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END-OF-GRANT EVALUATION

HARVARD INSTITUTE
FOR INTERNATIONAL DEVELOPMENT (HIID)
in conjunction with
TUFTS AND JOHNS HOPKINS UNIVERSITIES
APPLIED DIARRHEAL DISEASE RESEARCH
(ADDR)

End-of-Grant Evaluation

Project 936-5952
Cooperative Agreement # DPE-5952-A-00-5073-00
September 30, 1985 - September 29, 1990
C.A. Ceiling: \$9,998,630

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Second Evaluation
of the
Applied Diarrheal Disease Research Project (ADDR)
(936-5952)

I. Executive Summary

Launched in March 1985 under a Cooperative Agreement (CA) from the Agency for International Development (A.I.D.), the Applied Diarrheal Disease Research (ADDR) Project has been implemented by the Harvard Institute for International Development (HIID) in association with the Johns Hopkins University School of Hygiene and Public Health (JHU) and the Tufts University New England Medical Center. The purpose of this CA is to assist A.I.D. and host countries to establish or improve diarrheal disease research activities through (1) short-term technical support activities, (2) management of a research grant program, and (3) the development of institutional and individual resources in developing countries.

The ADDR Project responds to A.I.D. health policy and strategies. More specifically, the project addresses A.I.D.'s research policy in health care by developing "new technologies for child survival and ... improv[ing] the delivery and effectiveness of existing technologies" in diarrheal disease. The project has designed and developed an innovative methodology for research capacity building in diarrheal disease, based on research proposals prepared and submitted by local investigators from established institutions.

Unlike other approaches on diarrheal disease research, ADDR focuses on identifying and enhancing the research skills of the local investigator. ADDR encourages the submission of proposals designed to resolve questions posed by local researchers, and provides the technical assistance required to ensure that these proposals are revised, approved, and funded. The ADDR methodology, which establishes effective relations between ADDR consultants acting as mentors and local investigators, contributes to the development of good quality research.

Studies in the ADDR research portfolio reflect four broad themes:

- Home use of food and fluids in the management of diarrhea;
- Prevention and intervention;
- Invasive and chronic diarrhea;
- Knowledge, attitudes, and practices of mothers-care givers and/or care providers in the recognition and treatment of diarrhea.

All proposals approved and/or completed fall into one of these categories. These areas of investigation deal with issues of great significance in preventing dehydration and averting death, as well as in controlling the incidence of the most prevalent types of diarrheal disease in developing countries. If widely disseminated and adopted, the results of these studies should have an impact on policy and program formulation in CDD and also on the teaching-learning process of health workers.

A mid-term evaluation, conducted in March 1988, concluded that the overall goals and approach of ADDR were sound, responded to an urgent need in developing countries, and reflected A.I.D.'s health and research priorities. The evaluation formulated 13 recommendations; all were intended to improve the design of the project, to strengthen the methodology, and to enhance ADDR's prospects for generating significant research results. The evaluation noted the progress made toward the establishment of effective integration of the biomedical and social sciences in the design and implementation of studies, one of the main objectives of ADDR. The report urged the project to give particular attention to developing and implementing this approach to research on diarrheal disease. It also recommended that consideration be given to applying the research results in changing policies and programs for CDD when appropriate.

Most of the recommendations of the mid-term Evaluation Team were, to a large extent, implemented. This is reflected in the significant advances made by the ADDR Project, both in scientific content and managerial effectiveness, as well as in the close interactive relationship of the CTO and HIID in terms of the functions specified in the CA.

This second evaluation, which took place between February 2 and March 2, 1990, (a) identified significant accomplishments according to project objectives, (b) recommended measures to ensure further progress during the life of ADDR, and (c) justified the need for continuing investment by AID in diarrheal disease research, preferably using the project's approach.

There were 22 proposals approved and funded when the mid-term evaluation was conducted. At present 70 proposals have been or are being implemented, 58 of which are related to diarrheal disease research and 12 to conferences and workshops. Many of the completed studies have been presented at regional and international meetings; some have already been published in "peer reviewed" journals. There are 150 researchers involved; 47 are Principal Investigators. The investigators are affiliated with 28 institutions; 63% are universities, 22% research centers, and 15% governments ministries or departments.

Most projects have originated and been carried out in seven

emphasis countries -- Mexico and Peru, Kenya and Nigeria, and Indonesia, Pakistan, and Thailand. The results to date suggest that the ADDR approach has created a group of self-reliant investigators knowledgeable about the scientific method, able to design new studies, and capable of securing support from a number of different sources. Their capacity to carry out research will be enhanced as their institutions are strengthened. The obvious disparity in research capacity among the three regions i.e., Latin America, Asia, and Africa, suggests that the time and resources required to develop local institutional capacity in research on diarrheal disease will vary.

An in-depth analysis of a sample of the studies completed indicates that the research is of good quality, and that the results will contribute to the body of knowledge on diarrheal disease, be it secretory, invasive, or chronic in origin. It is noted that the proposals were refined through the ADDR "mentor-researcher" relationship, an important recommendation of the mid-term evaluation Team.

Since the mid-term assessment there has been a closer interaction between biomedical and social scientists at the Technical Advisory Group (TAG) and better integration of these elements in the proposals submitted and approved. Dialogue among members of the TAG has become more constructive, methods for data collection, collation, analysis, and interpretation by the groups are better understood, and the potential impact of both components, as reflected in the outcomes of research, has been more carefully considered. Still, a truly integrated model of research that incorporates the biomedical and social sciences and can be applied in the different types of diarrheal disease research has yet to develop. ADDR has been encouraged to explore the feasibility of designing and applying such a model.

Of the four broad themes in the ADDR research portfolio, prevention and intervention studies are least developed in terms of available results. During the period of the proposed project extension and in a new project, if approved by A.I.D., particular attention should be given to this area of investigation. In addition, it is noted that ADDR has been minimally successful in involving national policy-makers and CDD program managers in the formulation of research questions and in the review of the contents, results, and significance of the activities supported by the project. The project needs to implement an approach that involves policy-makers and program managers in all aspects of the study design, as well as in analyzing the data, assessing the programmatic and policy implications of the results, and preparing written reports of the findings.

The TAG has been a valuable resource to ADDR management and has contributed significantly to the project by (a) identifying the basic methodology to be applied to diarrheal disease research,

(b) selecting the emphasis countries, (c) examining and approving proposals, (d) establishing a constructive dialogue between the representatives of the different scientific disciplines involved in CDD and, (d) as individual scientists, serving as mentor-consultants for specific projects.

At the same time, it is noted that the TAG, which meets only two days every six months, has taken an excessive amount of time to examine and approve research proposals. Given the delays generated by the TAG review and approval process, proposals with budgets of less than \$25,000 were examined by ad-hoc groups consisting of ADDR staff, consultants, and some TAG members; 80% of these proposals endorsed to date have been developed through this process. Consequently, it is recommended that even larger studies, requiring amounts up to \$100,000, should be assessed by this ad-hoc review process, strengthened by the addition of more reviewers, including TAG members, according to the nature of each study, the disciplines involved, and the amount requested. Employing this review and approval approach should free the TAG from the responsibility of approving proposals and allow the group to become a true advisory body to ADDR. Given the membership, it seems appropriate that the TAG should (a) examine issues proposed by the consortium of universities, consultants, or members that have significant implications for the implementation of the project as a whole, and (b) review critically the future of diarrheal disease research.

Because of its soundness and proven feasibility, the ADDR model for capacity building and institutional strengthening in diarrheal disease research should be thoroughly documented, recording successes and failures. Specific case-studies should be prepared and disseminated.

The need to consolidate and extend progress made since the inception of ADDR has become evident. To this end, A.I.D. is strongly encouraged to approve a two-year no-cost extension of the Contract Agreement (through September 1992), as requested by ADDR. A.I.D. should also consider extending the project one additional year (through September 1993) to allow for the orderly completion of research grants underway, the dissemination of research outcomes to local decision-makers and program managers, and the identification of priority areas and rationale for any follow-on activities A.I.D. should support after the completion of the ADDR Project.

In sponsoring research in diarrheal disease, based on an innovative methodology and supported with significant investments, A.I.D. has initiated a process offering long-range implications for health and social development in some countries. A.I.D. should continue this process and approve a follow-on project. The report that follows enumerates activities that should be included in a new project, along with a justification for continuing systematic

research in diarrheal disease, an activity related to controlling the incidence and prevalence of a condition that constrains improvement in the developing world.

II. Introduction

The Cooperative Agreement (CA) No. DPE-5952-A-005073-00 between the United States Agency for International Development (AID) and the Harvard Institute for International Development (HIID) has been in effect since September 30, 1985. The total estimated cost for the Agreement is \$9,998,630 for a five-year period. A consortium of HIID, Johns Hopkins, and Tufts Universities, along with a series of other scientists acting as consultants, is implementing the project.

The purpose of this Cooperative Agreement is to assist A.I.D. and host countries to establish or improve diarrheal disease research activities by supporting (1) short-term technical assistance activities, (2) managing a research grant program, and (3) developing institutional and individual resources in developing countries.

At the end of the project, it is expected that the activities supported will result in (1) improved understanding and control of diarrheal disease, (2) completed research projects in four priority areas, (3) improved coordination between A.I.D. and other donors on diarrheal disease research activities, and (4) the establishment of institutional capacity to conduct research in approximately six emphasis countries.

The first evaluation of ADDR took place in March 1988, two and a half years after the inception of the project. The evaluation concluded that the overall goals and approach developed by ADDR were sound, responded to an urgent need in developing countries, and reflected A.I.D.'s health and research priorities. The evaluation also found that the integration of biomedical, social, and epidemiological sciences was not adequate despite the fact that the interdisciplinary collaborative approach to diarrheal disease was one of the main objectives of ADDR.

The evaluation made 13 recommendations related to the design of the project. Some touched on the structure of ADDR while others assessed the functions of the project. All the recommendations were designed to strengthen the methodology of ADDR and to ensure that the expected outcomes would be produced. Some of the recommendations were to contribute to improve significantly the quality of research proposals, the process of approving proposals, the efficacy of the mentor-investigator relationship, and the monitoring of each study, data management and analysis. The evaluation also emphasized the importance of using the results generated to change policies and programs for diarrheal disease control when appropriate.

To a large extent, most of the recommendations of the mid-term evaluation have been implemented. This is reflected in the significant advances made by the ADDR Project in the last two

years, both in scientific content and managerial effectiveness, as well as in the close interactive relationship of the CTO with HIID in terms of the functions specified in the Cooperative Agreement.

The mid-term evaluation (March 1988) served as a basis for developing the scope of work for this evaluation, undertaken to:

- review the appropriateness of the original project design and subsequent revisions;
- assess the efficiency and effectiveness of overall project implementation, giving special emphasis to scientific output of awarded research grants;
- identify significant accomplishments according to objectives;
- analyze the above findings and develop conclusions and recommendations for any extension, follow-on project, or related activities;
- make recommendations for further progress during the life of ADDR, and justify the need for continuing investment by AID in diarrheal disease research, preferably using the project's approach, and
- point out any lessons learned that may be pertinent to future activities in applied diarrheal disease research efforts.

A recently released report, entitled Health Research. Essential Link to Equity in Development,¹ places great emphasis on building and sustaining research capacity in developing countries, an objective that the ADDR Project has effectively promoted and implemented. To build research capacity this report recommends, inter alia, investments "in long-term development of the research capacity of individuals and institutions, especially in neglected fields such as epidemiology, the social and policy sciences, and management research." It also recommends the development of "reliable and continuing links between research and research users." These specific objectives have been adopted and fostered by ADDR, to some extent, in the last two years.

¹Health Research. Essential Link to Equity in Development. The Commission on Health Research for Development. Oxford University Press. In press (1990).

III. Evaluation Protocol

A. The Evaluation Team

The second evaluation of the ADDR Project took place between February 2, and March 2, 1990. The Evaluation Team was composed of four external reviewers and one A.I.D. representative as follows:

External Reviewers:

Abraham Horwitz, M.D., M.P.H. (Team Leader)
Director Emeritus
Pan American Health Organization

David M. Taylor, M.D.
Associate Professor of Medicine
Center for Vaccine Development
University of Maryland School of Medicine

John B. Tomaro, Ph.D., M.P.H.
Principal Technical Associate
Management Sciences for Health

Gordon B. Ramsey
Retired A.I.D. Official
Private Consultant

A.I.D. Representative:

Feng-Ying C. Lin, M.D., M.P.H.
Project Cognizant Technical Officer
S&T/H/AR

B. Evaluation Procedures

Individual team members reviewed the documents listed in Section IV, A. of the Terms of Reference and Scope of Work (Appendix I). On February 2, 1990 the team met under the leadership of Dr. Abraham Horwitz to review carefully the scope of work and assign appropriate responsibilities to individual members. Also, on February 2, Pamela Johnson (Acting Chief, S&T/H/AR) and Ann Van Dusen (Acting Agency Director for Health) briefed the Team on the history of the project and the role the current evaluation would play in assessing project progress and accomplishments to date, validating or recommending modifications in the project design and, if the evidence indicated, providing S&T/H with a justification both for extending the Cooperative Agreement with HIID and supporting a new project at the completion of the ADDR project in 1994.

The Team travelled to Cambridge, Massachusetts and spent four days with the management and staff of the ADDR project. Dr. Richard Cash, Principal Investigator, made a thorough presentation of the history and implementation philosophy, status of the ADDR project to date, and plans for the next phase. Dr. Cash was assisted in his presentation by other members of the Core project staff: Jonathon Simon (Project Manager), James Trostle (Project Social Scientist) and Fitzroy Henry (Project Epidemiologist).

ADDR opened its files to the Team and provided answers to specific questions raised by Team members. In addition, project staff compiled several tables and charts requested by the team, e.g, information on CA staffing, consultants, budget and expenditures, self-evaluation reports from grantee principal investigators, individual research grant files, etc. ADDR staff made themselves readily available for in-depth discussions with individual members of the Team. All were cooperative, forthcoming, and candid in their responses to the questions posed by the Evaluation Team.

While in Cambridge, the Team was able to discuss aspects of the ADDR project with several part-time members of the project staff: Dr. John Snyder (Project Epidemiologist) and Dr. Mary Jo Good (Project Sociologist). The Team also met with Dr. Gerald Keusch, Project Director of the Tufts University subcontract, and acquired his perspective on project direction and progress to date, as well as his comments on the value of the consortium arrangement from the subcontractor point of view.

Upon return to Washington, on February 9, the Team met with Dr. Robert Black, Project Director of the subcontract with Johns Hopkins University. He presented his perspective of the ADDR project and the consortium arrangement, and offered his recommendations on future directions of the project.

The scope of work for the evaluation did not include travel to any overseas site where research is being conducted, but two team members travelled on other A.I.D. business during the evaluation period (one to Peru and one to Thailand). Both were able to discuss the ADDR project with USAID Mission officials.

Providing technical assistance and coordination for the evaluation was Ms. Ellyn Ogden, M.P.H. of STATISTICA, Inc. Ms. Ogden joined the team for many discussions and prepared the report documents.

In summary, the methodology used to acquire information, prepare findings, conclusions and recommendations, and lessons learned involved a thorough review of project documents and files, discussions with appropriate A.I.D. officials, interviews with ADDR project staff, principal representatives of the JHU and Tufts subcontracts, and USAID Mission officials in Peru and Thailand.

IV. Findings

A. Overall Project Implementation

A.I.D.'s investment in applied research on diarrheal disease, managed by the ADDR project, has contributed significantly to the development of a network of researchers within seven emphasis countries -- Mexico and Peru in Latin America, Pakistan, Thailand, and Indonesia in Asia, and Kenya and Nigeria in Africa. The approach taken by ADDR has begun to develop a capacity for "critical thinking" by young researchers who have completed one round of studies on diarrheal diseases. The approach used by ADDR to identify and develop local researchers appears to be truly interactive. In contrast with the WHO approach, where research protocols are often developed outside the countries and centers within countries are generally selected to conduct research according to an outside design, the ADDR approach encourages protocol development by local investigators. This model appears better disposed to foster the development of local research capacity and to offer significant potential for achieving true self-reliance in applied research.

The project shows consistency throughout with regard to the original design reflected in the Project Paper (PP).

- the project goal of helping to improve health status of developing world populations through reducing mortality and morbidity in children under five due to diarrheal diseases is the guiding principle for project implementation;
- the original project purpose of supporting country specific applied research to adopt new and improved diarrheal disease control and prevention technologies is being carried through in the implementation phase;
- the four project elements specified in the original design have been maintained, i.e. Technical Assistance, Research Grants, Institutional Support, and other complementary activities supportive of the three principle project elements;
- the research areas have been selected from among those described and proposed in the original design (PP), and have provided the basis for accepting proposals for substantial review and financial support.

Internal management by the Harvard Institute for International Development (HIID) -- financial management, reporting, coordination with A.I.D., etc. -- is thorough and highly professional. Under HIID management, ADDR has supported: 150 researchers, of whom 47 are principal investigators; 28 developing country research

institutions; 58 diarrheal disease research grants, and 12 conferences, workshops and related activities.

B. Specific Findings

The specific findings reported below are presented in the same order as requested in the "Terms of Reference and Scope of Work," included as Appendix I to this report.

1. Project Management

a. Project Reporting

Over the effective period of the Cooperative Agreement (CA) between A.I.D. and HIID there have been several changes by mutual agreement in requirements for specific management reports. Initially, the CA called for the submission of Quarterly Progress Reports and Monthly Status Checklist reports, as well as Annual Work Plans, monthly Program Budget reports, and monthly Technical and Geographic Activity Summary Reports. This plethora of reports was found to be excessive to A.I.D.'s needs for understanding and monitoring project implementation after the initial approximately two years.

In June of 1987, Amendment #3 of the CA was executed which deleted the Quarterly Progress Reports, the Monthly Status Checklist report from reporting requirements, and changed the monthly Technical and Geographic Activity Summary Report from a monthly to a quarterly requirement. These adjustments in management reporting, timing, and content were appropriate and reflected the opinions of both the A.I.D. Cognizant Technical Officer (CTO) and the recipient.

Technical reports of field consultancies, conference reports and special studies have consistently been submitted in a timely fashion with appropriate distribution.

Annual progress reports and annual work plans are thorough in treating implementation strategies, issues encountered and addressed during the reporting period, and proposed for the next period. For the A.I.D. project manager and other S&T and Regional staff, these reports are useful both in their historical recording of issues and events, and in explaining the circumstances and influences surrounding the events and issues recorded.

b. Financial Plans and Expenditures

1. Overall Expenditure Performance. The current financial plan for the CA is reflected in Amendment 3 to the Agreement of June 30, 1987. The table in Appendix II to this report compares the annual budgets from the June 30, 1987 financial plan with actual expenditures made by HIID. This comparative table shows

that in each of the four completed fiscal years (FY 1986 thru FY 1989) expenditures have been far below estimated budgets.

The largest budgetary line item is the Research Grants program. Expenditure trends in this line item reveal a slow rate of disbursement in the early days of the project, reflecting the time-consuming process of developing and approving research proposals and getting the actual research underway. Expenditures under this line item show a dramatic increase between FY 1988 and FY 1989 (from \$459,061 to \$1,108,402); outlays for research grants for all of FY 1990 are projected to reach approximately \$1 million. HIID estimates total project expenditures of approximately \$1.9 million for FY 1990.

2. Actual Funding Pipeline as of 12/31/89. As of March 1990, A.I.D. has obligated \$6,910,524 to the CA with HIID. Expenditures through 12/31/89 (as shown in Appendix II) amount to \$5,278,869, leaving an unexpended pipeline of \$1,631,652. This unexpended pipeline appears sufficient to meet the projected budgetary requirement for the remaining period of the CA -- through September 29, 1990:

| | |
|-------------------------------|----------------|
| Projected FY 90 Expenditures | \$1,908,230 |
| Expenditures through 12/31/89 | <u>500,979</u> |
| Balance required for FY 90 | 1,407,251 |
| Unexpended Pipeline | 1,631,652 |
| Apparent Surplus | 224,401 |

However, since ADDR plans for FY 90 include the presentation of proposal workshops and the development of the second round of research grants, A.I.D. must inform HIID immediately if additional funds are not going to be obligated to the contract in FY 90. Without additional funds for research grants, after ADDR has already provided the TA to develop and refine the proposals, the project would be constrained and progress toward accomplishment of project objectives would be arrested.

3. Administrative versus Program Costs. HIID has provided the evaluation team with a breakdown of total expenditures through 12/31/89 showing the distinction between administrative and program costs. This breakdown is attached as Appendix III to this report. The breakdown shows 17% for administrative and 83% for program costs. The evaluation team takes issue only with regard to the overhead item shown under the program side (Technical Costs category). Overhead (indirect costs) is normally counted as purely administrative. If the overhead costs included in the Technical Costs category are added to the administrative category, the percentage attributable to administrative costs would increase from 17% to 21%. Even at 21%, these administrative costs are reasonable. The administrative management responsibilities (e.g., processing and funding research grants, sub-agreements with JHU and Tufts, monitoring project activities, preparing and submitting

reports) are heavy and related to the project design. Since, as a rule of thumb, administrative costs for a Technical Assistance contract or grant should not exceed 25% of total costs, the current expenditure pattern appears appropriate.

c. HIID/Tufts/JHU Sub-Agreements

Since the midterm evaluation, the contractor and subcontractors of ADDR are functioning more effectively. They have become a true consortium. Key staff at each institution are clearly convinced of the value and utility of the project and share the overall goals. All are cooperating to provide the technical and managerial resources required to identify potential researchers, stimulate interest in diarrheal disease research, and enhance the proficiency of local investigators so that each can develop good quality research, become self-reliant and, over time, self-sufficient.

Strengthening the understanding among the three members of the consortium has occurred over time as the project has defined an approach to implement specific program objectives, selected the emphasis countries, stimulated proposals, refined, approved and funded them, and cooperated in their implementation through the mentor-researcher relationship. ADDR is unique in its emphasis on and support for an innovative approach to developing local research capacity and, to a limited extent, institution building. This unique approach has matured during the life of the project as a result of the joint efforts of the staff of the three associated universities and distinguished consultants in biomedical and social sciences.

Although any one of the members of the consortium could have managed the Cooperative Agreement with its own human resources, the association produced useful complementarities that have been beneficial to the project as a whole. The three universities have different experiences and perspectives with reference to diarrheal disease, its varied etiology, pathogenesis, clinical expression and determinants. The active dialogue among members of the consortium is reflected in the conceptual framework and the approaches developed in the seven emphasis countries and promoted by the excellent management of the project.

In the early years of project implementation difficulties derived from the lack of definitions of objectives and approaches, as discussed in the first evaluation of the project. Also, the responsibilities of each member of the consortium were not clearly specified and assigned. Tufts, for example, explored possibilities in several African countries, focused on Zaire, and cooperated in the formulation of a project that was not implemented for reasons beyond the control of ADDR. However, since the mid-term evaluation, areas of responsibility have been defined.

For example, Tufts has been responsible for promoting research in the area of invasive diarrhea, specifically shigellosis and amebiasis. ADDR's sponsorship of the International Conference on Shigella and Invasive Diarrhea in Bangkok, December 1988, was coordinated by Tufts and contributed to defining broad research areas in this field.² In addition, a project in Pakistan, "Investigation on Diarrhea and Dysentery in a community in Gilgit Northern Areas" has had the scientific guidance of Tufts University in accordance with the ADDR conceptual approach. It is to be noted that communications between HIID and Tufts are made easier because of the physical proximity (Boston and Cambridge) of the two institutions.

Since the mid-term evaluation, John Hopkins University (JHU) has concentrated on persistent diarrhea, a condition of increasing importance in a number of developing countries. Knowledge about the etiology, pathogenesis, epidemiology, and treatment, including adaptive behavior, is still limited. Studies in Peru and Kenya on the epidemiology of persistent diarrhea are using community surveillance techniques to identify common determinants of prognostic importance. Both are receiving technical advice from JHU. A Conference on Persistent Diarrhea is being planned to be held in Kenya in January 1991, sponsored by ADDR and coordinated by JHU.

Other universities have cooperated by providing the services of experts familiar with specific research themes; these professionals have succeeded in establishing valuable mentor-researcher relationships that have led to approved and funded investigations.

² The proceedings of the Conference will be published as a special issue of the Journal of Infectious Diseases. Furthermore, a paper (published in the Pediatric Infectious Disease Journal 8:713-719, 1989.) by Drs. Keusch and Bannish of Tufts on "Shigellosis: Recent Progress, Persisting Problems and Research Issues," contains a valuable analysis in this complex field. Tufts has proposed studies on amebiasis for Guatemala and Mexico. These are designed to establish the true incidence of this condition and the actual need for antimicrobials. During the last two years, Drs. Keusch and Bannish have also provided technical assistance to ICDDR,B on "Molecular and Clinical Studies on the Pathogenesis of Shigellosis." A series of papers have been prepared and are being published.

d. Role of A.I.D. in Implementing the Cooperative Agreement (CA)

A.I.D.'s role in implementing the Cooperative Agreement (CA) is significant in both the substantive and procedural aspects of the project. In consonance with the "substantial involvement" concept of the CA, the current A.I.D. project manager (Cognizant Technical Officer - CTO) is exercising all functions specified in Article III, namely approval of key personnel, non-HIID consultants, international travel, grant awards, work plans, site selection, and draft reports. The CTO participates in the preparations for and meetings of the Technical Advisory Group (TAG), and site visits. In addition, she has participated in the mid-term and this second evaluation of the project.

The mid-term evaluation (March 1988) found that the working relationship between A.I.D. and HIID "had developed into a pattern that the A.I.D. office functions not much more than an end-stop for travel authorizations, signatures for proposal funding and voucher payments, etc." The current CTO was assigned to that position a few weeks before the mid-term evaluation was undertaken.

In 1988 the CTO and ADDR management instituted a monthly meeting in Cambridge or at the A.I.D. S&T/Health Office in Rosslyn. At each session, implementation issues are discussed and generally resolved, and current activities needing A.I.D. approval and signature are dealt with in an atmosphere of positive collaboration.

It is satisfying to note that the A.I.D./HIID relationship has completely changed since the mid-term assessment. The present CTO is thoroughly familiar with the status of project implementation. She reviews the qualifications and appropriateness of proposed consultants, the purposes and justification for participation of grantees and CA personnel in conferences, the research grant proposals, and any changes in key personnel assigned by HIID to the CA. The current CTO is a highly respected professional. The A.I.D./ADDR project officer is an active participant in the planning, implementation, and assessment activities related to the project.³

³The C.T.O. also tracks changes in A.I.D. policy that would prevent ADDR from carrying out work in a given country. Access to this information should allow the project to avoid the difficulties that occurred in Brazil and Zaire. In these countries, project staff and consultants invested time and professional credibility but were ultimately constrained by a legislative injunction in Brazil and local USAID Mission policy in Zaire from implementing the proposed research.

e. Technical Advisory Group (TAG)

The mid-term evaluation states that "the Technical Advisory Group has been an important element in this project. In addition to project directives it has fostered greater understanding between biomedical and social scientists members of the TAG providing a forum of interdisciplinary research in diarrheal disease." (p. 21) This assessment of the contribution of the TAG in the development of the ADDR Project remains accurate. However, available evidence also suggests that the role and responsibilities of the TAG should be reviewed and modified.

In the early years of the project, the TAG appeared divided into two camps, one composed of biomedical scientists and the other of social scientists. During TAG meetings, competition rather than cooperation characterized the activities of each camp. Each attempted to influence the project's goals, and to impose its technical perspective on the development of ADDR policies and implementation strategies, especially the approval and funding of proposals.⁴

Since the mid-term evaluation this situation has improved, although the TAG, consisting of 10 members plus observers from the consortium of universities, remains roughly divided between the two groups.⁵ The current membership has a good understanding of the technical approach of each discipline represented and an appreciation of the value that each can contribute to research in the control of diarrheal diseases.

However, although the dialogue among members has become more constructive, the TAG proceedings are far from being a truly integrated model of biomedical, epidemiological, and social science cooperation in research on diarrheal disease. The value of any proposal continues to vary according to the technical perspective of a given TAG members. In addition, the proposals frame their biomedical and social science components more in a parallel than an integrated approach. Given the level of social science research in the countries and the small number of trained professionals among the regions and between countries within them, this finding is not surprising and points to the need for greater technical inputs from ADDR. Still, there are already a number of projects that show in their design the joint inputs of the biomedical and

⁴In examining this issue, it is noted, as reminded by Dr. Cash, that research is neither value-free nor culture-free. There are cultural values that influence the way research is designed, endorsed, and conducted, and cultural perspectives that influence the interpretation of the results.

⁵Including representatives from the members of the consortium was recommended in the mid-term evaluation.

social sciences. Nigeria, Mexico, Pakistan, and Cameroon offer some examples.

The absence of a model of truly integrated research on diarrheal disease has often delayed approval and the TAG has been criticized for being too rigorous in examining proposals, particularly in the first years of the ADDR Project. Much like NIH, TAG members looked critically at objectives, sample sizes, scaling methods, clinical algorithms, and other elements needed to ensure good quality research. As a result, proposals had difficulty gaining approval from the TAG. They were either rejected or returned with a request for revisions. In the latter case, extensive delays occurred before the revised proposal could be examined, since the TAG met only once every six months. This delay, when it came on top of revisions already requested by other, outside reviewers, may have been excessive.⁶

To expedite the approval process, the management team began to conduct, with the assistance of Drs. Snyder and Good, an internal review of proposals with budgets of less than \$25,000. Proposals deemed acceptable were also examined by at least three external reviewers--one a TAG member--selected in accordance with the objectives of the study and their area of expertise and research interests. If accepted, a synthesis of the reviewers' comments was sent to the local research team with recommendations for revision and resubmission. During the review process ADDR identified a "lead" consultant, i.e., the mentor,⁷ to provide technical guidance throughout the life of each study.

This approval process, carried out by consultative ad-hoc groups consisting of ADDR staff, consultants, and some TAG members, has worked well when considering projects with budgets of less than \$25,000, an amount that has been adequate for many of the studies proposed. As the investigators become more experienced, proposals will be more complex, better integrate all disciplines in diarrheal disease research, and require larger budgets. There is every indication that the current review and approval process--perhaps strengthened by adding more reviewers, including individual TAG members, according to the nature of each study, the disciplines involved, and the amount requested--may also prove more effective for making decisions on projects requiring larger amounts, up to \$100,000. If implemented, the TAG would be freed from this responsibility.

⁶There are, however, some observations to suggest that the success rate of proposals does not conform with opinions.

⁷ADDR has also convened regional workshops to facilitate the proposal development and revision process. Incidentally, these gatherings may have also served to induce fruitful dialogue between social and biomedical scientists from the emphasis countries.

Without responsibility for proposal review and approval the TAG could focus on assessing the technical issues proposed by the consortium of universities, the management team of ADDR, or any one of its members. This activity, an essential function of the TAG, has not been fully implemented because of TAG involvement in the time-consuming process of examining proposals for approval and funding.

f. Selection and Activities of Consultants

The contractor and sub-contractors have been able to interest a large number of experts--over 80--in the diverse disciplines involved in diarrheal disease research. A number are members of the consortium; others belong to prestigious universities and scientific institutions in the U.S.A. such as Cornell, Stanford, Brown, Davis, Cincinnati, Arizona, and C.D.C.. The consultants are specialists in clinical studies, epidemiology, social sciences--including economics, as well as nutrition, communications, and statistics. Appendix V lists the consultants with the exception of ADDR staff.

The management team of HIID and Drs. Black and Keusch, representing Johns Hopkins and Tufts Universities respectively, have been chiefly responsible for identifying experts in diarrheal disease research. To a lesser extent, the TAG has also contributed to this process. Some TAG members have suggested potential consultants and reviewers of proposals, usually their university colleagues. All have been carefully screened for experience in diarrheal disease research in developing countries. As the ADDR Project has evolved, the time required to identify and field experienced consultants has been reduced to reasonable terms.

The recommendation of the mid-term evaluation to develop a sustained mentor-researcher relationship has been clearly implemented. The ADDR Project has repeatedly tried to match the needs and goals of the developing country research team with the expertise and experience of the consultant, i.e., the mentor. The mentor has become responsible for assisting the research team in the execution of the study. As required, each lead consultant has visited the project site and worked closely with the local investigators. The mentor has examined alternatives to overcoming constraints, facilitated the analysis of the data collected, remained informed on the progress of the study, and reported to ADDR Project Management as well as the CTO.

To improve the quality of the consulting process, ADDR has tried to ensure that the mentor has remained with the local research team throughout the life of the study. This approach has induced close interaction between mentors and researchers and

engendered a mutual respect that has benefited the local research and the project.

g. Research Grant Program Implementation

1. Sources of investigators. With the exception of a few developing countries, e.g., Mexico and Peru, the number of experienced investigators working on diarrheal disease research is limited. Early in the project, ADDR found it difficult to fund diarrheal disease research without first developing local investigators, except in the countries noted. Consequently, ADDR spent considerable time in the early years identifying appropriate institutions and selecting researchers.

ADDR has chosen to work directly with the researcher to enhance his or her capacity to define the questions that should be investigated, to design a study that can answer the questions posed, and to obtain the necessary results by writing and submitting proposals for funding. It has been a time-consuming and sometimes difficult process, but ADDR has preferred and gone to great lengths to allow the investigators funded by the project to develop these capabilities. Built into this process has been the expectation that scientists who are successful in obtaining one grant will apply for additional grants to support successive studies, not necessarily from ADDR. The approach is truly developmental, focused on ensuring that local researchers arrive at self-reliance in scientific research.

There are a number of programs (e.g., International Clinical Epidemiology Network - Rockefeller Foundation, Field Epidemiology Training Program - Centers for Disease Control) focused on training clinical researchers and epidemiologists from developing countries. Often, local investigators finish these programs ready to begin projects in their home countries, but lack resources. These investigators are just beginning research careers and need help in designing specific projects. Other investigators may be older and have more experience, but may not have had the opportunity to work on all aspects of the investigative process. In previous collaborations with western scientists, less attention was given to the need to develop the capabilities of local scientists. In those instances where the local researchers are very capable, the issues of interest and importance to ADDR were not their exclusive priorities. For example, the earliest research grants funded experienced researchers from developing countries such as Leonardo Mata from Costa Rica and Claudio Lanata from Peru. However, the relationship between ADDR and experienced scientists, if these examples can be generalized, was not especially fruitful in developing successful models of integrated research in diarrheal disease. Since these scientists were usually funded from other sources, it was difficult to determine what ADDR's role was in these projects.

As a result, ADDR had to expend large amounts of time and resources over the life of the project to develop a cohort of investigators. The development of scientific research capabilities has become the highest priority of the project. The extent of this requirement was not anticipated when the project was first conceived, and it has influenced the time-frame required to identify, implement, and complete a study.

The following system evolved to develop the capabilities of local investigators. ADDR first chose to fund projects that were simple and descriptive. More recently, ADDR has encouraged the submission of proposals reflecting more complex technical designs and/or interventions. Scientists who have been successful at early stages in completing a research project, analyzing the data, and writing reports for both scientific and administrative audiences are considered more likely to be supported with a second project grant.

Regional conferences are frequently employed as part of the development of local researchers. These conferences allow the local scientists to form a network of colleagues who face similar problems in their respective countries. Such conferences also allow the investigators to see that they are all playing by the same rules. This networking and sharing of ideas and experience plays an important role in enhancing the development of the investigators.

2. Developing proposals. The proposals are developed primarily through workshops and personal contacts between local researchers and consultants and senior investigators in the field. The proposal may go through several drafts and may require additional visits by the mentor before it is in a final, fundable form. The workshops allow young investigators to meet consultants, i.e., mentors. Through this approach, the project is developed to reflect the ideas of the local investigator. ADDR insists that consultants serve only as advisors to the potential investigators, i.e., consultants do not write proposals.

3. The review process. Once a proposal is received at ADDR, it is reviewed first by staff and screened for relevance and quality of presentation. It is then sent to one or two outside scientifically qualified reviewers who provide a detailed critique of the project. The review is more explicit than the average review and may also include references. The protocol and the reviewers' comments are reviewed again by the project staff. The results of these intramural and extramural reviews are returned to the local investigator with one of the following decisions: intent to fund; fund pending certain revisions, or rejection. Most often, final revisions of proposals are required before funds are made

available.⁸ If the proposed budget exceeds \$25,000, present procedures require formal action by the TAG. However, as noted above, the role of the TAG in proposal review and approval should be examined and revised.

⁸The project also requires human subjects review by both developing country and ADDR review boards.

2. Technical Assistance to A.I.D. Missions: results and accomplishments.

The ADDR consortium is currently working in seven emphasis countries: Mexico and Peru in Latin America; Kenya and Nigeria in Africa, and Indonesia, Pakistan, and Thailand in Asia. Since project inception in October 1985, ADDR has provided the following assistance at Mission request:

Latin America

Peru Assistance in the data analysis of a Mission-funded study on in-service training of health professionals in ORT use.

Africa

Kenya Assistance in (a) the data analysis of a study in Western Kenya on the home use of foods and fluids, (b) the formulation of the national diarrheal disease research strategy, and (c) supporting the participation of a nutritional anthropologist in a WHO-funded survey of home fluid use in diarrhea management.

Asia⁹

Indonesia Institutional assistance (salary support, computer provision, workshops/conferences) to the Centre for Child Survival (CSS).

Pakistan Assistance to the National Institute of Health in formulating a national research agenda for diarrheal disease, in collaboration with PRITECH.

This assistance is in addition to those activities that have been approved by individual Missions but are focused on providing operational support to individual research grants based at key institutions in each of the emphasis countries. (See Appendix VI, "Key Institutions in ADDR Emphasis Countries.")

In early November 1989, A.I.D./Washington sent a cable requesting Mission comments on the diarrheal disease research portfolio of the Office of Health, Bureau of Science and Technology. At the time of the evaluation of the ADDR Project,

⁹ADDR also organized the 1986 technical review of ICDDR,B, although Bangladesh is not an emphasis country. In addition, ADDR has facilitated the Urban Volunteer Program (through a Mission buy-in) and supported epidemiological research and pathogenesis studies on Shigella at ICDDR.B.

comments had been received from the Missions in Bangladesh, Kenya, Indonesia, and Thailand. (See Appendix VII, Responses to Cable on S&T/H Diarrheal Disease Research Portfolio Review.)

The A.I.D./Washington Cable (reference State 372134) asked for comments on the entire research portfolio. Two respondents (Indonesia and Thailand) singled out the activities of ADDR; the other two (Bangladesh and Kenya) made observations on A.I.D.'s overall research strategy in diarrheal disease. USAID/Nairobi observed a "gap between the research community and the national CDD program of the MOH," and felt that "A.I.D.'s plethora of research activities targeted at very defined sections of the total research picture exacerbates the division between researchers and CDD program managers, makes coordination difficult and complicates program implementation." USAID/Dhaka concluded that A.I.D.'s investment in research would be enhanced "by expanding support beyond strictly scientific work to encompass institutional needs." While these Missions had some reservations on A.I.D.'s approach to research in the developing world, neither questioned the value of research or the quality of the activities of ADDR.

The Missions in Thailand and Indonesia were most supportive of the work of ADDR. USAID/Bangkok "found the quality of technical assistance provided by HIID in improving research protocols and data analyses ... excellent ... [The model research process of ADDR] is regarded as a very good mechanism for strengthening research capabilities of local researchers and initiating mutually beneficial relationships between the U.S. and Thai research institutions..." Similarly, USAID/Jakarta commented that "the intensive technical assistance provided good proposals and in data collection and analysis has resulted in much higher quality research. It has also helped institutionalize the research skills."

Mission comments suggest that diarrheal disease is an important and appropriate topic for research and worthy of A.I.D. support. In at least two of the countries where ADDR has been operating, the Missions observed that the quality of the research is superior to what had been done in the past, largely due to ADDR assistance. In addition, the Missions conclude that efforts to institutionalize the ADDR research approach are valuable and likely to achieve a sustained in-country research capacity.

3. Research Grants

In preparation for this evaluation and at the request of the CTO, ADDR prepared a self-evaluation questionnaire and asked each grantee to complete and return the self-evaluation forms for review by the Evaluation Team. Copies of A.I.D.'s request, the Self-Evaluation form, and the cover letter are included as Appendix VIII to this report.

a. Self-evaluation Summary Reports

The following three themes emerge from a review of the self-evaluation reports:

First, the grantees repeatedly emphasize the importance of linking research results with the concerns and priorities of the national CDD program. From the content of their comments it is clear that each grantee is fully aware of the significance of this relationship and that ADDR staff and consultants have stressed this point.

At the same time, it is not clear from the brief comments provided that the researchers conclude that the hypotheses proposed and tested should originate with policy-makers and the managers and staff of the CDD program. In most cases, the researchers seem to be suggesting only that the "results of the research will be available to the NCCD programme" (Kenya 039) and that CDD program managers will be consulted in the early stages of research definition. This suggests that in most countries an effective and interactive collaboration between policy-makers and program managers, who are faced with policy formulation and implementation, and the researchers, who are capable of answering questions of central concern to the national program, remains to be achieved. Given the novelty of the ADDR approach and the traditional "gap" between researchers, primarily academicians, and those charged with policy-formulation and/or program management, this finding is understandable.

Second, the grantees acknowledge the importance of conducting research on diarrheal diseases. In each of the emphasis countries, diarrheal diseases contribute significantly to the mortality and morbidity burden. While emphasizing the importance of diarrhea research, the investigators recognize that the ADDR approach can be applied to other research areas, e.g., acute respiratory infection. It is also apparent that the grantees have adopted the philosophy that applied research is best conducted using an interdisciplinary, multi-disciplinary, community-based approach. It is the rare grantee who does not appreciate the novelty and potential impact of the ADDR research approach. As Dr. Salazar-Lindo of Peru (003) notes, ADDR has promoted "a community-based approach to research" that is significantly different from the primarily "hospital-based, clinical research conducted previously."

However, a clear sense of the value and operational dynamics of the interdisciplinary approach is not apparent in the self-evaluation forms. Since most of the studies are still underway, it may be too soon for any of the researchers to describe in detail the advantages and/or shortcomings of the ADDR approach or to document how interdisciplinary or multi-disciplinary research is best conducted.

Third, in most cases, the researchers remark that financial support and technical assistance from ADDR has been fundamental in carrying out the investigations. Although several researchers had support from other sources, most would not have been able to do their studies without ADDR.

It is noteworthy that ADDR has been able to identify, train, and support some local researchers who might not have been able to do research without the assistance of this A.I.D.-supported project. ADDR support has helped to create a cohort of investigators in the seven emphasis countries. This is a commendable achievement. It now remains to be determined what is required to ensure that these investigators become self-reliant.

b. Quality of the Research underway and completed

The quality of research was assessed by reviewing the research proposals, the annual progress reports, and the manuscripts describing the research. A selection of nine project (15% sample) was reviewed in detail. The proposals examined were well-written and scientifically sound. The consultants involved in advising on the preparation of the proposals are experts in their fields and, in most cases, have had extensive experience in working overseas.

Given the system of workshops, consultants, and internal and external reviewers, it is not surprising to find proposals of very high quality. Reviewers and consultants have helped to narrow the scope of the project into that which can be done under the constraints of limited time and resources. Through the submission of annual reports the investigators have been trained to study and analyze their data while the data are still fresh in their minds. ADDR has encouraged each investigator to publish his work and also to submit it to implementation agencies. The quality of these documents has improved steadily with experience and critical feedback.

At least four principal observations can be made on the studies so far being financed through the ADDR project. First, most of the studies, and particularly the recent ones, are being conducted by young researchers in the seven emphasis countries. Many of these investigators are just beginning their research careers. ADDR has provided invaluable assistance in the form of protocol development and refinement, research implementation, data collection, and data management, and data analysis and presentation of the findings. It could be argued that without ADDR assistance, several of these potentially promising investigators would not be able to conduct research.

Second, the majority of the studies underway or completed are primarily descriptive. Most were carried out to identify the risk

factors associated with the incidence and prevalence of diarrheal disease. As a result of the very thorough ADDR review and approval process, the study designs appear appropriate and capable of generating valid and, in the context of some country programs, significant information for national CDD policy and the program. For example, reports indicate that the results of Dr. Gonzalo Gutierrez' study, completed in early 1989, on "Normalized Treatment Algorithm for Acute Infectious Diarrhea at Primary Care Units... (009)"¹⁰ have been used to revise physician training and treatment practices in the Instituto Mexicano del Seguro Social (IMSS). By and large, however, available evidence suggests that the majority of the studies have had minimal impact on policy formulation or program design and implementation.

Third, the studies initiated since the conduct of the mid-term assessment of ADDR (March 1988) give increasing attention to the role that social science can play in research on diarrhea. Several studies that illustrate this trend and document the extent to which social science research approaches are receiving increased attention in the ADDR project are: Dr. Paul Nkwi's "Ethnomedical Study of Diarrheal Diseases in Cameroon (056)," the "Anthropological Study of Mother's Beliefs and Practices Regarding the Treatment of Acute Diarrhea in Rural Mexico (049)" by Drs. Homero Martinez and Juan Calva, the "Study of the Role of Teungku Meunasah on Education and Prevention of Diarrheal Diseases in the Aceh Besar Regency (070)" by Dr. Razi Suangkupon Siregar, and Dr. Fozia Qureshi's study on "Perceptions of Illness, Home Care, and Health-seeking Behavior in Childhood Diarrhoea (036)."

Fourth, there is a wide and obvious disparity in the quality and content of studies from the three regions. On the continuum of proficiency in research, the Latin American region (Mexico and Peru) appears most advanced, followed by Asia (Indonesia, Pakistan, and Thailand) and Africa (Kenya and Nigeria). While exceptions could be cited, e.g., the case of Dr. Nkwi in Cameroon, investigators in Africa appear most in need of the full complement of technical assistance available through ADDR. Those in Asia and Latin America are generally more capable and in need of limited, focused assistance, e.g., multi-disciplinary research methodology.

c. Relevance of the ADDR Project to A.I.D.'s mandate

A.I.D.'s mandate has been defined in the Health Sector Policy and Strategies, and the Research Policy. The agency's Child Survival Policy, which gives high priority to addressing diarrheal diseases that have a high incidence in developing countries--

¹⁰This number and those appearing in parenthesis throughout this report refer to the Grant Numbers assigned to proposals by ADDR management.

particularly in the rural and peri-urban areas--and contribute heavily to infant and early childhood mortality, is most relevant. As described, Oral Rehydration Therapy (ORT) is one of the "twin engines" of the agency's child survival policy; it can prevent or treat dehydration in a timely manner and avert death.

As stated in the A.I.D. Health Strategy, "bilaterally funded developing country-based research will be preferred over centrally funded research where institutional capability will be strengthened as a result." This goal corresponds to the ADDR philosophy which focuses on creating a cohort of researchers in diarrheal disease in selected developing countries through capacity building and some institutional strengthening. The importance of training future generations of public health researchers in the principles of scientific investigation cannot be underestimated. Over time, these researchers are expected to become self-reliant and capable of applying the scientific method learned through ADDR to develop research proposals that can be approved and funded. The ADDR Project is a good example of the effective implementation of A.I.D.'s Research Policy. The project's approach appears sound and capable of generating results of scientific merit and useful in formulating and/or changing national diarrheal disease control policies and programs.

d. Areas of Research and Scientific Output,
Potential Impact on the Control of Diarrheal
Disease, and Status of Multi-disciplinary Research

The studies underway and completed are relevant to A.I.D.'s mandate in child survival. Most, however, have not been completed. It is, therefore, premature to assess their impact on global efforts to control diarrheal disease.

The studies funded by ADDR have focused on:

- home use of foods and fluids in the management of diarrhea;
- prevention and intervention;
- invasive and chronic diarrhea; and
- the behavior of mothers/caregivers and/or health care providers.

The projects grapple with practical aspects of diarrheal disease research. They are by definition "applied" diarrheal research, and from this perspective the projects have done remarkably well.

The ADDR-funded activities to date attempt to:
(1) define the magnitude of diarrheal disease in the host

communities; (2) determine the etiology of the invasive and persistent diarrheal disease subgroups; and (3) present recommendations for practical solutions to the problems of diarrheal disease management.

The following are some examples of research results of the program:

- a series of clinical studies in Pakistan, Mexico, and Peru identifying inexpensive, culturally acceptable diets for improving diarrheal case management;
- a Mexican study showing the efficacy of a simplified treatment algorithm in improving physician treatment practices for diarrhea;
- a series of community studies identifying environmental risk factors that might influence the pattern of diarrheal diseases;
- a Thai study demonstrating problems with a Ministry of Health health education intervention designed to prevent diarrheal disease, and
- several studies on defining the behavioral practices and attitudes (e.g., mothers, caretakers) regarding the identification and treatment of diarrhea.

While it is also too early to assess the extent to which an interdisciplinary approach to research on diarrhea has become effectively inculcated, available evidence suggests that this approach is endorsed and being practiced. At this point, it would seem important for ADDR and A.I.D. to agree upon and establish an emphasis hierarchy among the principal objectives of the project. At the moment it appears that several objectives are being promoted. First is establishing research capacity in the developing world. Supporting research on diarrheal disease and clearly heralding A.I.D.'s contribution are also apparent and well documented. Finally, making an impact on one of the most important diseases in the developing world through the conduct of multi-disciplinary research is articulated but less apparent.

ADDR has created a network of health professionals focusing on diarrheal disease research. This network, the most well established aspect of the project, allows local scientists from developing countries to see common problems, exchange information, and learn from each other. Through ADDR, local investigators are learning to study their own problems in a scientifically sound manner.

4. Dissemination of Research Data

Since the mid-term evaluation, project staff have been conscious of the need to publicize the ADDR approach to building local research capacity, as well as the contents and results of the studies. Researchers within and outside the emphasis countries have been one audience for these dissemination activities; policy-makers and national CDD program managers have been the other. Three principal dissemination activities have taken place. The first are those efforts that have brought researchers from the emphasis countries together to raise research issues and to participate in workshops designed to hone proposals and develop data collection and data analysis skills. Workshops in Thailand, Indonesia, and Nigeria (Zone A) are examples of these training and research activities.

In 1989, ADDR sponsored the attendance of researchers from Nigeria to the Third African Conference on Diarrhoeal Diseases (AFCODD) in Nairobi, and Asian researchers to attend and present at the Fifth Asian Conference on Diarrheal Disease (ASCODD) in Kathmandu, a second dissemination activity. ADDR plans to continue to support presentations by researchers at national, regional, and international conferences and workshops, e.g., Thailand Conference on Diarrheal Diseases (March 1990), for the remaining years of the project.

Finally, the project has encouraged researchers to prepare papers and publish their research results. Appendix IX lists the studies published, accepted for publication, or submitted. In addition to promoting publication in scholarly journals, the project has supported the preparation of two monographs containing papers presented by researchers associated with the project. The first is a special issue of the Review of Infectious Diseases that will contain the papers coming from the International Conference on Shigella and Invasive Diarrhea held in Bangkok in December 1988. The second monograph will make available the materials on research capacity-building that were developed and discussed at the Annual Meeting of the American Anthropological Association in November 1989.

It could be argued that ADDR has been successful in bringing the findings of the project's research network to the attention of other researchers within and outside the emphasis countries. However, the project has been less successful in making policy-makers, national CDD program managers, and other implementation and research projects supported by A.I.D. aware of the contents, results, and significance of the activities supported by ADDR. ADDR management is aware of the need to document and promulgate the structure, composition, operations, and value of the interdisciplinary/multi-disciplinary approaches to research on diarrhea. Also, as an applied research project, ADDR is conscious that researchers in the emphasis countries must be more aware of

the need to involve policy-makers and program managers at all stages of the research, from framing the questions to writing and presenting the results. It is not yet clear that this audience is fully involved, although the available evidence suggests that ADDR is struggling mightily to ensure that project activities are presented rapidly and in a form easily understood by policy-makers, managers, and other A.I.D.-supported CDD activities.

In the coming year ADDR has proposed preparing and disseminating through Dialogue on Diarrhea (circulation 200,000 issues in 10 languages per quarter) a newsletter, written in easily readable language, that summarizes project activities and addresses the concerns of program managers and policy-makers. It is suggested that this insert in DOD would reach an audience outside the research community that has an intense interest in the methodology developed and study results obtained by ADDR.

This current proposal is testimony to ADDR's consciousness of the need to link researchers with others involved in diarrhea programs. Moreover, it may be an appropriate approach to dissemination. It remains to be considered, however, whether another A.I.D.-financed project, e.g., PRITECH, HEALTHCOM, already working with policy-makers and program implementers on a day-to-day basis, is more appropriately positioned and should be charged with analyzing and publishing the work of ADDR. These implementation projects have research components, know the relevant audience, and are responsible for disseminating information relative to policy-formulation and project implementation. It might be a cost-effective use of A.I.D. resources to invite the staff of PRITECH, e.g., The Information Center, or HEALTHCOM to work with ADDR staff on a semi-annual basis to prepare and distribute a report. In addition to enhancing the potential for policy-makers and program managers to become more aware of, if not more intimately involved in, applied research on diarrhea, this approach could foster increased collaboration among centrally financed projects.

5. Support to Developing Country Research Institutions (Institutional Support)

This category of project activity would be more appropriately entitled "Operational Support to Individuals through Institutions." While the project has donated computer equipment to centers in Indonesia (Grant 058) and Peru (Grant 067), these contributions are exceptions and outside the normal complement of support.

In general, ADDR has been trying to contribute to institutional self-reliance in research by identifying and fostering the skills of young researchers. The project has provided some salary support and limited assistance for equipment. However, with the exceptions noted above, ADDR has not given core support to institutions, nor has the project been allowed to take

a liberal approach to supporting individual researchers. For example, it appears that ADDR grant recipients cannot receive short or long-term training (i.e., degrees), and that support for purchasing basic texts or teaching activities -- passing on the research methodology learned through the project -- is not available.

A review of the proposals approved for funding suggests that local researchers within the ADDR network have benefited from the assistance provided through the project. With some exceptions, the first round of proposals required three modifications before approval was given. Although only a few investigators have submitted a second research proposal, e.g., Bhutta from Pakistan, indications are that the quality of the most recent proposals is clearly superior to those submitted in the first round. Moreover, the proposals received after the mid-term assessment are more clearly targeted to incorporate interdisciplinary approaches to research on diarrhea. These results clearly indicate that the efforts of ADDR have contributed to the research capacity of local investigators within the emphasis countries.

There is, however, a considerable gap between enhancing the research capacity of local investigators and achieving institutional self-reliance in research. Project resources have clearly been used to achieve the former; resources have not been focused to attain the latter. If investments in developing the research capacity of local investigators are to be sustained through local institutions, efforts must be made to identify the resources needed to complement ADDR support. This is not to argue that ADDR alone should be responsible for defining the costs and definition of each component needed. However, ADDR is aware of some of measures required, e.g., books, degree program, short courses, etc. This information should be shared with the team or project given the task of ensuring that enhancing the research capacity of local investigators leads to institutional self-reliance in research. A fundamental objective of ADDR is to see that applied interdisciplinary research on diarrhea continues after A.I.D. assistance is terminated. This suggests that local institutions need to have the financial resources required to support operations and the personnel capable of teaching research methodology, conducting studies, and publishing results.

The assistance available to local researchers through ADDR appears to be only one small component of what may be required to establish institutional self-reliance in research. Since ADDR can currently only provide limited support to individuals, the project has limited potential to influence institutions. Continuity in research is difficult to ensure without an institutional base. In the coming years, it will be important for A.I.D. to examine carefully what can be done through ADDR and other project mechanisms to achieve this objective. For example, USAID/Dhaka suggests that a person responsible for fund-raising should be added

to the staff of ICDDR,B and charged with identifying and securing the resources needed to ensure institutional self-reliance.

The ADDR project has only limited potential for ensuring that local institutions achieve self-reliance in research, although individual investigators, supported by ADDR, have enhanced capacity to conduct research.

6. Coordination with other A.I.D.-financed Projects

Since the mid-term evaluation, some progress has been made in improving the coordination between ADDR and the other A.I.D.-funded diarrheal disease research projects. Coordination is understood as the process whereby equal partners act together in a concerted way to achieve common goals. It calls for the active exchange of information about activities and outcomes that may be of interest to all the parties involved and includes joint efforts to carry out specific actions in selected places. Coordination should not be the result of a rigidly structured process but of a voluntary association of those interested in specific problems that are studied or controlled through different approaches--a network or partnership.

Examples of coordination between ADDR and other A.I.D.-supported research activities are few but significant. ADDR has been cooperating with the WHO/CDD research program in three institutions, e.g. discussing co-funding of some research conferences. There has been regular communication between ADDR and PRITECH with reference to projects in Kenya and Mexico, as well as with the CCCD Project in Nigeria. In Peru, ADDR and the Water and Sanitation for Health (WASH) Project have provided technical assistance in a domestic hygiene/water purification project. ADDR has provided in the past--and is willing to continue--technical assistance and a mechanism for financial support of projects at the ICDDR,B. This cooperation between two A.I.D.-financed research projects on diarrhea disease appears effective.

These developments are encouraging. However, although useful, they appear somewhat fragmented and less than a sustained coordination effort which, by its very nature, should be reciprocal. Mortality due to diarrheal disease continues to fall in the developing world, largely due to the efforts of CDD programs. The need to use A.I.D. resources to support more cost-effective research and to facilitate coordination between and among projects becomes more urgent. This is particularly the case for projects that focus on changing behaviors in regard to prevention or treatment of diarrhea--one of ADDR's priority research themes. Since HEALTHCOM is seminaly involved in this area of investigation, a close relationship between this project and ADDR is suggested. For example, it would be important to both ADDR and HEALTHCOM to know more about the methodologies that each project is using to identify and change behaviors related to the health

practices of providers and recipients of diarrheal disease health care.

V. Conclusions and Recommendations

The discussion above summarizes the findings of the Evaluation Team. Below appear the principal conclusions and recommendations for review and action by A.I.D and ADDR.

A. Scientific Results

Conclusions. The project has completed or initiated 58 scientific studies in seven emphasis countries in the following areas of diarrhea research: home use of foods and fluids in the management of diarrhea; prevention and intervention; invasive and persistent diarrhea, and the behavior of health care providers and mothers/caretakers. The funded studies, which have been refined through the ADDR "mentor-researcher" relationship, are well designed and respond to important issues within the priority themes. While many of these studies are in process, many of those completed have been presented at regional and international meetings and submitted for publication. The results indicate that there is a significant geographic diversity among factors, e.g., etiology, behavioral, cultural, environmental, that are important in the control of diarrheal disease.

Recommendations. The team agrees that these are important areas of investigation that may have impact on both policy and program decisions. Research in the emphasis areas should continue, although increasing attention should be given to linking research questions with national programs and policy formulation, and efforts should be undertaken to document and disseminate the content and results of the research both in-country and throughout the ADDR network. A.I.D. should consider requesting PRITECH and HEALTHCOM assistance in facilitating the dissemination of study content and results undertaken by ADDR.

B. Capacity-Building of Local Investigators

Conclusions. The project has fostered the development of a network of 150 local investigators, 47 of whom are principal investigators, involved in 58 projects in diarrhea disease in 28 institutions in 10 developing countries. The methodology developed by ADDR to identify local investigators and support sound research on diarrheal disease is sound and feasible. Despite obstacles to implementation, the project is beginning to produce significant results related to the understanding and control of diarrheal disease.

Recommendations. The team recommends that this model to develop research capacity be documented. Implementation of this model should continue, allowing for its evolution, refinement, and further development that can ensure the self-reliance of the investigators. Over the next two years the project should focus on consolidating the gains made in the seven emphasis countries.

At the same time, the project should not discourage the submission of promising proposals from non-emphasis countries, assuming both the proposals and the countries are acceptable to A.I.D..

C. ADDR Project Design

Conclusion. There is every indication that the current project design is effective and will ensure the successful completion of project objectives by the Project Activity Completion Date (PACD), 30 November 1994. This conclusion is predicated on continuing the current implementation management of the project.

Recommendations. The Cooperative Agreement should be extended to maintain the current management of the project. (See F below) Since this project has the potential to develop significant capacity for research in developing countries, A.I.D. should consider designing a new five-year project at the conclusion of and following an evaluation of the extended existing CA.

D. ADDR's relevance to A.I.D.'s overall portfolio of research on diarrheal disease

Conclusion. This project contributes very significantly to the Diarrheal Disease Research portfolio of A.I.D. because it focuses on building the research capacity of local investigators and, consequently, to strengthening institutional capacity in research. The findings from the research are likely to contribute to other components of the A.I.D. portfolio, e.g., policy-formulation.

E. Project Priorities to Project Activity Completion Date (PACD - November 1994)

Recommendations.

1. ADDR should continue to develop local researchers and good quality research projects in the seven emphasis countries.
2. The ADDR model for developing local capacity for research in diarrheal disease, which gives every indication of being a successful approach to identifying and supporting local investigators, should be thoroughly documented, recording the successes and failures.
3. ADDR should also conduct a study to determine the human and material resources, as well as time and cost, required to establish self-reliant institutional applied research capacity in at least two of the seven emphasis countries. Since the African countries (Nigeria and Kenya) appear to have the greatest needs, one of the studies should focus on a country in the African region.
4. With the assistance of the TAG, ADDR should formulate and

promulgate a thoroughly integrated model for conducting biomedical and social science research on diarrheal disease, taking into account the objectives of the project and the operational constraints encountered in most developing countries.

5. ADDR should carry out a comparative analysis of studies on common themes, e.g., invasive and persistent diarrhea, from the different countries. This exercise could provide information on the similarities and differences among the studies and lead to improving CDD policies and programs.

6. In the emphasis countries, the project should: continue to strengthen the cohort of self-reliant researchers identified and supported by ADDR; emphasize the close and continuous links between the local research community and CDD program managers and policy-makers; expand the four current research areas to include other themes, e.g., breastfeeding, and ensure that the content and results of studies are spread within the country and globally. In the non-emphasis countries, the project should remain open to receiving, reviewing, and funding research proposals on the relevant project themes. These proposals should be similar in quality to those already received and endorsed from Cameroon and Senegal.

7. Continued emphasis should be given to diarrheal research, especially in the area of prevention and intervention. This area seems most likely to blend the concerns and approaches of both biomedical and social science investigators. In addition, this area of investigation -- from study inception, through review of progress, to final analysis and dissemination -- calls for an active and continuous relationship among program personnel, policy-makers, and researchers. As noted in the mid-term assessment, ADDR must give increased attention to linking research questions with the concerns of national CDD program managers and policy-makers as well as to disseminating the content and results of completed research in-country and throughout the ADDR network. Decision-makers should be informed before a theme has been selected, and program personnel should be invited to participate in framing the research questions. While the investigation is underway, decision-makers and program managers should receive regular progress reports. These professionals need to become involved early in the study and to understand clearly how the results can influence policy and program interventions. In this process, ADDR consortium members and consultants should cooperate as appropriate.

Considering and adopting the following strategy might be one way for ADDR to ensure that research results are routinely incorporated into policies and programs. Other A.I.D.-financed projects (HEALTHCOM and PRITECH) are already conducting intervention studies, e.g., program problem-solving research, designed to improve program performance and impact. At the country level, it may be useful for ADDR and the implementation projects

(HEALTHCOM and PRITECH) to identify measures to link ADDR researchers with those sponsored by projects in A.I.D.'s Health Services Division. Exposing ADDR researchers to on-going intervention research may expedite the process for acquiring additional research skills and foster effective and meaningful contact with policy-makers and program managers. It is recognized that other approaches could be equally fruitful; all should be considered.

8. ADDR should take the initiative and establish a constructive dialogue with HEALTHCOM to determine whether methodologies and approaches to intervention research used in both projects are comparable and cost-effective. Furthermore, the exchange of experiences in countries where both projects are being developed could be very useful.

9. The recommendations on coordination included in the Report of the Review of the Diarrheal Disease Research Portfolio of A.I.D.'s Office of Health should be implemented. The initiative should come from A.I.D.; contractors should be asked for suggestions for better coordination and communications, and CTO's of projects with diarrheal disease research components should make greater efforts to report on objectives, advances, and constraints. Project representatives should decide on the periodicity of meetings. These should take place in an open environment fostering a free exchange of views and information for the benefit of all.

F. Extension of the Current Cooperative Agreement (CA)

Conclusions. A.I.D. must decide whether or not the current Cooperative Agreement should be extended beyond September 1990. This evaluation and the earlier mid-term assessment have traced the development and progress of ADDR's method for building the research capacity of local investigators. This approach evolved when it became clear that local research capacity in diarrheal disease had to be improved to provide in-country medical practitioners, policy-makers, and program designers with scientific findings upon which to base control and treatment programs. This approach included emphasizing the importance of multi-disciplinary research in the control and treatment of diarrheal diseases. As a consequence, close collaboration among biomedical, epidemiological, and social science approaches has been emphasized in the research methodology of the project.

Since ADDR had to spend a large amount of time identifying researchers and institutions in the emphasis countries, the project has only just completed the first round of research grants and has begun to initiate a second round, with many of the same investigators. It will take at least two more years before the cycle of proposal review, research implementation, data collection and analysis, and report writing is complete.

Over time, ADDR has refined its proposal submission and review processes and developed an innovative method of fostering the research capacity of local investigators and, through them, local institutions. The process has required a longer period than originally anticipated in the Project Paper but the prognosis is that the project will accomplish significant developmental results by its PACD (November 1994), if it has continuity of implementation management.

Recommendations.

1. A.I.D. should immediately approve a two-year (to September 29, 1992) no-cost extension of the CA as requested by ADDR in January 1990. There is no need to make any significant modifications in the existing CA other than those discussed below under Section G.
2. Based on an A.I.D. internal management review indicating continuing progress toward accomplishment of project objectives, A.I.D. should consider over the next year and a half (by September 1991) extending the CA for one additional year (to September 29, 1993). During this one-year extension, ADDR's work plan should emphasize the orderly completion of research grants underway at the end of FY 1992, the consolidation and dissemination of results of the research to local decision-makers and CDD programs, and the identification of priority areas and rationale for any follow-on activities that A.I.D. should support after completion of the ADDR project.
3. A.I.D. should obligate additional FY 1990 funds to the CA. ADDR will use these funds to support the research approved in the second round of grant-making. The amount of \$1.9 million has been requested by ADDR. However, given the unexpended amount in the pipeline and the current rate of expenditure (approximately \$500,000 per quarter), an obligation of \$1 million should be sufficient to carry the project through the second quarter of FY 1991. At that point, additional funds will be needed.

G. Modifications of the Cooperative Agreement (CA)

Recommendations.

1. To enhance the prospects for generating and rapidly approving proposals from the emphasis countries, the responsibilities of the TAG, as outlined in the CA, should be modified. The TAG should advise ADDR on technical issues, identify potential local investigators, and review ADDR program directions. The TAG should offer guidance to ADDR on the definition of measures that would lead to institutionalizing the local research capacity and to enhancing the prospects for multi-disciplinary research. Proposal approval, irrespective of the budget amount, should be made by the executive committee of ADDR and with the agreement of the A.I.D./CTO. While the TAG should not be formally involved in

proposal review and approval, individual members should, depending on their area of expertise, be called upon to review proposals and to serve as mentors to the local investigators.

2. The TAG should be reconstituted to contain some researchers from developing countries who are familiar with the operational constraints and the potential for developing local research capacity.

3. Article V.1.e. of the CA should be modified. The requirement for a Quarterly Technical and Geographic Summary should be changed to periodic reporting as requested by the CTO. Paragraph e. of Article V.1 should be modified to read as follows:

"e. The A.I.D./CTO will from time to time request a Technical and Geographic Summary Report. The recipient shall maintain up-to-date summary records of costs and approximate direct time (person-days), by country, summarized by A.I.D. regional bureaus or offices, for each discrete technical activity with costs exceeding \$1,000. The recipient's records system should be adequate to determine current, cumulative direct costs and approximate time by technical assistance category, by country and region, and by requesting A.I.D. Bureau, Office, or Mission. These reports shall be reproduced in a standardized format approved by the A.I.D. Cognizant Technical Officer".

4. A new reporting requirement should be added to the CA, Article V, requesting ADDR to prepare a quarterly narrative summary of technical activities of funded projects by country. This report should be distributed to cooperating USAID Missions, Ministries of Health in ADDR emphasis countries, and A.I.D./S&T/H CTOs who manage diarrheal disease-related projects.

H. Proposed follow on Project

Conclusion. There is ample justification for concluding that A.I.D. should support the development and implementation of a follow-on project. On the one hand, it is unlikely that researchers supported by the ADDR project will be able to resolve all the issues of interest to A.I.D., or the developing country program managers and policy-makers. On the other hand, issues have emerged in the course of implementing ADDR that were not anticipated in the original PP, are a natural but unintended consequence of implementation, and will need to be addressed.

Recommendations. The follow-on project should consider supporting the implementation of the initiatives listed below. The activities proposed are illustrative only.

1. Continue to support the research grant program, focus on

research on persistent and invasive diarrhea, as well as prevention and intervention studies, and extend activities into additional developing countries, beyond the current seven;

2. Sponsor an annual regional conference/workshop attended by researchers, policy-makers, and CDD program managers at which mechanisms designed to link directly investigations more closely with program concerns would be proposed, discussed, and lead to significant involvement among those dealing with the control of diarrhea disease;

3. Implement the study, suggested in E.3 above, that estimates the human and material requirements for establishing self-reliant institutional research capacity -- in two new countries as well as in the current seven emphasis countries.

VI. Lessons learned

1. Better understanding of the modes of relating biomedical and social science has become available. However, a clear and definite model for effectively integrating the two approaches remains to be defined. Within the TAG and at the country level there is clear agreement on the value of interdisciplinary research. How it should be conducted remains unclear.

2. The ADDR experience in supporting research on diarrheal disease in developing countries suggests that the Project Paper may have projected an unrealistic estimate of the time required to identify and train local researchers to conduct studies on diarrheal diseases. What was designed as a five-year effort is likely to take eight years to accomplish. This experience should be kept in mind when designing similar research projects in the future.

3. A consortium of universities, that can attract and involve the highest caliber developed world researchers, has been a valuable arrangement for achieving progress in developing local investigators and conducting applied research on diarrheal diseases. Should A.I.D. decide to sponsor a new Project in Applied Diarrheal Disease Research, a consortium of universities with solid knowledge on the characteristics of and conditions in developing countries, should be considered as an appropriate mechanism for implementation.

**APPLIED DIARRHEAL DISEASE RESEARCH (ADDR)
(936-5952)**

**TERMS OF REFERENCE
AND
SCOPE OF WORK
FOR
SECOND PROJECT EVALUATION**

I. SUMMARY PROJECT INFORMATION

Name/Number: Applied Diarrheal Disease Research (936-5952)

Country Entity: Worldwide

Date Authorized: April 26, 1985

PACD: November 30, 1994

Authorized LOP: \$14,450,000 (including \$3 million in buy-ins)

Project Purpose: To support country-specific applied research to adapt new and improved technologies for the control and prevention of diarrheal diseases in particular country settings. The purpose is supported through technical assistance, research grants and institutional support.

Implementing Agent and Mechanism: Harvard Institute for International Development (HIID) in conjunction with Tufts and John Hopkins Universities - Through Cooperative Agreement No. DPE-5952-A-00-5073-00

CA Effectiveness: September 30, 1985 - September 29, 1990

CA Ceiling: \$9,998,630

II. BACKGROUND

The Cooperative Agreement No. DPE-5952-A-00-5073-00 between the United States Agency for International Development (A.I.D.) and the Harvard Institute of International Development (the Recipient) has been in effect since September 30, 1985 and expires September 29, 1990. The total estimated cost for the Agreement is \$9,998,630 for a five year period. This agreement is the sole implementation instrument for the Applied Diarrheal Disease Research Project. Its purpose is to provide support for Applied Diarrheal Disease Research as set forth in the Recipient's proposal. As required by

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Article VI of the Cooperative Agreement, a midpoint evaluation of the project was conducted in March 1988.

The purpose of this Cooperative Agreement is to assist A.I.D. and host countries to establish or improve diarrheal research activities through (1) short term technical support activities, (2) management of a research grant program, and (3) institutional and individual resources development in less developed countries.

At the end of the project, it is expected that the implemented programs will result in (1) improvement of diarrheal disease control, (2) completion of research projects in the priority areas, (3) improvement of coordination between A.I.D. and other donors on diarrheal disease research activities, and (4) establishment of institutional capacity to conduct research in approximately six emphasis countries.

III. PURPOSE OF EVALUATION

The results of this evaluation will be used primarily by S&T/H to examine how ADDR fits into S&T/H's overall Diarrheal Disease Research (DDR) portfolio, its appropriate role (if any) for the future, significant modifications which may be required to the overall project and/or modifications which should be incorporated into any future CA extensions or follow-on activities. The specific objectives of the evaluation are:

- A. To review the appropriateness of the original project design and subsequent revisions;
- B. To assess the efficiency and effectiveness of overall project implementation; with emphasis on scientific output of awarded research grants;
- C. To analyze the above findings and develop conclusions and recommendations for any future follow-on extension/project or related activities; and to point out any lesson learned that may be pertinent in considerations of future activities in applied diarrheal research efforts.

IV. DETAILED SCOPE OF WORK

A. Document Review

Review pertinent project documents and correspondence including but not limited to:

- Project Paper dated 4/22/85;

- Request for Application (RFA) No. AID/STPE-5007;
- Cooperative Agreement No. DPE-5952-A-00-5073-00 dated 9/30/85;
- Sub-agreements between HIID, Tufts and JHU;
- Annual Project Work Plans prepared by HIID for FY86, FY87, FY88, FY89 and FY90;
- Progress Reports and Financial Reports; and
- The ADDR Mid-Project Report: September 30, 1985 - March 30, 1988 by HIID.
- The Diarrheal Disease Portfolio Review dated December 1989; and
- Report on the midterm evaluation of the Applied Diarrheal Disease Research project; March 1988
- ADDR TAG Members
- ADDR Research Grants Portfolio
- ADDR Description of Grants and Proposals
- ADDR Grantees - Self-Evaluation Form
- ADDR Tag Members Evaluation Form

B. Overall Project Implementation

1. Management

- a. Project Reporting - Review contents of reports. Have they been prepared and submitted in a timely fashion? Has distribution been appropriate? Briefly describe. Are the contents of the reports appropriate planning/management tools for the five project activities (technical assistance, research grants, institutional support, institutional collaboration and other)?
- b. Financial Plans and Expenditures - Examine expenditures to date as compared with financial plan contained in the Cooperative Agreement.
- c. HIID/Tufts/JHU Sub-Agreements - Examine the areas and magnitude of Tufts and JHU involvement to date. Assess the effectiveness of this consortium

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arrangement to accomplish project purpose. Should the consortium be expanded to include other universities?

- d. Review the role of A.I.D. in implementing the CA. with particular attention to "Substantial Involvement" section of the CA.
- e. Technical Advisory Group - Analyze the TAG in terms of size, and technical composition; evolution of membership over the life of the CA; its performance in establishing research priorities establishing interdisciplinary approaches, reviewing proposals monitoring of project progress, and facilitating coordination among and between other researchers and institutions.
- f. Assess the recipient's ability to find and field short term TA in a timely manner that draws on the wide range of diarrheal disease research expertise in U.S. universities. Have adequate efforts been made to reach beyond institutions represented in this consortium?
- g. Assess the implementation of grant program (solicitation and recruitment, application and review process, assistance in strengthening proposals, coordinating research with other national or international organizations, adequacy of technical support and communication with investigators and monitoring) including relationships to host country CDD programs and policy makers.

2. Technical Assistance

Assess technical assistance provided for the Missions. What are the results and accomplishments?

3. Research Grants

- a. Review ADDR Grantee Self-Evaluation Summary Reports provided by HIID.
- b. Assess the quality of the research through a detailed review of the project files and interviews where possible.
- c. Summarize the areas of research and scientific output,
- d. Comment on areas of research relative to priority

areas of the CA; relevance to A.I.D.'s mandate; significant scientific results; relevance to and potential impact on national and global DD control programs; and effectiveness of efforts to foster multi-disciplinary approaches, especially integration of biomedical, epidemiological and social science.

4. Research Data Dissemination

Comment on effectiveness of research data dissemination and its potential impact on national/ global diarrheal disease control program.

5. Institutional Support

Review institutional support elements of the CA and assess the impact of such support on local researcher capacity building especially in multi-disciplinary approaches to diarrheal disease research.

6. Improved Coordination

Review HIID's efforts to improve the coordination of A.I.D. and other donor diarrheal disease research activities noting: areas of coordination; institutions and organizations involved (A.I.D. missions and bureaus, other donor organizations, WHO, ICDDR,B etc.); methods employed; significant achievements and areas in need of improvement.

7. Review other activities carried out under CA.

C. Conclusions and Recommendations

1. Draw specific conclusions and make appropriate recommendations based on findings gathered in the review and analyses called for in paragraphs IV B and C above.
2. Draw some broad conclusions and make recommendations on the following:
 - a. overall project accomplishment;
 - b. overall ADDR project design and modifications, if any, necessary
 - c. ADDR's relevance to A.I.D.'s overall DDR portfolio;
 - d. ADDR's progress and accomplishments to date;

- e. What should be priorities between now and the end of project?
- f. whether an extension of the current CA with HIID is justified, and if so, for how long?
- g. if extension is justified, what modifications should be made in the current CA?
- h. if follow-on activity is recommended, what are priority areas.
- i. lessons learned that emerge from the findings and analysis

V. EVALUATION PLAN

The evaluation will be accomplished through visits to HIID, reviews of researchers' self-evaluation of research grants, examination of project files and interviews in person or by phone with key staff, A.I.D. officials, subcontractors, key members of the TAG, investigators for the randomly selected research grants which will be examined in depth, key individuals of selected host country organizations or institutions, comments from A.I.D. missions.

- 1. Evaluation Team: The team will be composed of four people including at least a senior public health specialist, a diarrheal disease epidemiologist, a social scientist, and an implementation and management specialist.
- 2. Schedule: The evaluation is expected to require four people for approximately fifteen person-days each.

| <u>DAYS</u> | <u>ACTION</u> |
|-------------------------|--|
| February 1-2 | Review of project documents, briefing by A.I.D., preparation of detailed plan, schedule and list of interviews, preparation of interview guidelines. |
| February 4-8 | Visits to HIID, examination of files, interviews. |
| February 9-12 | Compilation of findings. |
| February 12/ March 2 | Preparation of draft report. |
| March 2-10 | A.I.D. comments on draft report. |

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March 12-20

Finalization of report.

March 22

Submission of final report

VI. REPORTING REQUIREMENTS

1. A completed draft, together with a verbal presentation will be submitted within three weeks of beginning work and ten copies of the final report will be submitted within five days of receipt of A.I.D. 's comments on the draft. The document shall include a table of contents, an executive summary, the body (not to exceed 40 pages), and annexes including the scope of work, most current Logical Framework, documents consulted, people/agencies contacted and additional detailed information on technical matters.
2. Evaluation team leader will complete the abstract and narrative sections of the A.I.D. Evaluation Summary form and submit this form with the final report.

APPENDIX II

--COMPARISON OF BUDGETS AND EXPENDITURES--

1

| <u>Budget Item</u> | <u>Fiscal Year 1986</u> | | <u>Fiscal Year 1987</u> | | <u>Fiscal Year 1988</u> | | <u>Fiscal Year 1989</u> | | <u>Fiscal Year 1990</u> | | <u>All Years</u> | |
|--------------------|-------------------------|---------------------|-------------------------|---------------------|-------------------------|---------------------|-------------------------|---------------------|-------------------------|---------------------|------------------|---------------------|
| | <u>Budget</u> | <u>Expenditures</u> | <u>Budget</u> | <u>Expenditures</u> |
| Salaries | 139,080 | 139,080 | 179,903 | 179,246 | 192,496 | 174,116 | 205,971 | 186,121 | 220,389 | 48,139 | 937,839 | 726,728 |
| Consultants | 11,179 | 11,179 | 77,650 | 38,475 | 214,000 | 76,773 | 298,500 | 77,207 | 158,000 | 35,254 | 759,329 | 238,888 |
| Fringe Benefits | 27,837 | 27,837 | 37,780 | 38,630 | 40,424 | 37,346 | 43,254 | 36,691 | 46,282 | 10,978 | 195,577 | 151,480 |
| Travel | 19,693 | 30,437 | 75,000 | 47,893 | 127,250 | 67,191 | 198,750 | 85,459 | 150,000 | 20,164 | 570,693 | 240,400 |
| Allowances | 9,298 | 13,571 | 39,653 | 23,166 | 48,690 | 26,524 | 71,085 | 47,825 | 57,700 | 10,800 | 226,426 | 117,615 |
| Other Direct Costs | 51,663 | 51,663 | 53,140 | 45,687 | 58,500 | 46,304 | 63,500 | 38,679 | 82,500 | 14,251 | 309,303 | 214,588 |
| Overhead | 62,766 | 67,061 | 105,308 | 79,981 | 154,988 | 88,575 | 201,494 | 121,905 | 164,420 | 30,985 | 688,976 | 384,210 |
| Subcontracts | 273,341 | -0 ³ | 389,638 | 459,164 | 400,000 | 539,390 | 450,000 | 147,248 | 325,000 | 47,405 | 1,837,979 | 922,789 |
| Research Grants | <u>15,249</u> | <u>15,249</u> | <u>1,200,000</u> | <u>141,983</u> | <u>1,600,000</u> | <u>459,061</u> | <u>1,400,000</u> | <u>1,108,402</u> | <u>250,000</u> | <u>283,003</u> | <u>4,465,249</u> | <u>2,282,170</u> |
| TOTALS: | 616,106 | 356,077 | 2,158,072 | 1,054,072 | 2,836,348 | 1,515,280 | 2,932,554 | 1,867,536 | 1,454,291 | 500,979 | 9,991,371 | 5,278,860 |

1 The sources for the expenditure columns (Fiscal Year 1986 - Fiscal Year 1989) in this table were HIID financial reports as of September 30 each fiscal year. They do not add precisely to the final "All Years" expenditure column because of ledger posting corrections and adjustments over the four and a half year period.

2 As of December 31, 1989 report.

3 Sub-agreements with Johns Hopkins and Tufts Universities were entered into near the end of fiscal year 1986, and no vouchers for work under these sub-agreements were submitted for fiscal year 1986.



APPENDIX III

HARVARD INSTITUTE FOR INTERNATIONAL DEVELOPMENT
One Eliot Street, Cambridge, Massachusetts 02138
Finance Office

Tel. (617) 495-9770
Cable Address: HIID
Telex: 275276
TWX No.: 7103200315
FAX (617) 495-0527

ADDR - Breakdown of Costs as December 31, 1989

Table with 5 columns: Category, Administrative Costs, Technical Costs, Subcontracts/Grants, Cumulative. Rows include Salaries, Consultants, Fringe Benefits, Travel-Core Staff/Domestic, Travel-Consultants/Staff, Allowances-Core Staff/Domestic, Allowances-Consultants/Staff, Other Direct Costs, Overhead, Subcontracts, Research Grants, and Total. Includes percentage breakdown at the bottom: 17%, 22%, 61%, 100%.

Key assumptions for determining administrative costs:

1. Salaries are charged as follows:

- Project Manager 100%
Support Staff 100%
Full Time Scientific Staff 50%

Dr. Snyder and Dr. Good have no administrative responsibilities

2. The following line items are 100% administrative:

- Domestic Travel
Domestic Allowances
Other Direct Costs

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Atlanta, GA
30333
(O) 404-639-3577
(H) 404-639-2860

Dr. Isabelle De Zoysa
CDD Program
World Health Organization
1211 Geneva
27 SWITZERLAND
(O) 227-91-2635

Dr. Pat Rosenfield
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58

Tufts University

Dr. Gerry Keusch
Division of Geographic Medicine
Tufts University School of Medicine
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Boston, MA
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(O) 956-7001

Johns Hopkins University

Dr. Robert Black
Department of International Health
Johns Hopkins University
School of Hygiene and Public Health
615 N. Wolfe Street
Baltimore, MD
21205
(O) 301-955-3934
(H) 301-433-4534

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APPENDIX V

| ALU | FIRST | LAST | DISCIPLINE |
|------|------------|------------------|------------------------------------|
| Dr. | Maria | Amparo Cruz-Saco | Economics |
| Dr. | Massee | Bateman | Clinical Epidemiology |
| Dr. | Michael | Bennish | Pediatrics, Infectious Diseases |
| Dr. | Peggy | Bentley | Nutritional Anthropology |
| Dr. | Gretchen | Berggren | Community Medicine |
| Dr. | H. Russell | Bernard | Anthropology |
| Dr. | Robert E. | Black | Epidemiology |
| Dr. | John | Briscoe | Engineering |
| Dr. | Kenneth | Brown | Pediatrics, Nutrition |
| Dr. | Carol | Browner | Medical Anthropology |
| Dr. | Paul | Cleary | Medical Sociology, Statistics |
| Dr. | John | Clemens | Clinical Epidemiology |
| Dr. | Kitty | Corbett | Medical Anthropology |
| Dr. | Jeannine | Coreil | Medical Anthropology |
| Dr. | Chris | Costello | Demography |
| Dr. | Isabelle | De Zoysa | Pediatrics |
| Dr. | Kay | Dewey | Ecology, Nutrition |
| Dr. | Herbert | DuPont | Infectious Disease |
| Dr. | Steve | Esrey | Epidemiology |
| Dr. | Pablo | Farias | Anthropology, Psychiatry |
| Dr. | Anne | Fleuret | Anthropology |
| Dr. | Linda | Garro | Medical Anthropology |
| Dr. | Bert | Garza | Pediatrics, Nutrition |
| Dr. | Robert | Gilman | Medicine, Infectious Diseases |
| Dr. | Roger | Glass | Epidemiology, Infectious Diseases |
| Prof | Miriam | Goheen | Anthropologist |
| Dr. | Dennis | Gray | Anthropologist |
| Dr. | William | Greenough | Pediatrics |
| Dr. | Daniel | Gross | Anthropologist |
| Dr. | Richard | Guerrant | Medicine, Infectious Diseases |
| Dr. | Jane | Guyer | Anthropology |
| Dr. | Neal | Halsey | Clinical Medicine, Infectious Dis. |
| Dr. | Kristy | Hendricks | Nutrition |
| Dr. | Guillermo | Herrera | Nutrition |
| Dr. | Janice | Hogle | Medical Anthropology |
| Dr. | Robert | Hornik | Communications |
| Dr. | John | Janzen | Medical Anthropology |
| Dr. | Carl | Kendall | Medical Anthropology |
| Dr. | Gerald | Keusch | Infectious Diseases |
| Dr. | Arthur | Kleinman | Anthropology, Psychiatry |
| Dr. | Peter | Kundstadter | Medical Anthropology |
| Dr. | John E. | Laing | Population and Family Planning |
| Dr. | David | Leon | Biostatistics |
| Dr. | Myron | Levine | Clinical Medicine |
| Dr. | Stuart | Levy | Environmental Health |
| Dr. | Barry | Levy | Occupational Health, Epidemiology |
| Ms. | Shirley | Lindenbaum | Medical Anthropology |
| Dr. | Reynaldo | Martorell | Nutrition |
| Dr. | Judy | McDivitt | Communications |
| Dr. | Nico | Nagelkerke | Biostatistician |
| Dr. | Marilyn | Nations | Anthropology |
| Prof | Mark | Nichter | Anthropology |
| Dr. | Robert | Northrup | Medicine |
| Dr. | Kevin | O'Reilly | Anthropology, Epidemiology |

| ALU | FIRST | LAST | DISCIPLINE |
|-----|----------|-------------|---------------------------------|
| Dr. | Gretel | Pelto | Nutrition, Anthropology |
| Dr. | Pertii | Pelto | Medical Anthropology |
| Dr. | Karen | Peterson | Biostatistics |
| Dr. | Nate | Pierce | Medicine, Pediatrics |
| Dr. | Alison | Plummer | Epidemiology |
| Dr. | William | Rand | Biostatistics |
| Dr. | Daphne | Roe | Nutrition |
| Dr. | Patricia | Rosenfield | Economics, Social Sciences |
| Dr. | Dennis | Ross-Degnan | Health Services Research |
| Dr. | David | Sack | Medicine |
| Dr. | Bradley | Sack | Medicine |
| Dr. | Mantu | Santoshan | Medicine, Nutrition |
| Dr. | Debra | Schuman | Medical Anthropology |
| Dr. | Don | Shepard | Economics, Health Policy |
| Dr. | Paul | Skillicorn | Computers |
| Dr. | Steve | Solter | Clinical Medicine, Epidemiology |
| Dr. | Steve | Soumerai | Health Services Research |
| Dr. | William | Spira | Epidemiology, Biostatistics |
| Dr. | Bonnie | Stanton | Pediatrics |
| Dr. | Barbara | Stoll | Epidemiology |
| Dr. | Alan | Walker | Gastroenterology, Infec Dis |
| Dr. | Chris | Wanke | Clinical Medicine, Infec Dis |
| Dr. | Susan | Watts | Parasitology |
| Dr. | Mitchell | Weiss | Anthropology |
| Dr. | Wendy | Wornham | Pediatrics |
| Dr. | Stan | Yoder | Anthropology |
| Dr. | Marian | Zeitlin | Nutrition, Anthropology |

APPENDIX VI

Key Institutions in Each ADDR Emphasis Country

Peru:

Instituto de Investigaciones Nutricionales, Lima
Universidad Peruana Cayetano Heredia, Lima

Mexico:

Instituto Mexicano del Seguro Social, Clinical Research Unit
for Infectious and Parasitic Diseases, Mexico City

Nigeria:

University of Lagos, College of Medicine

Kenya:

Kenyatta National Hospital, Department of Pediatrics

Pakistan:

Aga Khan University Hospital

Thailand:

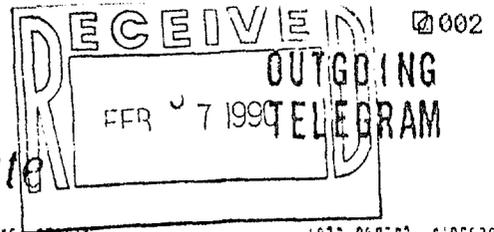
Mahidol University

Indonesia:

University of Indonesia, Jakarta (Depok)

APPENDIX VII
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Department of State



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ANHE-03 ANPD-05 ANEG-02 ANTR-06 RELO-01 ANAD-01
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DRAFTED BY: AID/ST/H/AR:KLIN;TG:4493J

APPROVED BY: AID/ST/H:AVANDUSEN

AID/AFR/TR:GHERITT

AID/LAC/OR:PFEENEY

AID/ANF/TR:NJORDAN

AID/ST/H/RSD:RCLAY

AID/LAC/SAM:ROUEENER (INFO)

AID/LAC/CEN:CCOSTELLO (INFO)

AID/LAC/CAR:DCOMEN (INFO)

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AMEMBASSY KHARTOUM
AMEMBASSY KINSHASA
AMEMBASSY DHAKA
AMEMBASSY CAIRO
AMEMBASSY NEW DELHI
AMEMBASSY JAKARTA
AMEMBASSY BANGKOK
AMEMBASSY RABAT
AMEMBASSY KATHMANDU
AMEMBASSY ISLAMABAD
AMEMBASSY SAHAA
AMEMBASSY LA PAZ
AMEMBASSY QUITO
AMEMBASSY GUATEMALA
AMEMBASSY PORT AU PRINCE
AMEMBASSY TEGUCIGALPA
AMEMBASSY LIMA
AMEMBASSY MEXICO

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AIDAC

E.O. 12350: N/A

TAGS:

SUBJECT: HEALTH/ST/H/ DIARRHEAL DISEASE RESEARCH
PORTFOLIO REVIEW.

1. BACKGROUND: ST/H HAS SUPPORTED A NUMBER OF DIARRHEAL DISEASE RESEARCH ACTIVITIES WHICH ARE CARRIED OUT BY A VARIETY OF INSTITUTIONS IN THE US AND LDCS. CURRENTLY, DIARRHEAL DISEASE RESEARCH ACTIVITIES ARE UNDERTAKEN BY THE FOLLOWING PROJECTS: APPLIED DIARRHEAL DISEASE RESEARCH (ADDR), SUPPORT FOR THE CONTROL OF DIARRHEAL DISEASE PROGRAM (CDD) OF WHO, SUPPORT FOR THE INTERNATIONAL CENTRE FOR DIARRHEAL DISEASE RESEARCH, BANGLADESH (ICDDR,B), SUPPORT FOR THE (INGO, BUFFALO (NOW ENDED), PRITECH, BRICDR, HEALTHTECH, HEALTHCOM, DIATECH, SUPPORT, DEMOGRAPHIC HEALTH SURVEYS (DHS) AND WASH. THREE PROJECTS, ADDR, CDD/WHO AND ICDDR/B FOCUS PRIMARILY ON DIARRHEAL DISEASE RESEARCH. OTHER PROJECTS INCLUDE A COMPONENT OF DIARRHEAL DISEASE RESEARCH.

2. DISCUSSION: SEVERAL OF THESE PROJECTS WILL BE UP FOR

CONTINUATION OR DESIGN OF FOLLOW-ON IN THE NEXT 16-24 MONTHS. ST/H IS TAKING THIS OPPORTUNITY TO EXAMINE THE OFFICE-WIDE PORTFOLIO AND SEEK GUIDANCE TO ADDRESS: (1)

THE FUTURE RESEARCH PRIORITIES, THE RESEARCH NEEDS, AND RESEARCH AREAS FOR ST/H SUPPORT, (2) STRATEGIES TO MAXIMIZE ST/H'S CONTRIBUTIONS, (3) WAYS IN WHICH CDD RESEARCH AND CDD PROGRAM IMPLEMENTATION COULD BE BEST INTEGRATED. THIS IS NOT A PROJECT LEVEL EVALUATION NOR IS IT LIMITED TO BIOMEDICAL RESEARCH BUT WILL ADDRESS THE FULL RANGE OF RELEVANCE INCLUDING BEHAVIORAL, DEMOGRAPHIC AND EPIDEMIOLOGICAL ASPECTS OF DIARRHEAL DISEASE RESEARCH. ISSUES FOR REVIEW INCLUDE THE FOLLOWING:

- A. ASSESSMENT OF CURRENT AND FUTURE AREAS OF RESEARCH FOCUS;
 - B. CONTRIBUTION OF DIARRHEAL DISEASE RESEARCH TO POLICY AND OTHER ASPECTS OF HEALTH PROGRAMS;
 - C. CRITERIA FOR DIARRHEAL DISEASE RESEARCH PRIORITY SETTING;
 - D. ST/H RESEARCH PRIORITIES, INCLUDING A.I.D.'S COMPARATIVE ADVANTAGE IN DIARRHEAL DISEASE RESEARCH;
 - E. ASSESSMENT OF EXPERIENCE AND WAYS TO ENHANCE APPLICATION OF RESEARCH FINDINGS TO DIARRHEAL DISEASE CONTROL PROGRAMS;
 - F. RESEARCH QUALITY;
 - G. COORDINATION OF VARIOUS DIARRHEAL DISEASE ACTIVITIES.
 - H. RELATIONSHIP OF LOGS AND DIARRHEAL DISEASE RESEARCH; AND
 - I. IMPACTS OTHER THAN SCIENTIFIC RESULTS FROM DIARRHEAL DISEASE RESEARCH SUCH AS TRAINING, INSTITUTION BUILDING, TECHNOLOGY TRANSFER.
3. THESE OBJECTIVES AND ISSUES WILL BE ADDRESSED BY A TEAM OF 4-5 EXTERNAL REVIEWERS, CHAIRED BY DR. ABRAHAM HORWITZ, DIRECTOR EMERITUS, PAHO. THE REVIEW WILL TAKE PLACE IN WASHINGTON, DC FROM NOVEMBER 27 TO DECEMBER 10, 1989.
4. WE RECOGNIZE THAT THERE ARE ALSO A NUMBER OF BILATERAL PROGRAMS THAT INCLUDE DIARRHEAL DISEASE RESEARCH, BUT HAVE INTENTIONALLY NOT INCLUDED THEM IN THIS REVIEW. WE WELCOME YOUR PERSPECTIVE ON THE RELATIONSHIP OF A.I.D./H AND MISSION-FUNDED DIARRHEAL RESEARCH ACTIVITIES AND COMMENTS ON POSSIBLE STEPS THAT ST/H-FUNDED PROGRAMS CAN TAKE TO FURTHER SUPPORT AND CONTRIBUTE TO FIELD RESEARCH AND PROGRAM ACTIVITIES.
5. WE RECOGNIZE THE MANY DEMANDS ON YOUR TIME, BUT WANTED TO GIVE YOU AN OPPORTUNITY TO COMMENT. WE WELCOME YOUR SUBSTANTIVE INPUT TO THE EXTENT THAT YOU ARE ABLE.
6. PLEASE CABLE YOUR COMMENTS TO ST/H/AR, DR. KIMI LIN BY NOVEMBER 27, 1989.
7. PER REQUEST, THE TERMS OF REFERENCE FOR DDR REVIEW WILL BE FAXED TO MISSION IN LAC REGION. BAKER

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Dhaka

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INSTITUTIONAL NEEDS EG THERE IS A NEED TO CONSIDER THE SECONDMENT OF PROFESSIONAL FUND RAISERS AND MANAGERS AS AN IMPORTANT ADJUNCT TO THE SCIENTIFIC WORK.

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4. WE HOPE THE ABOVE COMMENTS ARE USEFUL TO THE REVIEWERS. PLEASE FEEL FREE TO CONTACT US IF THERE ARE ANY QUESTION. DE PREE

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FOR ST/H, KIMI LIN

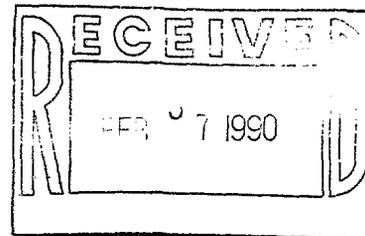
E.O. 12356: N/A
SUBJECT: HEALTH : ST/H DIARRHEAL DISEASE RESEARCH
PORTFOLIO REVIEW

REF: STATE 372134

1. USAID/DHAKA APPRECIATES OPPORTUNITY TO PROVIDE INPUT TO EXTERNAL REVIEW OF AID/W FUNDED DIARRHEAL DISEASE RESEARCH ACTIVITIES AS SOLICITED IN REFTEL.

2. THE RELATED ACTIVITY IN BANGLADESH IS ST/H SUPPORT TO THE INTERNATIONAL CENTRE OF DIARRHEAL DISEASE RESEARCH, BANGLADESH (ICDDR,B). ST/H SUPPORTS A WIDE RANGE OF RESEARCH, INCLUDING VACCINE DEVELOPMENT. THESE ACTIVITIES HAVE CONTRIBUTED SIGNIFICANTLY TO KNOWLEDGE ON THE CAUSES, PREVENTION AND MANAGEMENT OF DIARRHEAL DISEASE IN BANGLADESH AND OTHER LOGS, AND NICELY COMPLEMENTS THE MISSION'S BILATERAL EFFORTS. THE MISSION PORTFOLIO DOES NOT INCLUDE FUNDING BASIC RESEARCH BUT DOES INCLUDE OPERATIONS RESEARCH AND SERVICE DELIVERY IN COMMUNITY-BASED PREVENTION AND MANAGEMENT WHICH MAKES USE OF THE RESULTS OF BASIC RESEARCH DONE BY THE ICDDR,B. EXAMPLES OF THIS INCLUDE THE USAID-FUNDED URBAN VOLUNTEERS PROGRAM WHICH TESTS COMMUNITY INTERVENTIONS BASED ON AVAILABLE DATA ON CAUSES OF DIARRHEAL DISEASE IN BANGLADESH AND WHICH HAS ESTABLISHED COMMUNITY BASED DIARRHEAL TREATMENT CENTRES USING CEREAL BASED ORS AND TREATMENT PROTOCOLS FIRST DEVELOPED THROUGH ST/H FUNDED RESEARCH IN THE ICDDR,B LAB AND HOSPITAL.

3. ONE AREA WHICH WE BELIEVE MERITS MORE EMPHASIS IS THAT OF INSTITUTION BUILDING. THE ICDDR,B HAS BEEN AND REMAINS A SIGNIFICANT CONTRIBUTOR TO SCIENTIFIC KNOWLEDGE ON DIARRHEAL DISEASE. IT IS ALSO HEAVILY DEPENDENT ON AID FUNDING (ALTHOUGH THIS HAS DECREASED OVER THE YEARS FROM 100 PCT TO ABOUT 50 PCT OF THE CENTRE'S TOTAL SUPPORT). IT IS CLEARLY IN THE LONG-TERM INTERESTS OF SCIENTIFIC RESEARCH THAT THE INSTITUTION STRENGTHEN AND EXPAND ITS CAPACITY TO GENERATE RESOURCES FROM A VARIETY OF SOURCES SO AS TO BEST ENSURE SUSTAINABILITY AND DIMINISH RELIANCE ON AID OR ANY OTHER SINGLE DONOR. THIS OBJECTIVE COULD BE FURTHERED THROUGH SUPPORT SUCH AS TECHNICAL ASSISTANCE IN DEVELOPING AND STAFFING A FUND RAISING OFFICE WITHIN THE INSTITUTION. BY THE SECONDMENT OF INTERNATIONAL CALIBER SCIENTISTS TO THE CENTRE, AID HAS LONG CONTRIBUTED TO THE QUALITY OF SCIENTIFIC RESEARCH THERE. WE BELIEVE THE SUSTAINABILITY OF THAT INVESTMENT WOULD BE ENHANCED BY EXPANDING SUPPORT BEYOND STRICTLY SCIENTIFIC WORK TO ENCOMPASSE

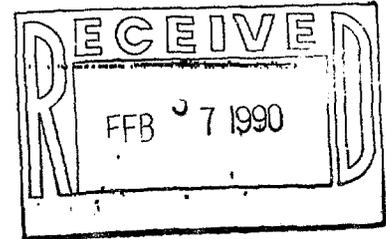


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USAID/Thailand
Form No. 4 (6-89)



U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

USAID/THAILAND

CABLE: USAID THAILAND
Telex: 87058 RPS TH

FAX MESSAGE

Fax: (662) 255-3730
Telephone: 255-3650-9

TO: Dr. Kimi Lin, S&T/H, AID/Washington

FAX NO: 703-875-5490

TEL NO: 703-875-4705

PAGES: 1 (INC. THIS PAGE)

FROM: Win McKeithen, TR/HPN

SUBJECT: Health: Applied Diarrheal Disease Research

DATE: November 27, 1989

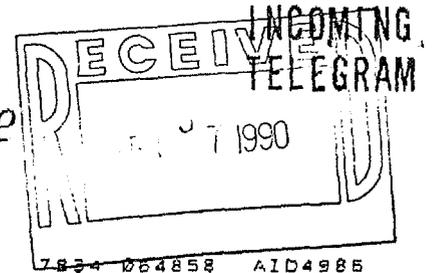
MESSAGE:

REFERENCE: STATE 372134

Per reftel, we greatly appreciate your assistance in providing funding support for nine ADDR studies being conducted in Thailand. We have found that the quality of technical assistance provided by HIID in improving research protocols and data analyses is excellent. The way HIID helped develop and manage the studies here has been suggested to other groups handling AID funded HPN studies in Thailand as a model process to strive for. It is regarded as a very good mechanism for strengthening research capabilities of local researchers and initiating mutually beneficial relationships between the U.S. and Thai research institutions involved.

Jakarta

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TO SECSTATE WASHDC PRIORITY 9438

UNCLAS JAKARTA 17220

AIDAC TO: ST/HEALTH, ATTN: DR. KIMI LIN;
INFO: ANE/DP/F

EO 12356: N/A

SUBJECT: HEALTH; ST/H DIARRHEAL DISEASE RESEARCH
PORTFOLIO REVIEW

REF: (A) STATE 372134; (B) JAKARTA 16571

1. USAID INTERESTED TO HEAR ABOUT THE SUBJECT REVIEW AS DESCRIBED IN REFTEL (A). THE ONLY INFORMATION WE WOULD OFFER IS THAT USAID/INDONESIA EXPERIENCE IN COLLABORATING WITH PROJECTS SUCH AS ADDR HAS BEEN GOOD. THE INTENSIVE TECHNICAL ASSISTANCE PROVIDED BY ADDR STAFF IN IDENTIFYING AND DEVELOPING GOOD PROPOSALS AND IN DATA COLLECTION AND ANALYSIS HAS RESULTED IN MUCH HIGHER QUALITY RESEARCH. IT HAS ALSO HELPED INSTITUTIONALIZE THE RESEARCH SKILLS. WE RECOGNIZE THAT THE START MADE IN INDONESIA NEEDS TO BE REINFORCED WITH CONTINUED ASSISTANCE FROM ADDR AND ARE HOPING THAT THE MECHANISM SUGGESTED IN REFTEL B FOR USING BILATERAL FUNDS TRANSFERRED TO ST/HEALTH WILL BE FEASIBLE. WE ARE AWAITING A REACTION FROM ST/HEALTH AND THE ANE BUREAU.

2. PLEASE ADVISE. MONJO

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AIDAC

FOR ST/H/AR, DR. KIMI LIN
INFO ST/H, L. FEINBERG, AFR/TR/HPN, J. COURY

E.O. 12356: N/A
SUBJECT: HEALTH: ST/H DIARRHEAL DISEASE RESEARCH
PORTFOLIO REVIEW

REF: A) 89 STATE 382263, B) 89 STATE 372134

1. USAID/KENYA WELCOMES THE OPPORTUNITY TO COMMENT ON AID SUPPORT FOR DIARRHEAL RESEARCH. AS YOU KNOW, TWO CENTRALLY SUPPORTED PROJECTS NOW OPERATE IN KENYA - APPLIED DIARRHEAL DISEASE RESEARCH (ADDR) FULLY FUNDED BY AID/W AND PRITECH (30 PERCENT FROM AID/W AND 70 PERCENT FUNDED WITH AID/W BILATERAL FUNDS). ADDR CARRIES OUT CLINICAL RESEARCH AND PRITECH ASSISTS WITH OPERATIONS RESEARCH.

2. WE PRESENT GENERAL AND SPECIFIC COMMENTS ON DIARRHEAL PROGRAMS AND RESEARCH DRAWN FROM OUR PROGRAM ACTIVITIES.

(A) THERE IS A GAP IN KENYA BETWEEN THE RESEARCH COMMUNITY AND THE NATIONAL CDD PROGRAM OF THE MOH. IT IS NOT AN INTENTIONAL GAP; RATHER WITH BUSY SCHEDULES AND OVER EXTENDED COMMITMENTS BY GOK STAFF, JOINT COORDINATION AND PLANNING IS DIFFICULT. THE RESEARCH COMMUNITY ALSO TENDS TO BE A BIT "SNOBBISH" IN THEIR ATTITUDE TOWARDS WORKING WITH LESS - EDUCATED AND NON-PHYSICIAN MOH STAFF WHO RUN CDD PROGRAMS. THE RESEARCHERS EXHIBIT THE TENDENCY TO TELL THE MOH WHAT THEIR PRIORITIES SHOULD BE AND DO NOT LISTEN TO THE PROBLEM STATEMENTS OF THEIR MOH COLLEAGUES. AT THE SAME TIME, MOH-CDD MANAGERS APPEAR TO BE INHIBITED WHEN ARTICULATING RESEARCHABLE PROBLEMS. PERHAPS THIS IS BECAUSE THEY DO NOT CLEARLY UNDERSTAND THE LINKAGE BETWEEN IDENTIFYING PROGRAMMATIC PROBLEMS, DETERMINING HYPOTHESIS AND DEFINING RESEARCH ACTIVITIES.

(B) THE BLURRED DIFFERENCES BETWEEN CLINICAL, FIELD-BASED, BIOMEDICAL, APPLIED AND OPERATIONS RESEARCH ADD TO THE DIFFICULTY OF COORDINATION BETWEEN RESEARCHERS AND CDD STAFF.

(C) AID'S PLETHORA OF RESEARCH ACTIVITIES TARGETED AT VERY DEFINED SECTIONS OF THE TOTAL RESEARCH PICTURE EXACERBATES THE DIVISION BETWEEN RESEARCHERS AND CDD PROGRAM MANAGERS, MAKES COORDINATION DIFFICULT AND COMPLICATES PROGRAM IMPLEMENTATION. IT WOULD BE MORE EFFECTIVE TO HAVE AN OVERALL RESEARCH PROJECT WHICH COORDINATES ALL CDD RELATED RESEARCH. HOWEVER, CURRENTLY WITH TWO OR MORE CDD CONTRACTORS IN COUNTRY WORKING WITH THE SAME GOVERNMENT COLLEAGUES, POSSIBLY THE CONTRACTOR WITH THE GREATEST PRESENCE SHOULD ACT AS

(D) ALSO, IF THE RESEARCH IS TO SUPPORT A NATIONAL CDD PROGRAM, MORE FLEXIBILITY SHOULD BE GIVEN IN FUNDING DIFFERENT KINDS OF RESEARCH, I.E., EMPLOYER PROGRAMS TO SUPPORT BREASTFEEDING, RATHER THAN TOO NARROWLY DEFINED PROGRAMS TO RESEARCH BASED ON WHAT A PARTICULAR CDD RESEARCH CONTRACTOR WILL FUND.

3. ON KEY AREAS OF RESEARCH CONCERN, WE FEEL ST/HEA SHOULD ADDRESS THE FOLLOWING ISSUES;

A) WHAT IS THE POSITION OF ST/HEALTH REGARDING THE USE OF FOOD-BASED FLUID ORT GIVEN THE RECENT CONFERENCE IN PAKISTAN? WHAT IS THE APPROPRIATE ROLE OF FOOD-BASED FLUIDS IN RESPONDING TO DIARRHEA AND TO DEHYDRATION? WHERE DOES THIS LEAVE ORS OR SUGAR-SALT SOLUTION? WE NEED GUIDANCE ON HOW BEST TO PROCEED.

B) WHAT ARE GOOD REFERENCES OR GUIDES ON EVALUATING THE EXTENT CDD CLINICAL TRAINING HAS ACCOMPLISHED ITS OBJECTIVES IN PROVIDING TREATMENT OR ADVICE ON DIARRHEAL MANAGEMENT?

C) WHAT IS THE RESPONSE OF MODERATELY AND SEVERELY DEHYDRATED MALNOURISHED CHILDREN TO THE STANDARD WHO/UNICEF ORAL REHYDRATION SOLUTION? HOW DO THEY COMPARE TO THEIR WELL-NOURISHED COUNTERPARTS WITH THE SAME DEGREE OF DEHYDRATION?

D) HOW DOES CDD RESEARCH BECOME INTEGRATED WITH RESEARCH ON OTHER CHILD SURVIVAL INTERVENTIONS - EPI, MALARIA, ARI - WHICH MAY AFFECT OR BE AFFECTED BY DIARRHEA? HEMPSTONE

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Agency for International Development
Washington, D.C. 20523

December 8, 1989

Dr. Richard Cash
Applied Diarrheal Disease Research Project
Harvard institute for International Development
One Eliot Street
Cambridge, MA 02138

Dear Richard:

As discussed in the November 1989 TAG meeting, A.I.D. plans to undertake a second evaluation of the ADDR project early in 1990. As you are aware, our office is currently conducting a review of its overall diarrheal disease research portfolio including ADDR. Complementary to that review, this second mid-project evaluation will help us examine how and where ADDR fits into the diarrheal disease portfolio and to design modifications which should be incorporated into any future cooperative agreements or other follow-on implementation actions.

As proposed in the TAG meeting, the scientific merit of the project will be evaluated in two stages: a self-evaluation of the research grants by the investigators and a review of that research by the evaluation team. One of the primary information sources for the evaluation team will be summaries of each of the 52 research grants funded through your CA. The summaries should be self-evaluations prepared by the principal investigators and should incorporate, but not be limited to, the information contained in Attachment 1. HIID's assistance in coordinating these self-evaluations is essential.

So that the information can be duplicated and ready for the evaluation team on February 1, 1990, please submit the information to us no later than January 26, 1990. We appreciate your cooperation. Please give me a call if you have any questions regarding the information requested or the evaluation itself.

Sincerely,

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Dr. Feng-ying C. Lin
Cognizant Technical Officer

GRANT SUMMARY INFORMATION
(Investigator(s) Self-Evaluation)

Grant Title and Number

Grantee Name and Address

Effective Date

Expiration Date

Amount of Grant (\$)

Contributions from Non-A.I.D. Sources (\$ and name)

Amount Spent through (date)

Principal Investigator and Co-Investigator(s)

U.S. Consultant(s) and Consultant Days Spent

1. Summary of Grant Objective(s)/Hypothesis
2. Summary of Methodology/Approach
3. Rationale for A.I.D. Support
4. Summary of Results/Progress to Date (stress scientific discovery/breakthrough if any)
5. Comparison Between Anticipated and Actual Results
6. Significant Issues or Problems Encountered
7. Relevance of Research Results to National and Global Diarrheal Disease Control Program
8. Relationship to Specific Diarrheal Disease Research/Technologies Underway or Completed Elsewhere
9. Future Directions/Recommendations
10. Publications Resulting from Research
11. Other Dissemination of Research Results
12. Date(s) of Periodic Progress Reports Submitted
14. Other Comments
15. Report Prepared by: _____ Date: _____

ADDR GRANTEES - SELF-EVALUATION FORM

2 cc ADDR Evaluation 9



APPLIED DIARRHEAL DISEASE RESEARCH PROJECT (ADDR)
 HARVARD INSTITUTE FOR INTERNATIONAL DEVELOPMENT
 One Eliot Street, Cambridge, Massachusetts 02138

Tel. (617) 495-9791
 Cable Address: HIID
 Telex: 275276
 TWX No.: 7103200345
 FAX No.: 617-495-0527

20 December

Dear _____:

You are probably aware that the ADDR Project is in the last year of its projected five-year cycle, and is scheduled to end on September 30, 1990. ADDR has requested that the United States Agency for International Development (AID) extend the project for two more years, to September 30, 1992. We need your assistance to help ensure that AID grants this extension. ADDR will also be asking AID to develop a follow-on project to ADDR. We need your input in this process.

AID will soon conduct a review of the scientific merit of the entire ADDR Project, and has requested that we obtain self-evaluations from the principal investigators of each funded research project. The review is a regular part of the funding cycle, but it will also form important evidence for the decision on the extension of the project. This is a good opportunity for you to mention the ways in which the project has assisted both you and your department to develop. You might also suggest changes for any follow-on projects.

This is a very important letter. We therefore ask that you take the time to answer the following questions about your ADDR research project. ADDR will supplement this information with data from our files, but some of the questions can only be answered by you.

AID has notified us that this material must be in Washington as soon as possible. We therefore ask that you send your responses to arrive in our office by January 15. Because of this time pressure, please send your responses by fax wherever possible, and use DHL or other express mail service where fax machines are not available.

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We ask that you answer each of the enclosed questions. Please feel free to add any other comments you would like AID to see. Please call us if you have any questions about this letter.

Sincerely,

Sincerely,

Richard A. Cash, M.D., M.P.H.
Institute Fellow

Jonathon Simon
Project Manager

James Trostle, PhD MPH
Project Social Scientist

ADDR GRANTEE SELF-EVALUATION

Principal Investigator Name: _____

Name of person preparing this report,
if other than principal investigator: _____

ADDR Project Title: _____

ADDR Project Number: _____

Please note: Most of this information should be available in the activity and annual reports and draft research papers you have already submitted to ADDR. Please update your responses using the earlier reports as references. Your answers should not be typed on this page, but should be numbered. Please limit your report to 3 or 4 typewritten pages, and include the above information with your response.

- 1) Summarize your research progress to date, and your results, if any. What have you discovered?
- 2) Do you have any results that are important, new, or controversial? If so, please describe them briefly.
- 3) For projects that have completed data analysis. Please compare the results you expected and the results you found: how do they differ?
- 4) What is the programmatic and scientific significance of your findings? How have you applied your research results? List
- 5) Have you encountered any important logistical, technical, or financial problems during your research? If so, please describe them briefly.
- 6) What papers or reports have you published based on this research? (Include title, authors, journal, volume, and year.)
- 7) What presentations have you made based on this research? (Include title, authors, place, date.)
- 8) How will you build on this research? Describe new proposals, new projects, or recommendations for policy changes in your region or country.
- 9) Have you received financial support for this research project in addition to that provided by ADDR? From where? What amount?
- 10) How has ADDR helped your scientific career?
- 11) Could you have done the work if you had not received support from ADDR?
- 12) Please write any other comments that you would like ADDR to pass on to AID.

Appendix IX

PUBLICATIONS AND ABSTRACTS

Grace S. Marquis, Gladys Ventura, Robert Gilman, Esperanza Porras, Elba Miranda, Luz Carbajal, and Marta Pentafiel. "Fecal Contamination of Shanty Town Toddlers in Households with Non-corralled Poultry in Lima, Peru", abstract. American Tropical Medicine and Hygiene meetings, Nov. 1987.

Dr. Pedro Alarcon. "Clinical Trial of Local Diets for the Dietary Management of Acute Childhood Diarrhea", abstract. "Nutritional Consequences and Management of Diarrheal Diseases and Nutrition Options for Intervention", 14th International Congress of Nutrition, Seoul, Korea, September 18-25, 1989.

Dr. Homero Martinez, "Development of Home Prepared Diets for the Treatment of Diarrhea in the Community", abstract. "Nutritional Consequences and Management of Diarrheal Diseases and Nutrition Options for Intervention", 14th International Congress of Nutrition, Seoul, Korea. September 18-25, 1989.

Dr. Homero Martinez and Dr. Juan Calva, "A Clinical and Field Study of the Safety, Acceptability and Effectiveness of Home-made Beverages and Early Feeding for the Management of Acute Childhood Diarrhea", monograph. Division of Community Nutrition, Instituto Nacional de la Nutricion, Mexico City, Mexico. 1989.

Dr. Juan Calva and Dr. Homero Martinez, "Diarrhea Concepts and Management in a Rural Area in Mexico" and "A Clinical and Field Study of the Efficacy and Effectiveness of a Home-Made Beverage and Early Feeding in the Management of Childhood Diarrhea", abstracts. Presented at INCLEN meeting, Thailand. January 1988.

Dr. Homero Martinez "Alimentos de Uso Comun en la Comunidad Para el Tratamiento de Diarreas". Presentation at INN during the International Course on Diarrheal Disease Management, organized by the Hospital Infantil de Mexico and sponsored by PAHO. June, 1988.

Gonzalo Gutierrez, "Prescription Abuse: A Growing Problem", Archivos de Investigacion Medica. Instituto Mexicano del Seguro Social, October-December 1988.

Gonzalo Gutierrez, Hector Guiscafne, Mario Bronfman, Maria del Carmen Martinex, Guadalupe Padilla, Onofre Monoz, "Strategies Oriented to Improve the Prescription Pattern for Acute Diarrhea in Primary Care Units. I. Methodology and Description of the Population and Medical Facilities," Archivos de Investigacion Medica. 19 (4) 1988.

Mario Bronfman, Hector Guiscafne, Victoria Castro, Roberto Castro, Gonzalo Gutierrez, "II. Measuring Inequality: A Methodological Approach, Analysis of Social and Economic Characteristics of the Sample Studied". Archivos de Investigacion Medica. 19 (4), 1988.

Hector Guiscafne, Silvia Gonzalez, Ruth Parra, et al., "III. Etiology and Clinical Picture

of the Cases Studied". Archivos de Investigacion Medica. 19 (4), 1988.

Onofre Munoz, Hector Guiscafne, Mario Bronfman, Gonzalo Gutierrez, "IV. Characteristics of the Treatment Prescribed by the Family Physician or the Patient Himself". Archivos de Investigacion Medica. 19 (4), 1988.

Gonzalo Gutierrez, Hector Guiscafne, Silvia Gonzalez, Elena Bustamante, et al., "V. Evaluation of a Therapeutic Scheme Based Exclusively on Clinical Data". Archivos de Investigacion Medica. IMSS, October-December 1988.

Hector Guiscafne, Onofre Munoz, Guadalupe Padilla, et al., "VI. Evaluation of the Strategy Designed to Promote Changes in the Prescription Pattern of Oral Hydration, Antibiotics and Restrictive Diet by Family Physicians". Archivos de Investigacion Medica. IMSS, October-December 1988.

Carmen Martinez, Hector Guiscafne, Onofre Munoz, Gonzalez Gutierrez, "VII. Analysis of Adherence to the Therapeutic Schemes Proposed". Archivos de Investigacion Medica. 19 (4), 1988.

Hector Guiscafne, Guadalupe Padilla, Rosa Maria Reyes, Mario Bronfman, et al., "VIII. Effect of the Supplementary Information Provided to Patients on their Understanding of the Therapeutic Procedures". Archivos de Investigacion Medica. 19 (4), 1988.

Roberto Castro, Mario Bronfman, Victoria Castro, Hector Guiscafne, Gonzalo Gutierrez, "Economic Impact of the Strategy Proposed". Archivos de Investigacion Medica. 19 (4), 1988.

Gonzalo Gutierrez, Hector Guiscafne, Onofre Munoz, "Conclusions and Research Perspectives". Archivos de Investigacion Medica. 19 (4), 1988.

Gonzalo Gutierrez, "Normalized Treatment Implantation for Acute Infectious Diarrhea at Primary Care Units. Evaluation of its Impact on the Use of Antibiotics and Other Aspects of Treatment by Doctors and People: Preliminary Results". Presented to the medical coordinators of the Mexican Institute of Social Security, National Meeting, April 1988.

Mitchell G. Weiss, "Cultural Models of Diarrheal Illness: Conceptual Framework and Review." Social Science and Medicine, Volume 27, Number 1, 1988. Pp. 5-16.

Gerald Keusch and Michael Bennish, "Shigellosis: Recent Progress, Persisting Problems, and Research Issues." In press at the Journal of Pediatric Infectious Diseases.

■ *The proceedings of the ADDR sponsored Workshop on Invasive Diarrheas has been accepted for publication as a special edition of the Review of Infectious Diseases. Its contents will be as follows:*

Peter Echeverria, Orntipa Sethabutr, Chittima Pitarangsi, "Microbiology and Diagnosis of Bacteria Causing Bacillary Dysentery."

David Taylor, Ladapron Bodhidatta, Peter Echeverria, "Epidemiologic Aspects of Shigellosis and Other Causes of Dysentery in Thailand."

Alf A. Lindberg, Phung Duc-Cam, Nguyen Chan, Le Kim Phu, Dang Duc Trach, Gunilla Lindberg, Kerstin Karlsson, Anders Karnell, Erik Ekwall, "Shigellosis in Vietnam: Seroepidemiological Studies Using Lipopolysaccharide Antigens in Enzyme Immunoassays."

Fitzroy J. Henry, "The Epidemiological Importance of Dysentery in the Community."

Michael Bennish, "Mortality from Shigellosis: Community and Hospital Data."

V.I. Mathan, "Physicians Diagnosis of Invasive Diarrhea and Dysentery."

A. Mushtaque, R. Chowdhury, Zarina N. Kabir, "Folk Terminology for Diarrhea in Rural Bangladesh."

Gretel H. Pelto, "The Role of Behavioral Research in Case Mangement and Prevention of Invasive Diarrheas."

Sushila Zeitlyn and Farzana Islam, "The Meaning of Soap and Water in Two Bangladeshi Communities: Implications for the Reduction of Shigella Transmission."

Mark Nichter, "Diarrhea and Dysentery: Using Social Science Research to Improve the Quality of Epidemiological Studies, Interventions, and Evaluations of Impact."

Peter Kunstadter, "Social and Behavioral Risk Factors for Transmission and Response to Diarrhea."

A. A. Lindberg, Anders Karnell, Andrej Wintraub, "The Lipopolysaccharides of Shigella Bacteria as Virulence Factors."

P.J. Sansonetti, "Genetic and Molecular Basis of Epithelial Cell Invasion by Shigella spp."

Arthur Donohue-Rolfe, David W.K. Acheson, Gerald T. Keusch, "Shiga Toxin: Purification, Structure, and Function."

J. Edward Brown, Peter Echeverria, A. A. Lindberg, "Digalactosyl-containing Glycolipids as Cell Surface Receptors for Shiga Toxin of S. Dysenteriae 1 and Related Cytotoxins of E. Coli."

Gerald T. Keusch, Mary Jacewicz, Arthur Donohue-Rolfe, "Intestinal Cell Shiga Toxin Receptors and the Pathophysiology of the Enterotoxin Effects of Shiga Toxin."

V.I. Mathan, Minnie M. Mathan, "Intestinal Manifestations of Invasive Diarrheas."

M.M. Mathan, V.I. Mathan, "Rectal Mucosal Morphology in Shigellosis."

M. Bennish, "Potentially Lethal Complications of Shigellosis."

Wandee Varavithya, "Oral Rehydration Therapy in Invasive Diarrhea."

Mohammed A. Salam, Michael Bennish, "Antimicrobial Therapy of Shigellosis."

Somsak Lolekha, "Antimicrobial Therapy of Shigellosis in Thailand."

Majid Molla, Ayesha Molla, "Effect of Antibiotics on Food Intake and Absorption of Nutrients in Children with Bloody Diarrhea."

Carine Ronsmans, Michael Bennish, J. Chakroborty, Vincent Fauveau, Thomas Wierzba, "Treatment of Dysentery in Rural Bangladesh: Current Practices and Proposed Management Algorithms."

Anders Karnell, Bruce A.D. Stocker, Shigehiro Katakura, Hanaa Sweiha, Finn P. Reinholt, Phung D. Cam, Dang D. Trach, A. A. Lindberg, "Development and Testing of an Auxotrophic Live Oral Shigella Flexneri Vaccine."

John B. Robbins, Chiayung Chu, Douglas C. Watson, Shousun C. Szu, Elaine M. Daniels, Charles U. Lowe, Rachel Schneerson, "O-Specific Side-Chain Toxin-Protein Conjugates as Parenteral Vaccines for Prevention of Shigellosis and Related Diseases."

(End of contents of special issue.)

Chanpen Choprapawon, "Culture and Control of Diarrheal Illness." (Short Presentation at International Conference in Epidemiology, May 1989).

Nongluk Tunyavanich, "Diarrheal disease in relation to water supply and sanitation: A Case Study of Rural Villages in Surin and Srisaket Provinces." (Report published by Mahidol University for distribution within Thailand.)

Nongluk Tunyavanich, "Relationship between household occurrence and transmission of diarrheal disease and water and sanitation in rural villages of Northeast Thailand." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Sutra Sumitr, "The Incidence and Risk Factors of Diarrhea in Khon Kaen, Northern Thailand." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Sutra Sumitr, "Incidence and Maternal Perceptions of Diarrhea in Khon Kaen" (Paper presented at National Workshop on Diarrheal Disease, Ramathibodi Hospital, Bangkok, April, 1989).

Sutra Sumitr, "Social Aspects of Diarrhea" (Presentation at Workshop on Invasive Diarrheas, Salaya, October 1988).

Sutra Sumitr, "Maternal Perception and Health Seeking Behaviors in Diarrhea" (Presentation at First National Workshop on Health Behavior, Salaya, June 1989).

Sungskom Jongpipitvanich, "PAR Approach for the Reduction of Childhood Diarrhea" (Presentation at INCLN Meeting, Pattaya, Thailand, January 1988).

Varavithya W., Punyaratabandhu P., Vathanophas K., Sangchai R., Athipanyakom S., Escheverria P., Wasi C., "Childhood Diarrhoea in a Low Income Urban Community: Incidence, Clinical Findings and Child Caretakers Behaviors." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Varavithya W., Punyaratabandhu P., Vathanophas K., Sangchai R., Athipanyakom S., Escheverria P., Wasi C., "Diarrhea Requiring Specific Therapy in Thai Children in a Low Income Urban Community: Health Behavior of Mothers and Risk Factors Affecting the Incidence of Diarrheal Diseases." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Vathanophas K., Sangchai R., Thangsuwan J., Punyaratabandhu P., Chaiyanonda S. and Luksamejaralkul P., "The Study of Knowledge, Attitude and Practice of Mothers about Diarrheal Disease, Din-Daeng Community, Bangkok, Thailand." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Arune Sabchareon, "The Impact of Paternal Practices on the Severity of Diarrhea in Urban Children Under Two Years of Age: A Case-control Study at a Regional Hospital in Thailand" (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Piyarat Butraporn, "A Study of Family Health Behaviors and Cultural Factors Relating to Transmission of Diarrheal Disease Agents among Children Under Five Years in Hmong Villages, Northern Thailand." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Z. Bhutta, "Dietary Management of Persistent Diarrhea: A Comparison of a Rice-based Traditional Diet and Soya Formula" (Presentation at the Society for Pediatric Research's Annual Meeting, Washington D.C., April 1989, and at Pakistan Paediatric Association Annual Meeting).

Z. Bhutta, "Nutritional Impact of a Traditional Rice Based Diet in the Management of Persistent Diarrhoea." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Z. Bhutta, "The Use of a Rice-based Traditional Diet vs. a Soya Formula in the Dietary Management of Persistent Diarrhea." (A Paper to be presented at the International Symposium on Food-based Oral Rehydration Therapy, held November 1989 in Karachi, Pakistan).

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Salahuddin Shaikh and Salma Badruddin, "Infant Feeding Practices in Acute and Persistent Diarrhea" (Paper presented at the 14th International Congress in Nutrition, Seoul, August 1989, and at Pakistan Paediatric Association Annual Meeting).

Zeenat Isani, "Therapeutic Effects of a Traditional, Rice Based Weaning Diet in Reducing Stool volume in Persistent Diarrhoea." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Salahuddin Shaikh, Ghaffar Billoo, "Dietary Therapy of Acute Diarrhea." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Asma Islam, "A Study of the Efficacy and Digestibility of a Cereal-based ORS Solution in Infants with Acute Diarrhea." (Paper to be presented at Internation Symposium on Food-based ORT, Karachi, November 1989).

Ayesha Molla, "A Survey of the Prevalence of Vitamin A Deficiency in Children in the Slums of Karachi." (Paper presented at the International Vitamin A Conference in Kathmandu, Nepal).

Swa Kurniati, "Physician Treatment of Diarrheal Disease in Children Under Five: Reported and Observed Practices." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

A.A. Gde. Muninjaya, Tangking, Soetjningsih, "Home Case Management of Acute Diarrhoea in Bali: A Comparison with W.H.O. Recommendations." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Rusdi Ismail, Hendarmin Aulia, Tri Agus Susanto, Roissudin, and Maryanah Hamzah, "Community Perception of Diarrheal Disease: A Case Study from a Swampy, Lowland Area of South Sumatra, Indonesia." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Hendarmin Aulia, Rusdi Ismail, Surya Chandra Surapaty and Erial Bahar, "A Descriptive Study of Sources and Handling of Drinking Water in a Swampy Lowland Area of South Sumatra." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Sarlito Sarwono, S. Purwanti, D. Soemitro, "Factors Explaining Discrepancies Between Knowledge and Behaviours Related to the Prevention and Treatment of Diarrhoeal Disease." (Abstract, Fifth Asian Conference on Diarrheal Disease, September 21-23, 1989 in Kathmandu, Nepal).

Vincent Orinda, Sang F., et alia, "The Incidence, Aetiology and Severity of Measles Associated Diarrhoea at Kenyatta National Hospital." (abstract, INCLLEN meeting held in Puebla, Mexico in 1990).

Dr. Sumitr Sutra, "The Community Participatory Action Approach to Reduce the Morbidity of Childhood Diarrhea in Khon Kaen, Northeastern Thailand", (abstract, INCLLEN meeting held in Puebla, Mexico in 1990).

■ *The following papers were presented at a special session of the American Anthropology Association meeting in November, 1989 entitled "Fostering Research Capacity in the Developing World: Problems and Prospects in Medical Anthropology". The session was organized and chaired by Dr. Jim Trostle using the ADDR Project as the model. The papers are in the process of being submitted for publication.*

Dr. Salomon Nahmad (CIESAS de Oaxaca) "Applied Anthropology Through Indigenous Anthropologists"

Dr. Gretel Pelto and Dr. Pertii Pelto (University of Connecticut) "Medical Anthropologists in Third World Countries: Recruitment and Training"

Dr. Elizabeth Herman and Dr. Elizabeth Bentley (The Johns Hopkins University) "Perspectives on Program Specific Social Science Manuals"

Dr. Bonita Stanton (University of Maryland) "Focussing on the Intervention in Educational Intervention Studies"

Dr. Mary Jo Good (Harvard University) "Power and Process in Research Capacity-Building"

Dr. James Trostle and Mr. Jonathon Simon (Harvard University) "Structural Constraints in Building Research Capacity: What Have We Learned from Recipients?"

Dr. Patricia Rosenfield (Carnegie Foundation) "Achieving Sustainability in Interdisciplinary Research Linking Health and Social Scientists"

Manuscripts

Grace S. Marquis, Gladys Ventura, Robert Gilman, Esperanza Porras, Elba Miranda, Luz Carbajal, and Marta Pentafiel. "Fecal Contamination of Shanty Town Toddlers in Households with Non-corralled Poultry in Lima, Peru", American Journal of Public Health, February 1990, p. 145-149.

Dr. Claudio Lanata and Dr. Robert Black. "Epidemiology of Persistent Diarrhea and Clinical and Laboratory characteristics of Acute Diarrhea Associated with Persistence in Peri-urban Lima, Peru", (Manuscript).

Dr. Claudio Lanata and Dr. Robert Black. "Nutritional Status, Feeding Patterns and Previous Morbidity as Risk Factors for Persistent Diarrhea in Peri-urban Lima, Peru", (Manuscript).

Dr. Roberto del Aguilla. "Physician's Practices Related to the Treatment of Childhood Diarrhea in Two Areas of Peru, with Special Emphasis on the Nutritional Aspects of Therapy", manuscript in preparation for the Bulletin of PAHO.

Bernadette Thiuri, Stephen Kinoti, Melanie Katsivo, "Infant Feeding and Weaning Practices During Health and Diarrhoeal Illness In Kenya". Manuscript. Applied Diarrheal Disease Research Project. January 1988.

Iftikhar A. Malik and Mumadd Iqbal, "Mother's Concept of Diarrhoea in Pakistan: Causes and Various Models of Treatment" (Manuscript).

Iftikhar A. Malik and Mumadd Iqbal, "The Concept of Diarrhoea and the Level of Knowledge About Oral Rehydration Salt (ORS) in the Slum Areas of Rawalpindi/Islamabad" (Manuscript).

Iftikhar A. Malik and Mumadd Iqbal, "Normal and Diarrhoeal Diet Patterns of Pakistani Children Under 36 Months of Age: A Field Study" (Manuscript).

Iftikhar A. Malik and Mumadd Iqbal, "The Mothers' Perceptions of Diarrhoea and Their Fear of Death of Child Due to Diarrhoea in Slums and Villages of Northern Punjab" (Manuscript).

Z. Bhutta, "Dietary Management of Persistent Diarrhea: A Comparison of a Rice-based Traditional Diet and Soya Formula" (Manuscript submitted for publication to Journal of Pediatrics).

Dr. Nongluk Tunyavanich, "Diarrheal Disease in Relation to Water Supply and Sanitation" (Manuscript submitted to Social Science in Medicine).

Dr. Mandhana Pradipasen, "Factors that Relate to the Categorization of Diarrheal Disease and Their Association with Under Reporting in the Community" (Manuscript).

Dr. Sungkom Jongpiputvanich, "Participatory Action Research Approach for the Reduction of Child Diarrhea in a Slum Area of Bangkok" (Manuscript).

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Dr. Wandee Varavithya, "Childhood Diarrhea in a Low Income Urban Community: Incidence, clinical features and child caretakers' behaviour" (Manuscript).

Dr. Wandee Varavithya, "Risk Factors for Childhood Diarrhea in an Urban Community" (Manuscript).

Dr. Wandee Varavithya, "Mothers and Child Caretakers Behaviors in Diarrheal Diseases" (Manuscript).

Dr. Boonsong Nilkaew, "Study of School-Home Handwashing Behavior" (Manuscript).

Dr. Sarlito, Dra. S. Purwanti, Dr. Dradjat S. Soemitro, "Factors Explaining Discrepancies Between Knowledge and Behaviours Related to the Prevention and Treatment of Diarrhoeal Disease" (Manuscript).

Drs. Swa Kurniati Widjaja, Lusia Gani et alia, "Physician Treatment of Diarrhea in Children in Penjaringan-Jakarta: Reported and Observed Practices" (Manuscript).

Dr. Muninjaya, Dr. Tangking, Dr. Soetjningsih, "Home Case Management of Acute Diarrhoea in Bali: A Comparison with W.H.O. Recommendations" (Manuscript).

Dr. Piyarat Butraporn, "The Study of Family Health Behaviors and Cultural Factors Relating to Transmission..." (Manuscript).

APPENDIX X

ADDR PROJECT EVALUATION

CONTACT LIST

AID/WASHINGTON

- Roxann Van Dusen, Acting Agency Director for Health
- Pamela Johnson, Acting Chief, S&T/H/AR

ADDR/HIID

- Richard Cash, MD, MPH, Principal Investigator
- Jonathon Simon, MPH, Project Manager
- James Trostle, PhD, MPH, Project Social Scientist
- Fitzroy Henry, PhD, Project Epidemiologist
- John Snyder, MD, Project Epidemiologist
- Mary Jo Good, PhD, Project Sociologist
- Bradley Nixon, Project Administrative Assistant
- Heidi Clyne, Project Staff Assistant
- Courtney Nelson, Previous Project Manager

ADDR/Tufts University

- Dr. Gerald Keusch, Division of Geographic Medicine

USAID/Lima

- Dr. Robert Black, Department of International Health

USAID/THAILAND

- Edwin McKeithen, Health/Population Officer
- Narintr Tima, Programs Specialist

WATER AND SANITATION FOR HEALTH (WASH)

- Ellis Turner, Director
- May Yacoob, Associate Director, Social and Behavioral Sciences

APPENDIX XI

PROJECT DESIGN SUMMARY LOGICAL FRAMEWORK

Project Title: Applied Diarrheal Disease Research #936-5952

Life of Project:
From FY 9-85 to FY 9-90
Total U. S. Funding \$9,998,630
Date Prepared: 1985

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|--|---|---|--|
| <p>Program or Sector Goal: The broader objective to which this project contributes: To improve the health status of LDC populations throughout the world.</p> | <p>Measures of Goal Achievement: 1. Decline in infant mortality rates 2. Increase in life expectancy in LDCs.</p> | <p>WHO Reporting</p> | <p>Assumptions for achieving goal targets: Use of new health techniques will improve health of LDC population over time.</p> |
| <p>Project Purpose: To support country-specific applied research to adapt new and improved technologies for the control and prevention of diarrheal diseases to particular country settings.</p> | <p>Conditions that will indicate purpose has been achieved: End of project status. Data and information evaluated to establish the effectiveness of new techniques, delivery systems, and education components in the LDC setting.</p> | <p>Research findings Technical reviews Monitoring field reports</p> | <p>Assumptions for achieving purpose: Health delivery systems can be improved with minor modifications. Health education programs can change behavior. Host country cooperation at policy level will be forthcoming for field trials and ultimate use in health programs.</p> |
| <p>Outputs: 1. Field tested new interventions for diarrheal disease control. 2. Field tests for integration of LDC programs into other development activities. 3. Field testing of use of medical social science knowledge in program planning, health education and evaluation</p> | <p>Magnitude of Outputs: 1. At least 3 health delivery improvement research activities. 2. Evaluation of at least 3 integrated rural development projects incorporating DDC. 3. At least one model evaluation and field trial (measles).</p> | <p>A.I.D. Files</p> | <p>Assumptions for providing outputs: Technical competence in LDCs for conduct of field trials can be identified. Host country interest in DDR sufficiently strong to allocate necessary administrative support to individual field activities</p> |
| <p>Inputs: A.I.D. direct support to DDR activities in selected LDCs.</p> | <p>Implementation Target (Type and Quantity) A.I.D. files</p> | <p>Budget reviews and obligation documents</p> | <p>Assumptions for providing inputs: Continued A.I.D. support for DDR activities over the life of project and for the full project amount \$9.9 million</p> |

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APPENDIX XII

BASIC PROJECT IDENTIFICATION DATA

1. Country: Worldwide
2. Project Title: Applied Diarrheal Disease Research
3. Project Number: 936-5952
4. Project Dates: Sept. 30, 1985 - Nov. 30, 1994
 - a. First Project Agreement: Centrally funded, Cooperative Agreement
 - b. Final Obligation Date: FY94 (planned/actual)
 - c. Most recent Project Assistance Completion Date (PACD): November 30, 1994
5. Project Funding:
 - a. A.I.D. Bilateral Funding (grant and/or loan) US\$ 500,000
 - b. Other Major Donors US\$ - 0 -
 - c. Host Country Counterpart Funds US\$ - 0 -
 - d. Central Funds/Cooperative Agreement Ceiling US\$ 6,410,524

TOTAL US\$ 6,910,524
6. Mode of Implementation: Cooperative Agreement with Harvard Institute for International Development.
7. Project Designers: S&T/H
8. Responsible Mission Officials:
 - a. Mission Director(s): N/A
 - b. Project Officer(s):
 - 1.) Jeff Harris, M.D.
 - 2.) Karl Kendall, Ph.D.
 - 3.) Feng-Ying C. Lin, M.D. MPH
9. Previous Evaluation(s): March 1988