MID-TERM EVALUATION **(Draft of October 15, 1990)**

I. Project Goals and Objectives

1. What were the original goals and objectives of the project? Were they realistic? To what extent have they been realized? How should effectiveness be evaluated? How realistic are the time frames that have been specified for the project's deliverables?
2. Do PRITECH's Annual Work Plans and Annual Progress Reports accurately and fully reflect A.I.D.'s goals and objectives as outlined in the project paper and contract? What elements are missing or are not consistent? What changes should be made in the form of contract amendments, or guidance to the contractor?
3. PRITECH I was intended to be a catalytic project, designed to generate national interest, and initiate ORT/CDD activities. PRITECH II was designed to expand and institutionalize ORT/CDD activities. To what extent is the project realizing those objectives?

II. Project Effectiveness and Appropriateness of Design

1. How has the project adapted to the changing CDD environment (i.e. new technical, programmatic and epidemiological understandings and findings)?
2. How has the project responded and adapted to the changing expectations of A.I.D.?
3. To what extent has the project pursued opportunities to address other related preventive measures affecting diarrheal morbidity and mortality rates?
4. To what extent has the project addressed the nutritional aspects of controlling the effects of diarrheal diseases?

III. Project Management

1. Is it appropriate and conducive to full and successful pursuit of project objectives? Does the management structure of the project support project objectives?

2. Are there sufficient number of project staff and consultants to perform the specified level of work? What impact has the vacancy of key staff positions had on implementation of the contract?
3. Are the relationships between PRITECH/Washington and the field effective?
 - From the HQ perspective?
 - From S&T/H's perspective?
 - From PRITECH field staff's perspective?
 - From USAIDs' perspective?
4. Review and describe the revisions made with financial monitoring and reporting. Have these been beneficial to the contractor and A.I.D.?
5. How effective and efficient is the relationship between the technical and operational units? Both of these and the information unit? The project and S&T/Health?
6. How responsive has the information center been to the recommendations made by the internal assessment performed in 1989? How effective has the Information Center been in taking a more pro-active approach to information collection and sharing?
7. In the countries visited by the evaluation team, assess the overall country program objectives; what needs have been identified and what efforts taken as a result? Has PRITECH's role been appropriate? Would other approaches have been equally or more effective? Has PRITECH been successful in helping identify needs and leverage other donors, governments, or the private sector to address those needs?

IV. A.I.D. Oversight of Project Implementation

1. Assess the amount, quality, and continuity of oversight provided to the project by S&T/Health. Has it been sufficient? How might it be improved upon?
2. Has S&T/Health been effective in promoting the cooperation and complementarity of CDD work being done by PRITECH and other contractors?

V. Contractual Requirements - Project Deliverables

Compare the implementation to date against the specified terms for each of the contract's delineated areas of activity. Do any of the project targets for deliverables need to be reconsidered? What are the management and budget implications of any recommended changes?:

Operational Components:

- a. Sustained country programs, 12-15 to be carried out over the five year LOP; each one having a minimum 3 yr. duration, and an average cost of \$800,000. {NOTE: This is the project's primary activity; it should receive the focus of the team's attention.}
- b. Intermittent Interventions, 12-15 to be carried out over the five year LOP; each with a duration not to exceed 3 yrs., and an average cost of \$300,000.
- c. *Ad Hoc* CDD/ORT Assistance, 100 ad hoc such programs to be carried out over the 5 year LOP;
- d. Systems Support; describe the type of assistance provided under this category.

Program Support Components:

a. Information Dissemination

- i. Information Center
- ii. Technical Literature Update Series:
- iii. Conferences and Workshops:

b. Research and Development

- i. Assess and comment on the appropriateness and feasibility of the new deliverables noted for the revised R & D focused activities (as noted in the memo of August 10, 1990, from B. Simpson to L. Feinberg). Are targets realistic? What plans and progress has been made to date on these activities?
- ii. Are PRITECH's current research and development efforts, including the recently revised R&D objectives and activities, on target?
- iii. Have the research and development activities been appropriate given the expansion of CDD initiatives in many new directions, and in overcoming country-specific program constraints and providing a basis for developing broader guidelines? Where should PRITECH focus its R & D efforts in the future?

- iv. Has there been sufficient coordination and sharing of information between PRITECH and other projects like PRICOR, etc?
- v. The project proposed to examine and exploit the potential of the private sector to further the public health objectives of the ORT/CDD program. To what extent is the project doing this? What lessons have been learned to date? Where is the project in terms of articulating its understanding of the role of the private sector? Implementing activities? planning for future utilization in ORT/CDD as well as in other related areas?

What have we learned about the comparative advantages of pursuing objectives through the public versus private sectors?

VI. Collaboration: PRITECH and the Larger CDD Effort

1. How has PRITECH collaborated with the CDD-related efforts of other players?
 - host country governments
 - local PVOs
 - other donor groups
 - other A.I.D. projects
 - WHO
 - UNICEF
 - at the international level?
 - at country level?
2. Has PRITECH taken any technical positions on CDD which are in variance with positions taken by other donors and projects? What are these positions and what are the implications of the variance in terms of strategy, outcomes, etc. Are PRITECH's policies and approaches consistent with those of other donors? If there are differences, what are these?
3. PRITECH collects CDD-related data in the countries it works; ISTI's CIHI Project collects and analyzes data from the WHO and several other international sources. But neither party has been explicitly tasked with collecting, monitoring, and analyzing the global status of CDD programming. Who should have this responsibility? What should PRITECH's role be in this process?

VII. Future Directions

1. What critical questions within CDD/ORT remain unanswered? Which of these should become the focus for new research efforts?

2. What new directions in CDD/ORT are groups pursuing? Which if any of these should S&T/Health direct PRITECH to devote a greater amount of resources to?

3. Given A.I.D.'s investment in ORT/CDD and the progress achieved to date, what level of effort and what kind of additional support should A.I.D commit to ensure the long term sustainability of appropriate management of diarrheal diseases?

APPENDIX B

PERSONS CONSULTED

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Alden, John	Former PRITECH Project Director
Brown, Jane	Chief Operations Officer, Program Operations
Davis, Karen	Operations Officer, Program Operations
Grant, Danielle	Chief Financial and Administrative Officer, Program Support
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64

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APPENDIX C

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APPENDIX D

Global CDD Policy Development and Broad-based Policy Interpretation/Adaptation: Evaluation Team's View of the Difference

As the CDD policy project design calls for "broad policy articulation and long-range planning", the evaluation team concludes that it is well-suited for effective country-level implementation.

In the summer of 1990, the Johns Hopkins University organized a meeting for WHO, UNICEF and A.I.D. to reach a consensus on a global policy for the Control of Diarrheal Diseases. Among the important subjects discussed at that meeting was the role of ORS packets and home fluids. There was general agreement that use of ORS packets in public health facilities was the preferred treatment of dehydration for children. In addition, it was agreed that mothers should be encouraged to continue feeding in the home as well as to use home fluids during diarrhea episodes. The team feels that the development of the global policies cited above is one example of policy development that is the responsibility of WHO -- in consultation with UNICEF, A.I.D. and other major donors.

It was also agreed at the meeting that the specific application of these policy interpretations should be adapted on a country by country basis. Therefore, there is a need for the exposition, application, and implementation of these global policies at a country level. In the team's view, these policies are appropriate CDD policy targets for PRITECH's regional and country representatives.

In a medium to higher income developing country (for example, in Asia or the Latin America and Caribbean region), reasonably well-endowed with public and private sector pharmacies, having the ability to supply the ORS packets at a reasonable cost on demand, one might recommend that mothers not only be taught how to use ORS packets, but how to purchase them when needed to combat dehydration caused by diarrhea. On the other hand, in countries (for example, in the Sahel) where the supply of ORS packets is limited, distribution difficult, per capita income very low, and the supply system shaky with frequent ruptures in stock, the policy interpretation might call for ORS packets to be used mainly in the primary health care facilities with emphasis on teaching the mother the importance of using home fluids and continuing feeding without using packets. In other cases, broad policy calls for using reasonably priced packets by mothers in urban areas where they are readily available, and emphasizing the use of home fluids in the rural areas.

It is at this country policy interpretation level that the team feels PRITECH has the resources and potential to encourage, analyze, and draw conclusions that are useful not only for the country concerned, but also for other countries in the region. This work might also, have generic applicability of global benefit.

The team feels that it is entirely appropriate to use PRITECH research and development and/or technical assistance funds to provide the applied/operational research, studies and technical advice needed to effectively adapt these general global policies to specific country needs.

APPENDIX E

Excerpts concerning CDD from the Executive Summary of the Primary Health Care Evaluation in Pakistan, Summer 1990

Control of Diarrheal Diseases

The conclusions of the Pakistani CDD evaluation team were for a continuation of training activities for physicians and paramedical staff, and for the expansion of DTUs and ORTUs. However, it was felt that priority should be given to managing strengthened ORTUs at the district level by the District Health Officers. DTU staff should continue to play an important supportive role for ongoing training activities.

During the visits of ORTUs, the most striking finding was the severity of malnutrition among diarrhea patients. The lack of appropriate guidelines for the case management of those children in the ORTU centers contrasted with the general adequacy of the oral rehydration treatment normally provided. Insufficient breastfeeding, excessive use of bottled milk formula, and poor weaning practices are obviously important risk factors. At present, little is done to improve these practices. The problem of malnutrition among infants is so great, and its effect upon morbidity and mortality due to diarrhea is so strong, that a substantial further reduction in diarrheal-associated mortality will not be achieved until nutritional status is improved.

Adequate teaching of medical student on appropriate case management of diarrheal diseases ensures that new physicians are familiar with treatment strategies that support the objectives of the national CDD program. The training curricula of all categories of health personnel should be revised to reflect the national policy.

Finally, some recommendations are made to improve the coordination of training on CDD, ARI and nutrition, which are the major contributors to under-age five mortality.

Acute Respiratory Infection (ARI)

Killing almost as many children as diarrheal diseases, ARI is a major cause of infant mortality. Together, these two problems account for about 60 percent infant mortality in most developing countries. The implementation, supervision and monitoring of ARI control should be conducted administratively and at the health facility level with CDD, Nutrition and EPI.

Training

While training activities were strengthened during the PHCP, much remains to be done. It is essential that the GOP develop an integrated training plan including budget for "vertically managed" programs and other core training activities. Special campaigns to recruit females for training at the professional level is still urgently needed. In general the team found training methods to be going in the right direction, but trainers/tutors need more experience in experimental learning. Provision and upgrading of trainers should be a high priority of the GOP/MOH.

Community Involvement

The level of this aspect of PHC effort has been inadequate in the past. The government in its National Health Policy has underlined the importance of enhancing community development by recommending Community Health Workers in the urban areas, and the Village Health Worker program in the rural areas. This program needs to be carefully planned and budgeted in order to be successful. There is great need for the orientation of the health provider on how to work effectively with the community. TBAs, previously trained under AHP, offer a potential pool for female community health workers. More needs to be known about community needs and practices as this knowledge is essential for better health education and communication programs.

Health Education/Communications

Health Education and Communications will be critical to the success of the child survival efforts. Under the PHCP, radio and television were used, particularly for EPI and ORS. While much remains to be done and there has been no formal evaluation, the high degree of knowledge about EPI and ORS is an indirect indicator that communications efforts were effective.

Private Sector

Though the team was not able to review the private sector activities in detail, it is important to share observations in this area.

A health partnership should be the goal of the public/private activities. Both have important roles to play, and in order to achieve this goal the following action should be taken:

- The Government, assisted by the CS Project, should invest in workshops and conferences to encourage public/private collaboration.
- Indigenous NGOs should be encouraged to participate fully in health care delivery as appropriate to their skills and expertise.
- The CSP should encourage the full participation of private practitioners in child survival activities.

APPENDIX F(1)

SITE VISIT: (KENYA) NAIROBI REGIONAL OFFICE

Central, East and Southern Africa (CESA)

The Regional Office for Central, East and Southern Africa has been providing technical and management support to country programs in this region for the past two years. The regional office supports country program activities through periodic visits and written communications to assure effective implementation of strategies. In consultation with PRITECH/Washington, the regional office ensures appropriate technical assistance to the country programs.

Until recently, the regional office has been responsible for overseeing country programs in Cameroon, Uganda and Zambia. (The Kenya program is managed by PRITECH/Washington.) New initiatives for the region have been proposed to expand the number of PRITECH activities in the region.

The CESA Regional Office manages two types of country interventions:

1. Sustained programs include the Cameroon, Zambia and Uganda. Possible candidates for additional sustained programs include Madagascar, Zaire and Malawi. PRITECH assistance in these countries will be directed at developing and strengthening full scale national CDD programs.
2. There are currently no intermittent programs underway. Possible candidates for future programs include Madagascar, Zaire, Malawi, Ghana, Mozambique, Ethiopia, Zimbabwe and Rwanda. PRITECH assistance in these countries will be focused on one or two specialized technical areas.

Through sustained and intermittent programs, the PRITECH CESA regional office intends to:

- strengthen MOH-based capacities to deliver and institutionalize effective CDD services.
- engage and mobilize the private health sector for CDD.

A major role of the CESA regional office is to help countries broaden their capacities to deliver services using new approaches and untapped resources. Six special initiatives will be emphasized by the CESA regional office as possible activities for intermittent and sustained country programs. These initiatives include:

- Targeting traditional practitioners.
- Targeting church-linked health facilities.
- Targeting NGO's and indigenous and refugee populations.
- Targeting urban populations.
- Targeting modern health care providers not under the direction of the MOH nor religious missions.
- Strengthening national CDD program management.

More specifically, in 1990, the CESA regional office will begin implementation of two special program initiatives:

1. Engage traditional practitioners to provide correct CDD case management in Uganda and Zambia.
2. Broaden effective CDD coverage through focused technical support to church-affiliated hospitals and health facilities in Uganda, Zambia and Kenya.

Three other special initiatives are being prepared:

1. Development of a methodology for collaboration with local NGO's working closely with CEDPA.
2. Intensification of CDD in the urban sector of Cameroon and East Africa.
3. Improvement of CDD in health facilities managed by private companies (such as plantations and mines) in several East African countries.

To manage the expanded program in the CESA region, the CESA PRITECH representative has requested additional staff, funding and authority.

APPENDIX (F2)

SITE VISIT: KENYA

1. Policy Planning and Evaluation

FINDINGS:

- a. With PRITECH assistance, the MOH Division of Family Health CDD Unit is in the process of revising policy guidelines for case management. Uji and ORS will probably be the recommended home fluids for prevention of dehydration. It is known that uji is made in different ways in various parts of Kenya, and is used in over 90 percent of the country. From the work done by Dr. P. Kenya and others, it usually has very little salt, although salt is added in some areas. Further investigations of uji composition and efficacy are planned.
- b. The recent WHO/UNICEF household diarrhea cluster survey in six districts (5 in high-incidence areas around Lake Victoria and the Coast, and Nakuru) appears of excellent quality and reveals that ORS use is very low (10-29%) and lowest in the area of CDD concentrated activity, but that due to uji use the ORT use rates are good, 70-90 percent. Fairly clean measures of communications impact (e.g. ORS mixing knowledge, knowledge of when to refer) are better in the areas of high CDD program concentration. Not enough fluids are given, and inappropriate drugs are still used too often. Although suspected low-incidence districts were not surveyed, over two-fold variation in diarrheal incidence rates were found.
- c. Pharmaceutical manufacturers are not clear on the government ORS policy program.
- d. Integration of CDD, EPI, Family Planning and Nutrition in the areas of training, supervision and health information reporting has been proposed but is still in the planning stage. It is proposed that these functions will be carried out by the Provincial Health Management Teams in integrated fashion; the PHMT's will need much more training (and technical and material support) to do this. Drs. Oyoo and Makhulo support this plan strongly.
- e. Almost one-half of the health centers in Kenya are being operated by NGOs. Many of these NGOs are still promoting water-sugar-salt solution as the first line of defense for diarrheal disease. NGOs need guidance, training and technical assistance.

RECOMMENDATIONS:

- a. PRITECH should assist the MOH as requested to refine the current CDD policy based on results of the pending home available fluids study. Promote the message to increase the amount of uji given to children with diarrhea.
- b. PRITECH should assist the DFH to disseminate new policy guidelines to all providers, including NGOs, and the private sector.
- c. PRITECH should assist the DFH to present and discuss the new policy guidelines with key ORS manufacturers and distributors.
- d. PRITECH should assist the DFH to extend activities and ORS supply to NGOs.
- e. Where resources are limited, PRITECH could focus program resources in high incidence districts.

2. Training

FINDINGS:

- a. Many of the training targets have been reached.
- b. A new curriculum for medical professionals has been developed.
- c. Pediatrician training did not meet expectations.
- d. Private pharmacist training has not yet taken place.
- e. There is little integration of family health training between DFH program areas.
- f. NGOs are not trained in proper CDD case management. However, because of staffing limitations conventional off-site training courses may not be seen as desirable.
- g. There is little organized in-service (on-the-job) training, although trained staff have begun training others at their facilities with good success.

RECOMMENDATIONS:

- a. Implement medical curriculum in line with the new CDD policy.
- b. Implement curriculum in the nursing schools.

- c. **PRITECH should assist the MOH in its planned integration of training, HIS and supervision for CDD, EPI, Nutrition, and Family Planning.**
- d. **PRITECH may want to explore methods to promote on-the-job/in-service training. This might increase training to NGO institutions.**

3. Communications

FINDINGS:

- a. **PRITECH, as well as UNICEF, have been involved in the development and production of training materials such as flyers, posters, booklets, radio spots, and flip charts. Current materials stress ORS as the first line of defense for prevention of dehydration in the home.**
- b. **The WHO CDD Household Survey provides evidence that communications has had a significant effect on ORS mixing and referral criteria.**
- c. **Current educational materials are written in English and Swahili only.**
- d. **The impact of various communications strategies used by PRITECH is unknown.**

RECOMMENDATIONS:

- a. **Move as quickly as possible to adapt communications materials to the new CDD policy.**
- b. **Evaluate the effectiveness of the various communications efforts and focus resources on ones which have the most dramatic impact.**
- c. **Explore other types of communication interventions, such as folk theater.**
- e. **PRITECH should consider putting more effort into diarrheal disease prevention in the home, including nutrition, sanitation and hygiene and measles immunization. This requires operational research to learn what practices are used at present, for example, the storage of infant weaning food after preparation.**

4. Operations Research

FINDINGS:

- a. **During PRITECH I, in Kenya the central office's technical assistance for project design and implementation of operations studies was deficient. This resulted in a series of OR studies**

of unacceptable scientific quality that were not applicable to management issues. Most of these studies have not been written or delivered to CDD or PRITECH/Kenya. The DFH has insisted that future PRITECH-funded OR be reviewed by a DFH Research Review Committee.

- b. Several U.S. consultants have made 5-8 day visits to Kenya to advise PRITECH on operations research. Only one consultant has visited more than once in the past year.
- c. There is a lack of coordination between the two USAID-funded CDD projects in Kenya. ADDR and PRITECH II simultaneously commissioned a study to assess the impact of training on CDD.

RECOMMENDATIONS:

- a. In-country researchers should be paired with an expert collaborator for review of initial protocols and implementation of the study. The number of different technical experts should be limited to increase continuity.
- b. PRITECH should develop a research plan in coordination with ADDR.
- c. PRITECH should focus its resources on studies that address a specific policy implementation issue.

5. Health Information Systems

FINDINGS:

- a. The 1990 WHO CDD survey yielded valuable information. This information, however, is of limited value for the day-to-day management of problems: it neither provides timely reporting of the number nor quality of program activities. Among the information that would be very helpful would be number, kind and location of trained persons, tracking of funds, supervisory visits (with results), and numbers of diarrhea cases by district/hospital by dehydration status, and by method of care management.
- b. Integration of all the child survival programs into the HIS has been quite difficult. Completeness, timeliness and accuracy of reporting have been serious problems.
- c. A new combined CDD HIS is proposed that would integrate the sentinel and routine reporting systems for number of cases seen and managed in health facilities.

RECOMMENDATIONS:

- a. **Systems to report data would be valuable for the CDD program, but the proposed reporting system will require substantial DFH resources. Among these resources would be:**
- (1) **a full-time HIS manager in the CDD management unit for the first 1-2 years, who would train staff in health facilities, actively follow up reporting, and oversee data entry, analysis, and feedback via the newsletter**
 - (2) **the travel funds to permit this active followup**
 - (3) **reporting forms**

Essential management functions of making the reporting system work include training staff on active follow-up and feedback of data reported to the health centers/hospitals.

Also, the reporting form could be simplified to facilitate its use in health facilities by reducing age categories to 0-1 and 1-5 years old.

If the Division of Family Health chooses to make substantial investment in this combined CDD reporting system, and fills the CDD HIS manager position, PRITECH should consider offering appropriate support to this information system. In any case, PRITECH should help support the other basic information systems for tracking training of personnel, or supervisory activity.

- b. **Information systems to track trained staff, finances and supervisory visits are equally important and less difficult to maintain. Such information is valuable to monitor the progress of PHMT's success. They should not be neglected in the shadow of the case reporting system.**
- c. **The chief criterion for choosing sentinel sites for this system should probably be expected high incidence of diarrhea cases, since this is where the program's success is most important.**
- d. **If the combined case reporting system is implemented, it may be desirable to then consider integrating it with another child survival program such as KEPI.**

6. Logistics/Private Sector

FINDINGS:

- a. **ORS is distributed in drug kits to rural health centers. Packets are supplied by donors such as UNICEF and DANIDA (both planning to phase out their assistance). Medical stores**

supply hospitals with locally-produced ORS, paid for by donors. Little is apparently paid by the GOK.

- b. According to the WHO CDD Household Survey, access to ORS is fairly low, especially in the three focus areas. However, knowledge about ORT is very high; and knowledge about ORS is growing. Expectation for ORS demand will be growing over the next 5 years.
- c. There is considerable local capacity for ORS production with only two companies currently producing ORS. Other manufacturers are ready and able to produce high quality ORS for sale to the public sector and through private channels.
- d. There is potential in the private sector to reach large populations through their communications and distribution channels. In addition, they are willing to support ORS education campaigns, including mass media communications, and the education of private physicians and health workers.
- e. The average cost of domestically produced ORS is about 2/50 shillings for the 500 ml packet. Donor purchased ORS costs about 1/60 shillings. Taxes account for 30 - 40 percent of the cost of local production. Local manufacturers could possibly be competitive if ORS was exempt from government taxes.
- f. Local producers are hesitant to become involved in ORS production and distribution because their prices are higher than imported products, they compete with free government products, and they know little about the current market for ORS, projected demand, etc.

RECOMMENDATIONS:

- a. PRITECH should assist the DFH to facilitate meetings with producers to encourage local production under DFH guidelines.
- b. PRITECH should consider assisting the DFH to collaborate with manufacturers on petitioning the Ministry of Finance to eliminate taxes on ORS packaging and ingredients.
- c. PRITECH should help the DFH to assess private sector capabilities to discern how manufacturers and distributors could contribute to the CDD programme.
- d. PRITECH should consider providing a private sector specialist with international experience to work with private producers and the DFH to stimulate private production.
- e. PRITECH should consider supporting the dissemination of information on ORS use and demand to the private sector. Before moving into production or distribution, manufacturers need market information.

APPENDIX F(3)

SITE VISIT: ZAMBIA

Introduction

Three members of the evaluation team visited Zambia between November 4 and November 9, 1990. During this time, they had various meetings with government health personnel, the PRITECH representative, and other donor representatives to assess project activities. This trip included visits to several public and private health facilities in Lusaka and Southern Province.

The evaluation team concluded that PRITECH is doing an excellent job to support and stimulate the Zambian CDD program. Acknowledged by other donors and the government, PRITECH has played the critical catalytic role in the country. Enormous progress has been made in the national CDD program, and prospects are excellent for additional gains in the next three years. During this next period, new guidelines will be put in place that will have a major impact on the sustainability of the Zambian CDD program. The evaluation team believes that PRITECH should play a key role in this development. Specific suggestions about PRITECH's role follow.

Evaluation Findings

1. Policy Development

Findings: PRITECH has greatly contributed to CDD policy development in Zambia. PRITECH has helped galvanize political commitment at the highest level. The PRITECH representative was instrumental in ensuring that the CDD program was included in the Zambia fourth national development plan. This included a statement of the national CDD policy, targets for ORT coverage and a modest budget commitment.

In 1990, the PRITECH representative, in collaboration with the ministry of health and other donors, developed the guidelines for implementing national CDD policy. In addition, the Zambia PRITECH representative serves on numerous government committees and subcommittees dealing with primary health care issues. He was also instrumental in forming the new health policy group which will prepare policy oriented research projects for donor sponsorship, provide guidance to university and donor researchers, manage donor resources for applied research, and more specifically will evaluate recent cholera experience from management perspective.

Recommendation: The current PRITECH representative plays a critical and ongoing role in CDD policy development and implementation. He should continue to devote a portion of his time to this important catalytic function.

2. Research

Findings: In the past four years the PRITECH representative has guided several key research activities. This applied research has been instrumental in the development of the CDD program, including development of CDD policies and programs.

Recommendations: The PRITECH representative should continue the applied research program including research on HAF, breastfeeding, and work on developing effective supervision and training at the district level. These research activities should be undertaken with minimum disruption to existing CDD activities and personnel. PRITECH should ensure that the results its research are disseminated and used effectively to guide the implementation of nationwide CDD efforts.

3. Case Management

Findings: PRITECH assists in the improvement of case management in a variety of way in Zambia. Most importantly, PRITECH helped the Government to articulate its CDD strategy and guidelines for implementation. PRITECH has been the leader in promoting, establishing and monitoring ORT corners, and in establishing the all-important DTU at the University Teaching Hospital. The PRITECH representative helped the CDD program prepare a successful proposal to the Canadian High Commission to receive funding for 600 ORT corners. In addition to his many information and communications activities relating to case management, the PRITECH representative prepared a manual for operationalizing ORT corners, and developed an information collecting system.

Recommendation: PRITECH should continue its successful work in supporting the DTU, in fostering supervision programs and activities, and establishing ORT corners.

4. Health Education and Communication

Findings: The PRITECH representative has had substantial input into the development of communication materials and activities, including ORT leaflets, posters, popular theater, radio and t-shirts. There has been good donor coordination in the development of materials (e.g. SIDA and growth monitoring card).

Recommendations: There is still a considerable gap between knowledge and effective use. Therefore, PRITECH should continue to focus on the CDD program's social mobilization activity. Specifically, in the remaining life of project, PRITECH should provide IEC technical consultants to evaluate the dissemination and effectiveness of current educational materials, raise the quality of IEC products and improve the skills of Zambian counterparts (e.g. training workshop on pre-testing methodology and evaluating impacts).

5. Supervision and Training

Findings: Operations research in PRITECH has shown that the lack of supervision is a major deficiency in effective case management. PRITECH was instrumental in establishing the new DTU

and in supporting 5 training courses in FY 1990 for mid-level management, clinical officers, DMOs, and nurses. This type of training along with a strong program of follow-up and supervision will be a critical ingredient to the success of CDD in the 1990s.

The cornerstone of CDD training is the DTU. At present, the DTU only has a part-time physician coordinator, limiting the quality and quantity of training. A full-time director would enhance the training and supervision programs.

There is no established supervision program throughout the country. At present such a program is impossible due to lack fuel, transportation, per diems and commitment on behalf of district hospitals.

Recommendations: First, PRITECH should make every effort to identify, recruit and hire if possible a local director for the DTU as quickly as possible. This will allow the DTU to have daily supervision to ensure quality during training, and during the normal functioning of the DTU. This will also increase the capacity of the DTU to sponsor more courses, train more medical personnel, and establish an effective national program of supervision. Second, PRITECH should sponsor a major expansion in the CDD supervision program. This would include the development and testing of methods of organization, supervisory checklists and norms, scheduling, and supervision. This expansion can be accomplished through the hire of an additional expatriate staff member for the Zambia PRITECH program. The evaluation team believes that the quickest and most cost-effective way to hire such a person would be to recruit a local expatriate with 2-3 years experience.

6. Private Sector

Findings:

1. **ORS Production/Marketing:** There are major problems with local production and raw materials for local production have to be imported. The market is small given the large contributions of donors and production costs make locally produced ORS more expensive than imported ORS. Despite these difficulties, private producers have produced and marketed ORS in Zambia. Indeed, there is a fairly strong market with local practitioners and large employers. In addition, if donor-provided ORS diminishes, Zambia will need local capacity to produce ORS if it is continue effective CDD activities.

Recommendations: PRITECH should seriously investigate the potential for an ORS marketing activity in Zambia. A visit by the PRITECH private sector specialist is recommended. This visit by the private sector specialist or a suitable consultant should be scheduled for the first quarter of 1991.

2. **Employers:** Zambia has a number of very large employers which provide health coverage to tens of thousands of people. The Zambian Consolidated Copper Mines has 100,000 employees and perhaps 300,000 - 500,000 dependents. The Zambia Sugar Company Ltd. directly provides health services to 60,000 persons at its Nakambala Estate in Southern Province. These firms pay for their own health service systems, so that they are self-sustaining. PRITECH has provided training to some medical staff from several of the companies.

Recommendation: PRITECH should make a concerted effort to include the medical personnel from large employers in the DTU training courses. In addition, PRITECH should ensure that a) employer-financed providers are included in follow-up supervision; b) they receive the appropriate IEC materials for their programs; and c) they continue to purchase locally produced ORS.

3. Churches Medical Association of Zambia (CMAZ): The CMAZ is a loose association of multi-denominational health providers who cover approximately 25 percent of the Zambian population. They are considered a part of the ministry of health system. Most of their non-physician personnel are Zambians paid for by the ministry of health. It appears that they have been integrated into the national health system fairly effectively. Their staff are routinely included in DTU training courses and they are subject to ministry of health supervision for conformance to operational policies and norms. PRITECH has sought to include CMAZ in its activities through training and through a proposal to hire for CMAZ a specially designated CDD physician.

Recommendation: PRITECH should make a strong effort to expand the participation of CMAZ facilities and personnel in the CDD Program's training and supervision activities. In addition, CMAZ should become a regular recipient of ministry of health IEC materials. The evaluation team recognizes the utility of hiring a special physician for the CMAZ and would support such an action, but only after DTU and supervision manpower needs have been met. In addition, it may be more politically acceptable to the ministry of health if CMAZ is treated as a part of the ministry of health system rather than a special case.

APPENDIX F(4)

SITE VISIT: SAHEL REGIONAL OFFICE

Diarrheal Disease Control in the Sahel

The far-reaching and comprehensive approach to the management of diarrheal diseases in the Sahel reflects the thoughtful overview and technical support offered by the staff, sub- contractors and consultants at PRITECH central, the Sahel Regional Office and the PRITECH teams working in concert with National CDD teams at the country level. A striking feature of the CDD programs in the Sahel Countries is the over-all similarity in management strategy that reflects actual country needs. This combination of strong management guidance and flexibility is a result of the organizational leadership and technical advice offered by the Sahel Regional Office.

1. Overview

The Sahel Regional Office consists of three full-time professional and support staff. The Regional Officer, Dr. Suzanne Prysor-Jones, opened the office during PRITECH I, approximately six years ago. She provides over-all management support as well as occasional technical support (especially in issues of training and education) to the activities of the regional team and to the six Sahel countries supported by the office (Burkina Faso, Mali, Mauritania, Niger, Senegal, and The Gambia).

Dr. Adama Kone is a physician (with an MPH from Johns Hopkins University) who has worked extensively with the development of case management systems (including clinical training) and evaluation of Management Information Systems (including setting up the ORU's and information reporting systems).

Mr. Mamadou Sene joined the office as a consultant in late 1989 and replaced the full-time Ph.D. nutritionist who left for another post in mid March 1990. Mr. Sene has a master's degree in health education and is a trained health educationalist with extensive community- based experience, and special expertise in anthropologic techniques for the development of educational programs.

The activities of the regional office fall into two primary categories:

- a. Support for Sahel country programs
 1. Technical
 2. Managerial/Supervisory

- b. Technical literature
 1. Procurement and distribution (through ORANO)
 2. Development of regional training materials for health personnel

2. Technical Support for Regional Country Programs

The areas requiring technical support have generally been classified into 4 areas:

- a) Management
- b) Training (didactic training as well as technical supervision and case management)
- c) Information, Education and Communications (IEC)
- d) Logistics

In addition to the evolving technical issues in the field of diarrheal diseases, the staff has contended with two policy issues affecting many of the Sahel countries:

- a) Decentralization: To a variable degree issues in regional rather than central program planning and implementation have become of increased importance in the past few years in many Sahel countries;
- b) Integration: This issue affects different countries variably, but is a major factor in Mali where the CDD program nucleus staff in the MOH office of Family Health who previously devoted 100 percent of their time to CDD activities recently have been called upon to spend over 50 percent of their time on other Family Health activities.

Accordingly, general approaches (including indicated research) have been developed which are utilized after appropriate tailoring in individual countries. Often an approach will be initiated in one country and altered for use in other countries. Whenever possible, professional staff from the Sahel Regional Office offer the technical support, functioning very much like consultants.

Use of these personnel rather than other consultants is cost-effective and has several other advantages:

- Enables an iterative development of regional support activities;
- Allows for frequent and flexible visits by the technical team;
- Ensures utilization of consultants familiar with the country; and,
- Enables the development of longterm relationships between PRITECH Regional staff so that they are not perceived as "outsiders" by the Sahel countries.

However, where technical expertise is not available within the regional staff, additional consultants from PRITECH, the sub-contractors or elsewhere are brought in.

Briefly, technical assistance to these 4 priorities areas has included:

a) **Management (including Supervision of Country Representatives and National CDD Programs)**

Considerable assistance is provided to countries covered by the Regional Office in the development of CDD programs, both from policy/program and operational standpoints. The countries are assisted in establishing priorities, and in preparing annual work plans with detailed budgets. Assistance is also provided to seek additional funding for country programs.

Supervision of participating Sahel countries is multi-faceted and extensive. It includes:

- weekly phone calls with the PRITECH country representatives (or, in the two countries without representatives, to the National CDD coordinators);
- tri-monthly visits to each of the countries whether or not there is a technical issue;
- ad hoc regional conferences;

b) **Training**

Considerable attention has been paid to training needs such as:

1. **Training materials:** A series of interactive diarrhea case modules were developed and produced by the Regional Office for use in the medical schools. They are currently in use in 15 of the 19 Nursing Schools in the Sahel countries. Evaluation of their use in the curriculum has also been conducted. The content of this evaluation has received substantial consideration. It included assessment of the modules that were used, how they were being taught, whether the students were getting sufficient practical experience, and whether the students could use the workbook. Demand for the modules has extended beyond the Sahel and currently exceeds the financial capability of the Sahel Regional Office.
2. **Continuing education "mini-modules"** have been developed on case-management, supervision, organization of ORU's and Health Worker - Mother Interaction. The modules were used in a regional CDD coordinators meeting held in Niger and in the integrated health curriculum team training in Mali.
3. **A periphery-level training module** for regional CDD coordinators was developed for Burkino Faso and has been adapted and used in Mauritania and Niger. It may have application to Mali and Senegal where decentralization is a major issue.

4. A nutrition module for inclusion in the nursing curriculum modules is currently being developed. This module will address issues in nutritional case-management of the non-hospitalized malnourished child.

c) **Case Management and Technical Supervision**

The development of the ORU's (with or without the MIS system) has been a central feature in assuring adequate case management. The system of ORU's and supervision thereof enables:

- 1) refresher training by the supervisory team;
- 2) "supervision" and;
- 3) the development of a prototypical management information system which can be transported into other health activities.
- 4) a clinically appropriate setting for observation of the moderately dehydrated child;
- 5) a setting for practical training.

This latter mechanism has been especially useful as a way of handling the need for strong technical support even in countries with a policy of decentralization and/or integration.

Operational and practical research in the expanded areas of nutrition and feeding practices, of persistent diarrhea and of dysentery are ongoing in an attempt to improve case management of these clinical aspects of diarrhea.

d) **IEC**

The regional office has recognized that serious attention must be given not only to the development of IEC materials, but to studies and training in their utilization as well.

Two template studies have been utilized for evaluating the knowledge and practice of mothers after exposure to IEC materials in many of the Sahel countries: the KAP study and feeding practice studies. Future campaigns will be based in part on these findings.

Similarly, a "use of IEC materials study" was conducted in several Sahel countries and revealed a profound lack of comprehension to an approach and appreciation of communication and health education by health professionals. These studies have

revealed the need for intensive activity in group and interpersonal health education and its relationship to mass communication.

e). **Logistics**

Staff from the Sahel office, supported by additional PRITECH consultants play an important role in helping the Sahel countries examine and treat the many logistical problems involving production and distribution of ORS packets, and setting up systems for supervisory visits.

3. Technical literature

a. **ORANA: Technical literature procurement and dissemination**

The need for accessible technical information in the French-speaking countries of the developing world was recognized in PRITECH I. Accordingly, an African institution which could serve as a long-term sustainable information acquisition and dissemination source was sought. ORANO was considered an excellent choice as a result of its current role (the center for applied nutrition research for eight Sahel countries) and its historic role (the French- African Public Health Institution). Thus, in PRITECH I a fixed grant (approximately \$25,000/annum) was made to ORANO to perform this role. A documentalist, Ms. Assatou Wade, was hired to:

- a) **Secure technical materials on diarrheal diseases;**
- b) **Arrange for preparation of reference lists of such documents including referencing by author, subject, title and geography for widespread dissemination (distribution approximately 10,000 quarterly);**
- b) **Arrange for translation of particular abstracts into French for a more selected distribution (about 800); and**
- c) **Obtain and/or translate into French a list of key articles;**
- d) **Arrange for translation of "Diarrhea Dialogue", prepare a special African supplement and distribute quarterly to 15,000 persons;**
- e) **Disseminate the French translation of T.L.U.**

Some of these functions receive adjunct funding (Diarrhea Dialogue distribution is funded through ARHANG) and technical assistance is provided by Sahel Regional PRITECH staff as well as by other professionals at ARANA.

Diverse documents and lists have diverse target mailings. For example, a list of 800 "decision makers" would receive key articles and special publications, while in contrast, "Diarrhea Dialogue" would be sent to well over 15,000 primary health care workers, and health educators.

The special publications have included technical literature on ORS/ORT, management of dysentery diarrhea, and social marketing materials. The Sahel epidemiology statistics are published by this office.

As well, ORANA functions with PRITECH in its role as a nutrition research center. With a PRITECH Regional Staff member (Dr. Makane Kane) and with co-financing from ADDR, a study on mother-health interaction was conducted. Findings from the study were incorporated into the continuing education materials being developed for health workers.

There have been a few attempts to evaluate usage and consumer satisfaction while demand continues to exceed distribution -- an estimated 30,000 copies requested and 15,000 supplied. Efforts to obtain feedback on the usefulness of the documentation have not been revealing as the return of questionnaires sent out by ORANA has been very low (3.5 percent).

In the past year, the documentalist was joined by an assistant documentalist, Mr. Savare. Under the direction of the principal documentalist, he is responsible for conduct of similar activities for the fields of nutrition and Vitamin A. His position is funded jointly by PRITECH (50 percent) and UNICEF/HKI (perhaps VITAL will also help to finance this position in the future).

b. Prepare and disseminate other special materials

The PRITECH regional staff has undertaken the responsibility for the development and dissemination of technical materials for health professionals in the Sahel region. Some examples of these special productions have been discussed earlier (e.g., the nursing curriculum and continuing education modules), but there are other examples as well (e.g., the fold-out patho-physiologic poster on diarrhea).

4. Activities for the future

The progress of the Sahel Regional Office has enabled CDD activities in the participating countries to achieve substantial gains. The turn of phrase "has enabled" is not used lightly; as it is genuinely believed that the combination of foresight and flexibility by the regional office has played a significant role in the advancement of these national CDD programs.

New challenges have appeared as a result of past successes, and there have been continual changes in the understanding of diarrheal disease control and of country planning from a technical and social standpoint. In addition, there have been changes within the structures of the participating governments. Some of these challenges are already being addressed by the Regional Office. Some will require expanded effort; others are structural, involving both technical and behavioral changes and will require more innovative solutions for individual countries.

APPENDIX F(5)

SITE VISIT: MALI

A. Progress under PRITECH I (completed 1988)

PRITECH I collaborated with the Malian CDD Program from 1985 through the end of the project period 1988. The CDD program was to implement a training program for health workers to establish ORT in the health systems; to promote ORT in the community; to produce and distribute locally ORS packets; and to educate mothers to use ORT effectively (Sugar/Salt/Solution -- SSS). Review of the National CDD program in 1988 revealed much progress, with some difficulties in the following areas:

1. **Program management:** The program was integrated into the Family Health Division. On balance, this has been a very positive development. However, due to decentralization efforts, and as a result of this integration, specific program components may have received less direct attention. In the past, lack of management responsibility from the national to the regional levels hampered effective functioning.
2. **Training:** A health facilities survey on case management revealed the necessity for refresher training and intensive follow-up of case management. This recommendation has been followed up under the CDD program.
3. **Communication and education:** Education materials were printed and distributed, radio and TV spots were aired extensively in 1988, and a community mobilization program using local theatre, and schools was developed. Significant printed materials were also developed to assist the CDD program. However, evaluation of these activities had not yet been completed.
4. **Logistics:** In spite of promotion of local production of ORS, this had not yet been established at the closure of PRITECH I.

B. Progress and Problems to date in PRITECH II

Accordingly, the same conceptual framework for planning and implementation was retained for PRITECH II and broadened to reflect a growing appreciation of the interaction between infant feeding practices and diarrhea.

1. **Program management:**

The identification of specific problems and strategies to address these problems has been flexible and iterative since the challenges facing the program have changed considerably over the last two years.

At the broadest level, the "usual" problems of management faced by CDD programs in Mali, as in many developing countries, have been complicated by two factors:

- a) an increasingly intensive drive towards integration; and
- b) a national policy of decentralization.

a. Organizational:

Early in PRITECH II, under the leadership role of the National CDD Coordinator Dr. Sidibe, specific responsibilities were assigned to each of the team members: Dr. Fanta Toure was responsible for case management (including the establishment of ORS) and the management information system; Dr. Fatomata Tony for IEC activities; Mr. Traore Oumar for training and Ms. Beninati (PRITECH--recently resigned) for management and logistics. It is expected that Dr. Cathrine Toure, a medical anthropologist, will be hired to replace Ms. Beninati.

The team has functioned effectively, although at the mid-point of PRITECH II the team is now separated physically and each member devotes more than half of his/her time to other MCH Divisional Activities (administratively the CDD program is housed in the Division of MCH). The future of the CDD coordinator position was also called into question when the current coordinator, Dr. Sidibe, was recently given notice of her transfer to another senior position. No replacement was named.

In sum, these recent events have given rise to concern regarding the status of CDD as a separate identifiable activity -- as opposed to being completely integrated within the MCH Division. Staff are not assigned CDD activities to fill 100 percent their time. This concern was raised with the Minister of Health by the PRITECH Regional representative, Dr. Suzanne Prysor-Jones, and Dr. Fanta Toure, during a recent meeting. The Minister reconfirmed the high priority of the CDD program in the Ministry, and said that a new Coordinator would be appointed soon, possibly in December.

The priority of the CDD program is complicated given:

- 1) the restructuring now underway in the MOH and in the health field in general, for example, integration;
- 2) the practical effect of delegating to the regions the right to prioritize own health issues within the framework of national health policies (decentralization); and,
- 3) the uncertainties regarding formal government policy from an operational standpoint on both of these issues.

The implications of integration at the regional and central level are different. The concept of integration at the field level (health centers at the Circle level and below) appears to be well

accepted. The issues (vide infra) are less conceptual and more practical: questions of local policy, implementation and supervision.

By contrast, the issue of integration vs. maintenance of the national CDD program with MCH is more controversial. There are potentially negative consequences at the central level. For example, if the National CDD team spends more of its time on non-CDD issues, the role of the PRITECH representative becomes greater, rather than less; and as a result, the program becomes less sustainable.

On the other hand, central integration offers the benefit of using different approaches in other fields (e.g., EPI, Malaria, MIS, IEC) to help develop a rational prioritization of health resources for country needs at a central level.

b. Supervision

A consequence of these new organizational policies is that the National CDD team cannot make specific CDD supervision visits on its own initiative to the field. With the increasing emphasis on decentralization, it is no longer permissible for these visits to be carried out from the central level, and supervisory visits must be conducted by each region and district. The absence of such supervision visits is further compounded by transformation of the regional CDD coordinator meetings. These meetings have been converted into DSF (integrated MCH) coordinator meetings. In their current format there is little time for discussion of CDD activities and problems.

For a time, regional level supervisory visits were carried out through the supervision of the sentinel ORUs. However, there are certain constraints as PRITECH funds cannot be used for supervision visits that do not involve members of the national CDD team. As such, arrangements for these visits have become more difficult.

As a result of these organizational policies, CDD planning at and below the regional level is performed relatively independent of the national CDD Team. Whereas the CDD program was always integrated within the MCH program in Mali, one positive effect of integration policy is that health facilities are not overwhelmed with multiple supervisory teams for each individual health intervention (e.g., EPI, Malaria). Also there is the hope for completion of fewer specialized forms. Perhaps more importantly, regardless of the reason for health-seeking by the mother, the health care of the child is comprehensive. The advantages of such comprehensive care at the time of presentation is important in a country where distances are great, qualified experienced personnel are limited, and concern is persistent for when the next health care encounter might occur.

2. Management Information System

As noted above, a management information system consisting of sentinel sites ("postes de references") for monitoring and evaluation has been developed to help overcome the difficulties of obtaining valid data on a national level. Although it has been slow in developing, a computer system for analysis of data from these sentinel sites is now functioning in five of the seven regions. This system should provide information about all aspects of case management, including quality of

care. While difficult in practice, the hope is that not only will data be compiled at the circle, regional and central level, but will provide feedback at all of these levels as well.

3. Training

The health facilities survey completed in PRITECH I indicated the need to train health workers. A case management strategy was prepared based on these findings and training was planned. Issues in integration and decentralization have rendered dysfunctional the more traditional approaches to this problem, such as requiring health workers to report to a central location in the region for training.

Therefore, the problem of training and retraining established health professionals complicates the two national policies of decentralization and integration. Much remains to be done in consolidating and completing the progress, such as enlisting the help and changing the attitudes of practicing health personnel. Many practicing health professionals now admit the efficacy of ORT, but still feel that the use of anti-diarrhea medicines are a necessary adjunct to the use of SSS and ORS packets.

One approach to this problem of re-education which has proved successful is to host short conferences for prescribers (e.g., doctors, nurses, pharmacists). Another approach has been to establish Oral Rehydration Units's in 5 of the 7 regions (establishment of units in the other 2 regions was not possible for reasons of political unrest). The national CDD team can supervise these units both directly through supervision visits and indirectly through the management information system being established at the ORU's (vide infra). For example, staff from 20 ORU's were recently brought to Bamako for training in the use of naso-gastric tubes for rehydrating.

This approach is more satisfactory because it enables follow-up and modification of education efforts. However, unlike the short conferences described above, it does not address the problem of non-access to government health facilities. Village Health Worker programs are very fragmented and not very effective at the present time. This is a particular problem in a country such as Mali where only an estimated 15 percent to 35 percent of the population has access to the government health system. Moreover, even supervision of these units has been difficult because of lack of funds for supervision visits.

Training for non-health personnel in CDD in other disciplines has been undertaken to make support more effective, for example, training of selected programming staff from Radio and TV, rural development agents, administration authorities, and community leaders in seven districts with WHO funding. This effort to help them to understand the strategy and desired results has increased the effectiveness of pre-service, in-service and social marketing programs designed to reach the public at large, especially mothers.

Finally, use of PRITECH modules at nursing schools for medical technicians and midwives has been implemented. Results of the use of these modules has been very positive. However, the three year evaluation of these modules is still forthcoming. Inroads in pediatric teaching have been made in the medical school where WHO materials on ORT are being used.

4. **Communications and Education:**

Considerable progress has been made regarding diarrheal disease control at the community level.

a. **Organizational**

The CDD program has collaborated closely with EPS for many years for the production of SSS (development of educational materials, TV, radio, social mobilisation events). In 1988, Madam Tony was designated as the CDD team member with special responsibilities for working with the EPS service. She was sent for special training course in IEC management at the University of California at Santa Cruz financed by PRITECH in 1989. This has increased her confidence and capacity to manage the IEC component of the program.

b. **Planning**

From a planning perspective, PRITECH II was able to base their IEC strategy on a KAP study which took place in 1988. ORT use rates were high (41 percent); ORS/SSS were used in 14 percent of households, compared to a figure of 3 percent in 1987. Seventy-one percent of the cases going to health facilities receive a packet and/or ORT advice. This study was augmented by inputs from Nutricom.

An educational materials usage study demonstrated that the materials were probably appropriate, but higher level health workers did not often use them due to lack of time, and/or did not consider them to be important. Lower level health workers however sometimes do use them, but receive little support from their superiors and are uncertain of their skills in this area.

c. **Educational Materials**

Educational materials on SSS have been produced and distributed through both the health and the non-health systems, such as women's literacy groups and PVOs. Plans for development of materials on ORS have advanced substantially over the last year within the framework of the marketing strategy. A logo and special name (local word for phrase meaning "health water" - Keneyagi) were selected to be used on the new ORS packets. Posters and brochures were developed as well as stickers, and ORS pads. Radio and TV spots were written and are slated to begin airing soon. As part of the promotional efforts coordinated by Madam Tony, a theatrical sketch was developed on CDD for a group which performs throughout the country. Plans have been approved to put the sketch on video tape as well.

5. **Operational Research**

Considerable preparation is underway for assessment studies in weaning practices -- both the food type and the actual mode of feeding. Dr. Catherine Toure, an anthropologist, who has

worked for 12 years with various agencies in Mali, is expected to become the PRITECH representative. Of particular note, the study methodology will attempt to utilize the concept of positive deviance by contrasting the practices of mothers of children with diarrhea and those without.

There was discussion during the evaluation team's visit regarding the desirability of building an observational component into the project, as well as to ask planned questions regarding the practices of mothers of well-nourished vs. malnourished children. Such information could be vitally important in developing culturally acceptable messages. An additional need to target non-users was also raised. Therefore, the follow up and supervision of these activities should move right along.

6. Logistics

Most efforts have attempted to develop a sustainable and dependable supply of ORS and include:

- (1) Attempts have been made to understand and improve the distribution system. A study of ORS availability was conducted which showed that stock outages were frequent with build-up in some places and stock-outs in others.
- (2) Interest in local production has been intense and in the summer of 1990, local production was begun by the Malian Pharmaceutical Company Plant (Usine Malienne de Produits Pharmaceutiques). The equipment furnished by UNICEF is expected to have an estimated capacity of 750,000 packets per year (when two supplementary pieces of equipment arrive). Attention was given to preparing the Ministry's health staff for local production, including examination of the ORS sachets themselves (in fact the originally selected bags were rejected as defective).

The rationale for providing packets for sale in both the public and private sectors is to assure maximum availability of ORS packets to the Malienne population. Production arguments continue over the adequacies of home fluids/SSS and ORS at health facilities. However, the messages under preparation indicate that both ORS or SSS can be used at the home with a preference for ORS (if it is available and the family can afford to purchase it).

As such, the current production estimate (perhaps of 250,000 packets a year) is not in keeping with the actual messages. The "need/demand" which should be created by these messages should be much greater than 250,000. Future stockouts may well be a problem if these issues are not given attention. Insufficient attention has been given to the development of a policy to allocate health resources.

Efforts to ensure sustainability of the program have included the decision to market the packets through drug depots, pharmacies and the health system. Accordingly, in concert with the

IEC activities, an intensive social marketing campaign has been launched for "Keneyagi" (see discussion under IEC).

In addition, studies were conducted to determine the production price at which the packets could be produced and sold without loss to the UMPP. The price studies carried out earlier indicated that the amount would be 33CFA at the factory plus another 20CFA for distribution and sales, making the projected sales price 55CFA. However, the UMPP's Chinese managers did not agree with this assessment because the price of raw materials has increased 90 percent since the earlier pricing studies were conducted. There was also concern that the UMPP might have to pay for UNICEF-donated equipment some time in the future. The cost of donated equipment had been used in the calculation of the revised sales price of 80CFA per packet. This price increase was accepted by the government, causing consternation among many of the Ministry's professional staff, who feel that the "inflated" price will restrict its purchase and use. The argument was made that the ORS packet is meeting a social need and must be produced at an acceptable price level, or below cost if necessary.

A decision to subsidize packets would be a major policy decision made within the context of the country's entire health portfolio, including the implied policy of an ORS packet for every diarrheal episode.

The evaluation team was left with the impression that insufficient attention had been given to the need to formulate and advocate a position. Meanwhile, production and distribution by the UMPP is lagging and ruptures in stock are continuing.

(Note: The team has heard that the UMPP has agreed to reconsider the price issue. New calculations will be made taking into account the gifts of equipment and raw materials financed by UNICEF.)

C. Additional areas

1. **Donor coordination:** Donor coordination between UNICEF and PRITECH has been excellent. PRITECH also maintains close contact with WHO and other non governmental organizations (PVOs) working in the field of health. With the recent departure of the PRITECH representative, and changes in UNICEF and WHO senior personnel, special efforts will be made to maintain excellent collaborative efforts.
2. **Regional planning and budget preparation** are gaining momentum and the decentralization decisions of the last several years are becoming realities. Therefore, the role of the MCH CDD staff (with PRITECH help) will become more important in assuring that regional and district health planners are kept abreast of the latest developments in the Control of Diarrheal Diseases. Central government programs should be modified to support the new regional initiative planned in some of the regions, e.g., Segou. Cost-recovery is a major concern in Mali. In at least 2 of the 7 regions (Bamako and Segou) cost-recovery

programs are underway for essential drugs. Studies for the Segou region indicate that with a mark up of 1.4 over the cost of the essential drugs imported or produced locally, there is enough revenue to reorder, and keep the health facilities in the region well supplied. Studies done locally also indicate that these essential drugs would cost the population substantially less than they currently pay to fill prescriptions at private pharmacies. Local Development Committees have been involved in the planning and have agreed to make available limited funds to help the those destitute elements of the population to buy essential medicines.

D. Need for additional Priorities based on Global Policy change

Clearly, a rational and far-reaching plan of action has been established and implemented for diarrheal disease control in Mali. This plan is consistent with the changes necessary to move PRITECH and the CDD programs from a "catalytic" to an "analytic" focus.

1. Fluid Management

Confusion regarding a national policy of fluid management at the home, by the village health workers and at the rural dispensaries is a significant impediment to the development of consistently clear messages. Moreover, without a consistent policy, quantifying the actual need and the cost of ORS packets is difficult to estimate.

2. Epidemiologic Data

The ability to generate reasonable estimates upon which to base program and operating decisions is jeopardized by the absence of meaningful epidemiological data for diarrhea rates. Moreover, as in other developing countries, resources in Mali are very limited. As such, their utilization must be sensitive to the country's needs, and not based on global assessments alone. Without an epidemiology database, rational decisions regarding prioritization and formulation of CDD activities will not be possible. The new PRITECH representative for Mali has identified the need for such epidemiology studies as a practical management and policy tool. Local expertise is not available for the establishment of a system that could utilize current Research, Evaluation and Analysis (REA) techniques. If requested, assistance could be provided under the PRITECH project.

3. Behavioral Change

More intense effort is needed to bring about effective, sustainable behavioral change. Methodologic changes which target non-users from users, and which make use of existing practices of successful mothers should be used in the development of these messages. Given the professional qualification of the PRITECH Representative for Mali, this country is uniquely situated to conduct such studies.

Early efforts by CARE and other PVOs to bring about changes in worker behavior are essential but must be assessed for cost-effectiveness if they are to be meaningfully integrated into the health system.

4. CDD beyond Government Facilities

While the evaluation team understands the necessity of helping the existing primary health care system develop a capacity to control diarrheal diseases, it is acutely conscious of the fact that if successful, the current facilities will only reach about 80 percent of the population. Pilot activities should be started now to expand the outreach to the population which does not have access to the health care facilities.

E. New Area for Concern

In debriefing with the USAID, the Director highlighted the difficulty convincing health workers and mothers of the efficacy of ORS packets to cure dehydration, and not diarrhea. Therefore, in treating cases of mild diarrhea the preventive effects of using ORT (SSS or ORS) is not evident. What needs to be used in conjunction with ORT is an effective, affordable drug to cure watery diarrhea. The evaluation team understands the dilemma, but unfortunately, there are no cures for watery diarrhea currently affordable which meet these requirements.

APPENDIX F(6)

SITE VISIT: NIGER

A. Progress under PRITECH I (completed 1988)

PRITECH I collaborated with the Nigerien CDD Program from 1985 through the end of the project period 1988, in implementing a program for improving ORT case management, public education, and distribution and sale of locally produced ORS packets. Review of the National CDD program in 1988 revealed progress with some problems, in the following areas:

- 1. Program management: Considerable support at a central level, but over-burdening at a departmental level, and inadequate supervision;**
- 2. Training: Considerable CDD training of health care providers and teachers, but lack of hands-on training or routine follow-up of trainees;**
- 3. Logistics: Although approximately 1.5 million packets were produced locally from 1986-1987, because of poor logistical management packets were not readily available;**
- 4. Communication and education: Although ORT awareness greatly increased, few mothers knew how to correctly prepare SSS. Strategies for using the Village Health Workers, covering approximately 40 percent of the rural population, had not been successfully implemented.**

B. Priorities for PRITECH II at Mid-Point

At its inception, PRITECH II identified the following priority programs for Niger:

- 1. Improve management and planning**
 - a. improve logistical organization**
 - b. develop new supervisory protocols**
 - c. provide training in supervision techniques**
- 2. Improve case management**
 - a. train all public health workers in CDD**
 - b. evaluate training through supervision and periodic facility surveys**
 - c. evaluate training at the national public health and medical schools**
 - d. establish effectively functioning ORT corners**

3. Improve diarrhea treatment in the home

- a. ensure greater and more correct use of ORT in the home
- b. increase awareness and practice of ORT at the community level
- c. reinforce and increase program nutrition and prevention messages

4. Increasing access to ORS

- a. reduce price of ORS
- b. introduce social marketing strategies
- c. increase packet distribution
- d. declassify ORS as a drug

C. Progress to date of PRITECH II in Niger

Using this outline as a framework for discussion, discussion can be made of progress against these goals, and progress against future goals in Niger.

Progress as measured against established priorities;

1. Improve management and planning

a. Improve logistical organization:

Met with department coordinators to discuss the remaining stock-out problem. (Of the 2 PMI outside of Niamey, 1 had not had packets for over a year -- although it was only 35 kilometers from Dosso, where the other PMI had several hundred packets. The 2 PMI visited in Niamey had ORS, but complained of frequent stock-outs. One matron commented that the stock-out of ORS was particularly problematic because mothers already expected "medicine" when they came; not to be able to give them anything was most unacceptable.)

b. Develop new supervisory protocols:

(1) New supervisory forms for use by the National CDD program at all health centers have been developed and are utilized during supervisory visits. The supervisory unit supervises the activities of a sample of all levels of health facilities in each Department once a year. The completed forms are bound and filed.

(2) Each Department is supposed to use the new supervisory form as a template for their own integrated health supervisory form. Progress to date is variable, although information regarding health education has not been incorporated into the Departmental forms.

c. **Provide training in supervision techniques:**

- (1) All Departmental CDD program coordinators have been trained in supervision techniques;
- (2) Adjunct CDD Program coordinator will receive one month supervisory training in Senegal.

2. Improve case management

a. **Train all public health workers in CDD**

Based on the results of two studies (case management at the health facilities, and the utilization of education and information materials studies (*vide infra*), several problems were identified. The informational materials are in the process of being redesigned, ORT corners are being established in all PMI, and all health workers will receive training. Two "training of trainers" seminars were conducted focusing on participatory training. A third round of departmental level trainer seminars were supervised by staff from the National CDD Program and consultant training group. Twenty training seminars have been conducted and twenty more are scheduled for the following year. All health worker training should be completed next year.

New case management forms serve as mental reminders of appropriate and comprehensive management of the child with diarrhea. However, the forms are too complex. Clearly some version is necessary as health workers actually request them. Protocols for routine distribution and utilization as a management tool have not been established.

A series of seminars were conducted for Niamey MCH centers and the National Hospital to improve diarrhea case management:

b. **Evaluate training through supervision and periodic facility surveys**

Supervision of PMI's, stopped pending completion of health worker training

PRICOR evaluation of Village Health Workers has lead to the development of the Village Health Worker retraining and supervision protocol, to be conducted again in collaboration with PRICOR;

Two studies, one of health worker use of educational materials. The other of case management at health facilities. Led to the development of training seminars for all health workers.

Evaluation of training at the national public health and medical schools. CDD materials have been introduced in the examinations at the medical and nursing schools. Evaluation of the use of PRITECH modules into the ENSP (school for nurses, midwives and social workers) will be in two stages. In the first stage, actual method of teaching

(workbooks, practical exercises) will be assessed. Only following satisfactory utilization, will an impact evaluation be conducted.

c. Establish effective ORT corners:

ORT corners have been established in all 11 PMI in Niamey, and the Niamey National Hospital has received fewer referrals of children with mild or moderate dehydration. These are handled at ORT corners. Elsewhere, the status of the ORT corners appears variable. More frequent supervision visits are necessary. The DTU's at the Niamey and Zinder National Hospitals were to be established with World Bank Funding, but funding has not been forthcoming.

3. Improve diarrhea treatment in the home

a. Ensure greater and more correct use of ORT in the home:

A few special studies (the Africare Study and a study by CARE for example) have assessed home use and have altered training based on these findings. In general, more attention is needed to home management of diarrhea (vide infra).

b. Increased awareness and practice of ORT at the community level:

New CDD TV spots made, but due to price disagreements with the national TV, they have not been aired. Although the scripts were written two years ago, new radio spots have not been aired for the same reason.

c. Reinforce and increase program nutrition and prevention messages:

Integrated efforts with the Division of Nutrition have not been effective. To date, the efforts of the Nutrition Division have been rehabilitative rather than preventive. The recent arrival of a full time, long-term USAID nutritional consultant in the Ministry offers hope for a reversal of this situation.

Although weaning diets were developed many years ago, in spite of multiple efforts to introduce these diets, studies and experience prove that mothers do not use them. Part of the reason may be the time it takes to prepare the foods. In an attempt to find more acceptable weaning diets, one study plans to identify more acceptable weaning foods and practices. CARE is conducting special studies regarding selection of weaning diets in a few villages.

4. Increasing access to ORS

There is a need to act on the implementation of Camille Saade's marketing report (September 1990) with the MOH which calls for:

- a. increased sales of ORS packets from the private sector (22 pharmacies populaires, 7 private pharmacies and 108 "depots" shops) by an ONPPC promotional campaign to enhance manager awareness. Also, a gift to the sellers of one free carton. ONPPC sales price set by the MOH is to increase from 25cfa to 35cfa, and the retail price to 53cfa. Moving to a price which represents actual costs of packet production and distribution over the next few years is an important part in achieving sustainability in the CDD program.
- b. increase the availability of ORS packets without affecting stock in public health facilities. Resolve production problems and improve distribution. The evaluation team feels that one step would be to develop estimates of demand based on past utilization rates and budget projections to allow ONPPC to produce packets in advance of semi-annual orders from the CMs (Health Centers), and to be ready to fill orders without the substantial delays now encountered.
- c. improve the taste of the packets by testing the addition of orange and pineapple flavoring.

D. Operational Concerns for the Future

1. Location of the CDD program in the MOH. As the program under PRITECH II expands, and the interrelationships with nutrition, breastfeeding, weaning, treatment of dysentery and prolonged diarrhea becomes more operational, one might wish to consider moving the Control of Diarrheal Disease Program from DES (Department of Health Facilities) to DSMI (Department of Maternal/Child Health Care).
2. The MOH has established an impressive National Diarrheal Control Committee to advise and assist the MOH with its Control of Diarrheal Diseases program. In spite of its potential the Committee has met only a few times rather than the planned monthly meetings. So far, the group has not been challenged to help with major CDD policy issues. The PRITECH project should work closely with the MOH CDD Coordinator who provides the secretariat for the Committee and the Committee Chairman (Director of the DES) to develop meaningful agendas, to provide advance warning of meetings, and to follow-up on decisions taken by the Committee.
3. The local currency support provided to the Ministry of Health under the USAID Health Sector grant, the World Bank/IDA project loan, and the support of UNICEF

for government's diarrheal control program is vital to the implementation of the program. Over the last several years local currency support has been worked out jointly with these donors and the MOH. However, although the MOH cooperation with UNICEF and USAID is working satisfactorily difficulties in the release of local currency generated under the WB/IDA health sector project has slowed progress.

The Bank representative is optimistic that the bank's structural problem will soon be resolved. Because of the importance of these local currency arrangements to training and supervisory activities, an expeditious resolution of this problem is encouraged.

4. These complications highlight the necessity for continued and closer donor/USAID/MOH cooperation both at the country level and in the United States. For example, in addition to coordination in Niger, Washington should monitor the progress of the new World Bank project now being developed to support the health sector (including CDD) in 1992/1993.

E. Need for additional Priorities based on Global Policy change

A rational and far-reaching plan of action has been established for diarrheal disease control in Niger. In spite of some impediments, some of the goals have been met. However, consistent with the changes to move PRITECH and the CDD programs from a "catalytic" to an "analytic" focus, several new priorities have emerged.

1. PRITECH and the National CDD program in Niger have identified the absence of a clearly stated policy regarding food and fluid management at the home, by the village health workers and at the rural dispensaries as a significant impediment to the development of consistent and clear messages. Moreover, without such a policy, it is difficult to quantify the actual need for ORS packets. This information would help the MOH in its dialogue with the ONPPC concerning adequate production and distribution of ORS packets.
2. The ability to generate a reasonable estimate is further jeopardized by the absence of meaningful epidemiological data for diarrhea rates. Although the new HIS system developed in concert with Tulane University) will aid in this regard, this system is not expected to function before two years, will not include tabulation of chronic diarrhea and will be facility, not community-based. Long term strategies for periodic assessment of the country diarrheal profile, as well as other diseases, is required.

In the short-term, such data will be forthcoming from the DHS scheduled for 1992, ad hoc, expensive studies are not a suitable long-range alternative. Rather, sentinel

or cluster systems for acquiring routine data for policy formulation should be developed using rapid epidemiological surveillance techniques.

3. Resources in Niger are very limited and must be sensitive to the country's needs. Without an epidemiology database, decisions regarding prioritization and formulation of CDD activities directed at dysentery vs. acute watery diarrhea vs. chronic diarrhea will not be possible. The team's visit to one health center and 4 PMI's suggests that dysentery is very common. Little is known regarding its pathogenesis here and treatment cannot be rationally made. Evidence suggests that chronic diarrhea is also very important for implementation of control programs. The issue is of the relative importance of specific types of diarrhea, as the overall importance of diarrhea over other health priorities must be periodically reassessed.
4. More intensive effort is needed to facilitate a sustainable change in behavior. In spite of two decades of work, the Peace Corps has been unable to institutionalize changes in weaning behavior. Reevaluation of the approach is necessary as both diarrhea and malnutrition in the toddler age group are rampant in Niger, suggesting a serious need for improved weaning practices. Where behaviors have been changed, strategies for ensuring sustainability are necessary.

Efforts by NGOs, such as CARE (with assistance from PRICOR and PRITECH) to bring about changes in worker behavior are essential, but must be carefully assessed for cost-effective integration into the health system.
5. We suggest, and Niger PRITECH agrees, that Niger would be an excellent case study for identification of a country-specific fluid and feeding policy. Such a policy should take into account existing health services and recommend appropriate utilization of these facilities and services. This strategy should incorporate (not duplicate) the extensive on-going activities in Niger, such as issues in sustained behavioral change. Integral to the development of this policy would be a simple, rapid epidemiological surveillance system. The occurrence of the DHS provides a unique opportunity to assess a sample system.

APPENDIX (F7)

SITE VISIT: SENEGAL

1. Progress under Pritech I

The national CDD program in Senegal, located in the Division of Nutrition (SANAS) was begun in 1985. Although a national diarrheal disease control program had been developed and approved by the MOH, because of difficulties in program implementation, PRITECH's role was limited to technical assistance on an ad-hoc basis. In spite of these managerial issues, considerable progress was made in the national CDD program from 1985 to 1987. As result, at the closure of PRITECH I progress and problems to date were as follows:

A. Managerial

Although recognized as a program and housed within the division of nutrition, the national CDD program was without a formal national CDD coordinator. When the part-time National CDD coordinator went to the U.S. in 1988 for higher studies, many substantial on-going activities ceased at the central level.

B. Training

A total of 2,215 health staff had received CDD training. Approximately 1,500 development workers received sensitization training. This recognition of the importance of involvement of other sectors in CDD is a consistent policy in Senegal. Training had occurred in all regions and departments in the country. However, little follow-up in the form of refresher training and supervision was carried out after early 1988.

Moreover, this training had not included hospital workers. A survey in 1988 of case management undertaken by SANAS with PRITECH assistance revealed multiple problems in diagnosis and treatment. Although 93 percent of health personnel had been trained in ORT, only 62 percent treated cases in accordance with these principles. Less than half of all observed cases were appropriately treated.

No mechanism for supervision had been put in place and only 26 percent of health workers had received a supervision visit since training.

C. IEC

Following the initial development and airing of radio and TV messages, and printed materials (using 7 local languages) regarding Sugar/Salt/Solution (SSS), diffusion of responsibility for this effort led to cessation of most IEC activity. PRITECH, working mainly with the Health Education Section (EPS) continued to develop

nutritional flip charts based on focus group discussions held in the regions, but these were never printed before the project activity closing date of the USAID bilateral project.

D. Logistics

Following active discussion regarding the Ministry's "no-importation" policy, and without the ability to obtain donor assistance to establish local ORS manufacturing in the public sector, the supply of ORS was limited to UNICEF-supplied packets. (PRITECH had recommended local manufacture of ORS by the private sector, but the Ministry was not prepared to accept this recommendation.)

Already inadequate to meet the country's needs, the effectiveness of this limited supply was further diluted by a policy of equal division of packets among departments regardless of the number of diarrheal cases.

E. Nutrition

One year of technical assistance was provided to SANA in 1987-88 to develop the components for a growth monitoring demonstration project.

2. Progress Under PRITECH II

To date, relatively little has occurred in diarrheal disease control under PRITECH II. Until the last six months, there was no full-time head of SANAS nor Director of Public Health Services (DHPS) in place whose management style promoted development of CDD activities. Nevertheless certain activities in the PRITECH I priority areas did occur and with the arrival of a new Director of the DHPS and the new Director of SANAS, discussion and interest in the program has re-emerged.

As in Mali and Niger, issues in decentralization and the relationship of national CDD efforts with field level efforts are an over-riding issue in the development of CDD policy and programs. It is encouraging that the CDD program remains housed within the Division of Nutrition. This has led to the perception of integrated diarrhea-nutrition messages and program development. The expanded mandate of PRITECH II, to include weaning practices and to examine issues in chronic diarrhea, may be easier in Senegal than in other countries, in spite of greater managerial difficulties.

Accomplishments to date include:

A. Managerial

As the appointment of a new head of SANAS is so recent, overall critique of national management is not possible. Of great significance are the revised national

CDD and nutrition plans under preparation. For the first time in several years, donors have met to plan support of the program.

In addition, the concept of a relationship of the central SANAS division (including CDD) with other departments has been formed. Policy will be made at the central level and implemented at a departmental (regional) level. To formulate programs which are technically correct and in keeping both with central policy and departmental needs, each department will have a Bureau of Regional Alimentation and Nutrition (BRAN). The person in charge of these activities would have received technical training (as well as supervisory, management and communications training) from SANAS and will work in concert with 3 other departmental bureaus (EPI, Health Education and PHC) to develop appropriate field activities. In some regions this mechanism is already in place.

The Director of Public Health (DSP), Commandant Lamine Cisse Sarr, and Dr. Makhtar Mbaye, Head of SANAS (MOH's Applied Food and Nutrition Service), expressed interest in receiving technical support from PRITECH in diarrhea and nutrition. PRITECH already has plans for the managerial aspects of the program, including further articulation of home fluids and weaning policies. The meeting with the head of SANAS Nutrition and CDD, was equally favorable.

B. Training

Visits have been made to the Nursing and Midwives schools to examine and advise on use of the modules and workbooks. Additional interest in the modules has been expressed by the Social Work School; the Catholic Nursing School and the school for Sanitation Training. Evaluation and feedback of their use in these institutions and feedback is forthcoming.

In some regions, ORU's were established and children with diarrhea kept under supervision; however, there was no method to monitor case management at these units. Results of the occasional supervisory visits were discouraging. With a regional stock of 19,000 ORS packets, stock-outs were found in virtually all hospitals and centers visited in the Kaoleck Region in 1989.

In the summer of 1990, fact-finding visits by PRITECH, SANAS and the Division of Health Education were conducted in 5 regions as a preliminary step in the development of the 1990-1995 Nutrition and CDD program. The findings of the earlier study on case management were essentially repeated here: frequent stock outs, poor utilization of educational materials, inappropriate treatment of a large percentage of diarrheal cases, and no followup or supervision.

PRITECH's plans for training include: The revision of technical materials based on the KAP and case management visits. The ongoing study on the use of IEC materials; such as the "Training of Trainers" decentralized "refresher" training. Continued follow-up of schools using the modules; and follow-up of teaching in the medical school.

C. IEC

After substantial delays a KAP study was completed in July of 1989. Given the lack of sustained CDD IEC, the results were surprisingly encouraging, with a use rate of ORT of 34 percent (13 percent SSS and 21 percent ORS). This was favorable compared to the WHS survey conducted in 1986 which found an ORT use rate of 7 percent. However, fully 75 percent of salt measures collected were higher than 3.5 grams. Further, in Senegal the SSS messages did not stress usage of large amounts of both SSS and water.

To date, little has been done with these results. However, the new CDD and PRITECH plans will be based on these findings. PRITECH is encouraging a different measure for the salt, although the specific strategy for addressing the problem is not resolved and will require further research. The concept of home fluids including SSS as first line home therapy remains important.

Qualitative studies regarding weaning feeding practices (particularly during an episode of diarrhea) are planned to expand diarrhea and nutrition education messages.

Following completion of these studies PRITECH plans to assist both SANAS and the Division of Health Education in their development of appropriate educational messages.

D. Logistics

Stock-outs remain a major problem. Although the issue of local production will be reappraised (PRITECH plans to assist in this initiative) in the interim a solution to the stock outs is actively sought. One option favorably considered is the distribution of UNICEF ORS packets with the essential drugs program distribution. This approach is problematic because ORS is not currently an essential drug, so special exceptions would have to be made.

There is considerable interest in Senegal in cost-recovery and the private sector. Currently all sachets are distributed free through the government system. However, consideration is being given to private sector sales. Both PRITECH and USAID have expressed willingness to aid in the development of social marketing for such an initiative.

3. New Problems to be Considered

In spite of considerable national ambivalence to the CDD effort, progress has been made. In view of the renewed commitment to control diarrheal diseases, the housing of the CDD program within the nutrition division offers a unique opportunity for the development of a national program which simultaneously addresses fluid and nutritional issues presented by diarrheal diseases. Extensive technical and managerial support are needed, as well as attention to policy development.

Certain challenges await PRITECH and the National CDD program:

A. CDD/Nutrition Integration

The integration of nutrition and diarrheal disease activities presents an opportunity to emphasize that weaning nutrition prevents malnutrition and diarrhea. Senegal is well-positioned to be among the first countries to develop feeding and diarrhea policies based on new knowledge that most foods are acceptable during diarrhea, and separate diarrheal feedings are unnecessary.

The issue is to promote good weaning practices which should be sustained during diarrhea. Additional nutritional and attitudinal research will be necessary to select and promote appropriate diets. PRITECH should consider whether the current nutrition studies have taken this issue as far as it might be explored in this unusually well-suited country.

B. Dysentery and Chronic Diarrhea

In Senegal little explicit attention has been paid to the relative role of dysentery and chronic diarrhea relative to watery diarrhea. In Senegal, resources are very limited. As such utilization must be sensitive to the country's needs, and not based on global assessments alone.

Without an epidemiological database, rational decisions regarding prioritization and formulation of CDD activities will not be possible. Expensive assessments are neither necessary nor desirable. Rather rapid epidemiological assessment techniques (REAs) which have been developed should be selectively applied to serve as programmatic tools. If requested, assistance could be provided under the PRITECH project.

C. MIS/HIS

Management Information Systems are needed. This priority has been recognized by PRITECH and there is renewed interest in diarrheal disease control on the part of the government.

D. IEC -- Targeting of Audiences

Given that the CDD program is not starting anew, careful attention should be paid to targeting audiences. More selective and directed use of channel. Group and individual approaches based on percent of local acceptance. Characteristics of acceptors vs. non-acceptors. Senegal offers an excellent opportunity for the utilization of such an approach given the close association with health education, diarrhea and nutrition programs, and an anthropologically-oriented health educator within the PRITECH team. It is probable that additional outside technical support might be required.

E. Home Fluids and SSS

The "problem" posed by high salt offers compelling reason to develop a strategy for use of other home fluids for mild cases of diarrhea (as well as trying to lower the salt content of SSS). The development of a strategy for use of only fluids could be an important model for other countries. It could also identify which cases require fluid only, which require some ORS/SSS, and which require attendance by health personnel. This latter point has long been discussed, but has received sparse programmatic attention.

F. Beyond Health Facilities

As in the other Sahel countries, exploration of CDD activities beyond the health facilities (which only reach a roughly estimated 25-40 percent (check %) of the population in Senegal), is an important next step. While PRITECH has begun some efforts through IEC, obviously more expanded approaches will be necessary.

4. Other Important Activities

USAID Senegal has decided to concentrate on three regions and will continue to utilize PRITECH to develop Regional CDD programs. The USAID has also asked PRITECH (under its buy-in) to assist with strengthening Primary Health Care systems, such as drug supply issues and MIS. One significant PRITECH activity was to provide technical assistance to the Bamako Initiative implementation in Senegal. This was a collaborative study led by PRITECH, WHO and UNICEF.

APPENDIX F(8)a
WHO

Summary of meeting with James Tulloch, Director CDD-WHO/Geneva

Treatment of acute watery diarrhea:

1. Home fluids:

In Spring 1990, the UNICEF-WHO policy paper presented at the Johns Hopkins University articulated WHO's position on home therapy of diarrhea and acute respiratory infections. WHO is moving away from the promotion of ORS or SSS for home therapy in favor of using appropriate home fluids. (The move away from SSS is due to problems encountered in its preparation and its inutility in the majority of diarrheal cases. The move away from ORS in the home reflects concern that it is not a good expenditure of resources, and is unaffordable for most households in developing countries. The major emphasis on home therapy is the importance of increasing fluid intake and continuing food intake. WHO continues to feel that at the facility level all persons should be treated with ORS.

2. Rice based ORS:

Rice-based ORS offers advantages and disadvantages over glucose-based ORS. As such, WHO does not promote rice- over glucose-based ORS.

In adults and older children, who are heavily purging (such as cholera victims), rice- based ORS diminishes the volume and duration of stool production. However, for most episodes of diarrhea in younger children and infants there is no appreciable effect. In fact, in very young infants (less than 6 months), rice-based ORS may have an adverse effect compared to glucose-based ORS.

The disadvantages of rice-based ORS are twofold. First, its promotion devalues glucose-based ORS. Second, there is grave concern that it will be promoted as a food substitute. One manufacturer is already promoting it with pictures of a healthy child drinking rice-based ORS from a bottle. As it is not nutritionally adequate to substitute as a food this could become a very serious problem.

Treatment of dysentery diarrhea and chronic diarrhea:

WHO is developing a treatment approach to the child with dysentery. This task has proven to be quite difficult, and WHO discourages duplication of its efforts by individual countries. However, WHO does encourage application of the simple guidelines in the new treatment charts that prescribe that all children with bloody stools be given fluids and food, and taken to a health professional. The child should be treated with appropriate chemotherapy, depending on the profile of pathogens causing dysentery in the locale.

WHO recognizes the limitations of this approach and wants to wait until better treatment methods before launching major new initiatives in dysentery. WHO encourages countries and PRITECH to identify problems with the current approach.

Chronic Diarrhea Algorithms: Much attention is being focused on the development of prevention and treatment of chronic diarrhea. Until the production of these algorithms, the main emphasis in country programs should be to recognize that diarrhea is different from acute watery diarrhea and that the need for continued nutritional support is even greater. Diets and possible chemotherapy will be forthcoming, but are not yet ready.

WHO would support applied research initiatives designed in conjunction with a global effort, but does not feel that the efforts outlined in the current PRITECH research initiatives would contribute to this effort.

Marketing and role of the private sector:

WHO expresses grave concerns about the marketing initiatives for ORS, particularly those being promoted by PRITECH. The concern is that private sector involvement should increase the availability of ORS without diminishing the attractiveness of the other fluid alternatives. The consumer should never receive direct or indirect messages that ORS is better than home fluid or feeding for most episodes of diarrhea. Indeed, marketing strategies do not reflect articulated country strategies. Many public health professionals are uncomfortable with marketing, so such efforts often operate autonomously. Dr. Tulloch is concerned that if the social marketing strategies are successful, the broad CDD program "will be doomed."

Integration of CDD activities with other PHC initiatives:

WHO feels that while active efforts to integrate are premature, the CDD program has been an "integrating" program in several regards. First, in many countries the successful establishment of CDD programs initiated the creation of a referral health care system, involving existing health facilities. Second, the increased nutritional component in the CDD program and the recent integration of the Acute Respiratory Infection program with CDD central activities are two very active steps towards integration. (Dr. Tulloch specifically stated that new ARI activities at a national level should be accompanied by new staff. Current CDD program managers are overloaded with diarrheal disease control activities and cannot assume responsibility for ARI.)

Dr. Tulloch's vision for the future is of an integrated approach to the sick child, focusing on malaria, diarrhea, ARI and malnutrition.

Priority research activities that could/should be undertaken by PRITECH:

There are three potential areas in which PRITECH could play a major research role. First, consistent with their current mandate, applied research of existing policies. Dr. Tulloch showed concern that the current research initiatives are not of particular importance. Specifically, he would actively promote research into home fluid and feeding treatments. He feels that such efforts would

best serve global and country needs if reviewed by a joint PRITECH/(USAID)/WHO research committee. Similarly, he felt that pursuing national policy merits attention.

The second area of behavioral intervention research falls within the mandate of PRITECH because it is essential for implementation and has not been actively undertaken by either group. This research initiative would require a serious intellectual commitment. Dr. Tulloch strongly endorsed it but felt that if it were undertaken a joint USAID/WHO coordinating body should definitely be involved.

The final area of impact evaluation is one that Dr. Tulloch felt was a priority because of potential waning support of CDD activities. He expressed grave reservations about how such research could be performed, but felt that if impact evaluation were necessary to maintain donor interest then a joint PRITECH-WHO initiative would have to be created.

Two consistent themes were the importance of wise allocation of funds and the need for close USAID (S&T/PRITECH/ADDR)-WHO collaboration in research endeavors.

WHO and PRITECH:

WHO welcomes the cooperative spirit between PRITECH and WHO and feels that PRITECH's accomplishments are recognized in many countries. He pointed to Indonesia and the Sahelian countries as two examples and noted that the remarkable feature about these two areas was the broad-based framework established by PRITECH. While he recognizes that country activities may have to be somewhat opportunistic initially, an eclectic approach is counterproductive in the long-run to country development. He also feels that some countries are not discriminating enough with respect to program efficacy.

WHO feels strongly that it should maintain technical leadership, but encourages expansion and implementation of technical developments. They felt that the development of the nursing modules for the Sahelian region based on their own manuals was a good example of a productive collaboration between WHO and PRITECH.

WHO does not feel that PRITECH should be considering expanding into ARI.

APPENDIX F (8)b

Visit To World Health Organization (WHO) Geneva Switzerland -- Meetings with Control of Diarrheal/Respiratory Diseases Division (CDR) Technical Staff -- November 12, 1990

1. **Background**

Dr. Bonnie Stanton and Vince Brown had met with Dr. Jim Tulloch, Director CDR, WHO (1211 Geneva 27) on Sunday, November 11 from 10 am to 4pm. The meeting went very well and is being reported separately by Bonnie Stanton. The following notes concern the meetings held by Vince Brown the following day with Jim Tulloch's staff. (Bonnie returned to the U. S. early Monday.)

2. **Dr. Elizabeth Sherwin, Acting Evaluation Officer** for the CDD program explained that the WHO evaluation of its CDD programs in member countries are based on 13 indicators (see attachment) covering three aspects of the CDD program:

Measured from Records
Measured in the Community
Measured at Health Facilities

WHO conducts comprehensive Program reviews of the CDD programs every three to five years. Future reviews are to be based on two preliminary surveys, survey of health facilities/methodologies and household use survey. Manuals have been prepared and are available for both kinds of surveys, and over 400 household use surveys have been executed using the manual.

This comprehensive program review goes from the national and regional levels to the community and household level. Once these reviews are concluded, an independent team of bilateral donors (e.g. UNICEF, UNDEP, WB etc. as appropriate) will spend three to five weeks in selected countries for in-depth evaluation. At the end of each calendar year each country is requested to send information concerning its CDD program activities.

WHO has commissioned work through the London School of Hygiene to help understand the concept of an "inexpensive birth measurement". However, results to date have not been adequate.

WHO hesitates to establish Sentinelle Surveillance systems since the systems historically collapse once donor support is withdrawn.

WHO has worked closely with USAID in carrying out and designing its demographic and health surveys and Phase II questionnaire. Dr. Robert Black from the Johns Hopkins School of Hygiene and Public Health has been the WHO representative on this exercise.

3. Dr. Nathaniel Pierce, Medical Education, and Vaccine Related Research Officer. Before assuming his present duties was in charge of the CDD research program. Nate Pierce said that they had worked effectively with PRITECH in the Philippines and Pakistan. In association with the Johns Hopkins School for Hygiene and Public Health, work on community-based fluids had gone well, culminating in a manual on home fluid strategy.

Dr. Pierce pointed out that the high priority given to the use of ORS packets and the emphasis on training health workers in the use of ORS. As more people use ORS packets (that is to say, an access rate of 60-65 percent of mothers), the option of using SSS and home based fluids is increased.

He underlined the need to integrate CDD messages to mothers whose children who suffer from improper feeding and to mothers whose children are fed properly. Ideally, only the sicker children who make up 14 to 15 percent of diarrheal cases need to be treated by ORS.

The medical education activities stressed teaching ORT by supervised hands-on treatment, and diarrhea training units and facilities. This approach may be fairly labor intensive, but the improper use of anti-diarrheals continues. With the ban on importation of anti-diarrheal drugs, ORS activities move slowly.

4. Dr. Mariam Claeson, Acting Services Coordinator

Mariam Claeson had just returned from the U.S. and a series of successful meetings with PRITECH. There was broad agreement for joint participation on national program reviews, review mechanisms, and the use of evaluation techniques, including a focus on training and case management. New initiatives were agreed upon such as breast feeding/fluids and improvement of evaluation components.

Although there was some disagreement, discussions about private sector initiatives were interesting. WHO's position is for private initiatives to do more than just promote ORS, but to discourage anti-diarrheals and focus on interventions that could be filled by private pharmacists. Private sector activities should complement the public sector. A.I.D. works directly with industry, concentrating on social marketing techniques. WHO feels that there is a high risk in pushing ORS into the private sector if it competes with current ORT/ORS practices in the developing countries. In some cases exaggerated claims for use of ORS as a food source are dangerous and counterproductive.

Given the limited budget of the countries, WHO and other donors WHO welcomes PRITECH and the opportunity to cooperate and maximize the use of WHO/PRITECH resources in a complementary fashion. For example, plans to shift from encouraging ORT exclusively, to stressing feeding in the home should be worked out carefully by both organizations.k

5. Dr. Jose Martinez, Research Coordinator. Dr. Isabelle de Zoysa who is responsible for the CDD research program was away so I spoke with one of their assistants Dr. Jose Martines.

He confirmed WHO CDD program's interest in emphasizing research in Persistent diarrhea, and Nutritional approaches to diarrhea. Copies of the WHO instructions concerning evaluation of research projects and their contents were furnished.

6. Mr. Hans Faust, ORS Production Coordinator Mr. Faust has worked closely with PRITECH's Camille Saad on a number of occasions, and agrees with much of his approach. He agrees that, unlike WHO, PRITECH is uniquely positioned to work effectively with the private sector. However, of late he feels that Camille has been too aggressive in his plans for diversification and marketing of ORS packets in the private sector.

(In an earlier meeting, Dr. Claeson displayed a \$4.00 bottle of "Rice ORS" which had no rice and was glucose based. The pre-mixed liquid was part of a sales pitch meant to convey a message that the solution had some direct nutritional benefits.)

While some of this heavy social marketing may work, consideration must be given to the buying power of the local population and the reliability of supply. Part of WHO's project mandate is to have a reasonably priced packet.

6. Dr. Robert (Bob) Hogan, Program Management Officer Bob Hogan said that he thought cooperation could be improved. In the past, some of PRITECH's work in developing manuals for CDD activities had only duplicated WHO Manuals in the same field. While cooperation at the field level (e.g. Suzanne Pryors-Jones had worked well, he felt that PRITECH's role should be restricted to field activities.)

I debriefed by giving Jim Tulloch a short summary of my various meetings. I said that WHO/PRITECH should continue to cooperate, in as many activities and CDD fields as possible.

APPENDIX G:
PRITECH SUMMARY REPORTS OF SELECTED COUNTRIES

BOLIVIA
CAMEROON
MEXICO
PHILIPPINES

ANNUAL REPORT: BOLIVIA

A. FINANCIAL SUMMARY

	<u>S & T/H</u>	<u>BUY-IN</u>	<u>TOTAL</u>
1. Approved Budget:	361,000	0	361,000
2. Obligated Funds:	0	0	0
3. Expenditures Project Year 3:	77,891	0	77,891
4. Cumulative Expenditures:	133,227	0	133,227
5. % Expended of Budget:	37%	0%	37%

B. PROJECT DESCRIPTION

Since 1988, PRITECH has been providing technical assistance to the consortium of A.I.D.-funded PVOs that work in health in Bolivia. This consortium, the Programa de Coordinacion en Supervivencia Infantil (PROCOSI), was formed in that year by USAID/La Paz as a mechanism to streamline USAID assistance and to coordinate the efforts of member groups. The PVOs that belong to PROCOSI are CARE, Project Concern, Save the Children, Andean Rural Health, Meals for Millions, Caritas, Freedom from Hunger, Catholic Relief Services, Foster Parents Plan, and Project Esperanza. Because of the constraints within the Ministry of Health in Bolivia, PVOs play an important role in the delivery of health services, not just supplementing MOH efforts but in many areas taking on the principal burden of health-care delivery.

PRITECH's technical assistance has been through the secondment of two full-time professionals to work at the PROCOSI Executive Secretariat. The first, a pediatrician, provides guidance to PVO members on all aspects of child survival, while putting emphasis on CDD. The second, a communicator/educator, works with PVO members on the development of educational materials, ensuring their technical quality through collaboration with the PRITECH pediatrician and ensuring that all materials are developed on the basis of community research and pretesting. A key role of the communicator is to standardize messages, so that mothers are not confused by variations in message content among member PVOs. Both PRITECH professionals provide technical review of requests for subgrants that come from members to the Secretariat.

PRITECH has also offered to PROCOSI up to three months' additional technical assistance per year, either to the Secretariat or to individual members.

C. CURRENT STATUS

PRITECH activities can best be grouped by topics:

1. Diarrhea Activities

- A training module about diarrhea for field promoters. Validated with the CARE health promoters.
- Workshop on the production of educational materials dealing with diarrhea. Carried out in the Santa Cruz region, with participation by staff from three Health Districts, six diocesan Caritas offices, Project Esperanza, and the Andean Rural Health. Two games and a 13-page flipchart were produced. Follow-up activities to this workshop.
- Field visits to eight PVOs to observe their diarrhea programs.
- Publication of annotated bibliographies of the consortium's library holdings, dealing with diarrhea, breastfeeding, immunizations. A second volume on diarrhea is in press.
- Distribution of bibliography and documents sent from PRITECH's Information Center to the PVOs and other interested parties.
- Support for courses in integrated child health given at the La Paz Children's Hospital.

2. ARI Activities

Through Foster Parents Plan, which has a sub-grant from PROCOSI for ARI, PRITECH has been working with the ARI program director of the MCH Division to redesign the program. ARI strategy has shifted: it used to be based on the classification of ARI into three categories of severity, the last two of which called for treatment with antibiotics, to avoid pneumonia and death from pneumonia. But, in this classification, the signs and symptoms of pneumonia were not dealt with. International agreement now has changed the language to: ambulatory pneumonia, pneumonia that needs hospitalization, and no pneumonia (including otitis, pharyngitis, and amigdalitis that lead neither to pneumonia nor to death). This is a notable change that calls for the overhaul of technical manuals, popular educational material, etc. This overhaul stage is now complete and we will be testing these materials around Tambillo in the altiplano so as to be able to distribute them later nationwide.

3. Growth-Monitoring Activities

Most of the PVOs have ongoing growth-monitoring programs. Because of this, PRITECH has been able to point out problems with the Road-to-Health cards in use in this country. The main problem is that the card lumps together both those children who have adequate weight gain and those who do not; the latter group runs the risk of ongoing inadequate growth, and of slowly leaving its initial course to fall below the percentiles for malnutrition. If this situation with the cards is not corrected, the mothers of this group of children will continue to receive the same messages given to mothers whose children are gaining adequately.

This is an urgent task, to change the interpretation of the Road-to-Health cards. Accordingly, PRITECH has organized a roundtable with the MCH Division of the MCH, UNICEF, PAHO, and the Bolivian Pediatric Society, and will seek to define actions that can assist in detecting early signs of growth faltering. We are also supporting CARE in a research effort to document the benefits of an improved card in maintaining adequate growth.

4. Support for Breastfeeding

A survey among the PVOs was carried out to find out their perspectives on breastfeeding and its practice in their areas. While the number of mothers breastfeeding and the duration of breastfeeding are adequate, this survey turned up three critical inadequacies: late initiation of breastfeeding on the day of birth, the lack of exclusive breastfeeding during the first four months, and the delayed introduction of solid foods.

With respect to exclusive breastfeeding, which is closely related with reducing diarrhea incidence, it must be said that among technical staff there is not an adequate understanding of the term or an appreciation of its significance. To counter this, PRITECH has distributed notes about breastfeeding strategies, based on the A.I.D./W breastfeeding strategy paper; PRITECH is also suggesting educational activities, both direct and through written and graphic materials.

5. Educational Radio as a Support to Child Survival Programs

Project Esperanza is developing an educational radio project with a sub-grant from PROCOSI. The plan is to cover thirty villages in the Chaco, a high diarrhea area of southern Bolivia. Project Esperanza plans to reproduce the Caritas radio materials, certainly in relation to diarrhea. Because this effort will cover a limited number of communities, we should be able to observe whatever gains are made.

6. Caritas is Reinforcing the Work in Areas I and II

After getting additional financial support, Caritas has asked for technical support to renew training activities for field coordinators and promoters, re-using the contents in the child-survival package, especially those messages that were hard to understand and put into practice by the mothers. This is an important continuation of the work done jointly by PRITECH and Caritas during the PRITECH I project.

D. OTHER ACCOMPLISHMENTS

- Dr. Aguilar participated in the NCIH conference, and gave a presentation about PROCOSI, as an innovative approach to program coordination and the channeling of technical services.
- Dr. Aguilar carried out a PVO evaluation in Guatemala at the request of USAID/Guatemala. She also met with INCAP for guidance on a persistent-diarrhea study to be done in La Paz during PY4.
- Susana Barrera and a representative from Caritas took part in a major health-education conference in Rio de Janeiro, and exhibited the material developed during PRITECH's collaboration with Caritas during PRITECH I. The continuity of the Caritas work means that the PRITECH I work in Bolivia has been sustained, and continues to grow without further PRITECH inputs -- only the technical assistance available through PROCOSI.

- Finally, in reference to the earlier PRITECH/Caritas work, a November 1989 external evaluation of that project concluded that substantial gains were made in mothers' knowledge and practice vis-à-vis diarrhea, growth monitoring, and acute respiratory infections.

E. CONSTRAINTS

- During PY3, the PROCOSI budget experienced significant shortfalls, limiting the range of activities possible.
- And at this end of this project year, PROCOSI was to undergo an evaluation by USAID; contingent upon this review is additional funding to carry the PROCOSI project forward.

F. OBJECTIVES FOR PY4

- Publication with Caritas of the educational material needed for Area III of the Proyecto Mejoramiento Infantil. [This is the project PRITECH assisted in areas I and II, during PRITECH's first phase in Bolivia.]
- Redesign of the user's guide for the CDD flipchart for Area III with Caritas.
- Also with Caritas, develop a follow-up plan for the five dioceses of areas I and II, to support and reinforce the field staff in their use of the educational material. This will be done with the Area II coordinator.
- Support a course for areas I and II to retrain field staff about diarrhea, with emphasis on areas of difficulty in comprehension and practice. Later follow up with a sample of Caritas mothers' clubs.
- Implementation of the educational material "Windows of Health", recently edited with PROCOSI and the Growth Monitoring Program of the MOH. This emphasizes messages about ORT and diarrhea prevention.
- Scheduling of training and retraining courses for nurses' aides and rural health promoters, dealing with child survival. Thirty percent will deal with diarrhea management and prevention. This will be done in collaboration with the Oruro Health District with support from Project Concern and PROCOSI.
- A venture into formal education, in the schools of Inquisivi Province, to validate a health curriculum that covers diarrhea management and prevention. This is the Child-To-Child Project of Save the Children.
- A retraining course for nurses' aides on feeding during and after diarrhea, in Villamontes-Yacuita, with Project Esperanza.

- Inclusion of the CDD program in the radio dramas and other broadcasts in support of child survival. This is the Educational Radio Project of Project Esperanza.
- On-site training about diarrhea management, and feedback on our findings during last year's observation visits to all the PVOs.
- A roundtable to publicize the conclusions of a recent diarrhea KAP study done by an anthropologist for CARE in Oruro and Potosi.
- A seminar to review the technical aspects of child survival. With all the PVOs; 30% on diarrhea.
- Carrying out various activities with the member PVOs, dealing with breastfeeding and emphasizing its diarrhea-prevention aspects.
- Active participation in COTALMA, the core breastfeeding group sent for training by USAID to Wellstart in San Diego.
- Participation in the integrated child-survival courses for MOH and PVO staff given at the Children's Hospital.
- Distribution of the bibliographic material sent by PRITECH's Information Center.
- Research at the Children's Hospital on unusual complications of diarrhea, especially persistent diarrhea.
- Participation in a research meeting on persistent diarrhea, organized by ADDR in Mombasa, Kenya.

ANNUAL REPORT: CAMEROON

A. FINANCIAL SUMMARY

	<u>S & T/H</u>	<u>BUY-IN</u>	<u>TOTAL</u>
1. Approved Budget:	0	1,147,000	1,147,000
2. Obligated Funds:	0	617,000	617,000
3. Expenditures Project Year 3:	0	242,318	242,318
4. Cumulative Expenditures:	0	406,638	406,638
5. % Expended of Budget:	0%	35%	35%

B. PROGRAM DESCRIPTION

The Cameroon National CDD Program was launched in early 1987 with the successful national conference on ORT -- CAMCORT. The official strategy of the Program, written in 1988 and signed by the Minister in December 1988, describes policies and sets goals through 1991.

Since the creation of the National CDD Program, the Ministry of Health has strongly supported the objectives and efforts of the Program, including the Minister's decision to ban anti-diarrhoeal drugs in Ministry health centers. In December 1989, the Ministry named two professional staff members to work with the CDD Program on a full-time basis, providing the needed manpower to carry the Program into its next phase of activities.

The USAID-funded PRITECH Project has also provided strong support, including a full-time Technical Advisor, to the Program and in August 1990, a formal agreement was signed between the Government of Cameroon and PRITECH/USAID for the provisions of PRITECH assistance to the national program through the life of the PRITECH II Project.

C. CURRENT STATUS

PY3 has been a highly satisfying year in terms of the progress of PRITECH-supported activities in the Cameroon National CDD Program. CDD became a line item in the MOH budget and the MOH purchased 1,000,000 ORS packets from UNICEF using these funds. ORS was successfully distributed to the provincial level and often to the district level and an ORS monitoring system was put in place. Cost recovery for ORS (and other essential drugs) is being discussed and has been accepted as desirable by the Cameroon Government (GRC). The use of anti-diarrheals has been banned nationwide. A national communications campaign was launched, several educational materials were developed, printed, and distributed and regional communications activities were successfully implemented in at least five out of 10 provinces. Training materials were developed and tested in both French and English for the training of health personnel in CDD-related activities. A formal agreement was signed between the MOH and PRITECH for the continuation of PRITECH assistance to CDD. The GRC assigned two new full-time staff members to the CDD program and a smooth transfer of responsibility between the departing PRITECH Country Representative and her replacement was accomplished.

126

The future looks less bright, however, due to the increasing "balkanization" of the health sector in Cameroon as different donors accept responsibility for the implementation of "integrated primary health care" programs in different regions of the country and donor support for the National CDD program diminishes. Especially worrisome is the heavy UNICEF emphasis on EPI and the concurrent relegation of CDD to a sub-component of "integrated activities" in a few subdistricts, leaving the national program with almost no operational funding.

Program Management:

Ten integrated centers in Yaounde were operationalized and evaluated. An eleventh center was initiated. Collaboration continued with SESA, Save the Children, and GTZ on integrating CDD into on-going PHC programs.

Discussions are in progress with EPI concerning a joint household level survey.

Training:

Training materials were developed and tested in both French and English. Training courses were held in four provinces. A total of 365 of a targeted 1,700 health workers are now trained. ORT-corner materials were distributed to many health centers nationwide.

PRITECH worked with SESA project on the development of comprehensive supervisory checklists and training materials for PHC. These are currently being tested in two provinces by SESA. The national CDD team has conducted supervisory visits to six provinces. Findings were mixed: in some, trained health workers have implemented ORT and trained their colleagues (Littoral, Bamenda); in others, this did not occur (Eastern Province). Supervision at integrated primary health care centers in Yaounde, supported by PRITECH, continues weekly.

IEC:

Radio messages were broadcast and a radio contest was held at national level. 28,000 CDD Program logo stickers were printed and distributed. 100,000 mothers' ORS-mixing flyers were printed and distributed with usage guides for health workers. A communications strategy was successfully carried out at the national level and in five provinces. A mother's home-management flyer was developed and pretested. 1,000 CDD shirts were printed and distributed. The strategy for 1990-91 campaign was completed.

ORS Supply and Distribution:

A total of 1,000,000 packets of ORS ordered and paid for by MOH have arrived and 464,000 have been distributed to regions. 60,000 of 600,000 packets imported and paid for by UNICEF have also arrived. The stock reporting format was revised and stock forms were distributed. Some provinces are returning information.

D. OTHER ACCOMPLISHMENTS

- DTUs are functioning well in at least four provinces. The national DTU has been selected as a WHO Regional Training Center.
- The Minister of Health has officially signed the national CDD policy and a letter has gone out to all health-center personnel about this.
- PRITECH has initiated collaboration with the nursing schools to design the nursing-school curriculum for pre- and in-service training.
- A new two-year operations plan and budget have been prepared for the National CDD Program, including PRITECH's input and hoped-for assistance from other donors.

E. CONSTRAINTS

The biggest issue is the paucity of operational funds for the national program. Without more substantial support from UNICEF, WHO, and/or other donors, program operations will be much curtailed and objectives will not be met. This is true especially in the areas of health-personnel training and educating mothers. Technically, outstanding problems include the uneven collaboration with the media, who wish to receive "motivational stimulus" before airing CDD messages; the need for more intensive post-training follow-up and supervision and the need to develop a systematic strategy to ensure sustainable ORS supplies in the future.

PRITECH is continuing its discussions with UNICEF concerning the need for ongoing operational support for the national program. The MOH is exploring possibilities for other donor support. A follow-up visit has now been built into the training budgets and greater attention will be paid to this issue over the coming year. A visit by PRITECH private-sector expert, Camille Saade, has been proposed to investigate ways of strengthening ORS supplies in that sector. The MOH is experimenting with a variety of cost-recovery schemes which include ORS. We are using patience and persuasion with the media people.

F. OBJECTIVES FOR PY4

These are the objectives for the PRITECH/Cameroon program for PY4:

- **TRAINING OF HEALTH PERSONNEL:** Provide clinical and organizational training in CDD for 150 health personnel, including physicians and nursing personnel. To facilitate this effort, complete production of Cameroon-specific training modules, including regional focus-group reports and improve regional DTUs. Support efforts to integrate CDD into nursing-school curriculum.
- **IEC:** Conduct CDD IEC effort at national and provincial levels, including an intensive educational campaign and ongoing education of mothers through health facilities. Complete production and distribution of mothers' leaflets. Revise evaluation and treatment posters for health-center personnel. Conduct refresher training in IEC

techniques for health workers.

- **CDD MATERIALS INCLUDING ORS:** Strengthen both private-sector and public-sector ORS distribution. Assist MOH in the development of an effective cost-recovery system.
- **OPERATIONS RESEARCH:** Conduct at least two operations-research studies, including a study of the impact of mothers' leaflets on mothers' behavior and a breastfeeding study.
- **EVALUATION:** Evaluate impact of training and IEC activities on health-worker and mother KAP.

ANNUAL REPORT: MEXICO

A. FINANCIAL SUMMARY

	<u>S & T/H</u>	<u>BUY-IN</u>	<u>TOTAL</u>
1. Approved Budget:	500,000	0	500,000
2. Obligated Funds:	0	0	0
3. Expenditures Project Year 3:	28,533	0	28,533
4. Cumulative Expenditures:	28,533	0	28,533
5. % Expended of Budget:	6%	0%	6%

B. PROJECT DESCRIPTION

PRITECH support to the Mexican CDD program is channeled through PAHO, via a subcontract with the Pan American Health and Education Foundation. The PRITECH representative there is technically a PAHO employee, based in the PAHO offices, and reporting first to the PAHO Country Representative.

The PRITECH II intervention in Mexico has three elements: (1) training and supervision of health staff; (2) seminars for pediatrics professors, with the intention of influencing medical-school teaching on diarrhea case-management; and (3) a communication strategy that seeks to reach the dispersed, rural, mostly indigenous population whose diarrhea mortality rates are the highest in the nation.

The training/supervision component builds on the work of PRITECH I. That work trained MOH health staff in the six states with the highest rates of diarrhea mortality among children. Now in PRITECH II, the training effort moves on to six other priority states. Supervision will continue, however, in the six original states as well as in the six new states, because we recognize that, without supervision, training is not enough to change the behavior of health practitioners.

The seminars for pediatrics professors represent an attempt to change the medical-school curriculum dealing with CDD. Because the universities in Mexico are autonomous, government cannot insist on any particular curriculum. Professors are free to teach what they wish. These seminars are intended as a form of friendly persuasion, to present the latest in diarrhea research and therapy and to make available to these professors the medical-education materials that have recently been produced by WHO and PRITECH and translated into Spanish by PAHO.

It is the specific request of the Minister of Health that led to PRITECH's rural focus in the communication component. Concerned about the 100,000 villages of fewer than 500 inhabitants, many of them indigenous people, the Minister asked PRITECH to develop a rural communication strategy to get at these high-risk people. We are currently working with CICLOPE, a private consulting group combining focuses on anthropology and health, to launch such a strategy.

120

C. CURRENT STATUS

The program has been underway since May 1990 when the PRITECH/PAHO representative took up his duties. During this period, there have been important changes in the Directorate of Preventive Medicine, the implementation agency for the national program -- a new director was appointed, the sub-director was dismissed and then brought back, and the new director proposed a different management structure for the CDD program staff. This last matter is still not defined.

Agreements have been drawn up for all the new states for the training of their staff by the CDD program. These agreements would be three-way, involving PAHO, Preventive Medicine, and the state. A visit to Michoacan was made to prepare for the program's introduction there. Both the hospital director and the dean of the school of medicine were ready to set up ORT units there.

A seminar for up to fifty pediatrics professors is scheduled now for mid-November in Oaxaca. These seminars will be offered regionally, to accommodate the many professors in Mexico's fifty-seven medical schools.

The CICLOPE proposal for a rural communication strategy to be implemented in Hidalgo and Veracruz has been submitted. In addition to providing training for 450 rural health auxiliaries and 50 supervisors, special educational events will be held at regional market days, to reach rural people through this mechanism. The market days draw people out of their hard-to-reach, scattered villages into a central location; therefore, using traditional Mexican games in some untraditional ways, CICLOPE hopes to teach these people about ORT right at the market itself.

D. OTHER ACCOMPLISHMENTS

Dr. Becerra, the PRITECH/PAHO Representative, has been attending many meetings and participating in clinical training, including:

- Courses in clinical management of diarrhea, held at the Children's Hospital in June, July, and August. He took part as both professor and student, offering new perspectives on ways to upgrade this key course which is at the heart of the national program.
- A course in Guadalajara, sponsored by Social Security, on diarrhea and ORT, where he served as a professor along with other key members of the national CDD program.
- Regular meetings of the Educational Communications Committee, which allows liaison with other directorates within the MOH, UNICEF, La Leche League, Social Security, the MOE, Cine Rural, and the Infant and Family Directorate (DIF).
- Travel to Tabasco and Chiapas with PRITECH and CICLOPE staff to focus the development of the rural communication strategy. Later CICLOPE staff traveled to Washington to draft this strategy.
- Two courses on CDD, in Veracruz, sponsored by Abbott Labs. Again, other professors were key members of the CDD team.

- At the end of August, a key meeting sponsored by PAHO/CDD was held for all state directors of CDD. All but three attended, to be trained in the PAHO Program Manager's course. A short planning meeting was held there with the PRITECH II state representatives in order to set guidelines for them in developing their training programs. Another important outcome of this meeting was the Declaration of Policy that the group set forth, and which had been approved by the Minister. This declaration follows WHO treatment guidelines for the health facility and the home, and calls for increased ORS sales and the banning of anti-diarrheals for children.

E. CONSTRAINTS

After considerable delays in reaching agreement on the PRITECH II program, mainly due to personnel changes, the program is on track and the key personnel are in place. There are no significant constraints at this time.

F. OBJECTIVES FOR PY4

PRITECH will assist the national program:

- To carry out the three objectives mentioned above, relating to (1) training and supervision; (2) pediatrics seminars; and, (3) rural communications. The last is an eight-month effort that should be complete in PY4. The other two should each be about half complete in PY4.
- To introduce more emphasis on breastfeeding through the national CDD program. First steps will be training at Wellstart for Dr. Becerra and the CDD coordinator.
- To be responsive to the CDD program in their requests for technical assistance.

ANNUAL REPORT: PHILIPPINES

A. FINANCIAL SUMMARY

	<u>S & T/H</u>	<u>BUY-IN</u>	<u>TOTAL</u>
1. Approved Budget:	100,000	491,206	591,206
2. Obligated Funds:	0	491,206	491,206
3. Expenditures Project Year 3:	7	161,404	161,411
4. Cumulative Expenditures:	15,511	309,636	325,147
5. % Expended of Budget:	16%	63%	55%

B. PROGRAM DESCRIPTION

PRITECH is providing a resident advisor and short-term technical consultants to assist the Department of Health in sustaining and expanding interventions in the following areas:

- timely procurement and distribution of ORS to all facilities within the DOH systems and to NGOs;
- the improvement of diarrhea case management in hospitals (including rooming-in and breastfeeding);
- the inclusion of CDD/ORT in the Philippine Pharmaceutical Association (PPhA) program of continuing professional education for community pharmacists and in the curriculum of the sixteen colleges of pharmacy in the Philippines;
- the extension of the Association of Philippine Medical Colleges Foundation (APMCF) project to include enhanced teaching of CDD/ORT in additional medical schools; and
- the strengthening of the function of the Maternal and Child Health Service's Child Survival Information Center.

Additionally, PRITECH is assisting the CDD program with other operational problems as they are identified and in the CDD Program's transition from USAID project-specific funding (Primary Health Care Financing Project) to general health-sector-support funding (Child Survival Project) of CDD activities.

C. CURRENT STATUS

As a result of very focused monitoring visits by central and regional CDD staff, diarrhea case management in regional hospitals identified as diarrhea training unit sites improved dramatically in PY3. Development of a training package for these regional DTUs is delayed but will hopefully

123

be completed early in 1991, at which time training for facilitators at the certified DTUs should take place. Rooming-in and breastfeeding in these hospitals also improved during the year after attendance of the hospital staff at a lactation-management course given at Jose Fabella Hospital in Manila (an offshoot of the lactation- management training conducted by Wellstart in San Diego).

With the implementation of a new ORS-ordering scheme and the procurement of an ample supply of ORS by the Department of Health central office, the ORS supply and distribution at the periphery appears to be improving.

The Philippine Pediatric Society (PPS), the Philippine Pharmaceutical Association (PPHA), and the Association of Philippine Medical Colleges (APMC) were actively involved in pre-service and in-service education of health professionals in proper diarrhea case management.

Some of the momentum gained in PY3 in the Philippines CDD program could be lost in PY4 as a number of DOH CDD contract employees and the PRITECH advisor will complete their assignments and the WHO CDD/ARI Advisor will devote a much greater share of his time to the ARI program.

Case Management:

The CDD Program formed three teams for monitoring diarrhea case management in regional hospitals in order to identify those which can be used as regional diarrhea training units (DTUs). Diarrhea case management in these hospitals improved dramatically as a result of the monitoring visits. At the end of the reporting period, five regional hospitals were certified as regional DTU sites. The assessment of the remaining regions will continue in PY4.

Training and Education:

The DOH approved an amendment to the Association of Philippine Medical Colleges (APMC) contract to fund the PPHA to conduct continuing professional education (CPE) sessions on CDD/ORT at all chapters of the Association over a 12-month period. Pharmacists must attend these CPE sessions in order to renew their licenses.

PRITECH and WHO consultants conducted a joint assessment of the six medical schools in the APMC project. The study recommended that the project be extended to the remaining 20 schools. The DOH provided funding from USAID to expand to 10 more schools. The APMC reported that it has completed all planned workshops for the Phase I and Phase II schools.

IEC:

The PPHA project prepared 50,000 copies of a pamphlet "Learning about Diarrhea" for use by pharmacists in talking with mothers. The project also produced 8,000 copies of the WHO/FIP brochure for pharmacists and 4,000 copies of the lecture notes for CPE sessions.

The Child Survival Information Center (CSIC), at the end of PY3, still did not have its own quarters, which has in some regards retarded the establishment of the CSIC as a first-rate information center.

ORS Distribution:

After long delays in Customs and further delays required to place the correct expiration dates on the Oresol packets mislabeled by the European manufacturer, the last of the 3.9 million UNICEF/USAID Oresol packets were sent to the regions in May. Drugmakers Laboratories, Inc. won the DOH tender for six million packets of Oresol at a cost of P2.29 per-packet. The first two scheduled deliveries of 1.5 million packets each were made on schedule. Field visits to nine regions revealed that the ORS ordering system is being implemented more slowly and with less quality control/monitoring than expected. The main reason for this seems to be that CDD coordinators at all levels are preoccupied with implementing a number of new initiatives mandated by the DOH central office.

At the end of September, 12 of 14 regions had submitted their ORS-supply-monitoring survey forms. The survey covers 1,500 DOH facilities.

D. OTHER ACCOMPLISHMENTS

The CDD Program Management Team (PMT) remained very active in PY3, meeting two-three times per month. The PMT made plans for a joint DOH/USAID/UNICEF/WHO comprehensive program desk review of the CDD program to be held in early December 1990.