

(PDBA-312)

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| AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET | | 1. TRANSACTION CODE <input type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete <input checked="" type="checkbox"/> A | Amendment Number _____ | DOCUMENT CODE 3 |
| 2. COUNTRY/ENTITY UGANDA | | 5. PROJECT NUMBER 617-0107 | | |
| 4. BUREAU/OFFICE AFRICA/ | | 5. PROJECT TITLE (maximum 40 characters) ORAL REHYDRATION THERAPY | | |

| | |
|--|---|
| 6. PROJECT ASSISTANCE COMPLETION DATE (FACD) MM DD YY 07/01/87 | 7. ESTIMATED DATE OF OBLIGATION (Under "B" below, enter 1, 2, 3, or 4) A. Initial FY 84 3. Quarter 4 C. Final FY 85 |
|--|---|

8. COSTS (\$000 OR EQUIVALENT SI =)

| A. FUNDING SOURCE | FIRST FY 84 | | | LIFE OF PROJECT | | |
|------------------------|-------------|---------|-----------|-----------------|---------|-----------|
| | B. FX | C. L/C | D. Total | E. FX | F. I/C | G. Total |
| AID Appropriated Total | | | | | | |
| (Grant) | (625) | (375) | (1,000) | (730) | (480) | (1,210) |
| (Loan) | () | () | () | () | () | () |
| Other U.S. | | | | | | |
| 1. CDC | 62 | | 62 | 62 | | 62 |
| 2. | | | | | | |
| Host Country | | | | | | |
| GOU | | 69 | 69 | | 383 | 383 |
| Other Donor(s) | | | | | | |
| UNICEF | 200 | 326 | 526 | 682 | 454 | 1,136 |
| TOTALS | 887 | 770 | 1,657 | 1,474 | 1,317 | 2,791 |

9. SCHEDULE OF AID FUNDING (\$000)

| A. APPROPRIATION | B. PRIMARY PURPOSE CODE | C. PRIMARY TECH CODE | | D. OBLIGATIONS TO DATE | | E. AMOUNT APPROVED THIS ACTION | | F. LIFE OF PROJECT | |
|------------------|-------------------------|----------------------|---------|------------------------|---------|--------------------------------|---------|--------------------|---------|
| | | 1. Grant | 2. Loan | 1. Grant | 2. Loan | 1. Grant | 2. Loan | 1. Grant | 2. Loan |
| (1) 2H | 520 | 550 | | - | - | | | | |
| (2) | | | | | | | | | |
| (3) | | | | | | | | | |
| (4) | | | | | | | | | |
| TOTALS | | | | | | | | | |

| | |
|---|----------------------------|
| 10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each) | 11. SECONDARY PURPOSE CODE |
| 510 530 540 560 570 | 523 |

| | | | | | |
|--|----|------|-----|-----|--|
| 12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each) | | | | | |
| A. Code | BR | TRNG | DEL | R/H | |
| F. Amount | | | | | |

13. PROJECT PURPOSE (maximum 460 characters)

To improve the understanding of Oral Rehydration Therapy and to increase the demand for, and supply of, Oral Rehydration Salts.

| | |
|--|---|
| 14. SCHEDULED EVALUATIONS | 15. SOURCE/ORIGIN OF GOODS AND SERVICES |
| Interim MM YY MM YY Final MM YY 11/08/5 11/08/7 | <input type="checkbox"/> 000 <input checked="" type="checkbox"/> 94: <input checked="" type="checkbox"/> Local <input checked="" type="checkbox"/> Other (Specify) Grant to International Organizations |

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of 3 page 2P Amendment)

| | | | |
|-----------------|-----------|-------------------------------------|---|
| 17. APPROVED BY | Signature | Date Signed MM DD YY 07/27/84 | 12. DATE DOCUMENT RECEIVED IN AID/IV, OR FOR AID/IV DOCUMENTS, DATE OF DISTRIBUTION MM DD YY |
| | Title | | |

UGANDA ORAL REHYDRATION THERAPY

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GLOSSARY OF ACRONYMS

| | |
|--------|--|
| ADMS | Assistant Director of Medical Services for Public Health |
| CCCD | Combatting Childhood Communicable Disease Project (AID) |
| CDC | Center for Disease Control, Atlanta |
| CDD | Control of Diarrheal Diseases |
| CDSS | Country Development Strategy Statement |
| DD | Diarrheal Diseases |
| DMO | District Medical Officers |
| EPI | Expanded Program for Immunization |
| EDSS | Essential Drug Supply System Project, UNICEF |
| GOU | Government of Uganda |
| GSA | General Services Agency |
| MCH | Maternal Child Health |
| MLM | Mid-level Managers Course |
| MOH | Ministry of Health |
| NGO' | Non Government Organizations |
| PDME | Program Development Monitoring and Evaluation Unit, UNICEF |
| ORS | Oral Rehydration Salts |
| ORT | Oral Rehydration Therapy |
| PHC | Primary Health Care |
| OPD | Out-Patient Department (section of hospitals) |
| RFMC | Regional Finance Management Center (AID) |
| UNICEF | United Nations Childrens Fund |
| WHO | World Health Organization |

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I. SUMMARY

A. Background

Uganda's health services severely deteriorated during the 1970's. Recently, the Government of Uganda (GOU) has been attempting to rehabilitate it's national health infrastructure. Yet, the resources for government-sponsored health care are scarce and inadequate to reestablish the level and quality of services which were previously available. The private sector, which provides 60% of all services, is recognized to be an essential source of medical care in Uganda and is expected to play an important role in restoring Uganda's health services.

Donor support for the Health Care Sector has been modest. Nevertheless, the United Nations Children Fund (UNICEF) has been pursuing an active, preventative-health rehabilitation program since 1981. This effort is attempting to address on-going problems related to general health, child mortality and morbidity, medical supplies, and training of health staff.

B. Problem Identification

One of Uganda's major health problems has been the incidence of diarrheal diseases (DD) amongst children under five years old. Although national statistics are not available, local surveys and data from similar developing countries suggest that the average child under five years old has two to five episodes of DD annually and that as many as one out of every ten children die of diarrhea. This implies that thousands of Ugandan children under five years of age, die annually from DD.

Current treatments for DD vary both in terms of practice and efficiency. DD treatments practiced in Uganda include: stopping all feeding, administration of Oral Rehydration Salts (ORS), intravenous feeding (IV), and administration of drugs. It has been demonstrated that, in the great majority of cases (around 70%), proper treatment with ORS and basic health practices would be sufficient to cure a child suffering from DD. Yet, the application of ORS is infrequently used and often improperly used.

This situation occurs for two reasons. First, Ugandan health staff, both private and public, have little knowledge of Oral Rehydration Therapy (ORT); and second, access to required supplies of Oral Rehydration Salts is limited.

The USAID Oral Rehydration Therapy Project (617-0107), proposed in this paper, is designed to improve the knowledge about ORT and to increase the demand for, and supply of Oral Rehydration Salts.

C. Project Description

USAID intends to combine its efforts with UNICEF and the GOU in working towards the control of diarrheal disease in Uganda. Under the umbrella of the on-going, GOU Control of Diarrheal Disease Program (CDD), USAID will participate in Phase I of the Program by providing Oral Rehydration Salts, funding a feasibility study on the most effective sources of ORS, financing selected operational research studies, funding an external evaluation, and paying the costs of in-country training activities. The total AID Contribution for Phase I (FY 84-86) is estimated at \$1,210,000.

The umbrella project, CDD, is managed and operated by UNICEF personnel in conjunction with the Uganda Ministry of Health. Limited technical assistance in year 1 is provided by the Centre of Disease Control (CDC) under USAID's regional Combatting Childrens Communicable Disease Project. The UNICEF financial support for Phase I (for the period FY 84-FY 86) totals an estimated \$1,136,000. GOU support is estimated to be in excess of \$3,000,000 for the same period, although direct cash outlays are estimated at only \$383,000.

The CCD Program, of which the AID ORT Project will be an integral part, has the basic goal of reducing the incidence of child mortality and severe cases of diarrheal disease. The CDD Program purpose is to increase national understanding and use of ORT as treatment for children under five years old suffering from diarrheal disease.

There are four basic parts to the CDD Program. They are:

- Case management using ORT;
- Epidemiological investigation and control;
- Maternal and child health practices; and,
- Environmental sanitation measures.

Case management, or treatment of DD, will utilize ORT in the majority of instances using ORS or other oral solutions as appropriate for the first treatment. Case management will improve outreach effectiveness of ORT in disseminating

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knowledge, skills, and distributing appropriate supplies and equipment for the management of diarrhea.

Phase I of the CDD Program and ORT Project will establish an ORT delivery system, initiate staff training and certain research topics, and provide ORS supplies to personnel trained under the Program. Phase II will broaden the Program more fully, especially epidemic investigation and control, maternal and child health activities, environmental sanitation measures, and will consider local manufacture of ORS.

The expected results from the overall Program, after five years of activity, (both Phase I and II) include:

- The use of ORT as a home treatment of diarrheal disease in most episodes;
- Trained health staff properly use ORS in 75% of child dehydration cases;
- Improved data collection and analysis nationwide is used for decision-making;
- ORS is distributed with other supply and distribution systems and 50% of all health facilities have adequate stocks of ORS 90% of the time; and
- The demand for ORS increases, at least 50% in pharmacies and drug outlets.

II. PROJECT RATIONALE AND DESCRIPTION

A. Background and Statement of the Problem

1. Background:

a. Health Sector of Uganda

In the 1960's and early 1970's Uganda had developed an extensive network of health care facilities into rural areas of the country. Facilities were equipped, supplied with drugs, and staffed with adequately trained personnel. In the network of 76 hospitals (28 mission hospitals), 150 health centers and 300 dispensaries, the population of about 10 million was relatively well served. An average of 6.5% of the GOU recurrent and capital budget was allocated to the health sector annually. In addition, the percentage of district administrative budget for health rose from 3.5% to nearly 20%.



between 1947 and 1968. Utilization of Government health facilities totalled 2.6% cases treated per person per year

The ensuing political turmoil brought about a flight of skilled manpower and pillage of equipment and supplies at the health care facilities. By 1977 the estimated average number of cases per treated person per year was 1.52 or only 58% of previous levels. By 1979-1980 the purchasing power of the Government's health budget was only about 10% of what it was in 1971 (in 1979 the estimated recurrent per capita expenditure in constant 1960 Ugandan Shilling was 1.1 as compared to 12.3 in 1968/69.) It is clear that the basic health infrastructure has been severely weakened.

Currently, there are about 620 physicians to serve a population of approximately 12.6 million (1:21,000) which is only 60% of earlier levels. Medical assistants number 700 (1:18,000) and nurse/midwives 5,600 (1:2,250). Only the nurse and midwife cadres did not register a significant decline in the last decade.

Since 1980 the GOU has been attempting to rehabilitate the health infrastructure. Yet, with the decline of the economy, the resources for Government-sponsored health care are scarce and inadequate to reestablish the level and quality of services once available in Uganda. The private sector, which presently provides approximately 60% of all curative and preventive services, continues to be an important source of medical care in Uganda:

b. UNICEF Program in Uganda

In recognition of the GOU's health care problems, UNICEF, since 1981, has pursued an active, preventive health-oriented rehabilitation program. Initially, the UNICEF program strategy was to restore, to a functional level, 100 Government Health Centers and Dispensary/Maternity Clinics. The program included in-service training for health personnel, a small scale Expanded Program of Immunization (EPI), and supplies of essential drugs. In 1982 a complementary program, breast-feeding promotion, was initiated. By 1984, a mid-term review of the Health Center Rehabilitation Program, including the essential drug component, confirmed progress in meeting program objectives. UNICEF has now decided to expand this program to all 170 Government Health Centers and Dispensary/Maternity Clinics in Uganda. In addition, the EPI component will be broadened to eventually reach many of the smaller dispensaries (there are approximately 430).

Building on this foundation of rehabilitation, UNICEF has now added a diarrheal disease control (CDD) activity to their health program. AID will contribute to this particular activity within the overall UNICEF preventive health program in Uganda. As the CDD program is developed, it is being coordinated with the Health Center/Essential Drug and EPI programs. During the course of implementation there will be: (1) Training; (2) Production of health education materials; (3) Development of information systems; and (4) Development of an integrated supplies and equipment distribution system. The CDD program is helping to finance the development and integration of these systems to support the Drug, EPI and CDD Programs, and in so doing, is laying the basis for a Primary Health Care (PHC) Program that will eventually reach the community level and involve more outreach and community participation.

2. Statement of the Problem

As many as one of every 10 children born in developing countries dies of diarrhea before reaching the age of five years. (Population Reports, 1980). In the 1970's, it was demonstrated that the cause of 60% to 70% of all diarrheal diseases (DD) involves a viral pathogen. Some virus-associated diarrhea, such as measles, can be avoided by preventive programs such as EPI. Hence, close association between CDD and EPI is imperative. Other virus-associated diarrhea has no known pharmaceutical agent for prevention or treatment. Even so, because mortality from acute diarrheal disease is usually due to dehydration - loss of water and electrolytes (sodium, potassium, chloride and bicarbonate), diarrheal disease-related mortality can be decreased by assuring adequate rehydration. In addition to the estimated 60%-70% of diarrheal disease deaths caused by dehydration, diarrheal disease impairs nutritional status through a cumulative effect of repeated episodes. Children under 5 may suffer two to five episodes annually and have diarrhea for 20 to 30 days every year. With repeated diarrheal attacks and worsening nutritional status, the child becomes increasingly susceptible to other acute infections and growth retardation.

In Uganda acute DD is one of the most common causes of death in children (along with measles and respiratory tract infections) and is also a major factor in the cause or aggravation of malnutrition (ORT - A Ugandan Perspective). Presently, it is difficult to assess the problem precisely because fewer than 30% of all health facilities report to the Ministry of Health (MOH). This is due partly to the past 15 years of civil unrest and partly to the lack of supervision of operational personnel (at the district and central levels).

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Recently a survey of records from 12 Health Centers for the period January-February and May-June was conducted. Diarrheal attack rates during these months, among the population living within five kms of these Health Centers who received treatment ranged from 0.9 to 11.6 (mean = 4.5) DD episodes per 100 children under five per month. Assuming a rate of two episodes per year per child under five years old (conservative WHO estimate), 16.7 episodes per 100 children would be expected month. It appears that only a fraction of cases requiring care are currently treated by health facilities.

Cultural practices in parts of Uganda inhibit proper treatment of diarrheal episodes. Local practices often encourage mothers to stop feeding during diarrhea. Traditional healers and some professionally trained health care personnel recommend the withholding of food. Studies have shown that continued feeding during episodes of DD result in a greater net retention of nutrients by the body and promotes a faster recovery and better rate of weight gain.

Additional problems can even occur in the receipt of medical care for DD. In 1983, UNICEF distributed about 300,000 packets of Oral Rehydration Salts (ORS) through its Health Center Rehabilitation Project. To date, however, most government health facility personnel have not been formally trained in how to properly mix or administer ORS. Practices and beliefs among health workers concerning the treatment of diarrheal disease in children are very much out of date, and occasionally harmful in light of present knowledge. In addition to ORS packets, some Health Centers and Hospitals prepare half-strength Darrow's solution (a formula currently considered inferior to the UNICEF/WHO formula and considerably more costly). Most hospitals and larger Health Centers still use the often unnecessary and more costly intravenous (IV) treatment for many cases of dehydration.

In Uganda, 16% or 2,016,000 of the population are under five and at risk of illness and death due to DD. Applying the worldwide rate of 1 in 10 children in developing countries that die from DD before the age of five, an estimated 40,000 Ugandan children under 5 may die annually from diarrheal diseases if untreated. In the early stages of diarrhea, however, it is difficult to know which cases will lead to life-threatening dehydration. Death can occur within a matter of hours. Therefore, early and appropriate care, preferably by simple ORT methods at home (such as continued feeding and breast-feeding, and provision of fluids), is required in order to prevent dehydration. More complex treatments, such as ORT from ORS packets or pre-mixed solutions, are required in even the most peripheral health facilities to assure that those children who

do develop, dehydration, despite simple ORT in the home, are adequately treated. Hospitals and more centrally located health facilities require ORS and adequate intravenous solutions to treat the refractive, non-responsive cases of dehydration transferred from peripheral facilities.

B. Project Description

The Control of Diarrheal Disease Program (CDD) in Uganda has been developed as a result of discussions between the GOU Ministry of Health and UNICEF, which began in mid-1983. These discussions focused on logical steps required to develop appropriate case management strategies for children at all levels of the health care system (from the home to health facilities including hospitals), and once developed, the need to assure that these strategies are provided through the MCH/PHC system. In December 1983, USAID/Uganda was invited to participate in the MOH/UNICEF discussions, at which several recommendations were adopted to assure that the Uganda CDD Program adhered to WHO and UNICEF CDD policy. At that time, appropriate inputs to the CDD program from USAID were discussed and agreed upon. In early 1984, based on Ministry of Health, UNICEF and USAID discussions, the National Program for Control Diarrheal Diseases (CDD) was developed, with an approximate budget of 11.3 million U.S. dollars of which \$4.6 million is to be provided by external donors. USAID has agreed with UNICEF to jointly finance the external donor portion of the budget by providing a total of 2.3 million dollars over the next three years (USAID portion 1.2 million). The following is a description of the Uganda CDD Program, and of the support to this program to be provided by the MOH, UNICEF and USAID.

1. Goal and Purpose of the Uganda CDD

The goal of the Uganda CDD Program, as described in the UNICEF program document shown as Appendix K, is to reduce the incidence of child mortality and severe cases of diarrheal diseases. The Program should enable Uganda to reduce its case fatality rate from DD at least 60% during implementation of the proposed Project. In addition, the number of children reaching a severe state of dehydration should be significantly reduced.

The purpose of the Uganda CDD Program is to increase: (a) the understanding of Oral Rehydration Therapy (ORT); and, (b) the demand for, and supply of, Oral Rehydration Salts to the target population of children under five year of age.

2. Project Implementation Strategy

The Uganda CDD Program will pursue four strategies for the control of diarrheal diseases:

- a. Case management using ORT,
- b. Epidemic investigation and control,
- c. Maternal and child health practices, and
- d. Environmental sanitation measures

The emphasis during the first phase of the Uganda CDD Program is on case management because of the immediate life saving advantages of this strategy and the simple capabilities of the present health care system. Case management will include using ORT as a means of correcting the dehydration caused by diarrheal diseases. Because of the simplicity, safety, low cost and effectiveness of rehydrating children with oral solutions, ORT is the recommended treatment for mild and moderate dehydration due to DD. The ORT approach can be administered in the home as well as in clinical settings by professional providers of health care. Oral solutions can include a variety of mixtures, such as rice water, juices and teas, commercial or home-based sugar, salt and water preparations. Oral Rehydration Therapy is the only feasible means of serving the large number of people suffering from DD throughout the country.

The Oral Rehydration Solution (ORS) recommended by WHO is regarded as the physiologically most appropriate simple formulation for worldwide use. ORS is effective in 90-95% of dehydration cases and for all causes of diarrhea. It is inexpensive, costing less than \$.50 per patient (as compared with at least \$5.00 per patient with IV therapy) and being practical for third world countries, as it does not require a sterile environment or highly trained personnel for use.

Through the use of ORS and home prepared oral solutions, the objective of the case management approach is to reduce case fatality in hospitals and to reduce utilization of intravenous (IV) rehydration by 75% in all medical units.

3. Project Activities

Inputs to the case management strategy in the Uganda CDD Program are based on the comprehensive program approach recommended by WHO and UNICEF in the "Management of Diarrhoea and Use of Oral Rehydration Therapy". This approach includes:

- Improving the outreach effectiveness (as well as affordability) of diarrhea management throughout the health system;
- Using all available channels to disseminate knowledge, impart skills, and encourage the practice of better management of diarrhea; and
- Producing and distributing appropriate supplies and equipment for the management of diarrhea.

The following three sections describe the activities to support each of the above approaches, as agreed upon by the Ministry of Health, UNICEF and USAID.

a. Activities to Improve the Outreach and Effectiveness of Diarrhea Management Throughout the Health System

The CDD program will concentrate heavily on re-orientation and training in the use of ORT and on management of ORT delivery systems at all levels of the health system. Specific training/re-orientation activities include the following:

- A national conference on CDD hosted by the Uganda Medical Association will formally announce the commencement of the CDD program. The conference will sensitize the medical profession and provide current technical materials.
- Case management of DD will use ORT and MCH practices, through upgrading the knowledge, attitudes and practices of physicians, paramedics, and health auxiliaries working in existing Government and private hospitals, as well as peripheral health units.
- The Project will establish 50 ORT Units in Out-Patient departments of hospitals (at least one in each of 33 districts).
- Training of facilitators (50) in MCH interventions during a one-week intensive course will take place.
- Training will include adaptation of modular education materials provided by WHO, containing administrative, logistic, and technical information concerning Growth Monitoring, ORT, Breast-Feeding Promotion, and Immunization. Training will also include planning, logistics, resource control, supervision, monitoring and evaluation. The module of

ORT methodology will include a comprehensive session held at the nearest Hospital ORT Unit.

- Implement a series of integrated MCH training courses for local Mid-level Managers (MLM) in all 33 districts. (These two-week courses will train 384 health workers).

- Implementation by Mid-level Managers of a series of local training courses for operational staff in their respective districts (100 district level courses) will be included.

- Supervision of ORS distribution and ORT units will be undertaken by the CDD Program Managers. District Medical Officers (DMOs) will receive training in supervisory skills at the MLM courses and will supervise, under the CDD Program Manager's direction, all CDD program activities throughout their districts.

- The Project will introduce the concept of fees for services and ORS packets and test it through operations research in a selected district or county. If there is willingness and ability to pay, the concept of user fees will be considered by the GOU/MOH for institutionalization within the CDD program, and perhaps achieving broader applicability in the PHC program in Uganda. The activities will be carried out by UNICEF and MOH staff, with additional input from contracted researchers.

b. Activities to Encourage Use of all Available Channels to Disseminate Knowledge, Impart Skills and Encourage the Practice of Better Management of Diarrhea

The CDD program will develop a health communications methodology, complementing the health services delivery approach. It is estimated that in Uganda only 30% of the population live within one hour's walk of a health facility. Access to services; therefore, is not readily available to a significant portion of the population. To reach the many mothers who care for children with diarrhea, approaches to CDD are essential that do not depend on doctors and health care facilities. By the early use of oral solutions in the home, many cases of dehydration can either be prevented or reduced to moderate cases. Often, information and instruction on diet management can be as important as distributing and using ORT supplies.

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A health communications initiative could help popularize and legitimize ORT by linking it with villagers' present beliefs and practices about diarrhea. In addition, a communications approach can create widespread demand for ORT, teach mixing of oral solutions, and provide advice on when and where to seek help.

Such an initiative requires certain communication modalities (radios, etc.) and an understanding of audience beliefs and practices regarding DD. Sociocultural research, group interviews, and pre-testing of communications are all required before actual application for CDD are initiated. For example, in Uganda it is not known if radio batteries are available and if a significant number of people own and listen to radios. Levels of literacy in villages are also not known.

The objective of a communications initiative is to effect a change in health status by a process of exposure, learning, and behavior change through an integrated strategy of communication (through print, radio and interpersonal channels). The project will carry out a health communications approach by:

- Conducting a preliminary field investigation as a basis for defining objectives, messages and use of training and media;
- Developing a plan for the integrated use of health personnel, print materials and radio (or other modalities) based on the application of learning and communication principles, as well as extensive pre-testing; and
- Implementing and monitoring the planned modalities.

UNICEF will have an Education Specialist on the staff who will implement this component of the Project. This specialist will work with the Division of Health Education in the MOH and will coordinate this activity with the Health Communications Component of the EPI and Nutrition Programs. Preliminary field investigations are required and will be undertaken through short-term technical assistance, studies, and operations research. The results of these consultancies and studies will determine the combination and type of print, radio, and interpersonal communications to be developed. The Education Specialist with the Division of Health will then manage the pre-testing of messages and materials and oversee the implementation of the planned communications strategy.

Activities to Improve the Production and Distribution of Appropriate Supplies and Equipment for the Management of Diarrhea

To complement ORS distribution through the health delivery system, UNICEF will conduct a study to determine the feasibility of commercially producing and distributing ORS. Health ministries in most developing countries find pre-packaged ORS supplies very expensive to import.

Initially, Oral Rehydration Salts (ORS) for the Uganda CDD will be distributed through the UNICEF Essential Drug Program as this program expands to the 170 existing Health Centers and Dispensary/Maternity clinics. Distribution will also be made to the Hospital ORT Units. Eventually, ORS distribution will be integrated with the EPI system of vaccine distribution which will reach smaller, periphery health units.

The cost of providing the WHO recommended six packets of ORS per child a year has been estimated at 10% to 20% of the country's total health budget (assuming use of WHO recommended ORS). Alternatives to reduce the costs of ORS and to encourage home preparation of an oral solution or to produce affordable ORS domestically will be studied. In 1980, UNICEF procured ORS at a cost of about 8¢ (U.S.) delivered. Private firms in the U.S. produce ORS at a cost of about 10¢ including delivery. National automated production facilities operating in Asian and Middle Eastern countries reported costs in 1977 ranging from 6¢ to 45¢ per packet of ORS. There are many approaches to domestic production and distribution. One is to prepare and package the ORS domestically. Another, considered very economical, is a bulk supply purchase of the premixed product for local packaging and distribution. A study will be funded to determine if either of these approaches is feasible in Uganda, if there is a regional market for ORS outside of Uganda, and if the enterprise would be sufficiently profitable to attract private sector interest.

4. Project Inputs

The following inputs will be required for the overall CDD Program, and include the assistance to be provided by USAID.

a. Technical Assistance

Long-term technical assistance to the Uganda CDD will be provided by three professionals, including an MCH Trainer, a Health Education Specialist, and a Research and Evaluation Specialist. The latter two will work part-time directly with the CDD program. All three will be on the UNICEF staff in

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Kampala. The MCH Training Officer will be a full-time counterpart to the CDD Program Manager in the MOH. The Health Education Specialist will work closely with the Division of Health Education in the MOH to prepare and test educational materials for the UNICEF-sponsored nutrition, EPI and CDD programs. The Research and Evaluation Specialist will provide assistance to the EPI and CDD programs, as well as to UNICEF's Essential Drug Program. This technician will, using operations research funding in the CDD project, integrate CDD research with that of EPI and the Drug Supply system when appropriate to assure more effective use of funds.

Short-term technical assistance will be provided by the CDC through the CCCD project. Assistance may be requested for research or survey design and implementation, communication studies, and health information system development.

b. Training

All training courses will be managed and taught by UNICEF and MOH staff. Courses will be held at all levels throughout the nation. A national conference on "Control of Diarrheal Diseases and Oral Rehydration Therapy" will be hosted by the Uganda Medical Association. Its purpose will be to sensitize the medical profession in Uganda to the aims of the CDD Programme, and to provide members with current technical material concerning the scientific rationale for ORT.

Fifty Training Facilitators will receive instruction in a number of broad MCH interventions during a one-week intensive course. Modular training materials, provided by WHO will be adapted to Uganda realities and designed to cover common administrative and logistic skills and specific technical information concerning Growth Monitoring, Oral Rehydration Therapy, Breast-Feeding Promotion and Immunization (the first four "technologies" of UNICEF's strategy for Accelerated Child Survival). The principal areas of training will include: planning and logistics, resource control, implementation of ORT methodology, personnel supervision, monitoring, and evaluation. The module on ORT methodology will include a comprehensive practical session held at the nearest MOH or Mission Hospital ORT Unit.

Groups of Facilitators will collaborate to implement a series of 16 integrated MCH training courses for local Mid-level Managers (MLM) in all 33 Districts. Joint training MLM courses will utilise training modules common to all four UNICEF technologies in addition to a selected range of technical modules. Two-week MLM training courses will be

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attended by roughly 400 health staff from District Medical Teams and representatives of hospitals, health training schools, the Red Cross and selected NCOs. They, in turn, will each be expected to implement 100 district-level training courses for operational staff in their areas, until every cadre of health care staff in all Districts has been exposed to the theory and practice of the CDD programme.

Funding for these training activities principally is provided by the GOU and USAID in FY 1985-1986. FY 1984 training activities have and are being funded by UNICEF and the GOU.

Production of health education materials for the general public and training level materials for MLM and operational staff at the District level dealing with Growth Monitoring, ORT, Breast-feeding Promotion and EPI will be closely coordinated. Initially, materials will be purchased outside Uganda from WHO, UNICEF and other appropriate sources. Later, materials will be designed by the MOH Health Education Division, in collaboration with UNICEF, and produced either commercially or on MOH printing presses.

c. Commodities and Equipment

The principal commodity to be procured for this project is Oral Rehydration Salts (ORS). The calculation of ORS needs over the five years of the Project is shown in Annex F. Upon completion of each regional workshop, participants will receive a supply of ORS for their area, based on calculations they have made during the courses. ORS requirements for each region will determine the quantities supplied in UNICEF Drug Kits. ORS packets will be provided by USAID and UNICEF and distributed by UNICEF and the MOH.

Equipment and supplies for Hospital-based ORT Units will be supplied by UNICEF.

Training and promotional materials will consist of training modules, educational booklets, posters, and leaflets for the general public. These also will be provided by UNICEF.

Two vehicles for program administration and training will be procured by UNICEF, as well as fuel, repairs and maintenance for these vehicles. At the district-level, the GOL will provide the vehicles and their operational costs.

d. Operational research and studies

A series of research activities will be conducted to better understand the beliefs and practices of Ugandans regarding the treatment of diarrhea. Various locally available oral rehydration solutions will be tested for effectiveness, acceptability and cost. Communication modalities will be researched and tested. Revenue generating schemes will be tested to determine ability and willingness to pay for CDD services and/or ORS packets. A study will be conducted to determine the feasibility of commercially producing ORS in Uganda. These operational research projects and studies will be financed by USAID. These studies and research activities will be designed and implemented with short-term technical assistance. With the assistance of CDC through the CCCD project, baseline morbidity and mortality surveys will be conducted and periodically repeated for evaluation and monitoring. A study will also be conducted to determine attitudes, knowledge and practices regarding diarrhea treatment, feeding practices, access to media channels and health services, etc. This study will provide the basis for the health communications approach, clinical health education and for evaluating project progress.

Other operational research topics, which may be part of the initial survey or studies, are:

- The availability of salt, sugar and standard measuring containers in the home and/or on the market;
- The effectiveness of various home-based ORT commodities, including home-made sugar/salt solution, juices, sweetened tea, porridges, milking and feeding during illness;
- The acceptability of community participation (in cash or kind) in certain MCH/PHC activities, such as ORT;
- The most effective health education materials in encouraging participation in ORT programs; and
- The ability and willingness to pay for ORT materials (ORS) and/or services by beneficiaries.

5. Results

The following results will be achieved by the successful implementation of Phase I and Phase II of this Project:

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RESULTS

Use of ORT as a home treatment of diarrheal disease.

Appropriate use of ORT by health staff.

Improved capability of Ministry of Health to manage and collect health information.

ORS supply system completely integrated with other MCH/PHC supply and distribution systems.

Creation of increased demand for ORS in both government and the private sectors.

Additional results expected by the end of Phase I, are shown in Section IIIA.

D. Relationship to USAID Uganda and GOU Development Strategies

1. Conformity with GOU Development Program.

During the period of the Revised Recovery Program (1982-1984) the GOU planned to give top priority to preventive

MAGNITUDE

At least 60% of mothers with children under five know about ORT as a treatment for diarrhea within five years

At least 45% of mothers with children under five used ORT as a home treatment for diarrhea by the end of Phase II.

Use of ORS as first treatment by trained health staff in over 75% of children with mild to moderate dehydration.

Sentinel surveillance system for diarrheal disease morbidity/mortality reporting with 60% reporting completeness by the end of Phase II.

60% health facilities will have adequate supply of ORS more than 90% of the time by the end of Phase II.

ORS wastage remains below 10% within the distribution system.

50% increase in demand for ORS in both private and government pharmacies or other drug outlets.

health measures. The program focuses upon improved environmental health (i.e. potable water supplies, adequate sanitation and refuse disposal), improved nutrition, and expanded programs of mother and child welfare, including family health education, child spacing, and immunization. The approach is community-based and it identifies specific target groups such as children, mothers and the poor.

Because of the increasing problem of diarrheal diseases in Uganda, the Ministry of Health (MOH) established a National Disease Surveillance Sub-Committee in June 1982. This group was found principally as a task force to deal with diarrheal emergencies. A Central Public Health Laboratory (CPHL) to diagnose causes of diarrheal diseases was also established at the Institute of Public Health with assistance from WHO and UNICEF.

The strategy for the Expanded Program of Immunization (EPI), Primary Health Care (PHC) and Oral Rehydration Therapy (ORT) was approved by the Ugandan Cabinet. In October 1983, President Obote launched the Ugandan National EPI and the Acting Minister of Health officially requested UNICEF's assistance in developing a plan of action for ORT.

Early in 1984 the MOH appointed a CDD Program Manager to work with UNICEF in the design and implementation of the National Program for Control of Diarrheal Diseases.

The UNICEF Program, Control of Diarrheal Disease, and the proposed USAID financed activities, as described in this document, are completely in conformance with Uganda's Health Development Program.

2. Relationship to AID Strategy.

Since the return of USAID to Uganda, there has not been a health program or a health sector strategy in the CDSS. USAID did respond to immediate health needs after the Liberation War through assistance to hospitals and health clinics. The Mission, however, has limited staff and has not developed additional health initiatives, given the overriding need to rehabilitate the economy through small holder assistance and private enterprise. Nevertheless, the Mission recognizes the need to promote preventive health measures.

Since the Liberation War, UNICEF/Kampala has been actively rehabilitating Health Centers and Dispensaries for strengthening primary health care in Uganda, particularly in rural areas. Given the need for rehabilitation of health sector resources, the UNICEF Program objectives, (which are

entirely consistent with Agency objectives in health) and the Mission staffing limitations, USAID Kampala had decided to address Uganda's primary health care needs by joint-financing a CDD program, implemented by UNICEF and the MOH. This arrangement permits the Mission to contribute to health sector development needs, while limiting the demands on Mission staff.

Donor coordination is consistent with the priorities of the Africa Bureau Development Strategy. This targeted health — initiative has been integrated into the FY 1985 CDSS Up-Date and is planned as part of a health sector strategy that will be more fully assessed and integrated in the FY 1987 CDSS.

III. PROJECT IMPLEMENTATION ARRANGEMENTS

A. Management

1. Project Direction and Supervision

Day-to-day project direction will come from the Control of Diarrheal Disease Office in the Public Health Division within the MOH. A CDD Project Manager has been appointed who will be accountable to the Assistant Director of Medical Services for Public Health (ADMS), who is the overall Program Director. The Project Manager in the CDD office will be responsible for all technical and operational aspects of the program and will liaise directly with the MOH at central, regional and district levels.

Supervision of ORS distribution and ORT equipment units will be undertaken by the CDD Program Manager, who will be in charge of gathering monitoring sheets for compilation and analysis by UNICEF. District Medical Officers (DMO) will receive training in supervisory skills at the Middle-level Management (MLM) course, and will supervise, under the CDD Program Manager's direction, all CDD program activities at district level.

Two levels of coordination will be required in the implementation of this Project. The CDD Program Manager will be responsible for overseeing necessary coordination at the central level and between the central, regional, and district levels.

The CDD program will be coordinated with other PHC activities at the central level under the guidance of the Family Advisory Committee (a policy, planning and coordination committee chaired by the ADMS for Primary Health Care and Maternal Child Health). Inter-program task forces already meet periodically to facilitate coordination. These task force

meetings, particularly between the EPI, Essential Drug and CDD programs, will continue during the life of the Project to ensure coordination among programs. In addition, within the Division of Public Health, a standing CDD Sub-Committee will be established and meet every three months to formulate guidelines for CDD. Membership will include Makerere University Medical School experts, members of the MOH Disease Surveillance Sub-Committee, Ministry of Local Government representatives, NGOs, Donor Representatives and other MOH officials essential for technical input and coordination (see Annex G for the CDD Sub-Committee membership).

To ensure coordination between service levels, the CDD Program Manager will provide direction from the central level to the DMO, who will, in turn, be responsible for CDD in all health units within the concerned district. With the exception of hospitals, all health units at and below the district level are under the administrative direction of the Ministry of Local Government. The DMO is responsible for technical supervision and is accountable to the Minister of Health. It is the responsibility of the DMO to coordinate all administrative and technical matters with local administrators of the Ministry of Local Government.

2. Technical Support

During implementation, technical support will be provided by a variety of sources, including Makerere University Medical School, UNICEF, MOH personnel, and from the Center for Disease Control, (through the AID-sponsored Combatting Childhood Communicable Diseases project).

The UNICEF Counterparts (MOH staff) will serve in long-term positions and will work closely with the CDD Program Manager and the Division of Health Education within the MOH. MOH will assign an MCH Training Officer to act as the Counterpart to the CDD Program Manager. Another UNICEF Counterpart will be the Health Education Specialist who will work closely with the Division of Health Education in the design and production of education and training materials for the CDD, EPI and Nutrition programs in the MOH. The Health Education Specialist will also coordinate activities with the CDD Program Manager and a UNICEF Research/Evaluation Coordinator in the implementation of the Health Communications Component of the Program. See Annex K for details

Through the CCCD project, CDC will provide some technical and training assistance. Initially, CDC will assist in conducting the first Morbidity and Mortality Survey and the first Mid-level Manager Course.

3. Logistical Support

The support systems required by the Project include: procurement, transport, storage and distribution. Currently UNICEF is both procuring and distributing essential drugs for the central depots with its own transport system. The MOH distributes drugs to the district level through its fleet of vehicles and the EPI program within the MOH is beginning to develop its own system of procurement and distribution with EPI program vehicles. Generally, the drug distribution system requires the rural health units to collect supplies at the district level and, in turn, the district health personnel go to Entebbe to the Central Medical Stores for their supplies.

A stated purpose of both the EPI and CDD projects is to integrate the three collection systems and distribute supplies from Entebbe Central Medical Stores to the rural health units. The backbone of this integration effort will be the Essential Drug Program. ORS will be a part of the drug supplies that will be distributed with EPI vaccines and supplies, as well as other MOH drugs and medical supplies.

4. Financial Responsibilities

Under the Financial Plan (Section IV), the overall CDD Program and ORT Project Budgets are shown. This section briefly states the responsibilities of each participant in the activity.

1. AID Responsibilities - AID will provide funding of up to \$1,210,000 for ORT activities. AID will be directly responsible, for the purchase of the oral rehydration salts. The distribution of the oral rehydration salts (ORS) in Uganda will be the responsibility of the GOU and UNICEF. The feasibility studyh which will examine the possibility of producing ORS will also be AID's responsibility. AID will be responsible for fielding and administering a Project Evaluation Team, probably near the end of FY 85. The operations research studies and training activities funded by AID will be administered and managed by the GOU, UNICEF and CDC, with AID monitoring the activities.
2. UNICEF Responsibilities - UNICEF will contribute an estimated \$1,136,000 to the CDD Program, which includes ORT activities. In addition to managing and administering its own funds, UNICEF (with the GOU) will be responsible for expending AID grant funds for Operations Research and Training. Pursuant to

Handbook 13 Chapter 5, AID will make a grant directly to UNICEF to support these two activities. UNICEF will maintain records of all AID disbursements and their usage and will forecast on-going funding needs. Reports and cash flow needs will be compiled and submitted to AID/Kampala on a quarterly basis. On the basis of projected needs, USAID, through the Regional Financial Management Center (RFMC) in Nairobi, will provide a running advance based on quarterly projections. Advances will be adjusted to reflect the difference between requirements and past expenditures. UNICEF will use its own financial accounting and reimbursement procedures, but will submit vouchers on AID form 1034.

3. GOU Responsibilities - The GOU contribution, mainly through the Ministry of Health, is primarily in-kind and will not require special financial arrangements. Overall costs are estimated at an excess of \$3,000,000 for Phase I, with cash disbursements estimated at \$383,000.
4. The Center for Disease Control - CDC, Atlanta, is supporting start up activities with personnel in Year 1. The costs incurred, under the CCCD Project effort, total an estimated \$61,800. The CDC will maintain its own financial records and report them as part of the overall CCCD efforts.

B. Administration

a. The Government of Uganda

1. The Assistant Director for Public Health (ADMS-PH) - As the CDD Program Director, the ADMS-PH will be responsible for program implementation. Specific responsibilities include:

- Ensuring coordination of the CDD program with other PHC programs under the ADMS for PHC/MHC; and
- Ensuring technical support to the CDD program from the Disease Surveillance Committee and the standing CDD Sub-committee which are under his direction.

2. CDD Program Manager - The CDD Program Manager, designated by the MOH, will implement and coordinate project activities with all relevant MOH and Ministry of Local

Government officials at all levels (Central, district, county). Specific responsibilities include:

- Supervising the implementation of the CDD program in a manner consistent with MOH policies and practices;
- Providing direction in planning, training, supervision, and periodic evaluation of program activities;
- Providing administrative liaison between CDD program personnel and other MOH offices supportive of the program; and
- Assuring required MOH administrative procedures are followed, program records are maintained, and program reports are prepared.

3. Regional/District Medical Officers - As the representative of the MOH responsible for technical support of all health units within a Region/District, the DMO is responsible for the following CDD program elements:

- Assuring program coordination between the central and region/district levels;
- Assigning regional/district health staff in the DMO office to supervise and otherwise provide support to the CDD program in health units within their respective Region/Districts; and
- Overseeing program implementation in all health units within the Region/District including the hospital-based ORT Units.

b. UNICEF

As the principal implementing organization working with the MOH in the design and implementing of the CDD program, UNICEF responsibilities include:

- Coordinating project implementation with participating GOU ministries and other institutions and donors (USAID), involved in the project;
- Assuring that project goals, objectives and implementing plans are understood, accepted and generally respected by all implementing agents;

- Monitoring project progress and initiating plan revisions with the MOH when necessary;
- Executing or overseeing preparation of necessary documents, etc., when appropriate;
- Overseeing timely arrival and utilization of commodities and technical assistance;
- Assuring periodic project evaluations, and submitting copies of progress reports to USAID Kampala and the MOH; and
- Providing long-term training, health education, and research and evaluation technical assistance to the project.

The guidelines for UNICEF administration of operational research are outlined below.

1. Funds that USAID provides for operational research on control of diarrheal disease will be administered through UNICEF.
2. UNICEF will solicit protocols from Ugandan researchers through requests for proposals distributed to the Pediatrics Department of Makerere University Medical School, the Institute of Public Health, the Uganda Medical Association, and other appropriate institutions.
3. Proposals received will be reviewed by the UNICEF Project Officer for Programme Development, Monitoring and Evaluation (PDME). Once UNICEF determines a proposal merits funding, it will be forwarded to the Control of Communicable Disease Research Review Committee for East and Southern Africa for its recommendations before funding is provided.

Research underway will be monitored by the UNICEF Project Officer (PDME), according to individual reporting requirements tailored to the specific study. A detailed statement of accounts will always be necessary prior to any disbursement of funds.

c. USAID Kampala

As a contributing donor to the project, USAID Kampala will have limited responsibilities to oversee appropriate and

timely utilization of AID funds. USAID's responsibilities include:

- Preparation of Project Implementing Order for Commodities (PIO/C) to procure the Oral Rehydration Salts (ORS) and purchase of same;
- Timely certification of UNICEF advance requests for AID funds which will be submitted by USAID Kampala to the AID Regional Financial Management Center in Nairobi, Kenya;
- Periodic reviews of project implementation through informal reviews with UNICEF and the MOH on a quarterly basis, and USAID and/or CDC representation on external evaluations at mid-term and at the end of the project;
- Preparation of Project Implementation Order for Technical Services to procure resources for the study to determine the feasibility of commercially producing ORS in Uganda; and
- Preparation of Project Implementation Order for Technical Services to procure the resources for the external evaluation.

C. Procurement Plan

A. Source and Origin of Commodities:

Commodities financed by AID under the Project shall have their source and origin in the United States, the Cooperating Country or in any other Code 941 country, except as Aid may otherwise agree in writing. With the exception of ocean shipping, the suppliers of commodities or services shall have the United States, the Cooperating Country, or other Geographic Code 941 countries as their place of nationality, except as AID may otherwise agree in writing. Ocean shipping financed by AID under the Project shall, except as AID may otherwise agree in writing be financed on flag vessels of the United States.

B. AID-financed Commodities

AID funds made available under the grant will be used for the procurement of Oral Rehydration Salts in the following quantities:

| | | |
|--------------------------------------|---|---------------|
| 1,500,000 Packets (27.5 g.) in FY 85 | - | \$150,000 |
| Transport and Insurance | - | 22,500 |
| 2,500,000 Packets (27.5 g.) in FY86 | - | 250,000 |
| Transport and Insurance | - | <u>37,500</u> |
| Total | | \$460,000 |

C. Responsible Agency

All procurement documents for AID-financed commodities shall be prepared by the USAID/Kampala mission. The completed "worksheet" PIO/C should be submitted to AID /W requesting that SER/COM/CPS designate the authorized procurement agent. Under this procedure standard commercial practices of competitive solicitation will be carried out by the authorized agent in the implementation of this procurement. A procurement lead time of eight to sixteen weeks can be expected from the time that SER/COM/CPS processes the PIO/C until the time that goods arrive.

D. Receipt and Utilization of Commodities

All commodities will be shipped C.I.F Kampala, Uganda. All materials and their shipping containers must be suitably marked and identified with the standard AID emblem to identify them as U.S. foreign assistance. The PIO/C must instruct the supplier in this regard and require that all items be properly marked.

It is the responsibility of the Ministry of Health to initiate documentation required for customs clearance prior to arrival of goods and to assure that such documentation is made available to permit goods to be moved promptly upon arrival.

It is the responsibility of the consignee to inspect goods upon arrival and to report to the Project Director and USAID/Kampala as soon as possible thereafter any shortages or damages so that a viable insurance claim can be initiated.

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1. Implementation Plan

| CASE MANAGEMENT ACTIVITIES | Responsible Party | PHASE I | | | PHASE II | |
|---|--------------------|---------|--------|--------|----------|--------|
| | | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 |
| | | 1234 | 1234 | 1234 | 1234 | 1234 |
| <u>1. Development/Promotion</u> | | | | | | |
| 1.1 Appoint CDD Program Manager and UNICEF counterpart (NCH Training Officer) | MOH | X | | | | |
| 1.2 Complete CDD Plan of Operations | MOH/UNICEF | X | | | | |
| 1.3 Establish needs and coordinate USAID procurement of ORS. | | X | X | X | X | X |
| 1.4 Develop first ORT center at Mulago Hospital | MOH/UNICEF/ | | | | | |
| - Train ORT unit staff | MAKERERE | X | | | | |
| - Procure hardware, teaching aids, and health education materials | MEDICAL SCHOOL | X | | | | |
| - Establish surveillance to evaluate ORT unit performance | | X | | | | |
| 1.5 Establish 50 district ORT units | MOH/UNICEF | XXX | XXXX | XXXX | | |
| 1.6 Establish distribution points at: | MOH/UNICEF | | | | | |
| - Central medical stores | | X | | | | |
| - Regional stores | | X X | | | | |
| 1.7 CDD Sub-committee meetings | MOH | XXXX | XXXX | XXXX | XXXX | XXXX |
| <u>2. Training and Health Education</u> | | | | | | |
| 2.1 Hold national conference | MOH/UNICEF | X | | | | |
| 2.2 Print and distribute book on ORT | MOH/UNICEF | X | | | | |
| 2.3 Prepare facilitators guide and training modules | MOH/UNICEF/ CDC | X | | | | |
| 2.4 Training facilitators | MOH/UNICEF/ CDC | X | | | | |

| | Responsible Party | PHASE I | | | PHASE II | |
|---|--------------------------|---------|--------|--------|----------|--------|
| | | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 |
| | | 1234 | 1234 | 1234 | 1234 | 1234 |
| CASE MANAGEMENT ACTIVITIES | | | | | | |
| 2.5 Train mid-level managers (MLM) - (16 regional level workshops) | MOH/UNICEF | XXX | XXXX | XX | | |
| 2.6 Train operation staff (100 district level workshops) | MOH | XX | XXXX | XXXX | | |
| 2.7 Revise curriculum of health worker training institutions | MOH/UNICEF | X | | | | |
| 2.8 Develop CDD and EPI health education/ communication materials | MOH/UNICEF | | | | | |
| - Socio-cultural research | | XX | | | | |
| - Communications research | | | XX | | | |
| - Pretesting materials/modalities | | | XX | | | |
| - Materials production | | XX | XXXX | XX | | |
| 2.9 Implement health communications approach, campaign | | | | XX | XXXX | |
| - Evaluate and revise | | | | | | XX |
| 3. EVALUATION AND MONITORING | | | | | | |
| 3.1 Monitor ORT practice at ORT units and health facilities - quarterly report to CDD meeting | MOH/UNICEF | XXX | XXXX | XXXX | XXXX | XXXX |
| 3.2 Monitor logistics to ascertain if health facilities and village health workers adequately supplied with ORS - quarterly reports | MOH/UNICEF | XX | XXXX | XXXX | XXXX | XXXX |
| 3.3 Annual internal evaluation of CDD Program | MOH/UNICEF | X | X | X | X | X |
| 3.4 External evaluations | MOH/UNICEF/ USAID/CDC | | X | | | X |

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| | Responsible Party | PHASE I | | | PHASE II | |
|--|--------------------|---------|--------|--------|----------|--------|
| | | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 |
| | | 1234 | 1234 | 1234 | 1234 | 1234 |
| CASE MANAGEMENT ACTIVITIES | | | | | | |
| 3.5 KAP survey on mothers and health staff on ORT | MOH/UNICEF | X | X | X | X | X |
| 3.6 Mortality/morbidity surveys | MOH/UNICEF/ CDC | XX | XXXX | XXXX | XXXX | XXXX |
| <u>Operations Research/Studies</u> | | | | | | |
| 4.1 Design, selection and implementation of operations research proposals | MOH/UNICEF | XX | XXXX | XXXX | | |
| 4.2 Study to determine feasibility of domestic production of ORS | MOH/UNICEF | | | X | | |
| <u>5. Supervision</u> | | | | | | |
| 5.1 Develop transport system for distribution of ORS | MOH/UNICEF | XX | | | | |
| 5.2 Collect logistics data | MOH/UNICEF | XX | XXXX | XXXX | XXXX | XXXX |
| 5.3 Periodic supervision of ORT center | MOH/UNICEF | XX | XXXX | XXXX | XXXX | XXXX |
| 5.4 Assist DMO's to plan ORT for operational staff, review data collected and provide refresher training | MOH/UNICEF | XX | XXXX | XXXX | XXXX | XXXX |
| 5.5 DMO's conduct periodic supervision at district level | MOE | XX | XXXX | XXXX | XXXX | XXXX |

2. Financial Plan

Section IIB included the financial responsibilities of UNICEF, GOU and AID under the CDD Program. This section provides further details on the uses of funds. Annex H provides notes showing the derivation of the cost estimates.

Administration and management of training and research will be the responsibility of both the GOU and UNICEF. USAID will monitor fund usage in these expense categories.

ORS purchase is critical to the Project and the overall CDD Program. Action should be initiated as soon as the ORT Project is approved. The procurement plan takes this urgency into account and is geared to respond rapidly.

This financial plan, approved by the GOU and UNICEF, clearly shows that provisions of FAA Section 611a are met. The GOU portion shown is for activities supplemented to overall health support. Activities not shown have been estimated at over \$3,000,000, mainly for vehicles and usage, commodities and equipment and other local costs.

Methods of Implementation and Financing

The ORT Project will be implemented through direct AID contracting and, by utilizing in-country resources of UNICEF, through a direct grant to this organization in accordance with Chapter 5 of Handbook 13.

USAID/Uganda will prepare and process: PIO/C's for the procurement of Oral Rehydration Salts; and, PIO/Ts for the provision of technical assistance for the ORS feasibility study and the external evaluation. UNICEF will draw down on its direct grant by means of 90 day cash advances, which will be controlled by normal advance procedures. Regular, quarterly financial reporting by UNICEF will be required.

Standard audit provisions will be contained in the Grant Agreement. Special Audit requirements are not deemed necessary for this Project since all funds will be disbursed either by USAID or UNICEF in which the U.S. is a member, and therefore already has full access to financial record.

ORT PROJECT BUDGET

(In \$, 000's, For All)

| CATEGORY | FY 84 | FY 85 | FY 86 | Phase I | FY 87 | FY 88 | Phase II |
|------------|-------|-------|---------|-----------|---------|---------|-----------|
| AID | 46.0 | 433.3 | 727.9 | 1,207.2* | 841.0 | 1,201.9 | 2,042.9 |
| UNICEF | 526.1 | 297.3 | 312.6 | 1,136.0 | 441.1 | 421.8 | 862.9 |
| CDC | 61.8 | - | - | 61.8 | - | - | - |
| GOU | 69.0 | 140.3 | 173.7 | 383.0 | 218.5 | 272.6 | 491.1 |
| TOTAL COST | 702.9 | 870.9 | 1,214.2 | \$2,788.0 | 1,500.6 | 1,896.3 | \$3,396.9 |

* Rounded to 1,210,000

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ORT PROJECT BUDGET

(In \$, 000's, For Phases I and II)
of AID Assistance

| CATEGORY | FY 84 | FY 85 | FY 86 | Phase I | FY 87 | FY 88 | Phase II |
|---|-------|-------|-------|----------|-------|---------|----------|
| 1. Oral Rehydration Salts | - | 150.0 | 250.0 | 400.0 | 350.0 | 475.0 | 825.0 |
| Freight of ORT (15%) | - | 22.5 | 37.5 | 60.0 | 52.5 | 71.5 | 124.0 |
| 2. Operations Research | 40.0 | 60.0 | 50.0 | 150.0 | 50.0 | 50.0 | 100.0 |
| 3. Feasibility Study-Local ORT Production | - | - | 40.0 | 40.0 | - | - | - |
| 4. External Evaluations | - | - | 40.0 | 40.0 | - | 40.0 | 40.0 |
| 5. Training - Facilities | - | 10.0 | 10.0 | 20.0 | 10.0 | 10.0 | 20.0 |
| - MLM Regionals | - | 50.0 | 50.0 | 100.0 | 50.0 | 50.0 | 100.0 |
| - Operations | - | 50.0 | 50.0 | 100.0 | 50.0 | 50.0 | 100.0 |
| Sub-Total | 40.0 | 342.5 | 527.5 | 910.0 | 562.5 | 746.5 | 1,309.0 |
| 6. Contingency (15%) | 6.0 | 51.4 | 79.1 | 136.5 | 84.4 | 112.0 | 196.4 |
| 7. Inflation (10% in yr 2, 20% in yr 3, 30% in yr 4, 40% in yr 5) | - | 39.4 | 121.3 | 160.7 | 194.1 | 343.4 | 537.5 |
| TOTAL | 46.0 | 433.3 | 727.9 | 1,207.2* | 841.0 | 1,201.9 | 2,042.9 |

* Rounded to 1,210,000

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ORT PROJECT BUDGET

(In \$, 000's, for UNICEF)

| CATEGORY | FY 84 | FY 85 | FY 86 | Phase I | FY 87 | FY 88 | Phase II |
|--|--------------|--------------|--------------|----------------|--------------|--------------|--------------|
| 1. ORS Start-Up | 65.0 | - | - | 65.0 | - | - | - |
| 2. TRN/Promo. Mater. | 60.0 | - | - | 60.0 | 25.0 | 25.0 | 50.0 |
| 3. ORT Center Equip. | 5.0 | 7.5 | 4.0 | 16.5 | - | - | - |
| 4. Transport | | | | | | | |
| - Vehicles | 20.0 | - | - | 20.0 | 27.0 | - | 27.0 |
| - R & M | 7.5 | 15.0 | 25.0 | 47.5 | 30.0 | 35.0 | 65.0 |
| - ORS Shipment | 10.0 | 15.0 | 20.0 | 45.0 | 25.0 | 30.0 | 55.0 |
| 5. Training | | | | | | | |
| - Nat. Conference | 5.0 | - | - | 5.0 | - | - | - |
| - Facilitators | 10.0 | - | - | 10.0 | - | - | - |
| - Middle Mgmt. Reg. | 50.0 | - | - | 50.0 | - | - | - |
| - Operational | 50.0 | - | - | 50.0 | - | - | - |
| 6. Data Collection/Anal. | 40.0 | 40.0 | 20.0 | 100.0 | 25.0 | 30.0 | 55.0 |
| 7. Proj. Mgr's Office | 5.0 | 7.5 | 2.5 | 10.0 | 3.0 | 2.0 | 5.0 |
| 8. Proj. Personnel | | | | | | | |
| - Mch. Trn. Off. | 75.0 | 75.0 | 75.0 | 225.0 | 100.0 | 100.0 | 200.0 |
| - Health Educ. Off. | 25.0 | 50.0 | 50.0 | 125.0 | 25.0 | - | 25.0 |
| - Consultants | 25.0 | 25.0 | 25.0 | 75.0 | 30.0 | 35.0 | 65.0 |
| 9. Nat. Off. Per Diem | 5.0 | 5.0 | 5.0 | 15.0 | 5.0 | 5.0 | 10.0 |
| Sub-Total | 457.5 | 235.0 | 226.5 | 919.0 | 295.0 | 262.0 | 557.0 |
| 10. Contingency (15%) | 68.6 | 35.3 | 34.0 | 137.9 | 44.3 | 39.3 | 83.6 |
| 11. Inflation (10% in yr 1, 20% in yr 3, 30% in yr 4, 40% in yr 5) | - | 27.0 | 52.1 | 79.1 | 101.8 | 120.5 | 222.3 |
| TOTAL COST | 526.1 | 297.3 | 312.6 | 1,136.0 | 441.1 | 421.8 | 862.9 |

3

ORT PROJECT BUDGET
(In \$, 000's, for CDC)

| CATEGORY | FY 84 | FY 85 | FY 86 | Phase I | FY 87 | FY 88 | Phase II |
|---------------------------|-------|-------|-------|---------|-------|-------|----------|
| 1. Short-term Consultants | 34.0 | - | - | 34.0 | - | - | - |
| 2. Travel & Per Diem | 10.2 | - | - | 10.2 | - | - | - |
| 3. Training Materials | 0.5 | - | - | 0.5 | - | - | - |
| 4. Overhead | 9.0 | - | - | 9.0 | - | - | - |
| Sub-Total | 53.7 | - | - | 53.7 | - | - | - |
| Contingency (15%) | 8.1 | - | - | 8.1 | - | - | - |
| Total Cost | 61.8 | - | - | 61.8 | - | - | - |

(In \$ 000's, for GOU)

| | | | | | | | |
|--|------|-------|-------|-------|-------|-------|-------|
| 1. Salaries | 15.0 | 31.0 | 39.0 | 85.0 | 49.0 | 60.0 | 109.0 |
| 2. Allowances (Field Staff) | 3.0 | 7.0 | 8.0 | 18.0 | 10.0 | 13.0 | 23.0 |
| 3. Transport | 17.0 | 35.0 | 43.0 | 95.0 | 54.0 | 68.0 | 122.0 |
| 4. IV Fluid/Equipment | 10.0 | 20.0 | 25.0 | 55.0 | 31.0 | 39.0 | 70.0 |
| 5. Drugs and Vaccines | 12.0 | 23.0 | 29.0 | 64.0 | 36.0 | 45.0 | 81.0 |
| 6. Office Expenses | 3.0 | 6.0 | 7.0 | 16.0 | 10.0 | 12.0 | 22.0 |
| Sub-Total | 60.0 | 122.0 | 151.0 | 333.0 | 190.0 | 237.0 | 427.0 |
| Contingency (15%) (Inflation already shown) | 0.0 | 18.3 | 22.7 | 50.0 | 28.5 | 35.6 | 64.1 |
| Total | 69.0 | 140.3 | 173.7 | 383.0 | 218.5 | 272.6 | 491.1 |

USAID ORT BUDGET
METHODS OF FINANCING LOCAL AND FOREIGN COSTS
(\$ 000's)

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| ITEM | METHOD OF FINANCING | Total Cost* | 1984 | | Total Cost* | 1985 | | Total Cost* | 1986 | |
|------|------------------------|-------------|-------|-------|-------------|--------|--------|-------------|--------|--------|
| | | | FX | LC | | FX | LC | | FX | LC |
| 1 | ORS | | | | | | | | | |
| | Oral Rehydration Salts | 0.00 | - | - | 150.00 | 18.21 | - | 250.00 | 396.75 | - |
| | Freight | 0.00 | - | - | 22.50 | - | - | 37.50 | - | - |
| 2 | Operations Research | | | | | | | | | |
| | Cash Advance to UNICEF | 40.00 | 11.50 | 34.50 | 60.00 | 18.75 | 56.25 | 50.00 | 16.88 | 50.63 |
| 3 | Feasibility Study | | | | | | | | | |
| | Direct AID | 0.00 | | | 0.00 | | | 40.00 | 55.20 | - |
| | Contract | 0.00 | | | 0.00 | | | 40.00 | 55.20 | - |
| 4 | External Evaluations | | | | | | | | | |
| | Direct AID | 0.00 | | | 0.00 | | | 40.00 | 55.20 | - |
| | Contract | 0.00 | | | 0.00 | | | 40.00 | 55.20 | - |
| 5 | Training | | | | | | | | | |
| | Cash Advance to UNICEF | - | | | 110.00 | | 139.15 | 110.00 | - | 151.80 |
| | Facilitators | 0.00 | | | 10.00 | | | 10.00 | | |
| | MM Regional | 0.00 | | | 50.00 | | | 50.00 | | |
| | Operations Staff | 0.00 | | | 50.00 | | | 50.00 | | |
| | Sub-Total | 40.00 | | | 342.50 | | | 527.50 | | |
| 6 | 15% Contingency | 6.00 | | | 51.38 | | | 79.13 | | |
| | Sub-Total | 46.00 | | | 393.88 | | | 606.63 | | |
| 7 | Inflation | 0.00 | | | 39.39 | | | 121.33 | | |
| | TOTAL | 46.00 | 11.50 | 34.50 | 433.26 | 236.96 | 195.40 | 727.95 | 524.03 | 202.43 |

*NOTE: Total cost does not include contingency and inflation. The breakdown of FX and Local Costs includes Contingency and inflation in line items 1-15.

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BREAKDOWN OF FX AND LC BY OBLIGATIONS

| ITEM | FY 85 | FX | LC | FY 86 | FX | LC | TC | TOTALS | |
|-------------------|-----------|-----|-----|-------|-----|-----|-----------|--------|-----|
| | | | | | | | | FX | LC |
| ORS | 460 | 460 | - | - | - | - | 460 | 460 | - |
| OP RESEARCH | 100 | 25 | 75 | 50 | 15 | 35 | 150 | 40 | 110 |
| FEASIBILITY STUDY | 40 | 40 | - | - | - | - | 40 | 40 | - |
| TRAINING | 200 | - | 200 | 20 | - | 20 | 220 | - | 220 |
| EXTERNAL EVAL. | - | - | - | 40 | 40 | - | 40 | 40 | - |
| CONTINGENCY | 200 | 100 | 100 | 100 | 50 | 50 | 300 | 150 | 150 |
| | 1,000,000 | 625 | 375 | 210 | 105 | 105 | 1,210,000 | 730 | 480 |

IV. EVALUATION/MONITORING ARRANGEMENTS

Evaluation of the ORT project will require an assessment of Project performance well beyond the strict limits of the AID contribution. In fact, one of AID's primary contributions to this Project is the funding for the external evaluation of Project progress and impact. It is important to bear in mind, however, that much of the evaluation findings concerning progress and impact will cover the Program contributions of UNICEF and the Government of Uganda and not of AID itself. --

A. Monitoring

On-going data collection will be conducted at several levels of the CDD Program to evaluate the program's progress in achieving its objectives. These efforts will be the responsibility of both UNICEF staff and MOH personnel. Data collection efforts will focus on:

- Utilization and disease-related data such as in-patient, out-patient and ORT unit visits, IV utilization rates and DD case fatality rates;
- Production and consumption of supplies data including ORS utilization rates and, if feasible, level of local production of ORS;
- Knowledge, attitudes and practices concerning ORT among mothers and health facility staff; and,
- Logistics and distribution of ORS and related equipment especially with regard to geographic spread of distribution over the life of the project, distribution costs, percent ORS wastage, and percent of population with access to ORS/ORT.

The program will be evaluated through a series of facility-based DD mortality and morbidity surveys conducted in a phased, longitudinal fashion in four health regions. Baseline data will be collected, using standard methodology just prior to or simultaneous with the introduction of training in the region, and the surveys will be repeated periodically thereafter. A U.S. Public Health Service/CDC Consultant to UNICEF will assist in the design and implementation of the first survey to be conducted in Mbale District, Eastern Region.

Specific measurable targets to be achieved by the end of FY 1986 in each of the 33 Districts are as follows:

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- A decrease in DD mortality in children under five years to 50% of current levels;
- A decrease in the case fatality rate from DD admitted to Hospitals and Health Centers, to 40% of current levels;
- A increase in utilization of ORS packets at Hospitals and Health Centers, to 60% of all DD in-patients;
- A decrease in utilization of IV rehydration among children with mild to moderate dehydration, to 25% of current levels;
- A increase in the ORT utilization rate among children less than five years of age, to 80% of all out-patient DD cases;
- The provision of practical training in ORT to health care staff and provision of a supply of ORS and health education materials concerning ORT; and,
- The strengthening and support of Ugandan national institutions for conducting operational research and answering practical questions concerning CDD.

Initially surveys and operations research will provide information about knowledge, attitudes and practices of DD treatment in the home as well as information for planning a communications approach for CDD. In Phase II a communications strategy will be employed and tested periodically for its effectiveness in changing human behavior and health status. During this stage a series of surveys sampling the population will be used in combination with health facility data to determine the effectiveness of the communications approach.

B. External Evaluation

The first External Evaluation is planned during the fourth quarter of the second year of implementation. The following plan represents an outline for the External Evaluation's scope of services. The Evaluation Team, which will consist of one representative each from AID, UNICEF, MOH, SCF and perhaps CDC, will be expected to review initially gathered baseline data and subsequent follow up data, to analyze this data over time, and to report to AID, UNICEF and the Government of Uganda regarding its findings.

Data will be collected along two separate, but interrelated, lines - project activities and broader health circumstances. Project specific data will record activities at the input and output levels. Changes in broader health circumstances will reflect the impact of Project activities at the purpose and goal levels. The data collection and analysis should link the input/output activities to changes at the purpose and goal levels.

Project specific data will require detailed monitoring records in the following areas:

- Procurement, storage and distribution of ORS packages timeliness, localities, modality and volume;
- Technical assistance - who provides and to whom is it provided, how effectively;
- Training - Participants, trainees, effectiveness;
- Interaction of supplies, T.A., and Training especially with regard to -
 - a) what extent does TA help to affect distribution of supplies and training of staff over time?
 - b) what extent does availability of ORS supplies assist in training and TA?
 - c) what extent does training help to move ORS supplies and reinforce support of GOU/MOH?
- Understanding of ORS - among health staff, mothers, general public;
- Utilization of ORS (and of alternative rehydration techniques - e.g., IV); and,
- Child Morbidity and Mortality - incidence of DD, level of disease (severity), changes (and reasons for change) over time.

Health impact data, which will be gathered from the start of the project, will be updated at regular intervals. As a routine part of this exercise, documentation of changes will be linked to Project activity data if and where appropriate:

Some health impact data can be obtained from health facility and hospital records. Other data will come from first hand interviews and observations in selected health facilities

and hospitals. The team will look at data collected in the normal course of the Project and may collect additional information, mostly relying on informal data collection techniques.

In summary, several data collection systems will be employed to monitor progress of the program and measure impact. The required information will come from periodic surveys, establishment of sentinel health reporting areas and health facility records. Annual reviews will be conducted by UNICEF and MOH to assess progress in achieving program objectives. Each Annual Monitoring and Evaluation Report should be brief and concise in order to ensure sufficient attention by the GOU, AID, UNICEF and other interested parties. Specific details of the regular monitoring information and annual surveys may be included as appendices to the reports, but the main text itself should focus on major trends, causalities, problems and successes. An external evaluation after the second year of the Project will facilitate this internal review process by providing an outside perspective.

V. SUMMARY OF ANALYSES

A. Technical Feasibility

The principal strategy for the control of diarrheal disease adopted by the Uganda Ministry of Health is case management. This strategy includes the use of available solutions in the home and continued feeding/breast feeding of children with diarrhea, and treatment of dehydration at health facilities at all levels of the health care system with ORT, or in the case of extreme dehydration, intravenous therapy. This strategy has been shown by WHO to be low cost and, if properly implemented with community participation, can keep additional recurrent costs to a minimum. It is also the most effective method for preventing death from dehydration associated with diarrheal disease for both developed and developing nations.

The Uganda CDD program advocates three major approaches to case management:

- Health delivery systems with effective ORT capability;
- Health education/mass communications in support of ORT at all levels of the health delivery system; and,
- Adequate supply/logistics of ORT supplies and equipment.

It is planned that health delivery systems with effective ORT capability will be developed in Uganda through training and reorientation of health staff at all levels of the health system. Emphasis on training will be participatory learning, including actual observation of, and participation in, rehydration activities at established ORT Units. This type of learning has been shown to be effective in Uganda. Training materials to be used for the Uganda CDD are based on WHO/CDD Mid-level Manager/Supervisor Course Modules. These materials are integrated with similar training materials for other MCH/PHC activities (such as EPI and nutrition surveillance) making it possible to train health personnel in one integrated course, rather than in several independent courses. Such an approach is more cost-effective, providing many different skills at one training session. Furthermore, it will be possible to schedule such courses within the proposed CDD and MCH/PHC work plans for the coming years. Training and re-orientation costs are generally non-recurrent, and with USAID/UNICEF support, it is anticipated that such courses can be provided in a timely fashion.

Health education/mass communications to support the Uganda CDD will include traditional health education methods (such as printed materials and verbal communication at health centers during routine patient visits). These methods have been shown to be successful in Uganda health programs, and in mission (church) health facilities. Specifically, they have been effective in motivating mothers to adequately manage diarrheal disease in the home by using correct feeding practices. Likewise, they have been effective in training mothers to manage simple rehydration therapy using home prepared ORS from either bulk sugar/salt or from ORS packets.

The proposed mass communications approach to support ORT has been successful in other countries, such as the Gambia. There radios and batteries are in abundant supply, and mothers have also accepted and effectively used ORT through other channels of communication such as traditional village elders and women's group meetings. In Uganda, conditions are different, the level of availability of radios and batteries to the rural population is unknown and feasibility of motivating mothers by radio cannot at present be determined. Traditional means of communication through village and other society groupings have been effective in motivating Ugandan populations to new ideas, and if employed with the proper health education messages, these means should be equally successful in supporting the Ugandan CDD.

Supply and logistics for ORT will be closely linked with existing distribution system of EPI and essential drugs, as

well as with private (mission) distribution systems. All of these systems have worked moderately well in Uganda, and the addition of ORS supplies, which require no special handling as do vaccines, should not provide an undue burden or excessive recurrent costs to the existing systems. Feasibility studies for Uganda private sector production of ORS are planned for the Uganda CDD. Results of such a study will permit the Uganda CDD policy makers to select the most cost-effective and feasible means of meeting the recurrent costs associated with ORS supply and procurement.

In the early years of its implementation, the Uganda CDD will place a major emphasis on research and development through operational research. This research will be supported through USAID/UNICEF, and will help the Ugandan researchers determine the most acceptable and effective means of ORT at all levels of the Uganda health system, ranging from treatment methodologies in the home to those in the largest hospitals. Operational research will be coordinated by the academic community, especially with Makerere University, which has, since 1970 demonstrated the capability of operational studies/problem solving in areas of preventive medicine and public health. Operational research, which has no recurrent costs, will assist with the problem solving necessary to give the Uganda CDD a solid base as it develops its case management, health education, and logistic policies.

Finally, the Uganda CDD envisages other strategies for CDD, such as epidemic investigation in cooperation with WHO, and environmental sanitation. This latter activity will be developed along with broad national development schemes for the country. For the short-term, the Government has chosen case management, the most feasible means of decreasing diarrheal disease mortality and controlling diarrheal disease, and the Project will help the nation strive towards the goal of health for all.

B. Social Soundness Analysis

Oral Rehydration Therapy (ORT) is directed at the reduction of mortality and morbidity in young children resulting from effective treatment of DD. Improved early childhood nutrition, through ORS usage and the health practices, is an additional objective of the Project. Meeting of Project objectives will require reaching the population with an effective national program. As a relatively new approach for controlling DD in Uganda, the effectiveness of ORT will depend largely upon the degree of acceptance by both the parents and the medical profession. This will require training activities for health professionals and educational and

promotional activities for the public in general. ORT must be understood and accepted by the parents before it can be passed on to the major beneficiaries (Children).

Working through community-based health workers and local leadership, the Project will establish ORT as the preferred method of treatment for DD. A national effort is currently underway to familiarize the medical profession on the benefits of ORT and its superiority over current methods of treatment (which are both more expensive and less effective). Early on, operations research will be carried out on various aspects of the Project (including identification of sociocultural constraints) that would impede acceptance of ORT. The phased introduction of ORT will provide an opportunity to adjust the promotional and educational activities incorporating the results of the proposed research.

The relative safety of ORT makes this a suitable form primary health care for replication throughout the country. The low cost and ease of administration will enable ORT to be used in the home as the principal treatment for DD.

Beneficiaries

The principal target group of this Project is Ugandan children under five years of age (who number approximately 2,014,000). Of this group an estimated 10% are at risk of severe illness or death due to dehydration from diarrheal diseases. The Project will reduce mortality associated with diarrheal disease by at least 50% during the period of assistance. Through the Regional and District Medical teams, the MOH will implement the CDD Program throughout Uganda. The program will be country-wide and the benefits will be accessible to most children under five in Uganda.

Other direct beneficiaries include medical personnel who will receive education, information and training related to the prevention and treatment of dehydration. This cadre of people will be crucial to early and appropriate use of ORT for reduction of DD morbidity and mortality. The 50 training facilitators and 400 health workers trained at the middle management level will, in turn, conduct 100 district level courses to train medical personnel staffing smaller health units in the rural areas. In total, several thousand health workers will be trained.

Aside from the children under five and medical personnel, women as a group will be primary beneficiaries. A major focus of the program will be on reaching and educating mothers. Mothers and families will indirectly benefit from this program

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as less time will be spent with sick children and people have more time to spend on other activities.

Through health education conducted by health units and the mass communication initiative, roughly 60% of all mothers with young children will have an improved knowledge of dietary practices and ORT for treating dehydration and at least 45% will have employed ORT in cases of DD in children under five. The majority of trained health workers benefitting from the project will be nurses and midwives. Women will also participate in the implementation of this project as training facilitators and Mid-level Managers.

C. Economic Analysis

The economic analysis of the ORT Project was based on the CCD Program as a whole. It should be noted, then, that the costs and benefits as discussed accrue to the combined efforts of UNICEF, AID, CDC, and GOU. Given the dearth of accurate health data in Uganda, and given the humanitarian nature of the Project, the economic analysis of this activity is relatively qualitative.

During the current rehabilitation program in Uganda, following the political and economic disturbances of the 1970s, a larger portion of the limited government resources are being used to rebuild the economic/production sector. Proportionally less resources are available, at this time, for social services, although it is anticipated that social services will receive increased support in the near future.

The relatively new method of treatment for diarrheal disease, oral rehydration therapy, has proven to be the least-cost and most effective method of treating the majority of DD cases. As with any new approach to case management of health problems, the initial cost to launch the program entails a higher per-episode treatment cost than can be expected once the medical profession is familiar with the ORT and the materials widely distributed with adequate public awareness as to ORT benefits. In terms of recurrent costs to MOH health services, the cost advantage of ORT over existing treatment (I-V and drug therapy) is so great the expense cost of treating with ORT could be less than what the current methods of treatment for DD now cost the nation. I-V solution cost \$5.00 vs about \$0.20 for two packets of ORS. Drugs are often the preferred method of treatment for DD, but as most cases of DD involve a viral pathogen, drugs are of limited value in the majority of DD cases. A reduction in drug usage in favor of ORT for treatment of DD, combined with less demand on medical staff and facilities, will enable the MOH to continue with an

ORT program following the completion of this Project. To the degree that ORT replaces I-V and drugs for DD treatment, the actual recurrent cost for DD treatment in the Post-Project period could be less than the current recurrent cost for DD treatment. Without considering this substitution, the cost of continuing the ORT program after Project completion is 10% of the 1983/1984 recurrent budget for medical services. If consumer/user-fees and direct ORS purchase covered half the cost of ORS, the costs would reduce to 6.7% of the recurrent budget. It is anticipated that the medical services budget will increase considerably by the final year of the Project, and therefore, the percentage of the budget required to continue ORT will be even less.

During the Project period, it is estimated that early childhood mortality will be reduced by 135,000. Fully burdened episode treatment costs, including all start-up and on-going management cost, will average \$1.85 per episode. Post-Project episode treatment cost will be less than half that amount. (Refer to Annex I-1 for a more comprehensive economic analysis).

Operational research will be carried out in a number of areas related to ORT. Information and data relative to the economic and financial aspects of the Project will be collected and analyzed, thereby providing data necessary for an accurate quantitative assessment of project cost and benefits.

D. Administrative/Institutional Assessment

This Project will be jointly financed by AID, the Uganda Ministry of Health, and UNICEF. Implementation of the Project will be the responsibility of UNICEF and the Ministry of Health (MOH).

UNICEF and WHO, branch organizations of the United Nations, have been active in developing the ORT concept and promoting its acceptance worldwide. As a result, UNICEF has developed an institutional capability for developing and supporting ORT activities in the Third World. In Kampala, UNICEF has a staff of three professionals who are assigned to the CDD program, one of whom will be full-time. UNICEF support for procurement, accounting, and transport is extensive and adequate for project implementation. UNICEF/Kampala has the necessary administrative and technical capability to successfully implement the Project with the MOH.

The MOH will be responsible for implementation and continued program support and management both during and after the end of donor participation. As illustrated in the Organizational Chart of the MOH (Section II, A), two principal

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divisions within the Ministry will be instrumental in sustaining the program. The Division of Public Health; and the Division of PHC/MCH.

There are three major organizational problems that will be encountered during project implementation:

1. There is critical need to integrate the recently created CDD Program, which is in the Division of Public Health, with the Primary Health Care (PHC) programs. Both are managed under the Division of PHC/MCH.

Several events have taken place which will address the problem. Task forces have been established to facilitate coordination between the EPI and Essential Drug Programs in the Division of PHC/MCH and the CDD program in the Division of Public Health. Also, the Ministry is in a process of reorganizing. The proposed reorganization includes a new office of PHC Coordination within the Division of PHC/MCH, which will be renamed the Division of Family Health Services. This new office of PHC Coordination is expected to institutionalize the coordination of these programs.

2. MOH support to health units at or below the District level is primarily technical, while administrative and financial support of these units (except the hospitals) is assumed by the Ministry of Local Governments. The problem of split administrative, managerial and technical responsibility for the health units at and below the District level has resulted in gaps in support to these units. Although there is a budget for health at the Local Government District level, the budget is inadequate and does not finance vehicles and drugs (these are financed by the MOH). The health units are often under-financed by one or both ministries.

It is expected that the integration of drug, vaccine and ORS deliveries and improved supervision by DMOs as a result of this Project will improve the amount and quality of resources currently going to peripheral health units. The situation will not be corrected, but will be improved as a result of the Project.

3. Management of CDD program activities will initially be adversely affected by the current lack of vehicles for supervision and logistical support

purposes. In addition, the lack of managerial staff at the Central level inhibits the ability to manage programs as required for operational efficiency.

The CDD and EPI programs will increase the availability of vehicles for management purposes. Although additional staff will not be hired, the improved supervision techniques through training provided by the Project will improve the management of the CDD program and general health services.

E. Environmental Determination

USAID/Kampala recommends that a "Negative Determination" be made for this project. AID's Environmental Procedures (22 CFR Part 216) provides for categorical exclusion for "... (i) Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.); (ii) Controlled experimentation exclusively for the purpose of research and field evaluation which are confined to small areas and carefully monitored; (iii) Analyses, studies, academic or research workshops and meetings; ... (viii) Programs involving nutrition, health care or population and family planning services except to the extent designed to include activities directly affecting the environment (such as construction of facilities, water supply systems, waste water treatment, etc.)..."

The primary activities proposed under this project all fall within the above exempted categories and there are no construction or other activities planned prior to CY 1986, which will directly and adversely affect the environment. A possible exception may occur if the feasibility study of local ORS manufacture leads to a planned construction of a factory to produce ORS locally. If it becomes necessary, USAID/Kampala will then request that an additional Initial Environmental Examination (IEE) specifically for that activity be conducted to identify any reasonably foreseeable environmental impact.

VI. CONDITIONS AND COVENANTS

In addition to the standard conditions and covenants, the following special conditions and covenants are deemed necessary

A. The MOH will ensure that the CDD Program Manager is assigned 100% of his time to the National Program for the Control for Diarrheal Diseases and that the Program Manager will be provided the necessary office and logistical support required to fulfill his responsibilities.

UGANDA ORAL REHYDRATION THERAPY
Project No: 617-0107

Agency for International Development
Kampala, Uganda
June 1984

PROJECT AUTHORIZATION

Name of Country:

Uganda

Name of Project: Oral Rehydration
Therapy

Project Number: 617-0107

1. Pursuant to Section 104 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Oral Rehydration Therapy Project (617-0107) for Uganda, involving planned obligations of not to exceed \$1,210,000 in grant funds over a three year period from date of authorization subject to availability of funds in accordance with the A.I.D. OYB/allotment process to help in financing foreign exchange and local currency costs for the Project. The planned life of project is three years from the date of initial obligation.

2. The Project consists of various activities to be undertaken jointly with the Government of Uganda and UNICEF to increase the understanding of oral rehydration therapy (ORT) and the demand for, supply and use of oral rehydration salts for the treatment of diarrheal diseases particularly among children. These Project activities will be undertaken as part of the Government of Uganda's National Programme for Control of Diarrhoeal Disease, developed jointly by the Government of Uganda, UNICEF, A.I.D. and the U.S. Center for Disease Control (CDC). AID-financed contributions include the purchase of oral rehydration salts for distribution by UNICEF and the Ugandan Ministry of Health, public information and training activities on the use of ORT and the management of ORT delivery systems at all levels of the Ugandan health system, and operations research and studies to determine the most effective ways of manufacturing oral rehydration salts and solutions and of promoting the acceptability and use of ORT among the target population.

3. The Project Agreement which may be negotiated and executed by the officer(s) to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

a. Source and Origin of Commodities, Nationality of Services

(1) Except as provided for in paragraph (2) below, commodities financed by A.I.D. under the Project shall have their source and origin in Uganda or in countries included in A.I.D. Geographic Code 941, except as A.I.D. may otherwise agree in

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writing, and suppliers of commodities or services shall have Uganda or countries included in A.I.D. Geographic Code 941 as their place of nationality, except as A.I.D. may otherwise agree in writing.

(2) Goods and services procured under the grant from A.I.D. to UNICEF shall be procured in accordance with paragraph 16C3(2)(b), AID Handbook 1, Supplement B.

b. Covenants

(1) The Cooperating Country will assure that the CDD Program manager is assigned on a full-time basis to the National Programme for Control of Diarrhoeal Diseases and that the CDD Program Manager is provided with all necessary office and logistical support required to fulfill his responsibilities.

(2) The Cooperating Country will agree to undertake a review and reorganization of the government's medical drug supply and distribution system. A plan for this reorganization will be developed within six months from the date of signature of the Project Agreement.

Irvin Coker
Director

DATE _____

ORAL REHYDRATION THERAPY
(PROJECT 617-0107)

ANNEXES

UNCLASSIFIED

ANNEX A

STATE Page 1 of 4 Pages
137715/31

REDO FILE

AID-3 ECON CROCH-5

VZCZCEROJ59
PP RUEHR
DE RUEHC #7715/31 131205Z
ZNR UUUUU ZZH
P R 131243Z MAY 84
FM SECSTATE WASHDC
TO ROMBA/EMBASSY KAMPALA PRIORITY 0459
INFO RUEHR/EMBASSY NAIROBI 8139
BT
UNCLAS #1 OF 32 STATE 137715

LOG: 222 042
11 MAY 84 0932
CN: 30633
CORG: AID
DIST: AID

Harris

AIDAC, NAIROBI FOR REDSO/ESA

U.S.O. 12356 N/A

TAGS:

SUBJECT: ECPR REVIEW OF ORAL REHYDRATION THERAPY PID
(517-2107) UGANDA

REF: A. KAMPALA 1129 B. KAMPALA 0997
C. DRAFT UNICEF CCD PROGRAM PROPOSAL D. ORIGINAL
ORT PID DTD DEC 1983 E. STATE 267347

1. SUMMARY: THE ECPR FOR SUBJECT PROJECT, CHAIRED BY JOHN HEARD OF AFR/PD/EAP, WAS HELD ON 4/30/84. THE ECPR FOUND THE PROJECT TO BE TECHNICALLY SOUND AND CONCURRED WITH ITS BASIC DESIGN. IT WAS AGREED, HOWEVER, THAT CONSIDERABLE CLARIFICATION WILL BE NECESSARY REGARDING EXACTLY HOW RESPONSIBILITIES WILL BE SHARED AND DIVIDED BETWEEN AID AND UNICEF. ALSO, DUE TO LACK OF DETAIL REGARDING PHASE II (1987 AND 1988) AND LACK OF AN ANALYTICAL FOUNDATION AT THIS TIME FOR MORE DETAILED PLANNING OF PHASE II, THE ECPR DECIDED TO PROVIDE PID LEVEL APPROVAL TO PHASE I ONLY, WITH PHASE II TO BE CONDITIONED UPON AID/UNICEF APPROVAL IN 1986 OF A PP SUPPLEMENT FOR THE REMAINING TWO OR MORE YEARS OF THE PROJECT. FUNDING PROPOSED FOR FY 84 AND 85 OYR'S OF DOLS 2.3 MILLION SHOULD BE ADEQUATE FOR THE FIRST THREE YEARS

OF THE PROJECT. PP SHOULD BE FINALIZED AS SOON AS POSSIBLE AND AUTHORIZED IN FIELD FOR THIRD QUANTER OBLIGATION.

2. ISSUES AND RECOMMENDATIONS:

A. PROJECT PHASING: ALTHOUGH THERE IS SUFFICIENT DETAIL IN THE VARIOUS USAID AND UNICEF SUBMISSIONS REGARDING PHASE I, 1984-1986, TO PERMIT PID LEVEL APPROVAL NOW FOR THE FIRST THREE YEARS OF THE PROJECT. ACTIVITIES PROPOSED FOR PHASE II ARE NOT DEFINED SUFFICIENTLY AT THIS POINT TO ALLOW FOR LOP APPROVAL. A NUMBER OF ACTIVITIES IN PHASE II (EXPERIMENTATION WITH HOME PREPARATION OF ORS, FOR EXAMPLE, AND THE POSSIBLE DEVELOPMENT OF AN IN-COUNTRY PRODUCTION FACILITY) WILL DEPEND ON EVALUATION OF PHASE I AND ANALYSES RESULTING FROM PROPOSED OPERATIONS RESEARCH ELEMENTS. (IT IS

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ASSUMED THAT THERE ARE NO LONG TERM CONTRACT
SOLICITATIONS CONTEMPLATED WHICH WOULD BE COMPLICATED BY
PARALLEL PROJECT AUTHORIZATION AT THIS POINT.)

RECOMMENDATION: PID LEVEL APPROVAL IS GRANTED FOR PHASE
I. PHASE II AUTHORIZATION SHOULD BE HANDLED THROUGH A
MID-PROJECT REVIEW (IN MIDDLE OF YEAR III) AND
SUBMISSION OF A DETAILED PP SUPPLEMENT TO AID/W FOR
REVIEW AND APPROVAL PRIOR TO AUTHORIZATION OF FUNDING
FOR THE TWO OR MORE FINAL YEARS OF THE PROJECT. (IT IS
SUSPECTED THAT PHASE II MAY REQUIRE SUBSTANTIALLY MORE
TIME THAN ANTICIPATED IN PID RELATED DOCUMENTS.)

B. DIVISION OF RESPONSIBILITIES: THE ECPR FOUND IT
DIFFICULT TO SORT OUT EXACTLY WHAT WAS TO BE FUNDED AND
ACCOMPLISHED BY AID (USAID AND THE CCCD) AS OPPOSED TO
UNICEF AS THERE WAS SOME AMBIGUITY AND INCONSISTENCY
BETWEEN THE VARIOUS SUBMISSIONS OF THE USAID AND THE
UNICEF DOCUMENT ITSELF, PARTICULARLY WITH RESPECT TO THE
OPERATIONS RESEARCH ELEMENT AND EVALUATION. WHILE THIS
IS NOT A PROBLEM WITH OVERALL DESIGN, THE AMBIGUITIES
MUST BE RESOLVED PRIOR TO FINALIZATION OF PP AND FOR
NEGOTIATION PURPOSES.

RECOMMENDATION: THE PP SHOULD DETAIL CLEARLY AND
UNEQUIVOCALLY EXACTLY WHAT WILL BE FUNDED AND
ACCOMPLISHED BY EACH DONOR AND HOW.

C. IMPLEMENTATION ARRANGEMENTS: THE PID PROVIDES
LITTLE INSIGHT INTO IMPLEMENTATION ARRANGEMENTS OR HOW
PROJECT RESOURCES WILL BE ADMINISTERED IN COOPERATION
WITH UNICEF. THE SAME IS TRUE FOR OVERSIGHT AND
SUPERVISION RESPONSIBILITIES AND HOW THEY WILL BE SHARED
BETWEEN THE PARTIES INVOLVED. IN A CO-FINANCED PROJECT
SUCH AS THIS, HOWEVER, ADMINISTRATIVE ARRANGEMENTS AND
UNDERSTANDINGS ARE PARTICULARLY IMPORTANT AND SHOULD BE
CAREFULLY WORKED OUT AND NEGOTIATED IN ADVANCE.

RECOMMENDATION: ADMINISTRATIVE ARRANGEMENTS AND
PROCEDURES FOR THE AID PORTION OF THE PROJECT SHOULD BE
THOROUGHLY DETAILED IN THE IMPLEMENTATION PLAN. THE
EXTENT TO WHICH THE MISSION PROPOSES TO RELY ON UNICEF
TO EXECUTE OR MANAGE AID PROJECT CONTRIBUTIONS SHOULD
ALSO BE CAREFULLY STATED TOGETHER WITH AN EXPLANATION OF
HOW THE ARRANGEMENTS WILL WORK. QUESTIONS SUCH AS THOSE
INDICATED BELOW SHOULD BE ADDRESSED IN THE PP AND
NEGOTIATIONS WHERE NECESSARY:

--WILL A PORTION OF THE GRANT BE TO UNICEF INSTEAD OF TO
GROD (MOH), AND HOW WOULD THIS BE STRUCTURED?

--WHAT WILL BE THE MECHANISM FOR COORDINATING WITH

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UNICEF?

--WILL AID OR UNICEF PROCUREMENT PROCEDURES BE USED AND FOR WHICH ELEMENTS? A DETAILED PLAN SHOULD BE PREPARED. ←

--TO THE EXTENT THAT UNICEF IS RELIED UPON TO ADMINISTER AID CONTRIBUTED RESOURCES, HOW WILL ACCOUNTABILITY BE ESTABLISHED FOR AID FUNDS; HOW WILL FUNDS BE DISBURSED; AND WHAT WILL BE AID AUDIT RIGHTS RE UNICEF? ←

REDSO ASSISTANCE (RIA, SMO, RCO, AND REGIONAL IG) RE THE ABOVE QUESTIONS WILL BE MUCH APPRECIATED.

3. OTHER DESIGN GUIDANCE QUESTIONS:

A. THE MANAGEMENT BURDEN AND ITS DISTRIBUTION: ALTHOUGH IT IS RECOGNIZED THAT ONE OF THE PRINCIPAL OBJECTIVES OF THE PROPOSED STRUCTURE FOR THE PROJECT IS TO HAVE UNICEF ASSUME THE PRINCIPAL MANAGEMENT BURDEN, IN LIGHT OF FINDINGS RELATED TO QUESTIONS UNDER 2B AND C ABOVE, MANAGEMENT RESPONSIBILITIES OF THE USAID SHOULD BE

CAREFULLY DETAILED IN PP AND ACTIONS TAKEN TO ASSURE PROPER COVERAGE WHERE NECESSARY BY BOTH USAID AND CCCD PROJECT (TRACKING, MONITORING, ACCOUNTABILITY, ETC.).

B. EVALUATION PLAN: A COMPLETE AND DETAILED EVALUATION PLAN SHOULD BE INCORPORATED WITHIN THE PP WHICH WOULD SHOW HOW DATA COLLECTION EFFORTS, OPERATIONS RESEARCH ACTIVITIES, AND A THOROUGH EVALUATION IN YEAR THREE OF THE PROJECT WOULD BEEN TO PRODUCE MATERIAL NEEDED FOR DEVELOPMENT OF THE PHASE II FOLLOW-ON EFFORT, AS WELL AS PROVIDE ELEMENTS OF JUDGMENT ON TIMELY BASIS FOR PROBLEM SOLVING, MID-COURSE CORRECTIONS, REPROGRAMMING OR REDESIGN WHERE NECESSARY ETC. ←

C. WAIVER FOR TRAINING MATERIALS: PROCUREMENT OF TRAINING MATERIALS FROM KENYA AND/OR OTHER FREE WORLD COUNTRIES SHOULD BE FULLY JUSTIFIED IN THE PP SO THAT APPROPRIATE WAIVER CAN BE APPROVED AT THE TIME OF PROJECT AUTHORIZATION. ←

D. ORS PROCUREMENT: IT IS ASSUMED THAT THE SER/COM RECOMMENDATION TO PROCEED THROUGH COMPETITIVE SOLICITATION ISSUED THROUGH GSA (STATE 095248) IS ACCEPTED.

E. DRUGS, VACCINES AND FOOD: IT IS UNDERSTOOD THAT AID WILL NO LONGER FINANCE THESE ELEMENTS OF THE PROJECT AS ORIGINALLY PROPOSED AND THAT NO FURTHER CONSIDERATION OF SUCH COMMODITIES AS AN ISSUE IS WARRANTED. WITH RESPECT TO THE NON-FDA APPROVED DRUG MENTIONED IN REFTEL B, SER/COM ADVISES THAT THIS IS NOT A PROBLEM AS LONG AS UNICEF IS FINANCING.

F. THE BUDGET FOR THE GOV CONTRIBUTION OVER THE LOP SHOULD BE CLEARLY DETAILED IN THE PP AND NEGOTIATED WITH GOV AND UNICEF. FINANCIAL ANALYSIS SHOULD SHOW HOW THE

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ISSUE OF RECURRING COSTS WILL BE ADDRESSED OVER THE LONG TERM. ←

4. PLEASE ADVISE FEEDBACK OR NEED FOR CLARIFICATION REGARDING ABOVE AND LATEST ESTIMATED TIMING OF PP FINALIZATION AND AUTHORIZATION. SHULTZ

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project
From FY 1986 to FY 1988
Total U.S. Funding 2,999,000
Date Prepared: April 1984

Project Title & Number: Oral Rehydration Therapy (517-0107)

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|--|--|---|
| <p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>Reduce the incidence of child mortality and severe cases due to diarrheal diseases</p> | <p>Measures of Goal Achievement</p> <ol style="list-style-type: none"> 1. Decreased DD mortality in children under five to 50% of current level 2. Decreased case fatality rate by 60% from DD in hospitals and health centers 3. Decrease in number of severe DD cases treated in health facilities | <ol style="list-style-type: none"> 1. Random sample surveys before and during project implementation 2. Health facility reports 3. Hospital ORT center reports | <p>Assumptions for achieving goal targets:</p> <ul style="list-style-type: none"> --GOU will budget recurrent costs for CDD by end of project --ORT culturally acceptable to majority of Ugandans |
| <p>Project Purpose:</p> <p>Increase the understanding of oral rehydration therapy (ORT) and the demand for, supply and use of oral rehydration salts (ORS) by the target population of children under five</p> | <p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ol style="list-style-type: none"> 1. Increased utilization of ORT for DD among children under five years by 80% 2. Increased utilization of ORS at health centers and hospitals by 60% within two years of project initiation 3. Decreased utilization of IV rehydration by 75% in hospitals and health centers | <p>Same as above; and</p> <ol style="list-style-type: none"> 4. ORS distribution/sales records 5. Project progress and impact evaluations | <p>Assumptions for achieving purpose:</p> <ul style="list-style-type: none"> --Effective communication modalities exist for informing the population about ORT --Domestic commercial production is affordable and government or private industry will become interested in long-term domestic production --Locally available and affordable oral solutions for ORT |
| <p>Output:</p> <ol style="list-style-type: none"> 1. Use of ORT as home treatment of diarrheal disease 2. Appropriate use of ORT by health providers | <p>Magnitude of Output:</p> <ol style="list-style-type: none"> 1. At least 60% of mothers with children under five now about ORT as a treatment for diarrhea. At least 45% of mothers with children under five used ORT as home treatment for diarrhea during a preceding time period (to be determined). 2. Use of ORS as first treatment by trained health providers in over 60%. | <ol style="list-style-type: none"> 1. Knowledge & attitude surveys DD sample surveys in selected areas of the country Increased distribution of ORS to population Reduction in health facility reported cases of DD 2. Lower stock levels of IV equipment and fluids 60% increased use of ORS in health facilities | <p>Assumptions for achieving output:</p> <ul style="list-style-type: none"> --Adequate medical staff time to staff ORT centers, provide ORT in all health units and conduct training --Timely implementation of the EPI and Essential Drug Programs |
| <p>Inputs:</p> <p>AID: ORS In-country training Evaluation Operations research Feasibility study</p> <p>UNICEF: Technical Assistance Training and education materials Transport (vehicles, fuel, repairs, maintenance) Data collection and analysis Office support costs</p> | <p>Implementation Target (Type and Quantity)</p> <p>See financial plan of PP, Section IV</p> | <p>Project records</p> | <p>Assumptions for providing inputs:</p> <ul style="list-style-type: none"> --GOU able to budget adequately for CDD and equipment --AID/UNICEF funding |

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1984 to FY 1988
Total U.S. Funding \$ 988,000
Date Prepared: April 1984

Project Title & Number: Oral Rehydration Therapy (617-0107)

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|--|---|
| Program or Sector Goal: The broader objective to which this project contributes: | Measures of Goal Achievement: | | Assumptions for achieving goal targets: |
| Project Purpose: | Conditions that will indicate purpose has been achieved: End of project status. 4. Increased consumer demand for ORS | | Assumptions for achieving purpose: |
| Output: 3. Improved capability of Ministry of Health to manage and collect health information 4. ORS supply system completely integrated with other MCH/PHC supply and distribution systems | Magnitude of Output: 75% of children with mild to moderate dehydration 3. Sentinel surveillance system for diarrheal disease morbidity/mortality reporting with 60% reporting completeness 4. 60% health facilities will have adequate supply of ORS more than 90% of the time ORS wastage remains below 10% within the distribution system | 3. Supervisor reports, inventory records and reports and health facility reports 4. Review of purchase orders, advice of shipment and bills of lading Inventory reports Distribution delivery lists/records Marginal distribution cost increases | Assumptions for achieving outputs: |
| Input: UNICEF: Per diems ORT Centers (equipment/furniture) ORS for project start-up CDC: Short-term T.A. Training materials Regional workshop GOU: Facility repair and maintenance Personel salaries Transport costs(fuel, repairs) Drugs & equipment (IV equipment, fluid and drugs) Office support costs | Implementation Target (Type and Quantity) See financial plan of PP, Section IV | | Assumptions for providing inputs: |

**PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK**

Life of Project:
From FY 1984 to FY 1988
Total U.S. Funding \$2,988,000
Date Prepared: April 1984

Project Title & Number:

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|--|--|
| <p>Program or Sector Goal: The broader objective to which this project contributes:</p> | <p>Measures of Goal Achievement:</p> | | <p>Assumptions for achieving goal targets:</p> |
| <p>Project purpose:</p> | <p>Conditions that will indicate purpose has been achieved: End of project status.</p> | | <p>Assumptions for achieving purpose:</p> |
| <p>Output: 1. Creation of increased demand for ORS in both the government and the private sectors</p> | <p>Magnitude of Output: 5. 50% increase in demand for ORS in both private and government pharmacies or other drug outlets</p> | <p>5. Drug inventory records, supervisor reports, and pharmaceutical sales</p> | <p>Assumptions for achieving output:</p> |
| <p>Inputs:</p> | <p>Implementation Target (Type and Quantity)</p> | | <p>Assumptions for providing inputs:</p> |

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PROJECT ASSISTANCE

Revised for FY 84 2/21/84

5C(1) - COUNTRY CHECKLIST

Listed below are statutory criteria applicable generally to FAA funds, and criteria applicable to individual fund sources: Development Assistance and Economic Support Fund.

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

1. FAA Sec. 481; FY 1984 Continuing Resolution. Has it been determined or certified to the Congress by the President that the government of the recipient country has failed to take adequate measures or steps to prevent narcotic and psychotropic drugs or other controlled substances (as listed in the schedules in section 202 of the Comprehensive Drug Abuse and Prevention Control Act of 1971) which are cultivated, produced or, processed illicitly, in whole or in part, in such country or transported through such country, from being sold illegally within the jurisdiction of such country to United States Government personnel or their dependents or from entering the United States unlawfully? No

2. FAA Sec. 620(c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government? No

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Reason: The CDD Program Manager is critical for the day to day administration and coordination of the Project.

2. The MOH will review and reorganize the medical drug and supply distribution system. The plan for this reorganization will be presented within six months of Project initiation.

Reason: The MOH drug and supply distribution system is critical in making ORS supplies available for public use. Unless it is reorganized it is unlikely that the MOH system will be able to distribute and/or utilize the increased ORS supplies.

III. Waivers:

No waivers are required.

IV. Legal Requirements:

This project complies with all applicable legal requirements. A Statutory Checklist has been completed and appears in Annex C. Section 611(a) is considered satisfied. A Congressional Notification was sent to Congress on June '15, 1984 and expired June 30, 1984.

V. Recommendation: That you sign the attached Project Authorization, and thereby authorize funding in the amount of \$1,207,000, to the Government of Uganda for the purpose of undertaking the Oral Rehydration Project.

VI. Attachments:

1. Project Authorization
2. Project Paper
3. Project Annexes (including Statutory Checklist and IEE)

Clearances:

P. Scott - RLA _____
L. Dunn - RSO _____
B. Eidet - RFMC _____
J. Dempsey - PO _____
P. Bloom - A/Dir _____

3. FAA Sec. 620(c)(1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of citizens or entities U.S. beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? No

4. FAA Sec. 532(c), 620(a), 620(f), 620D; FY 1982 Appropriation Act Secs. 512 and 513. Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos, Vietnam, Syria, Libya, Iraq, or South Yemen? Will assistance be provided to Afghanistan or Mozambique without a waiver? No

5. ISDCA of 1981 Secs. 724, 727, 728 and 730. For specific restrictions on assistance to Nicaragua, see Sec. 724 of the ISDCA of 1981. For specific restrictions on assistance to El Salvador, see Secs. 727, 728 and 730 of the ISDCA of 1981. N/A

6. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property? No

7. FAA Sec. 620(1). Has the country failed to enter into an agreement with OPIC? No
8. FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5. (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters? (a) No (b) N/A
(b) If so, has any deduction required by the fishermen's Protective Act been made?
9. FAA Sec. 620(q); FY 1982 Appropriation Act Sec. 517. (a) Has the government of the recipient country been in default for more than six months on interest or principal of any AID loan to the country? (a) No
(b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the appropriation bill appropriates funds? (b) No
10. FAA Sec. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the amount of foreign exchange or other resources which the country has spent on military equipment? Reference may be made to the annual "Taking Into Consideration" memo: N/A

"Yes, taken into account by the Administrator at time of approval of Agency OYB". This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)

11. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?

No

12. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget?

Uganda's UN Payments are up to date.

13. FAA Sec. 620A; FY 1982 Appropriation Act Sec. 520. Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed an act of international terrorism? Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed a war crime?

No

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14. FAA Sec 666. Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA?

No

15. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device, after August 3, 1977? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan).

No

16. ISDCA of 1981 Sec. 720. Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Session of the General Assembly of the U.N. of Sept. 25 and 28, 1981, and failed to disassociate itself from the communique issued? If so, has the President taken it into account?

Yes, the AID Administrator has taken this into account in programming funds for Uganda. Taking into consideration memo signed by AID 1-6-84.

17. ISDCA of 1981 Sec. 721. See special requirements for assistance to Haiti.

N/A

18. FY 84 Continuing Resolution. Has the recipient country been determined by the President to have engaged in a consistent pattern of opposition to the foreign policy of the United States.

No

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria

a. FAA Sec. 116. Has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy?

No

2. Economic Support Fund Country Criteria

a. FAA Sec. 502B. Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the country made such significant improvements in its human rights record, that furnishing such assistance is in the national interest?

N/A

b. ISDCA of 1981, Sec. 725(b). If ESF is to be furnished to Argentina, has the President certified that (1) the Govt. of Argentina has made significant progress in human rights; and (2) the provision of such assistance is in the national interests of the U.S.?

N/A

c. ISDCA of 1981, Sec. 726(b).

If ESF assistance is to be furnished to Chile, has the President certified that (1) the Govt. of Chile has made significant progress in human rights; (2) it is in the national interest of the U.S.; and (3) the Govt. of Chile is not aiding international terrorism and has taken steps to bring to justice those indicted in connection with the murder of Orlando Letelier?

N/A

5C(2) PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A. includes criteria applicable to all projects. Part B. applies to projects funded from specific sources only:

- B.1. applies to all projects funded with Development Assistance Funds,
- B.2. applies to projects funded with Development Assistance loans, and
- B.3. applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

Yes

Yes

A. GENERAL CRITERIA FOR PROJECT

- 1. FY 1982 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b); Second CR FY 83, Sec. 101(b)(1).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project;

(a) CN was submitted to congress on June 15 and expired on June 30

(b) is assistance within (Operational Year Budget) country or international organization; allocation reported to Congress (or not more than \$1 million over that amount)?

(b) Yes

(c) If the proposed assistance is a new country program or will exceed or cause the total assistance level for the country to exceed assistance amounts provided to such country in FY 83, has a notification been provided to Congress?

(c) N/A

(d) If the proposed assistance is from the \$85 million in ESF funds transferred to AID under the Second CR for FY 83 for "economic development assistance projects", has the notification required by Sec. 101(b)(1) of the Second CR for FY 83 been made?

N/A

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

Yes

Yes

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

No further legislative action is required.

4. FAA Sec. 611(b); FY 1982 Appropriation Act Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973?

N/A

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's

N/A

capability effectively to maintain and utilize the project?

6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).
9. FAA Sec. 612(b), 636(h);
FY 1982 Appropriation
Act Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services,

Yes. It is being executed with/through UNICEF.

The project will initially, increase international trade through the importation of ORT commodities and equipment. During the implementation of the Project efforts will be made to expand the role of private sector in the distribution of ORT commodities.

Commodities and equipment will be purchased from the U.S.

The GOU is contributing as much as possible in local shillings and in-kind.

and foreign currencies owned by the U.S. are utilized in lieu of dollars.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

No

11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes

12. FY 1982 Appropriation Act Sec. 521. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?

The Project will not produce any commodities for export.

13. FAA 118(c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16? Does the project or program take into consideration the problem of the destruction of tropical forests?

Yes

14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated there from)?

N/A

15. FAA Sec. 128; Second CR FY 83, Sec. 101(b)(2). Has an attempt been made to finance productive facilities, goods, and services which will expeditiously and directly benefit those living in absolute poverty under the standards adopted by the World Bank?

The provision of Oral Rehydration supplies will be directed to, and especially important for, those living in absolute poverty.

16. FY 84 Continuing Resolution. Is comparable American private enterprise funding available for the proposed project?

No

17. FY 84 Continuing Resolution. Has full consideration been given at each stage of project design to the involvement of small minority (including women-owned businesses) enterprises, historically black colleges and universities and minority PVO's?

Yes

FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives,...

Oral Rehydration Therapy will provide an indirect, yet important, benefit to increasing agricultural productivity by providing more time for mothers to engage in agricultural activities.

especially by technical assistance, to assist rural and urban poor to help themselves toward better life and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?

Yes (104)

c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

Yes. During implementation studies will be undertaken to examine locally-available rehydration supplies.

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

This requirement is not applicable as this Project is a multilateral activity undertaken in cooperation with and jointly planned by AID, UNICEF and GOU.

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?

N/A

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

Yes

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in government processes essential to self-government.

The training and re-orientation of the GOU/MOH health staff will provide Uganda with the indigeneous capacity to address a major national health problem, affecting large numbers of families.

2. Development Assistance Project
Criteria (Loans only)

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest.

N/A

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

N/A

c. ISDCA of 1981, Sec. 724 (c) and (d). If for Nicaragua, does the loan agreement require that the funds be used to the maximum extent possible for the private sector? Does the project provide for monitoring under FAA Sec. 624(g)?

N/A

d. Second CR FY 83, Sec. 134. If the recipient country has an annual per capita gross national product greater than \$795 but less than \$1,285, will the loan be repayable within 25 years following the date on which funds are initially made available? If it has an annual per capita GNP greater than or equal to \$1,285, within 20 years?

N/A

3. Economic Support Fund Project Criteria

a. FAA Sec. 531(a). Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of FAA Section 102?

N/A

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b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities?

N/A

c. FAA Sec. 534. Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to non-proliferation objectives?

N/A

d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

N/A

e. Second CR FY 83, Sec. 101(b)(1). If ESF funds to be utilized are part of the \$85 million transferred to AID under the Second CR for FY 83 for "economic development assistance projects", will such funds be used for such projects and not for non-development activities including balance of payments support, commodity imports, sector loans, and

N/A

5C(c) - STANDARD ITEM CHECKLIST

Listed below are the statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? Yes

2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him? Yes

3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? Yes

4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If offshore procurement of agricultural commodity or

product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)

N/A

5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of countries otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one or these areas?

No

6. FAA Sec. 603. Is the shipping excluded from compliance with requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent that such vessels are available at fair and reasonable rates?

No

7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the

Yes

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fullest extent practicable? If the facilities of other Federal agencies will be utilized, are they particularly suitable not competitive with private enterprise, and made available without undue interference with domestic programs?

8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U. S. carriers be used to the extent such service is available?

Yes

9. FY 1982 Appropriation Act Sec. 504. If the U.S. Government is a party to a contract for procurement, will the contract contain a provision authorizing termination of such contract for the convenience of the United States?

Yes

B. Construction

1. FAA Sec. 601(d). If capital (e.g., construction) project will U.S. engineering and professional services to be used?

N/A

2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?

N/A

3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP)?

N/A

C. Other Restrictions

1. FAA Sec. 122(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights?
3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the communist-bloc countries?
4. Will arrangements preclude use of financing:

N/A

N/A

Yes

a. FAA Sec. 104(f); FY 1982 Appropriation Act Sec. 525: (1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; (4) to lobby for abortion?

Yes

b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property?

Yes

c. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?

Yes

d. FAA Sec. 662. For CIA activities?

Yes

e. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained?

Yes

f. FY 1982 Appropriation Act, Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel?

Yes

g. FY 1982 Appropriation Act, Sec. 505. To pay U.N. assessments, arrearages for dues?

Yes

h. FY 1982 Appropriation Act, Sec. 506. To carry out provisions of FAA section 209(d) (Transfer of FAA funds to multilateral organizations for lending)?

Yes

i. FY 1982 Appropriation Act, Sec. 510. To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields?

Yes

j. FY 1982 Appropriation Act, Sec. 511. To aid the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?

Yes

k. FY 1982 Appropriation Act, Sec. 515. To be used for publicity or propaganda purposes within U.S. not authorized by Congress?

Yes

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THE REPUBLIC OF UGANDA

MINISTRY OF HEALTH

P. O. BOX 8,

ENTEBBE

TELEGRAMS

TELEPHONE

REFERENCE ... GCH. J

April 3rd, 1984

The UNICEF Representative,
P.O. Box 7047,
KAMPALA.

Dear Sir,

GOVERNMENT CONTRIBUTION TO A RDS CDD PROGRAMME

Herewith please find attached a copy of the Government of Uganda contribution towards the CDD Programme for your information and necessary action.

Yours faithfully,

for: DR. S. V. OKWARE
PERMANENT SECRETARY

The USAID Representative,
P.O. Box 7007,
KAMPALA.

(Attention: Mr. McPhie) ✓

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GOVERNMENT CONTRIBUTION

Government commitment towards the ODD programme will be in several areas. It will provide physical facilities and pay personnel emolments of all local staff involved in the programme. It will also meet some recurrent costs for transportation such as for fuel and maintainance of vehicles. Moderate capital costs will also be absorbed by Government. The table below summarises anticipated financial commitment by the Ministry of Health for the fiscal year 1984/1985.

GOVERNMENT CONTRIBUTION TOWARDS ODD PROGRAMME 1984 ~~and~~ 1985

| | <u>1984/85</u> | <u>1985/86</u> ^{8c} |
|---|---------------------|------------------------------|
| A. PHYSICAL FACILITIES | | |
| Office space, rent, electricity and telephone charge, depreciation etc. | Ug. Shs. 22,500,000 | 45,000,000 |
| B. PERSONNEL | | |
| (i) Salaries and personal emolments for Project Director, Project Manager, 33 DMOs, 33 MIIs, 33 MROs, 700 WAs 953 IIA | 46,780,000 | 33,560,000 |
| (ii) Allowances and per diem for field staff | 10,312,500 | 20,625,000 |
| C. TRANSPORT | | |
| (i) Fuel for 33 L/R and Ambulances for DMO supervision in each of the 33 district hospital. | 39,600,000 | 79,200,000 |
| (ii) Maintenance of 33 district supervision vehicles and spares | 12,375,000 | 24,750,000 |
| D. SPECIAL DRUGS AND EQUIPMENT | | |
| (i) Assorted I.V equipment and fluids. | 3,000,000 | 5,000,000 |
| (ii) Special emergency drugs/vaccines | 3,500,000 | 7,000,000 |
| E. OTHER EXPENSES | | |
| Postage, stationery, cables, etc | 825,000 | 1,650,000 |
| RECURRING | 1,000,000 | 2,000,000 |
| | 139,892,500 | 279,785,000* |

*Current exchange Rate ¹US \$ = Ug. shs. 300

Ug. 2,331,540 Total

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ANNEX E PROPOSED SCHEDULE FOR MID-LEVEL MANAGERS
TRAINING COURSES, CDD PROGRAMME.

| Districts | Date | Location |
|----------------------------------|-------|-------------|
| 1. Mbale, Tororo | 5/84 | Mbale |
| 2. Kapchorwa, Soroti | 8/84 | Mbale |
| 3. Kamuli, Soroti | 10/84 | Mbale |
| 4. Iganga, Jinja | 12/84 | Mbale |
| 5. Lira, Kitgum | 2/85 | Gulu |
| 6. Apac, Gulu | 4/85 | Gulu |
| 7. Moroto, Kotido | 6/85 | Moroto |
| 8. Arua, Nebbi, Moyo | 8/85 | Arua |
| 9. Hoima, Masindi | 10/85 | Masindi |
| 10. Kabarole, Kasese, Bundibugyo | 12/85 | Fort Portal |
| 11. Kabale, Rukungiri | 2/86 | Kabale |
| 12. Nbarara, Bushenyi | 4/86 | Mbarara |
| 13. Masaka, Rakai | 6/86 | Masaka |
| 14. Kampala | 8/86 | Kampala |
| 15. Mpigi, Mubende | 10/86 | Kampala |
| 16. Mukono, Luwero | 12/86 | Kampala |

3/84

Annex F - Guidelines for Establishing ORS Packet Needs, CDD, Uganda

As a general rule of thumb, WHO proposes the following: each child under the age of 5 years can be expected to have 2 episodes of diarrheal disease each year that require treatment. Treatment per episode consists of approximately 2 packets of ORS.

In each region where ORT training has been completed, the following guidelines may be used to estimate ORS packet needs:

- ORS packets required during year 1 after training:

60% access (to hospitals, health centers and health posts/dispensaries) X 40% utilization year 1 X number of children less than 5 years old in region X 2 episodes of diarrhea per year X 2 packets ORS per episode

ORS packets required during year 2 after training:

60% access (to hospitals, health centers and health posts/dispensaries) X 45% utilization year 2 X number of children less than 5 years old in region X 2 episodes of diarrhea per year X 2 packets ORS per episode

ORS packets required during year 3 after training:

60% access (to hospitals, health centers and health posts/dispensaries) X 60% utilization year 3 X number of children less than 5 years old in region X 2 episodes of diarrhea per year X 2 packets ORS per episode

Part B: ORS Requirements, Uganda 1984 - 88

(000s*)

| Region, | 1984 | 1985 | 1986 | 1987 | 1988 | Grand Total |
|------------------|-------|-------|-------|-------|-------|-----------------|
| Mulago | 30 | 30 | 30 | 30 | 30 | 150 |
| Eastern Region | 283 | 384 | 512 | 623 | 733 | 2,535 |
| Southeastern | 138 | 230 | 300 | 373 | 440 | 1,481 |
| Northern | 107 | 334 | 296 | 377 | 446 | 1,560 |
| Southwestern | 118 | 359 | 443 | 577 | 686 | 2,183 |
| Western | 32 | 179 | 218 | 296 | 361 | 1,086 |
| Koima | 6 | 96 | 113 | 156 | 189 | 560 |
| Arua | 6 | 116 | 154 | 205 | 248 | 729 |
| Moroto | 6 | 45 | 69 | 89 | 111 | 320 |
| Masaka | 11 | 150 | 306 | 389 | 496 | 1,352 |
| Kampala | 12 | 134 | 380 | 469 | 611 | 1,606 |
| Misc & Emergency | 33 | 45 | 57 | 69 | 81 | 285 |
| Sub-Total | 782 | 2,004 | 2,877 | 3,653 | 4,433 | 13,847 |
| Wastage 25% | 196 | 501 | 719 | 913 | 1,108 | 3,437 |
| Other losses 10% | 98 | 251 | 360 | 457 | 554 | 1,720 |
| Grand Total | 1,076 | 2,755 | 3,956 | 5,023 | 6,095 | 18,905 |
| | | | | | | Say, 19 million |
| Weight (MT) | 30.6 | 78.3 | 112.4 | 142.7 | 187.5 | 585 M.T. |

* some numbers do not add exactly/to rounding. /due

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Annex G Membership of CDD Sub-Committee

- WHO Programme Coordinator, P.O. Box 6, Entebbe.
- UNICEF Project, P.O. Box 7047 Kampala.
- Prof. G. Kirya, Chairman of Disease Surveillance Sub-Committee
Department of Microbiology - Makerere University, Box 7062 Kampala.
- Assistant Director Medical Services/Public Health, P.O. Box 8,
Entebbe, and CDD Programme Director.
- Assistant Director Medical Services/Training, P.O. Box 8, Entebbe.
- CDD Project Manager - P.O. Box 8, Entebbe.
- USAID Representative, Kampala.
- Dr. Zirembuzi, Mulago Hospital, Paediatrics, Faculty.
- Dr. Bukonya, Institute of Public Health, P.O. Box 7062 Kampala.
- Mr. Kalega, Executive Secretary, Uganda Protestant Medical Bureau.
- Executive Secretary, Uganda Catholic Medical Bureau.
- AMREF Training Officer.
- Dr. Kakitahi, Chairman MCH Advisory Committee.
- John Barenzi, EPI Project Manager.

ANNEX H

DETAILS OF PROJECT BUDGET

USAID

1. ORS - In FY 1984, UNICEF is purchasing needed ORS. In FY 1985, an estimated 1,500,000 packets (at \$0.10 each) are purchased, increasing to 2,500,000 packets in FY 1986. Each packet is sufficient to treat rehydration needs for one day. Therefore two packets can treat each DD episode. 2,500,000 packets can treat 1,250,000 episodes or 625,000 children. This represents about 30% of the children in Uganda. If the demand is greater, this level should be increased. With inflation and contingency, if costs are kept down, some 3,450,000 packets could be purchased in FY 1986.

Freight of ORS - A rough percentage of 15% on ORS costs is used to calculate shipping costs. The weight of ORS in FY 1986 is estimated at about 70 tons.

2. Operations Research - The cost per study is estimated at roughly \$10,000. Therefore an average of five studies are done per year. It is assumed that 75% of funding is used as local costs and 25% for foreign exchange.

3. Feasibility Study (ORS production) - A major study on the efficacy of ORS production and/or packaging from bulk will be conducted, at an estimated cost of \$40,000.

4. Training - Facilitators: The training of trainers has been calculated at roughly \$200 per week per participant. Two week courses thus cost \$400 per participants. Therefore twenty-five facilitators will be trained each year. All of the funding will be used for local costs.

MLM Regionals: Middle-level-management regional training will be done nationwide. The weekly cost per participant is estimated at \$125. Per participant for the 2 week course, the cost is \$250. In two years over 400 MLM personnel will be trained.

Operations: Some 100 district level training courses are to be run, 50 each year at an estimated cost of \$1,000 per course. Major costs are transport and training materials, as classes are given at the local level.

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6. Contingency - A 15% contingency factor is placed on all costs.

7. Inflation - Using FY 84 as the base year, an inflation on consequent years is placed, increasing 10% p.a. Therefore, in year two the inflation is 10%, year three 20%, year four 30% and year five 40%.

UNICEF

1. ORS Start-up - Purchases of ORS during FY 84 are being done directly by UNICEF.

2. Training and Promotional Materials - To be used in the national conference and in later training exercises, equipment and supplies are being purchased.

3. ORT Centre Equipment - Such materials as measuring utensils, scales, weight charts, height boards and mixers are being purchased for setting up ORT Centres. Over 50 should be established in Phase I, costing about \$300 each.

4. Transport - Vehicles: Two new vehicles are being purchased this FY, at a cost of \$10,000 each.

Repairs and Maintenance: Running/operating expenses for the two vehicles will increase with the workload and age of the vehicles. The figures are rough estimates of requirements.

ORS Shipment: Shipments within Uganda are shown, with very rough figures.

5. Training - UNICEF is now conducting preliminary training exercises, including a just concluded (May 1984) national conference. Training costs are calculated on the same basis as AID's (item 4 of USAID notes).

6. Data Collection and Analysis - UNICEF will continue conducting various surveys and data collection exercises on the CDD Program. This on-going exercise requires hiring enumerators, compilation and analysis. Each exercise will compile data on various health activities and will be updated at least annually.

7. Project Manager's Office - The CDD Manager will require certain office equipment and furniture, as well as operating

expenses for consumables. Initial costs are greater, for the purchase of equipment.

8. Project Personnel - Emoluments for staff hired just for the CDD Program are shown here, as well as the cost of calling in special consultants. The figure for consultants, if hired outside Uganda, represent about four-six person weeks per annum.

9. National Offices per Diem - For GOU officials travelling outside their normal work area, UNICEF will supplement GOU allowances with small per diems. The figure represents roughly 50 person weeks.

10. Contingency - contingency of 15% is placed on all costs.

11. Inflation - Inflation has been factored as for USAID (item 7).

CDC

Most of the CDC figures were based on actuals and projected forward. Costs in FY 85 and FY 86 may be met with CCD funds and/or partially met by UNICEF. Short-term consultants costs about \$3,000 per week (11 person weeks). Travel and per diem are estimated at \$3,400 per trip (3 trips)

GOU

1. Salaries - Newly created posts and staff emoluments are shown. These figures were provided by the MOH.

2. Allowances - For travel and per diem of GOU staff.

3. Transport - This is for transport of personnel.

4. IV fluid/equipment - With the expand ORT program, needs for severe diarrhea case treatment are expected to increase.

5. Drugs and Vaccines - These include EPI, PHC, MCH expenses for these items, as well as for the CDD Program.

6. Office Expenses - Incremental expenses for CDD Program.

7. Contingency - A 1.5% contingency has been added on. As figures already appear to be inflated, no additional sum is shown.

ECONOMIC ANALYSIS

Introduction

The economic analysis of the ORT Project will examine the cost of the Project to Uganda, the implications for both the short and long term, the direct and indirect benefits to participants, and specific areas of potential impact in economic terms. Due to inadequate data in several areas to be reviewed, the analysis will use WHO data, generally considered to be appropriate for developing countries with conditions similar to Uganda. At this stage, the analysis is qualitative, as the required information is unavailable for quantitative assessment.

Background

The economy, and, in particular, the agricultural sector, continues to make good progress following the "War of Liberation." Credit for this rapid recovery is attributed to the efforts of the people of Uganda and to the donor community that has responded with foreign aid grants and loans. In cooperation with the IMF, Uganda has adopted many of the policies required to stimulate the economy, and the results have been growth in GDP of (3.9% in 1981 and 6.1% in 1982). During this same period, it is estimated that inflation has reduced from over 100% per year in 1980/81 to 45% in 1982 and 30% in 1983. This is remarkable progress in a short period of time. In 1980, the GOU prepared a long term recovery plan, A Ten Year Program of Action, but this plan proved to be overly ambitious as it was based on significantly larger amounts of foreign aid than could be reasonably expected. A revised plan was adopted in 1982, the Recovery Programme: 1982-1984. This plan, however, stresses the rehabilitation of the agricultural and industrial sectors and includes with additional allocations for social services and infrastructure. It is the opinion of the World Bank that this revised program addresses the rehabilitation needs of Uganda, and is worthy of international donor support. GOU has taken into consideration donor preferences and has adopted national policies reflecting these considerations.

The Central Government has made significant improvements in revenue collection during the period 1981/1983. During this

period, revenues increased over nineteen-fold and represent increase as a percentage of GDP from 0.8% in 1981 to 0.3% of GDP in 1983. Much of this improvement can be attributed to improved policies on taxation, exchange control, and administration. However, Uganda still has inadequate financial resources for the various rehabilitation projects, and the government continues to emphasize the income and employment generating sectors over social services during this rehabilitation period. Consequently, increased resources for social services, and specifically health services, will follow the establishment of the economic base which will be necessary if the long-term capability for internally-generated revenue is to be achieved. Uganda will continue to seek donor assistance for many of its health and social programs, and it is probable that donor assistance will be required for some time. The introduction of ORT will add another component to the primary health services of the MOH. MOH primary health services and their projected financial requirement for the period 1983-1985 are as follows:

1. Primary Health Care Facilities

| | |
|-----------------------------|-------------|
| a. Amount Required | \$4,000,000 |
| b. GOU Commitment | 250,000 |
| c. Donor Contribution (EEC) | 3,000,000 |
| d. Balance Required | 750,000 |

2. Primary Health Care Services

| | |
|--------------------------------|-------------|
| a. Amount Required | \$2,160,000 |
| b. GOU Commitment | 80,000 |
| c. Donor Contribution (UNICEF) | 1,410,000 |
| d. Balance Required | 670,000 |

3. Health Training and Planning

| | |
|------------------------------|-------------|
| a. Amount Required | \$1,960,000 |
| b. GOU Commitment | 14,000 |
| c. Donor Contribution (CIDA) | 1,820,000 |
| d. Balance Required | -0- |

4. Accelerated Immunization Services

| | |
|--------------------|-------------|
| a. Amount Required | \$3,680,000 |
| b. GOU Commitment | 4,000 |

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| | |
|--------------------------------|-----------|
| c. Donor Contribution (UNICEF) | 1,464,000 |
| d. Balance Required | 2,212,000 |

(Source: Revised Recovery Program: 1982-1984)

These services were previously supported largely from internal resources. However, a decade of mismanagement in government institutions has resulted in ruining much of the government's ability to generate revenues and collect taxes. It is anticipated that, as the recovery program continues, so will the government's capability in revenue generation. This will enable it to increasingly accept responsibility for funding these health services.

GOU allocation of financial resources to the Ministry of Health have remained rather constant in terms of the percentage of the national budget for the period 1980 to 1983 being about 2% of the national budget for capital expenditure, and 4.5% for recurrent costs. These allocations are summarized as follows.

It is unlikely that the GOU will, in the near term, be able to return to the rather favorable levels of expenditure, as a percentage of total budget that prevailed during the 1960s. In a study conducted on behalf of USAID by Family Health Care, Inc. in 1980, per capita expenditure for recurrent costs of health services nationwide was Shs 12.30 (based on constant 1960 Shs) in 1968/69, but this had fallen to Shs. 1.10 by 1979. The rapid devaluation of the Uganda Shilling must be taken into consideration when reviewing the levels of GOU expenditure. Caution must be exercised in making financial and economic comparisons as the official exchange rate and the real market value of the Uganda Shilling were greatly distorted during the early 1980s.

Table 1. Exchange Rate Comparisons
(U/Shs per U.S.\$)

| Date | Official Rates | | Unofficial Rates |
|---------------|----------------|-----------|------------------|
| | Window #1 | Window #2 | |
| June 1980 | 7.3 | - | 80.0 |
| June 1981 | 77.8 | - | 200.0 |
| June 1982 | 96.7 | - | 300.0 |
| June 1983 | 150.0 | 280.0 | 350.0 |
| November 1983 | 210.0 | 330.0 | 400.0 |

(Source: IMF & IBRD)

A comparison of the levels of government expenditure with the declining value of the Uganda Shilling would suggest the increased levels of GOU expenditure for health services is largely overstated in terms of exchange rates values. It has only been in the past two years that there has been an improvement in the situation (if the total shilling expenditures were converted to a "true" foreign exchange value and comparisons were made for the preceding four years).

Table 2. Estimated Government Expenditure
(U/Sns-millions)

| Period | 1980/81 | 1981/82 | 1982/83 | 1983/84 |
|------------------------------|---------|---------|---------|---------|
| Capital Expenditure | | | | |
| Min./Health | 79 | 316 | 520 | 690 |
| National Budget | 3,007 | 19,075 | 20,583 | 36,390 |
| MCh as % National | 2.6% | 1.6% | 2.5% | 1.9% |
| Recurrent Expenditure | | | | |
| Min./Health | N/A | 1,174 | 1,846 | 2,239 |
| National Budget | 11,000 | 25,605 | 36,700 | 57,000 |
| MCh as % National | N/A | 4.6% | 5.0% | 3.9% |

(Source: Uganda Ministry of Economic Planning)

An analysis of the recurrent expenditure estimates for MOH (Refer Table 6) indicates that 45% of the 1983/84 Budget have been allocated for drugs and medical supplies. Staff salaries and benefits are comparatively low, accounting for only 27% of the Budget. However, the Office of the Minister has a relatively large budget account (for 37% of this sub-budget), with salaries being only 5%. While there are also district level budgets for health activities from locally generated revenues, these are not projected to be a significant source for funds to support ORT. In 1981, a sample of 11 districts indicated that average budgets for district health services were Sh. 5.5 million, or Sh. 12 per capita.

Despite the rather recent introduction of ORT as a method of treating diarrheal disease, it is rapidly becoming the preferred method of treatment in many developing countries. By 1969 ORT became the routine treatment at the Cholera Research Laboratory in East Pakistan. Principal international agencies promoting ORT have been UNICEF, WHO, USAID, and the UN Fund for Population Activities, among others. Large scale programs have been established in Bangladesh, Egypt, Indonesia, Philippines, Turkey, and AID has assisted oral rehydration field projects in Nigeria, Peru, Sudan, Tunisia, Zaire, and Egypt. The noted British medical journal, LANCET, summarized the importance of ORT as follows:

"The discovery that sodium transport and glucose transport are coupled in the small intestine so that glucose accelerates absorption of solute and water was potentially the most important medical advance this century". LANCET 11:300, 1978)

Project Beneficiaries

This current ORT project was selected by UNICEF, with the assistance of CDC, and a proposal for funding was prepared by UNICEF/CDC. The proposal draws heavily on experiences and data from other countries where ORT has been successfully introduced. UNICEF and CDC have selected this approach as being appropriate for the Ugandan situation and have determined that the Ministry of Health has the implementation capability, if adequately supported. During this introductory period (5 years), much of the financial support will come from the external donor community, with GOU/MOH making a largely in-kind

According to WHO statistics, 1 in 10 children in developing countries will die from diarrhea and dehydration before reaching the age of 5 years. Applying this rate of mortality from diarrhea to the Uganda situation would result in the death of about 200,000 children during the period of this project. However, experience has shown that with an effective ORT program, up to a 67% reduction in mortality due to diarrhea and dehydration can be achieved. Translated into number of lives saved, this would mean 135,000 lives over the five year period, or approximately 27,000 per annum, assuming country wide usage of ORT. The per capita cost on mortality reduction is relatively low, owing in part to relatively low material cost together with simple technology required to administer ORS. The very limited statistical data that is currently available in Uganda suggests that only a small portion of those suffering from diarrheal disease (DD) make use of public health facilities. A recent survey carried out in 1983 revealed that the rate of children under 5 coming to the participating health centers was 4.5 episodes of DD per month/100 children (under 5). Using WHO projections, the rate should be on average 16.7 episodes per 100 children. Health center staff in Uganda are in agreement that the current rate of cases coming for treatment of DD is lower now than in the past when clinics had adequate pharmaceuticals and medical supplies.

Cost-Benefit Analysis

When the project is viewed in terms of project cost vs project benefits, with reduction in mortality being the measure of benefit, the cost per life saved would be about \$40. The USAID contribution would be \$21.14. Thus, ORT compares favorably to other primary health care programs in terms of cost related to mortality reduction. Table 4, Cost-Benefit Analysis, indicates that episode treatment costs are higher in the first three years of the Project as total program training and other start-up costs are included in the calculation. As would be expected, the cost per episode/treatment starts to decline in the third and fourth year, and further reductions can be expected as utilization rates increase. Increased home usage will further reduce the per episode treatment costs as there will be a reduction in the demand for MOH staff and facilities.

Although the reduction of childhood mortality may be the most dramatic feature of an ORT project, the reduction of childhood morbidity (illness) resulting from diarrheal disease

will have an even greater economic impact. Estimating that each child will have on average two serious occurrences of diarrhea annually, a considerable amount of the parents' time would be used in tending the child if adequate and effective treatment were not available. An effective system of home treatment would reduce the amount of time required for parents to take sick children to health centers, and, thereby, allow them to continue working at food production and/or other income producing activities. There are a number of other economic considerations which argue favorably for the ORT program. These would include:

1. Reduction in use of I-V therapy-materials required for I-V cost \$5.00 per treatment vs about \$.25 for ORS.
2. Reduction in hospital/clinic bed occupancy.
3. Reduction in drug usage, which is often not required for treatment of mild cases.

While it is difficult to accurately project and quantify the economic value of many of potential benefits of the ORT program at this time, due primarily to the absence of reliable data, it is anticipated that during the operational research phase of the ORT program data on economic and financial aspects of the program will be collected and analyzed. The analyses will include cost comparisons with previous and alternate methods of treatment for DD.

Over the long term, the beneficiaries of ORT will be expected to contribute to the support of the ORT program. If this program is successfully introduced, and significant demand is created for ORS, it is probable that commercial manufacturing and/or distribution will be introduced in the same way that malarial treatment drugs are marketed and distributed. The recurrent cost of ORT program based on utilization rates in the fifth year (end of Phase II) of the Project, would be about \$750,000 with ORS accounting for 2/3 (\$500,000). Assuming that 50% of the cost for ORS could be recovered from recs or sales, the total recurrent cost to MOH would be reduced by approximately 33%, to about \$500,000 per annum. Under the ORT program, health centers will make the ORS available to the public much in the same way anti-malarial drugs are made available. If ORS were to be accepted in the same way as anti-malarial drugs are, they would be distributed through local retail outlets, thus providing country-wide.

distribution. There will undoubtedly be a certain portion of the population that will prepare ORT in the home, as this is now being promoted by some of the private and missionary health services. Those who have a thorough understanding of ORT and the importance of accurate measurement of the ingredients could reduce the cost of ORS (rather than pay the full commercial price). Although the cost-benefit analysis in Table 4 indicates the fully-burdened cost of treatment over the life of the project to be \$1.35 per treatment, the cost of material alone (ORS), if based on an estimated \$1.10 kit, would be only twenty cents per treatment (estimated two packets per episode).

Successful implementation of the ORT Project will require significant support in the early period for training, educational, and promotional activities. ORT has yet to be introduced to government health staff, and there have been no formal training programs related to proper administration and/or presentation of ORS. Furthermore, the medically preferred method of treatment for dehydration is a combination of intravenous therapy and drugs, which is considerably more expensive, both in material and personnel costs. More than 80% of UNICEF support for the Project will be for training and educational/promotional activities. Successful implementation of the Project, in terms of ORT utilization and acceptance by the general population, will depend largely on how successful the training and educational aspects of the project are carried out.

Data Requirements

The magnitude of diarrhea disease problems in Uganda cannot be reasonably quantified from available data. Early in the Project, a baseline survey will be conducted to provide the information required to measure various aspects of the ORT project. The primary objective of this survey will be to estimate the current levels of morbidity and mortality as a result of diarrhea disease among children under five. Other data to be gathered will support the primary information on mortality and morbidity by helping to estimate the potential for incidence of diarrhea and its causes. Areas of investigation will include the following.

1. Morbidity and mortality survey, with periodic updates for monitoring and evaluations.

2. Attitudes, knowledge and practices regarding treatment of DD.

3. Feeding practices, access to media channels, health facilities.

Other operational research topics, which may be part of initial survey or studies separately are:

1. Availability of salt, sugar, and measuring containers;

2. The effectiveness of various home-based ORT strategies;

3. The acceptability or community participation (in cash or kind) in certain MCH/PHC activities such as ORT;

4. The most effective health education materials for ORT; and

5. The ability and willingness to pay for ORT materials and/or services by beneficiaries.

Using the results of these surveys, the CDD management team will have the information required for effective Project implementation. The Project profile will be more sharply focused allowing for more efficient deployment of project resources.

UNICEF/Kampala carried out a pilot survey in March, 1984, in Mbale District. All homes were within one kilometer of a health center. The sample indicated that the rate of diarrheal episodes within the previous two weeks afflicted 24% of the children under 5 years. Child (under 5) mortality in the 1980 GOU standard baseline data is 40/1000, whereas the Mbale sample was 63/1000 population (under 5). Those less than one year old had an even greater death rate (160/1000 population compared with 1980 GOU rate of 110/1000). Those participating in the Mbale survey attributed diarrhea associated disease as responsible for 45% of the deaths. Of those children having an episode of diarrhea within the past two weeks, the treatments were as follows:

| | |
|----------|-----|
| ORS | 17% |
| Drugs | 63% |
| IV Fluid | 2% |
| Nothing | 27% |

60-70% of all diarrheal disease involve a viral pathogen, and viruses do not respond to pharmaceutical agents. If this sample is representative of current nationwide practices, then it could be concluded that a considerable loss of economic resources is being incurred due to inappropriate treatment. Drugs should have been used in 30-40% of the cases, not in 63% (assuming that sample cases conform to global, viral characteristics).

Once the use of ORT is firmly established in Uganda, more attention can be given to instructing mothers on home preparation. This would result in lower costs to the family if retail sales become the general method of distribution. While it is generally accepted that a balanced formula ORS, which includes both potassium and bicarbonate, is the best formulation for use with children, there still remains a place for home preparation of ORS. Sugar and salt alone in certain situations is effective, especially where there are inadequate supplies of packets of ORS or where ORS in pre-packaged form are not used. Unless salt and sugar are mixed in the correct proportions, the effectiveness and safety are reduced. Hyponatremia can result from using an ORT solution that has too much salt or too little water. In recent studies carried out on using the pinch-and-scoop method (two finger pinch of salt and a four finger "scoop" of sugar) or by measuring with household containers, a number of the participants were consistently producing solutions excessively high in salt levels. One point does stand out. When using home mixing, it is very important that there be thorough instructions on how to mix the solution and the dangers of improperly mixed solutions.

Post Project Considerations

If no contributions were to be made by the beneficiaries toward continuing the ORT program, continuation of the program projected at 1988 levels of consumption would require 15% of the current estimated recurrent expenditure of the MOH that is presently allocated for drugs and medical supplies. However, if 50% of the cost of ORS were to be paid for by the beneficiaries, the cost would be reduced by half for ORS. Considering that the total recurrent cost of the program will

be approximately \$750,000 (ORS and other expenses), this would represent 10% of total recurrent budget. A 50% reduction in ORS costs, resulting from beneficiary contributions, would reduce overall MOH cost to about 6.7% of the current budget. If Uganda continues to experience the rapid economic recovery of the past 4 years, and assessments by international development agencies project continued improvement, the central government will have additional resources to increase allocations to health and other social services. Therefore, it is anticipated that continuation of the ORT program following the completion of this Project would not place an undue burden on GOU/MOH resources.

To the degree that ORT replaces Intravenous treatment and drugs as the preferred method of treatment for DD, the recurrent cost to the national health service for DD treatment could actually be reduced, due to both lower material costs and less demand on medical staff and facilities. The treatment cost per episode of DD averages \$1.85 over the five year life of the Project when all start-up, training, management and research costs are included. This cost is expected to drop during the post-project period to about \$0.75 per episode treatment.

The successful implementation of a ORT program will place demand on the scarce foreign exchange of the nation once the donor assistance for the Project has terminated. The requirements of the program will have to compete with other demands on the available foreign exchange, not only from sectors of the health service, but from all other demands as well. While it can be considered appropriate to procure ORS from foreign sources during the initial period of the program, a feasibility study will be carried out to examine the possibilities of local production of ORS. Most of the material required for ORS was previously produced in Uganda, and efforts are now underway to rehabilitate salt and sugar industries. The preparation of both commercial and home prepared oral rehydration salts (ORS) utilizes materials that are generally available in local markets (i.e. sodium chloride [salt], glucose [sugar], sodium bicarbonate [baking soda], and potassium chloride).

SOCIAL SOUNDNESS ANALYSIS

Introduction

The social soundness analysis addresses, in the Oral Rehydration Therapy (ORT) Project, those issues which relate to (1) the potential for spread-effect of ORT, (2) the degree of compatibility of ORT within the Ugandan sociocultural environment, and (3) the social impact of ORT use. It is an objective of the ORT Project to provide an acceptable, effective, and economical means of treating diarrheal disease (DD). This project will focus on putting ORT within reach of the rural-based, low income population. The major USAID contribution to this project will be to finance the supply of oral rehydration salts and certain training/research components.

Background

Despite the disruptions of the 1970s, agriculture continues to be the main economic activity with over 90% of the population engaged in direct production of both cash (coffee, cotton and tobacco) and food-crops (maize, bananas, and beans). Over 80% of the land is considered arable or good grazing land, and population density is 54 persons per square kilometer. Smallholder agricultural production accounts for most of the agricultural production. (Tea and sugar being the exceptions.) In cash crops, coffee dominates and accounts for more than 95% of Uganda's foreign exchange earnings. Most of this coffee is grown on individually owned farms and marketed through cooperatives. As recent as 1970, Uganda had a per capita supply of food calories equal to 98% of daily requirements. However, due to the economic conditions of the 1970s, this declined to 83% in 1980. This inadequacy of calories on a per capita basis is the result of inadequate internal food distribution rather than inadequate food crops production. From a position of food shortages in many urban areas only a few years ago, Uganda is now a food exporter to neighboring Tanzania. Recent improvements in internal distribution systems should reverse the decline in available calories on a per capita basis and return to the previous high level of 1970. Current data now indicate that this is the situation.

Health facilities, both urban and rural, will be the focal point for initial community education on ORT, as well as the distribution for ORS. Uganda had a well developed social services sector staffed with qualified personnel. The Ugandan medical training facilities were some of the best on the continent: The Mulago Teaching Hospital associated with Makerere University, provided training for physicians and other professional staff not only to Uganda, but in several other countries as well. The Ministry of Health now is attempting to re-establish the medical and health care services that were severely disrupted during the period of the Amin regime. During this period, many of the facilities deteriorated and much of the professional medical staff left the country. The return of a new civilian government has brought about renewed efforts to rehabilitate the general medical services.

Project Beneficiaries

The obvious beneficiaries of an ORT program are the young children potentially subject to serious diarrhea that could be fatal. According to WHO statistics, 1 out of 10 children in developing countries will die from diarrhea before reaching the age of 5 years. Uganda has 16% of its population under 5 years (2,016,000). Thus, an estimated 200,000 of these children may die of diarrheal disease between now and 1989. A well organized and properly managed ORT program has the potential to reduce mortality due to diarrhea by as much as 57%. With maximum effectiveness, this could save the lives of up to 135,000 young Ugandan children over the 5 year project period (est. 27,000 per year). However, the afflicted child is not the only project beneficiary. The mother and the other siblings also benefit. Much of the mother's time must be spent caring for a sick child; other responsibilities are then neglected, including attention to other household tasks.

The Ministry of Health has launched a National Programme for the Control of Diarrheal Diseases (CDD) in recognition of the importance that the MOH places on addressing this issue. UNICEF has actively worked to increase the awareness within the MOH of the need for a nationwide ORT program. As a result of this initial effort, the GOU has accepted the assistance of UNICEF and CDC to prepare a national program of action. This program is utilizing existing facilities and personnel when possible, but will also establish a separate management unit responsible for implementation and coordination of this national effort. Together with the UNICEF and CDC, the

Ministry of Health has prepared a plan of action based on the phased implementation of an ORT program. This includes widespread training for health workers as well as education for the general public. External funding is being sought for ORS, drugs, medical equipment, training and educational materials. The implementation of the program will be under the supervision of a physician specifically assigned to this project. However, the program will be integrated into the overall health services of Uganda.

The Project requires that an initial base line survey be carried out to verify the current situation. Thereafter, a series of ongoing evaluations will monitor and analyze the Project progress. For the most part, these activities will be carried out by host country professionals with the assistance of short term consultants in areas of evaluation design and analysis of results. Funds will also be made available to carry out operations research in a number of areas related to the ORT Project. This Project will help to re-establish an internal capability for effective monitoring and evaluation of public health programs. A certain degree of flexibility will be maintained within the overall program to allow for modification in implementation activities as a result of findings from the operations research efforts.

The afflicted child's parents are the vital link to bring ORT and the child together. But without an adequate understanding of ORT by the parents, it is doubtful that the optimum level of acceptance can be achieved in this program. As ORT is a relatively new approach to DD treatment in Uganda, educating the general population, (specifically parents) will require effective communications. When possible, community leaders should be used as intermediaries and promoters of the program. Community leaders including teachers, rural health workers, chiefs and religious leaders are most likely to be influential in advocating the use of ORT in the home. Increasing the general public awareness on how and when to treat diarrhea, on the importance of nutrition during treatment, and also on when to seek medical help when ORT appears to be ineffective are all parts of the overall educational aspect of the ORT program. The ORT program will provide specialized training for a core of health workers at all levels in the health service. Each hospital and health center will have one or more staff that have undergone special training in ORT. Training is planned for over 500 persons, with representation from most hospitals and health centers.

They will in turn educate their co-workers on ORT, and from there reach out to local leaders and parents.

The distance of a health facility from the population it serve is a significant factor in health facility utilization. Uganda has over 500 health facilities that are fairly evenly distributed throughout the country. However, these facilities are still insufficient to meet the needs of the population. Approximately 50% of the population live more than 10km from a health facility. It has generally been found that people living outside the 10 kilometer radius are less likely to see medical assistance from common illnesses such as diarrheal disease. Since DD can be treated effectively in the home, this program will endeavor to reach a larger percentage of the population through educating mothers for home use of ORS, and by using local community leadership to promote use of ORT.

The Project's phased introduction of ORT builds on the premise that there will be a positive spread effect in the use of ORT. Participants in the training programs will come from as broad a geographical area as possible, and this will contribute to an expanded coverage throughout the country. An initial 7 districts will be covered in the first year of the project, followed by 12 districts in each of the next two years of the project. Years 4 and 5 will concentrate on increasing the rate of ORT utilization within each of the districts.

Probably no area is of more concern in the overall ORT program than that concerned with nutrition during the time a child is afflicted with diarrhea. WHO strongly recommends that feeding continue during treatment, and this is especially important for the breastfeeding child. Discontinuing breastfeeding during an episode of DD would deprive the child of the primary source of nutrition. It is unfortunate that local practice often encourages mothers to stop feeding during diarrhea. Not only do traditional healers often support withholding of food, but some professionally trained health care personnel support this practice as well. Continued feeding during diarrhea will be encouraged for both nutritional reasons and to ensure faster recovery during the convalescence period. Often it is the already malnourished child who is afflicted, and further withholding of food will not only enhance the problems associated with the mainutrition, but recovery from diarrhea is likely to be prolonged. Ugandan health workers responsible for the ORT program implementation are aware of these problems and will encourage mothers to

continue feeding, especially those mothers who are breastfeeding

With improved chances for survival among children, parents often are more inclined to consider family planning as a means of spacing children, and thereby increase the economic resources available to members of the family. In terms of national importance, increasing these family resources will have a positive impact on training and educational opportunities of the surviving children. Rapid population growth is an increasing concern for the government. While population growth rates are generally given as 2.8% per year, recent investigations suggest that it is considerably higher. The government has launched a family planning program, and the ORT program will complement those activities through reduced infant and child mortality. Using ORT improves recovery from DD and contributes to better child nutrition. A health child with adequate food is in a much better position to resist other diseases and health related problems.

All of these factors contribute to the potential for greater economic productivity for the country over the long run as the result of better health during early childhood. Children who suffer serious health problems and/or inadequate nutrition during the formative years are less likely to be able to take advantage of educational opportunities.

The impact of the Project will be documented and assessed and a number of research activities will be carried out. These monitoring and periodic evaluation activities will provide an opportunity to measure the effectiveness of the Project in terms of acceptance by the community, effects on the household, and reduction of mortality.

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PROGRAMME OF THE GOVERNMENT
OF THE REPUBLIC OF UGANDA

PLAN OF OPERATIONS

| | |
|-----------------------|---|
| PROJECT TITLE: | NATIONAL PROGRAMME FOR CONTROL OF DIARRHOEAL DISEASES (CDD). |
| COOPERATING AGENCIES: | UNITED NATIONS CHILDREN'S FUND US AGENCY FOR INTERNATIONAL DEVELOPMENT US PHS CENTRES FOR DISEASE CONTROL |
| PROJECT DURATION: | 1984 - 1988 |
| PROJECT INITIATION: | 1ST JANUARY 1984 |
| PROJECT AREA: | NATIONAL: TO BE PHASED |
| BENEFICIARIES: | 2.5 MILLION CHILDREN UNDER FIVE YEARS |
| PROJECT TOTAL COST: | APPROXIMATELY US\$11.5 MILLION |
| DONOR CONTRIBUTION: | APPROXIMATELY US\$4.9 MILLION |

5.112

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1. SUMMARY

The document outlines the main strategies and activities for the national programme for the Control of Diarrhoeal Diseases (CDD) which constitutes an important public health problem in Uganda. The following strategies have been identified and will be strengthened and improved:-

1. Case Management using Oral Rehydration Therapy (ORT).
2. Epidemic Investigation and Control.
3. Maternal and Child Health Care Practices.
4. Environmental Sanitation Measures.

Having considered the advantages and effectiveness of the various strategies the Ministry of Health is convinced that Case Management using ORT will provide the most dramatic reduction in mortality among children under five years of age, Case Management with ORT will, therefore be started first. The plan puts emphasis on ORT because of its immediate life saving advantages and simplicity.

Programme activities have been divided into 2 phases: Phase I, 1984-1986, and Phase II, 1987-1988. The main activity of Phase I of the national programme will consist of the establishment of ORT as the principal medical strategy in the treatment of diarrhoeal disease, especially among children under five. This activity will be complemented by the procurement, distribution and utilization of Oral Rehydration Salts (ORS) to prevent and treat dehydration. The other three general strategies listed above will also be considered during Phase I but will be developed more fully during Phase II, 1987-88, except for some very urgent Maternal and Child Health activities such as the promotion of Growth Monitoring, Breast Feeding, Immunization, and Family Planning, that is, the UNICEF "GOBI/FF technologies".

Targets for the various strategies have been programmed. In case management the target is to reduce case fatality by 60% by 1986, to increase the utilization of ORS by 80% in hospitals, and to reduce utilization of intravenous (IV) rehydration by 75% in all medical units

The estimated cost of the programme is US\$11.5 million to be spread over 5 years. UNICEF, USAID and CDC are expected to be committed to providing approximately \$4.9 million to implement the programme. Government contribution has been estimated at \$6.6 million, most of which is in kind, covering recurrent costs for infrastructure and staff.

1. BACKGROUND

1.1 DEMOGRAPHIC AND SOCIAL DATA

Basic demographic and social statistical data about Uganda are summarised below (1980):

| | | |
|--|-------|------------------------|
| Population: | Total | 12.6 million |
| | Rural | 11.3 million (90%) |
| | Urban | 1.3 million (10%) |
| Population under 1: | | 504,000 (4%) |
| Population under 5: | | 2,016,000 (16%) |
| Total Area: | | 236,885 km. |
| Population Density: | | 53 per sq. km. |
| Population Growth Rate: | | 2.8% |
| Life expectancy at birth: | | 52 years |
| Crude Birth Rate: | | 50/1000 population |
| Crude Death Rate: | | 19/1000 population |
| Infant Mortality: | | 110/1000 live births |
| Child (1-4) Mortality: | | 40/1000 1-4 population |
| Percent Population within 5 km. of health facility: | | 23% |
| Percent Population within 10 km. of health facility: | | 50% |
| Percent of health facilities with protected water source: | | 50% |

Political Structure:

| | |
|--------------|---------------------------|
| Areas: | 4 (population 3,250,000) |
| Regions: | 10 (population 1,500,000) |
| Districts: | 33 (population 400,000) |
| Counties: | 143 (population 100,000) |
| Subcounties: | 673 (population 20,000) |
| Parishes: | 4,000 (population 3,500) |
| Subparishes: | 16,000 (population 1,000) |

Major Towns and Cities:

| Population | Number of urban localities |
|-------------|----------------------------|
| <2,000 | 136 |
| 2-5,000 | 35 |
| 6-10,000 | 9 |
| 11-50,000 | 10 |
| 60-100,000 | 0 |
| 110-500,000 | 1 |
| >500,000 | 0 |

Health Resources:

| | | |
|--|-------|----------------|
| Physicians: | 620 | (1:21,000) |
| Medical Assistants: | 700 | (1:18,000) |
| Nurse Midwives: | 5,600 | (1:2,250) |
| Sanitarians (Health Inspectors, Assistant Health Inspectors, Health Orderlies) | 984 | (1:13,000) |
| Hospitals: | 81 | (28 non-govt.) |
| Health Centres: | 89 | (3 non-govt.) |
| Dispensaries: | 94 | (32 non-govt.) |
| Dispensaries, Subdispensaries, Aid Posts: | 463 | (31 non-govt.) |

1.2 GOVERNMENT COMMITMENT TO CONTROL OF DIARRHOEAL DISEASES

Because of the increasing problem of diarrhoeal diseases in Uganda, the Ministry of Health (MOH) established a National Disease Surveillance Subcommittee in June 1982, principally as a task force to deal with diarrhoeal emergencies. A Central Public Health Laboratory (CPHL) to diagnose causes of diarrhoea disease was also established at the Institute of Public Health (IPH) with assistance from WHO and UNICEF.

The Government has adopted Primary Health Care (PHC) as a strategy for attainment of an optimal level of health. It has ratified the African Charter for Health Development to serve as a framework for the development of Primary Health Care (PHC) in the nation. The PHC approach features prominently in the Party Manifesto and stress has been laid on prevention of diseases. The main health problems in Uganda are those which are preventable. High rates of morbidity and mortality are found among children under five years and mothers. Government's policy has always emphasized programmes designed to improve the quality of life of these vulnerable groups such as mothers and children. This stress was recently reiterated by H.E. the President when he launched the Uganda National Expanded Programme on Immunization (EPI), during the 21st Anniversary of Independence. To further show Government commitment to these services, comprehensive immunization programmes together with other maternal and child care (MCH) activities are included in the Government's Revised Recovery Programme for 1983.

The Government of Uganda is strongly committed to the development of PHC and to the improvement of the health of all its citizens by the year 2000. A national document entitled "PHC Plan of Action" has been approved by the Cabinet. Community participation will play a key role in all programmes. While the Government is determined that the whole country especially the underserved areas, such as Karamoja region, should be given special consideration in future development activities, it also recognizes that health care should first be applied in those areas where success is most likely.

Government commitment to the present CDD Programme is demonstrated by the substantial MOH contribution programmed in the budget (see Section 6). Through the Regional and District Medical teams, MOH will implement the CDD Programme at the "operational" level throughout Uganda, through comprehensive planning, training, demonstration, monitoring and evaluation activities.

DIARRHOEAL DISEASE IN UGANDA

Diarrhoea is one of the major causes of morbidity and mortality in young children in Uganda. Presently, it is difficult to assess the problem precisely because fewer than 30 per cent of all health facilities still report to the Ministry of Health's Division of Health Statistics. This is due partly to the past fifteen years of civil unrest and partly to the lack of supervision of operational personnel from the district and central levels. Data available from 24 of 76 hospitals still reporting in 1981 showed that gastroenteritis and dysentery (no separate category exists for diarrhoea) accounted for 8.2 per cent of all hospital admissions and 8.8 per cent of all hospital deaths. These data were not reported by age group and, therefore, probably grossly underestimate the importance of diarrhoeal disease in the under five population.

A recent survey of records from 12 health centres for the period January to August, 1983, provides diarrhoeal disease (DD) morbidity data for children under five and shows a bimodal seasonal pattern with peaks in January-February and May-June each year. Morbidity rates using the population within five kms of these health centres ranged from 0.9 to 11.6 (mean = 4.5) diarrhoeal episodes per 100 children under five per month. Assuming a rate of two episodes per child under five per year (conservative World Health Organization estimate), 16.7 episodes per 100 children would be expected per month; thus it appears that only a fraction of cases requiring treatment currently present to health facilities.

Although similar data are not available over an extended period of time, most health personnel agree that clinic attendance is today only a fraction of what it was when health facilities had an adequate supply of pharmaceuticals with which to treat DD.

1.4 EPIDEMICS AND THEIR CONTROL

Since 1978, the country has experienced outbreaks of diarrhoeal disease principally caused by V. cholerae of the Ogawa serotype. By and large these major outbreaks have been limited to Uganda's border districts such as Kasese (1978, 1983), Kabarole and Hoima (1981-82), Arua (1979) Kitgum and Gulu (1980) Karamoja (1980) Mbale and Tororo (1980, 1983). The cumulative death toll from these epidemics was at least 500. In addition there were epidemics of typhoid in Kampala city in 1981, and

Mbale district in 1982, as well as in Kabale district where typhoid is virtually endemic. Dysentery outbreaks have also followed a similar pattern of distribution and peaked in 1981 throughout the country. In all these instances children have constituted a large proportion of the victims.

The Central Epidemiological Unit at Ministry of Health (MOH) Headquarters was responsible for the coordination of measures to contain these epidemics. Field operations at the district level were carried out in collaboration with the respective District Medical Officers (DMOs) and their health teams.

Because of the threat of diarrhoeal epidemics, MOH established a National Disease Surveillance Subcommittee in June 1982. The subcommittee is made up of representatives from MOH, WHO, Makerere Medical School and the Institute of Public Health (IPH). The subcommittee principally acts as a task force to deal with (DD) emergencies. It also carries out field and laboratory investigations.

In order to assist in this endeavour a Central Public Health Laboratory (CPHL) has been established at the IPH with logistic support from WHO and UNICEF. The main activities of the laboratory to date have consisted of simple bacteriology and serological techniques to diagnose diarrhoeal pathogens causing cholera, dysentery, typhoid etc. One strategy of the present CDD Programme is to strengthen this facility so that epidemics can be adequately investigated within 48 hours. The CPHL will be provided with laboratory equipment and supplies in order to perform etiologic investigation of samples collected among diarrhoeal disease epidemic victims, and with modest transport with which to travel in the field to respond to epidemic alerts.

1.5 SCIENTIFIC RATIONALE FOR ORAL REHYDRATION THERAPY

It was demonstrated in the 1970s that the etiology of 60-70% of all diarrhoeal disease (DD) involves a viral pathogen. Since viruses do not respond to any pharmaceutical agent known today, the administration of drugs has no effect on the course of 60-70% of all DD episodes. More importantly, sensitive microorganisms only respond to specific antimicrobial agents, but the likelihood of achieving a combination of correct diagnosis, correct prescription and available drug is small, especially in developing countries.

World Health Organization (WHO) has estimated that up to five million children under five years of age in the developing world die of diarrhoea every year. An estimated 60-70% of diarrhoeal deaths are due to dehydration. The Ugandan situation has been shown to be similar. Most of the deaths are due to the fact that conventional methods of treatment are inappropriate, inadequate or unavailable while the child's dehydration could still be reversed.

However from several studies it has been estimated that widespread use of oral rehydration therapy (ORT) can reduce mortality due to diarrhoea by as much as 67%, or in other words, 67% of all diarrhoeal deaths can be prevented by administration of ORT. Oral rehydration has the greatest potential for preventing deaths in cases of watery diarrhoea, where dehydration is the rapid cause of death. Indeed estimates indicate that 95% of deaths from watery diarrhoea may be prevented by ORT alone. Table 1 illustrates the potential effectiveness of ORT in preventing deaths due to different types of diarrhoea.

Table 1. Effect of ORT on diarrhoeal disease different epidemiologies.

| of Diarrhoea | Distribution of 100 deaths due to untreated diarrhoea | Estimated deaths avoided using ORT alone |
|------------------|---|--|
| Acute: Watery | 65 | 62 (95%) |
| Acute: Dysentery | 5 | }uncertain (approx.5%) |
| Chronic | 30 | |
| Total | 100 | 67 (67%) |

This technological breakthrough provides important new possibilities for reducing the number of deaths in children. It can be applied throughout the health care system, it is cost-effective, and can be administered in the home by family members without medical intervention.

Diarrhoea is also a major factor in the causation or aggravation of malnutrition, because the victim loses appetite and is unable to absorb food properly. Often food is denied to the patient due to several cultural reasons, which contributes to high mortality. Clearly continued feeding, both during and after a diarrhoeal episode, is an important part of the proper management of diarrhoea. ORT is a simple, inexpensive and effective therapy which can be made widely available. It can be used by the public without technical inputs. ORT is also a major component of the primary health care workers' (PHCWs) skills.

The importance of ORS was recently summarised in the British Journal LANCET in the following words:-

"The discovery that sodium transport and glucose transport are coupled in the small intestine so that glucose accelerates absorption of solute and water was potentially the most important medical advance this century" (Lancet ii:300; 1978).

1.6 CURRENT PRACTISE OF ORAL REHYDRATION THERAPY IN UGANDA

In 1983, UNICEF distributed about 300,000 packets of Oral Rehydration Salts (ORS) through its Health Centre Rehabilitation Project, and emergency supplies. To date, however, no government health facility personnel have been formally trained how to properly mix or administer ORS. Practises and beliefs among health workers concerning the treatment of diarrhoeal disease in children are very much out of date, and occasionally harmful in light of present knowledge. In addition to ORS packets, some health centres and hospitals prepare half-strength Darrow's solution (a formula currently considered inferior to the WHO formula) which is used for facility-based ORT. Most clinics and larger health centres still use intravenous (IV) therapy as the treatment of choice for most cases of dehydration.

2. OBJECTIVES

The main goal of the present Control of Diarrhoeal Disease (CDD) Programme will be to reduce young child mortality from diarrhoeal disease (DD). Progress towards this goal may be difficult to measure. However, it is hoped that periodic surveys and the establishment of sentinel health reporting areas will generate adequate information for evaluation.

Specific measurable targets to be achieved by the end of two years after project activities commence in each of the 33 districts are as follows:

- 4.1 To decrease DD mortality in children under five years to 50 per cent of current levels;
- 4.2 To decrease the case fatality rate from DD admitted to hospitals and health centres to 40 per cent of current levels;
- 4.3 To increase utilization of ORS packets at health centres and hospitals to 60 per cent of all DD in-patients;
- 4.4 To decrease utilization of IV rehydration to 25 per cent of current levels;
- 4.5 To increase the ORT utilization rate among children less than five years of age to 80 per cent of all out-patient DD cases;
- 4.6 To provide appropriate operational health care providers with practical training in ORT, a supply of ORT, and health education materials concerning ORT and how to mix ORS;
- 4.7 To strengthen and support Ugandan national institutions to conduct operational research on practical questions concerning CDD.

3. STRATEGY FOR CONTROL OF DIARRHOEAL DISEASE

The achievement of these ambitious objectives and specific targets will require strict adherence to an integrated programme strategy which emphasises training. There are four basic diarrhoeal disease control strategies that will be utilized to achieve these objectives:

1. Case management of DD using ORT;
2. Epidemic, investigation and control;
3. Maternal and child health (MCH) care and practices; and
4. Environmental health measures.

Case management using ORT is recommended for adoption in this programme as a way to reduce the number of deaths resulting from cases of diarrhoea. Epidemic control will help avert both deaths and cases. The MCH and environmental health strategies, while important, will help achieve the long-term goal of primary prevention of cases.

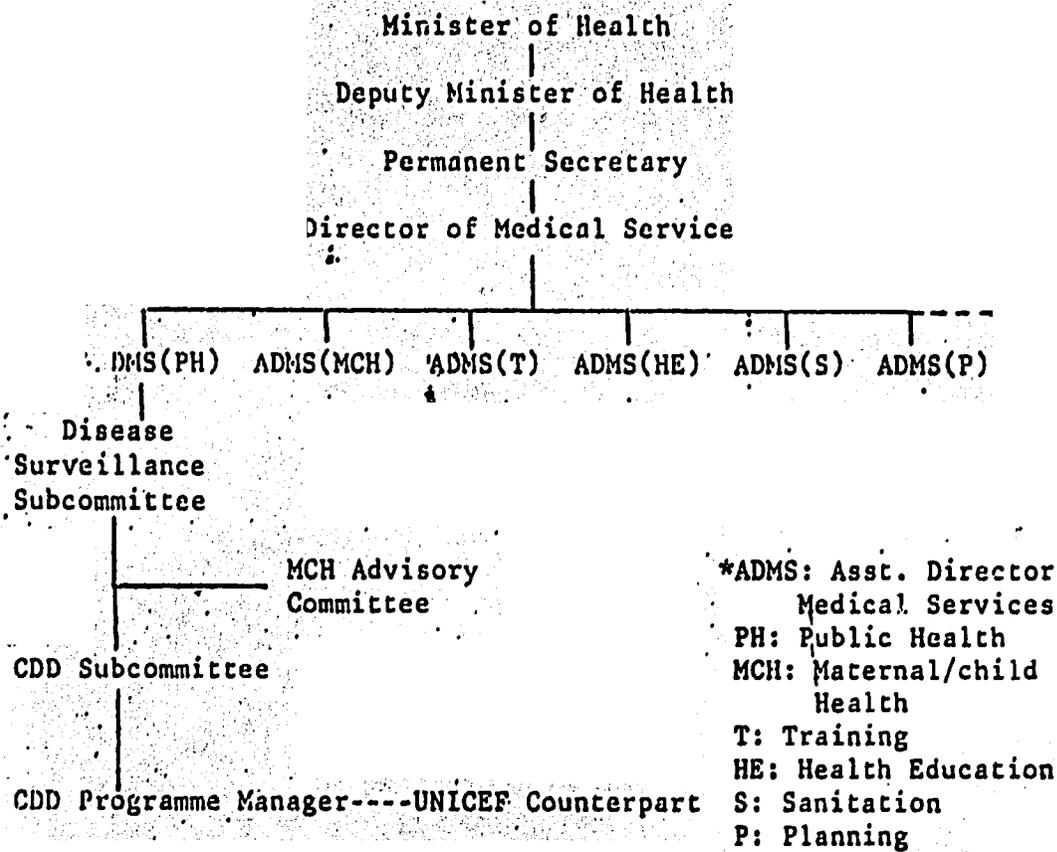
For reasons discussed in section 1.4, CDD programme emphasis will be placed on case management, because of the immediate life-saving advantages of this strategy and the simple capabilities of our present health care system. The other strategies are currently being implemented in a limited manner and only need to be strengthened. In order for the strategies to be effective they will be phased gradually to cover the whole country in a systematic fashion.

3.1 INFRASTRUCTURE TO SUPPORT CONTROL OF DIARRHOEAL DISEASE

The administrative support hierarchy and organization of CDD within MOH is illustrated in Figure 1. A standing CDD Subcommittee will be established and meet regularly and make guidelines relating to CDD (see Annex 2 for membership of the CDD Subcommittee). Makerere University Medical School experts and members of the MOH Disease Surveillance Subcommittee will also be coopted to provide technical inputs when necessary.

For the smooth coordination of the programme, MOH will appoint a CDD Project Manager. He will be accountable to the ADMS(PH), who will be the overall Programme Director. The Project Manager will be responsible for all the technical and operational aspects of the programme and will liaise directly with MOH and other Ministry officials at Central, Regional and District levels. UNICEF will assign an MCH Training Officer to act as counterpart to the CDD Project Manager and to assist in the planning and implementation of training courses and health education materials production (see Section 3.2).

Figure 1. Administrative structure of the Control of Diarrhoeal Disease Programme



There are four existing systems providing health to the public:

1. 46 hospitals and 400 peripheral health units in the government service providing secondary and tertiary health care;
2. Facility-based out-reach health care;
3. Village-based primary health care; and
4. 28 hospitals and 66 peripheral health units providing fee-for-service health care.

The dual implementation strategies, case management of DD using ORT and MCH care practices, will commence by up-grading the knowledge, attitudes and practices of physicians, paramedics, and health auxiliaries working in existing government and private hospitals and peripheral health units. It is desirable that CDD will eventually be delivered effectively through a system of PHC. In this village-based system, services will be provided to a population by a village resident selected, trained and supervised to work as a primary health care workers (PHCW), in both rural and urban settings. The nation-wide implementation of PHC is the

object of a concurrent MOH programme which contributes to the overall MCH strategy in Uganda.

No one health care delivery system by itself is likely to provide successfully all the needs of a nation. Therefore a combination of health care providers from all levels will be involved, which will maximise the coverage of the implementation strategies throughout the population. The various cadres of target health personnel in Uganda have been described in the demographic data contained in Section 1.1.

3.2 PERSONNEL TRAINING AND SUPERVISION

A national conference on "Control of Diarrhoeal Diseases, and Oral Rehydration Therapy" will be hosted by the Uganda Medical Association to formally announce the commencement of the CDD Programme. Its purpose will be to sensitise the medical profession in Uganda to the aims of the CDD Programme, and to provide members with current technical material concerning the scientific rationale for ORT.

A series of 50 ORT Units will be established in the outpatient departments (OPDs) in MOH and Mission hospitals (at least one per District). Hospital staff will be trained in the theory and practice of ORT, especially how to assess the degree of dehydration in children and how to initiate early rehydration while waiting for clinical diagnosis and/or treatment by the medical officer in charge. An ORT "Starter Kit" will be produced to facilitate staff training and supervision.

A group of Training Facilitators will be trained in a number of broad MCH interventions during a one-week intensive course. Modular training materials provided by WHO will be adapted to Ugandan realities and designed to cover common administrative and logistic skills and specific technical information concerning Growth Monitoring, Oral Rehydration Therapy, Breast-Feeding Promotion and Immunisation (the first four "technologies" of UNICEF's GOBI strategy for Accelerated Child Survival). The principal areas of training will deal with programme planning and logistics, resource control, implementation of ORT methodology, personnel supervision, monitoring and evaluation. The module on ORT methodology will include a comprehensive practical session held at the nearest MOH or Mission hospital ORT Unit.

Groups of facilitators will collaborate to implement a series of 16 integrated MCH training courses for local mid-level managers (MLM) in all 33 Districts (see Annex 3). Joint training MLM courses will utilise training modules common to all four GOBI technologies in addition to a selected range of technical modules.

Two-week MLM training courses will be attended by District Medical teams and representatives of hospitals, health training schools, Red Cross and competent NGOs. They, in turn, will each

be expected to implement a series of local training courses for operational staff in their areas, until every cadre of health care providers in all Districts has been exposed to the theory and practice of the CDD programme.

Production of health education materials for the general public and training materials for MLM and operational staff at the District level dealing with growth monitoring, ORT, breast-feeding promotion and EPI will be closely coordinated. Initially, materials will be purchased outside Uganda from WHO, UNICEF and other appropriate sources. Later, materials will be designed by the MOH Health Education Division, in collaboration with UNICEF, and produced either commercially or on MOH printing presses.

Supervision of ORS distribution and ORT Units will be undertaken by the CDD Programme Manager, who will be in charge of gathering monitoring sheets for compilation and analysis by UNICEF. District Medical Officers will receive training in supervisory skills at the MLM courses, and will be expected to supervise, under the Programme Manager's direction, all CDD programme activities throughout their Districts.

3.3 EPIDEMIC INVESTIGATION AND CONTROL

The primary purpose of UNICEF support to the Central Public Health Laboratory (CPHL) is to provide the Ugandan medical profession with reliable local data, collected during periodic surveys and reported in the scientific literature, that document the contention that the majority of DD is of viral etiology and will not respond to antimicrobials. Such evidence is intended to contribute to professional acceptance of the value of using ORT in CDD. The provision of equipment, reagents and transport will also permit CPHL to investigate DD epidemics and report findings to the MOH.

4. MONITORING AND EVALUATION

On-going data collection will be conducted at several levels throughout the CDD Programme to permit the evaluation of the performance of the programme in the context of its objectives (see Section 2). Several programme process indicators will be monitored using suitable data collection systems:

1. In-patient wards, OPD and ORT Unit performance: ORS utilisation rates, IV utilisation rates, and DD-case fatality rates;
2. Knowledge, attitudes and practices concerning ORT among mothers and health facility staff;
3. Logistics and distribution of ORS and related equipment.

Overall programme impact will be evaluated through a series of cross-sectional DD mortality and morbidity surveys conducted on a phased, longitudinal fashion in the four old health regions. Base-line data will be conducted using standard methodology just prior to or simultaneous with the introduction of training in the region, and the surveys will be repeated periodically thereafter. A US Public Health Service CDC consultant to UNICEF will assist in the design and implementation of the first survey to be conducted in Mbale District, Eastern Region.

ACTIVITIES AND PHASING

Programme activities will be phased to cover all Uganda over the three years of Phase I, 1984-86. The following tables describe the detailed phasing plan concerning the first sub-strategy, case management using QRT. The remaining three sub-strategies, epidemic investigation and control, maternal and child care, and environmental sanitation are described globally, and not by month of implementation. Programme activities and phasing for Phase II, 1987-88, will be prepared after the first year of implementation, when interim internal programme evaluation is expected to reveal progress toward objectives in various activities.

5.2 SUB STRATEGY : Epidemic Control

TARGET: By 1986, at least 90% of reported epidemics receive attention within 48 hours.

PHASE I: 1984-1986

| No. ACTIVITIES | REMARKS/DESIRED OUTPUT |
|--|---|
| <u>1. Epidemic Information System</u> | - Central Public Health Lab. will be strengthened. |
| 1.1 Establish/STrengthen reporting from health facilities and ORT Units. | - Collection of stool samples and their analysis |
| 1.2 Establish adequate laboratory support for epidemic investigations. | - Emergency drug stocks for diarrhoeal epidemics to be kept at Central Medical Stores. |
| 1.3 Surveillance of diarrhoeal diseases through special studies surveys etc. | |
| 1.4 Obtain Emergency Drug Supplies. | |
| 1.5 Develop and produce training materials on data collection and epidemic response. | - At least one manual will be distributed. |
| 1.6 Distribute data collection forms and receive duly completed forms. | - At least 50% response is expected from the peripheral health units and 100% from hospitals. |
| 1.7 Describe value of surveillance to data collectors and health administrators. | - Annual Reports. - Publications of articles on CDI. |
| <hr/> | |
| <u>2. Training</u> | |
| Train Data collectors to collect and report data, and train personnel in procedures for response to epidemics. | Integrated PHC/ORT courses for DMO's and data clerks on data collection. Expand records clerks, each for a district. Strengthen statistics section of the Ministry of Health. |
| <hr/> | |
| <u>3. Evaluation</u> | |
| 3.1 Monitor completeness of data, reporting. | - Regular 6 monthly reports. |
| 3.2 Evaluate response to epidemics in terms of speed of response, no cases treated and case fatality rates. | - Annual reports feed back to DMO's. |

5:1 Case management (cont'd.)

| CASE MANAGEMENT ACTIVITIES | 1984 | | | 1985 | | | 1986 | | | REMARKS/DESIRED OUTPUTS | | | | | | |
|--|------|---|---|------|---|---|-----------|---|---|-------------------------|---|---|---|---|---|---|
| | J | F | M | A | M | J | J | A | S | | O | N | D | | | |
| 1.6 Establish distribution points at: - Central Medical Stores - Regional Stores | | M | | | | | | | | | | | 1.6 1 Central facility for storage in 1984 to distribute ORS. 4 Regional storage/distribution facilities arranged in 1984/85. | | | |
| 1.7. Establish CDD Sub-Committee Meetings CDD Sub-Committee | | M | J | S | D | | M | J | S | D | | M | J | S | D | 1.7 Composition defined in Annex 2. |
| 2. Training and Health Education | | | | | | | | | | | | | | | | |
| 2.1. Hold National Conference | | | M | | | | | | | | | | | | | 2.1 Sensitization for Uganda Medical profession. Print and distribute book on practice of ORT. |
| 2.2 Prepare Facilitators Guide and Training Modules. | | | | | | | | | | | | | | | | |
| 2.3 Train Facilitators | | | | M | | | | | | | | | | | | 2.3 Training of Trainers by District. |
| 2.4 Train Mid-level Managers (HLM) | | | | M | A | O | | J | M | J | A | N | | F | M | 2.4 16 Regional workshops to train mid-level health staff. |
| 2.5 Train operation staff. | | | | | | | J<----->D | | | | | | | 2.5 100 District workshops for health facility personnel and primary health care workers. | | |
| 2.6 Develop CDD and EPI health education materials. | | | | | | | | | | | | | | | | 2.6 UNICEF/MOH to initiate development and prepare time table for field production. |

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ACTIVITIES AND PHASING

1 SUB-STRATEGY: Case Management of DD using ORT
 PHASE I : 1984-86

| CASE MANAGEMENT ACTIVITIES | 1984 | 1985 | 1986 | REMARKS/DESIRED OUTPUTS |
|---|--|---------------------|------------------------------|---|
| <p><u>Development/Promotion</u></p> <p>1.1 Appoint CDD Programme Manager and UNICEF counterpart (MCH Training Officer)</p> <p>1.2 Complete CDD Plan of Operations</p> <p>1.3 Establish needs and procure DRs.</p> <p>1.4 Develop first ORT Centre at Mulago Hospital in collaboration with Dept. of Paediatrics, Makerere University Medical School.</p> <p>1.5 Establish 50 District ORT Units</p> | <p>JFMAMJJASOND</p> <p>JFM</p> <p>JFM</p> <p>M</p> <p>JFM</p> <p>M<----->D</p> | <p>JFMAMJJASOND</p> | <p>JFMAMJJASOND</p> <p>J</p> | <p>1.1 See Annex 4 for duties of Programme Manager.</p> <p>1.3 19 million packets required for Phases I and II as indicated in Annex 1B.</p> <p>- coordinate USAID procurement.</p> <p>1.4 Develop ORT Unit at Mulago. See Annex 5.</p> <p>- Train ORT Unit Staff</p> <p>- Procure hardware and teaching aids and health education materials.</p> <p>- Establish Surveillance to evaluate ORT Unit performance.</p> <p>1.5 Total of 50 ORT Units (at least one per District).</p> |

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5.1 Case management (cont'd.)

| CASE MANAGEMENT ACTIVITIES | 1984 | 1985 | 1986 | REMARKS/DESIRED OUTPUT |
|--|---------------------|--------------|--------------|--|
| 2.7 Revis curriculum of Health Worker Training Institutions. | JFMAMJJASOND JAS | JFMAMJJASOND | JFMAMJJASOND | 2.7 Coordinate with AMREF and Ministry of Health Workers Training Institutions to include current policy of of ORT. |
| 3. Evaluation/Monitoring | | | | |
| 3.1 Monitor ORT Practice at ORT units and health facilities. | M<----->D | | | 3.1 Check distribution/storage /treatment/outcome system quarterly and report to CDD Meeting. |
| 3.2 Monitor logistics to ascertain if health facilities and village health workers adequately supplied with ORS. | M<----->D | | | 3.2 Results to be consolidated and compiled quarterly. - compare receipts and requests. |
| 3.3 Annual internal evaluation of CDD programme. | D | D | D | |
| 3.4 KAP Survey on mothers and health staff on ORT. | O | O | O | 3.4 To permit optimal design of health education materials for DD. |
| 3.5 Mortality/Morbidity Surveys | J<----->D | | | 3.5 Provision of a CDC consultant to assist in design, training, pilot-testing and implementing DD mortality and morbidity longitudinal surveys. |

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| CASE MANAGEMENT ACTIVITIES | 1984 | 1985 | 1986 | REMARKS/DESIRED OUTPUTS |
|---|--------------|--------------|--------------|---|
| <u>Operational Research</u> | JFMAMJJASOND | JFMAMJJASOND | JFMAMJJASOND | |
| 4.1. Provision of technical support to Uganda researchers in developing operational research proposals for diarrhoeal disease. | | | | 4.1. Funds through CCCD/REDSO, disbursed by USAID; protocols reviewed for feasibility, scientific and ethical soundness by CCCD in collaboration with UNICEF. |
| 4.2. Feasibility study concerning Ugandan ORS production. | | | | 4.2. As in 4.1 above. |
| <u>Supervision</u> | | | | |
| 5.1. Provide resources for transport of ORS and collect logistics data. | A<----->D | | | 5.1. Integrated with logistics system for essential drugs and EPI vaccines and supplies. |
| 5.2. CDD Programme Manager to undertake periodic supervision at ORT Units and assist in planning District-level activities for operational staff, including periodic verification of data collected and refresher staff training. | J<----->D | | | |
| 5.3. District Medical Officers develop and implement periodic supervision District level activities. | J<----->D | | | |

5.3. SUB STRATEGY: Maternal and Child Health Care Practices.

- TARGET :
- (i) By 1987 at least 80% of urban mothers will be encouraged to breast feed.
 - (ii) By 1987 at least 80% children in urban areas will be breast fed according to recommendations.
 - (iii) To reduce the incidence of diarrhoea.

PHASE I: 1984-1986. Area of operation restricted to urban areas such as Kampala, Entebbe, Jinja, Mbale.

| No. | ACTIVITIES | REMARKS/DESIRED OUTPUTS |
|----------------------------------|--|---|
| <u>1. Production/Development</u> | | |
| 1.1 | Develop and produce educating/promotional materials on MCH for mothers. | - Have equipment papers, supplies for production of the materials. |
| 1.2 | Develop and produce training material for health workers. | A printing press to be operational by 1984. |
| 1.3 | Develop legislation and regulations restricting use of infant formulas. | - By 1987 - 2 amendments to Public Health Activities |
| 1.4 | Strengthen the Food and Nutrition Council. | - Circulars to DMO's To be strengthened and be fully 50,000 copies/annually of each. |
| 1.5 | Distribute educational/promotional materials to health facilities, health workers etc. | |
| 1.6 | Distribute educational/promotional to mothers. | - 100,000 copies/annually. |
| 1.7 | Teach mothers about MCH practices. | <ul style="list-style-type: none"> - Intensify Health Education on Breast feeding, weaning, nutrition, hygiene, safe water in clinics, mass media. - 1 radio programme/day at appropriate times. - One article each week on the daily news papers. |

Training

Train health facility personnel to promote desirable MCH practices. - to be included in seminars for DMO health personnel (see sub strategy case management.

Evaluation

3.1 Monitor distribution of educational materials on MCH practices. - Compare number produced to that distributed.

5.4. SUB-STRATEGY: ENVIRONMENTAL HEALTH MEASURES

Sub target: By 1986, 50% of population aged 5 years and over will receive some type of educational/promotional message about proper use and maintenance of water supplies and proper excreta disposal practices.

Phase I: 1984 - 86

| No. ACTIVITIES | REMARKS/ DESIRED OUTPUT |
|--|---|
| 1. <u>Promotion and Development</u> | |
| 1.1 Develop and produce educational materials appropriate for use by:- a) health staff b) Primary and Secondary School teachers to promote child to child learning. c) Other PHCW's | <ul style="list-style-type: none"> - The following number of copies are to be produced. - a) 10,000 copies - b) 50,000 copies - c) 10,000 copies |
| 1.2 Establish storage distribution and delivery points. | <ul style="list-style-type: none"> - 1 central facility - 4 regional facilities |
| 1.3 Give printed educational material to literate people. | <ul style="list-style-type: none"> - All who come to a health facility, and school children. |
| 1.4 Health Education campaign/competitions. | <ul style="list-style-type: none"> - Encourage school competitions - Teach all health users who come to a facility. |
| 2. <u>Training</u> | |
| Train health workers, school teachers in use of materials and other means to promote proper use and maintenance of safe water supplies and safe excreta disposal. | <ul style="list-style-type: none"> - 1 seminar for DMO's/DHT to enable them conduct courses for school teachers. - Circulars to all health inspectors, - schools, posters for public - visits from supervisors and consultations. |
| <u>Evaluation:</u> | |
| Monitor flow of educational material, and review methods of delivering the messages. | <ul style="list-style-type: none"> - Reconcile production/distribution/requests. - Supervisor to check on delivery points. |

6. BUDGET AND JUSTIFICATION

The budget for the CDD Programme is presented below in detail for Phase I (1984-86) and Phase II (1987-88). For the purposes of calculating the budget, the following assumptions have been made:

6.1 The calculation of ORS needs over the five years is justified in Annexes 1A and 1B. Upon completion of each regional workshop, participants will receive a three- to six-month supply of ORS for their area. Until the workshop, ORS requirements for each region are calculated on the basis of the quantities supplied in UNICEF drug kits. The 1984 price for ORS purchased from UNIPAC is US\$0.05; thereafter ORS is costed at \$0.08 for US procurement. A 10% per annum increase in the price is incorporated to take account of inflation. USAID will not finance the purchase of ORS from UNIPAC due to the problems of obtaining a waiver to purchase non-US manufactured goods. Instead of paying for ORS in 1984, USAID will pay for training materials during the period 1985-86.

6.2 A limited supply of naso-gastric tubes are required for selected DD cases in shock, and emergency drugs are required for epidemic control activities. The drug list may be restricted to a few major items such as tetracycline, chloramphenicol, septrin, PPF, chloroquine and aspirin.

6.3 Costs of producing promotional materials are calculated as follows:

- 2,000 booklets for physicians at \$2.50 each;

- 10,000 booklets for other health workers at \$2.00 each;

- 20,000 posters at \$0.25 each;

- Simple leaflets for the general public, school children, teachers, etc., will be needed in the ratio of one for each four packets of ORS during the first two years, and one per twenty thereafter, or approximately 2.5 million leaflets at \$0.03 each.

6.4 The cost of setting up an ORT Unit in at least one hospital in each district is calculated at \$300 per hospital.

6.5 Support to CPHL will consist of a single grant with which to purchase supplies, equipment and a vehicle. The provision of a vehicle is contingent upon the submission of an MOU undertaking to supply running costs for fuel and maintenance.

6.6 Distribution of ORS packets and educational materials throughout the country will be integrated with the present

MOH infrastructure for the distribution of essential drugs and EPI vaccines and supplies. UNICEF may subsidize the MOH drug distribution system on a weight basis.

- 6.7 Two UNICEF vehicles plus fuel and other expenses will be purchased for Phase I, and will be repeated during Phase II, for Project staff.
- 6.8 A total of 50 training facilitators and 384 health workers will be trained during facilitators' and regional MLM courses. MLM course expenses are calculated on the basis of 14 days per diem per participant at standard government rates, plus return transportation from their usual place of work, plus contingency for materials and incidental expenses, or \$5,000 per course. 100 District-level courses are budgetted at \$1,000 each.
- 6.9 Expenses for the baseline survey and monitoring and evaluation are calculated assuming that approximately 20 survey staff will be required for about two weeks each time, and will be paid per diem at standard government rates. Stationery and other expenses are included.
- 6.10 USAID will make available \$200,000 during Phases I and II, \$160,000 of which will be available to Ugandan researchers for operational research in CDD. A study to determine the feasibility of setting up a local factory, estimated at \$40,000, will be conducted during 1986 with the remainder of these funds.

The UNICEF counterpart (MCH Training Officer) is budgetted on the basis of the standard total expenditure for L-4 staff. Consultants will be required during Phase I as follows, and will all be budgetted at \$5,000 per month to include salary (not for CDC consultants), travel and per diem:

- Health education specialist for development of training materials for ASC for six man-months;
- Graphic artist to assist health education specialist for three man-months;
- CDC technical consultants, overall six man-months

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| DRT PROJECT BUDGET (US\$ '000) | Year | | | | | Total |
|-----------------------------------|---------------|---------------|----------------|----------------|----------------|----------------|
| | 1984 | 1985 | 1986 | 1987 | 1988 | |
| USAID | 52.90 | 452.96 | 697.62 | 743.91 | 987.25 | 2934.64 |
| CCCD/CDC | 53.70 | .00 | .00 | .00 | .00 | 53.70 |
| UNICEF | 526.13 | 270.25 | 260.48 | 339.25 | 301.30 | 1697.41 |
| GOU/MOH | 60.00 | 122.00 | 151.00 | 190.00 | 237.00 | 760.00 |
| -TOTAL BUDGET-- | 692.73 | 845.21 | 1109.10 | 1273.16 | 1525.55 | 5445.75 |

| USAID BUDGET (\$'000) | YEAR | | | | | TOTAL |
|-----------------------|--------------|---------------|---------------|---------------|---------------|----------------|
| | 1984 | 1985 | 1986 | 1987 | 1988 | |
| ORS | .00 | 150.00 | 250.00 | 350.00 | 475.00 | 1225.00 |
| Freight | .00 | 22.50 | 37.50 | 52.50 | 71.50 | 184.00 |
| Operations Research | 40.00 | 60.00 | 50.00 | 50.00 | 50.00 | 250.00 |
| Feasibility Study | .00 | .00 | 40.00 | .00 | .00 | 40.00 |
| External Evaluations | .00 | .00 | 40.00 | .00 | 40.00 | 80.00 |
| Training | | | | | | |
| Facilitators | .00 | 10.00 | 10.00 | 10.00 | 10.00 | 40.00 |
| MLM Regional | .00 | 50.00 | 50.00 | 50.00 | 50.00 | 200.00 |
| Operations Staff | .00 | 50.00 | 50.00 | 50.00 | 50.00 | 200.00 |
| Sub-Total | 40.00 | 342.50 | 527.50 | 562.50 | 746.50 | 2219.00 |
| 15% Contingency | 6.00 | 51.38 | 79.13 | 84.38 | 111.98 | 332.85 |
| Sub-Total | 46.00 | 393.88 | 606.63 | 646.88 | 858.48 | 2551.85 |
| 15% Cost Escalation → | 6.90 | 59.08 | 90.99 | 97.03 | 128.77 | 382.78 |
| --TOTAL-- | 52.90 | 452.96 | 697.62 | 743.91 | 987.25 | 2934.63 |

| GOU/MOH Budget (\$'000) | Year | | | | | Total |
|-------------------------|--------------|---------------|---------------|---------------|---------------|---------------|
| | 1984 | 1985 | 1986 | 1987 | 1988 | |
| Personnel | | | | | | |
| Salaries | 15.00 | 31.00 | 39.00 | 44.00 | 60.00 | 194.00 |
| Allowances-Field Staff | 3.00 | 7.00 | 8.00 | 10.00 | 13.00 | 41.00 |
| Transport | 17.00 | 35.00 | 43.00 | 54.00 | 60.00 | 217.00 |
| IV Fluid/Equipment | 10.00 | 20.00 | 25.00 | 31.00 | 39.00 | 125.00 |
| Drugs & Vaccines | 12.00 | 23.00 | 29.00 | 36.00 | 45.00 | 145.00 |
| Office Expenses | 3.00 | 6.00 | 7.00 | 10.00 | 12.00 | 38.00 |
| --TOTAL-- | 60.00 | 122.00 | 151.00 | 190.00 | 237.00 | 760.00 |

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| UNICEF BUDGET (\$'000) | YEAR | | | | | TOTAL |
|-------------------------------|--------|--------|--------|--------|--------|---------|
| | 1984 | 1985 | 1986 | 1987 | 1988 | |
| ORS (start-up) | 65.00 | .00 | .00 | .00 | .00 | 65.00 |
| Training/Promotional Material | 60.00 | .00 | .00 | 25.00 | 25.00 | 110.00 |
| ORT Centers-Equip. | 5.00 | 7.50 | 4.00 | .00 | .00 | 16.50 |
| Transport | | | | | | |
| Project Manager Vehicle | 5.00 | .00 | .00 | 7.00 | .00 | 12.00 |
| Training Vehicle | 15.00 | .00 | .00 | 20.00 | .00 | 35.00 |
| Fuel, R&M | 7.50 | 15.00 | 25.00 | 30.00 | 35.00 | 112.50 |
| ORS Transport | 10.00 | 15.00 | 20.00 | 25.00 | 30.00 | 100.00 |
| Training | | | | | | |
| National Conference | 5.00 | .00 | .00 | .00 | .00 | 5.00 |
| Facilitators | 10.00 | .00 | .00 | .00 | .00 | 10.00 |
| MLM Regional | 50.00 | .00 | .00 | .00 | .00 | 50.00 |
| Operational Staff | 50.00 | .00 | .00 | .00 | .00 | 50.00 |
| Data Collection/Analysis | 40.00 | 40.00 | 20.00 | 25.00 | 30.00 | 155.00 |
| Project Managers Office | 5.00 | 2.50 | 2.50 | 3.00 | 2.00 | 15.00 |
| Project Personnel | | | | | | |
| MCH Training Officer | 75.00 | 75.00 | 75.00 | 100.00 | 100.00 | 425.00 |
| Health Ed. Officer | 25.00 | 50.00 | 50.00 | 25.00 | .00 | 150.00 |
| Int. & Local Consultants | 25.00 | 25.00 | 25.00 | 30.00 | 35.00 | 140.00 |
| Nat. Officers Per Dia | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 25.00 |
| Sub-Total | 457.50 | 235.00 | 226.50 | 295.00 | 262.00 | 1476.00 |
| 15% Contingency | 68.63 | 35.25 | 33.98 | 44.25 | 39.30 | 221.40 |
| TOTAL-- | 526.13 | 270.25 | 260.48 | 339.25 | 301.30 | 1697.40 |

| CCCD/CDC BUDGET (\$'000) | YEAR | | | | | |
|--------------------------|-------|------|------|------|------|-------|
| | 1984 | 1985 | 1986 | 1987 | 1988 | |
| Short Term Consultants | | | | | | |
| Medical Epidemiologist | | | | | | |
| Technical Officer | | | | | | |
| Nurse Educator | | | | | | |
| Sub-total | 34.00 | .00 | .00 | .00 | .00 | 34.00 |
| Travel and Per Dia | 10.20 | .00 | .00 | .00 | .00 | 10.20 |
| Training Material | .50 | .00 | .00 | .00 | .00 | .50 |
| Overheads | 9.00 | .00 | .00 | .00 | .00 | 9.00 |
| --TOTAL-- | 53.70 | .00 | .00 | .00 | .00 | 53.70 |

Annex 1. Part A: Guidelines for Establishing ORS Packet Needs, GDD.

As a general rule of thumb, WHO proposes the following: each child under the age of 5 years can be expected to have 2 episodes of diarrheal disease each year that require treatment. Treatment per episode consists of approximately 2 packets of ORS.

In each region where ORT training has been completed, the following guidelines may be used to estimate ORS packet needs:

ORS packets required during year 1 after training:

60% access (to hospitals, health centers and health posts/dispensaries) X 40% utilization year 1 X number of children less than 5 years old in region X 2 episodes of diarrhea per year X 2 packets ORS per episode.

ORS packets required during year 2 after training:

60% access (to hospitals, health centers and health posts/dispensaries) X 45% utilization year 2 X number of children less than 5 years old in region X 2 episodes of diarrhea per year X 2 packets ORS per episode.

ORS packets required during year 3 after training:

60% access (to hospitals, health centers and health posts/dispensaries) X 60% utilization year 3 X number of children less than 5 years old in region X 2 episodes of diarrhea per year X 2 packets ORS per episode.

ORS packets required during year 4 after training:

60% access (to hospitals, health centers and health posts/dispensaries) X 80% utilization year 4 X number of children less than 5 years old in region X 2 episodes of diarrhea per year X 2 packets ORS per episode.

ORS packets required during year 5 after training:

60% access (to hospitals, health centers and health posts/dispensaries) X 80% utilization year 5 X number of children less than 5 years old in region X 2 episodes of diarrhea per year X 2 packets ORS per episode.

Part B: ORS Requirements, Uganda 1984 - 88

(000u*)

| Region | 1984 | 1985 | 1986 | 1987 | 1988 | Grand Total |
|------------------|-------|-------|-------|-------|-------|-----------------|
| Mulago | 30 | 30 | 30 | 30 | 30 | 150 |
| Eastern Region | 283 | 384 | 512 | 623 | 733 | 2,535 |
| Southeastern | 138 | 230 | 300 | 373 | 440 | 1,481 |
| Northern | 107 | 334 | 296 | 377 | 446 | 1,560 |
| Southwestern | 118 | 359 | 443 | 577 | 686 | 2,183 |
| Western | 32 | 179 | 218 | 296 | 361 | 1,086 |
| Hoima | 6 | 96 | 113 | 156 | 189 | 560 |
| Arua | 6 | 116 | 154 | 205 | 248 | 729 |
| Moroto | 6 | 45 | 69 | 89 | 111 | 320 |
| Masaka | 11 | 150 | 306 | 389 | 496 | 1,352 |
| Kampala | 12 | 134 | 380 | 469 | 611 | 1,606 |
| Misc & Emergency | 33 | 45 | 57 | 69 | 81 | 285 |
| Sub-Total | 782 | 2,004 | 2,877 | 3,653 | 4,433 | 13,847 |
| Wastage 25% | 196 | 501 | 719 | 913 | 1,108 | 3,437 |
| | 978 | 2,504 | 3,596 | 4,566 | 5,541 | 17,185 |
| Other losses 10% | 98 | 251 | 360 | 457 | 554 | 1,720 |
| Grand Total | 1,076 | 2,755 | 3,956 | 5,023 | 6,095 | 18,905 |
| | | | | | | Say, 19 million |
| Weight (MT) | 30.6 | 78.3 | 112.4 | 142.7 | 187.5 | 585 M.T. |

some numbers do not add exactly/to rounding. /due

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Annex 2. Membership of CDD Sub-Committee

WHO Programme Coordinator, P.O. Box 6, Entebbe.

UNICEF Project, P.O. Box 7047 Kampala.

Prof. G. Kirya, Chairman of Disease Surveillance Sub-Committee
Department of Microbiology - Makerere University, Box 7062 Kampala.

Assistant Director Medical Services/Public Health, P.O. Box 8,
Entebbe, and CDD Programme Director.

Assistant Director Medical Services/Training, P.O. Box 8, Entebbe.

CDD Project Manager - P.O. Box 8, Entebbe.

UNICEF representative, Kampala.

Mirembuzi, Mulago Hospital, Paediatrics Faculty.

Mr. Dukenya, Institute of Public Health, P.O. Box 7062 Kampala.

Mr. Kalega, Executive Secretary, Uganda Protestant Medical Bureau.

Executive Secretary, Uganda Catholic Medical Bureau.

AMREF Training Officer.

Dr. Kakitahi, Chairman MCH Advisory Committee.

John Barenzi, EPI Project Manager.

ANNEX 3. PROPOSED SCHEDULE FOR MID-LEVEL MANAGERS' TRAINING COURSES, CDD PROGRAMME.

| | Districts | Date | Location |
|-----|------------------------------|-------|-------------|
| 1. | Mbale, Tororo | 5/84 | Mbale |
| 2. | Kapchorwa, Soroti | 8/84 | Mbale |
| 3. | Kamuli, Soroti | 10/84 | Mbale |
| 4. | Iganga, Jinja | 12/84 | Mbale |
| 5. | Lira, Kitgum | 2/85 | Gulu |
| 6. | Apac, Gulu | 4/85 | Gulu |
| 7. | Moroto, Kotido | 6/85 | Moroto |
| 8. | Arua, Nebbi, Moyo | 8/85 | Arua |
| 9. | Hoima, Masindi | 10/85 | Masindi |
| 10. | Kabarole, Kasese, Bundibugyo | 12/85 | Fort Portal |
| 11. | Kabale, Rukungiri | 2/86 | Kabale |
| 12. | Mbarara, Bushenyi | 4/86 | Mbarara |
| 13. | Masaka, Rakai | 6/86 | Masaka |
| 14. | Kampala | 8/86 | Kampala |
| 15. | Mpigi, Mubende | 10/86 | Kampala |
| 16. | Mukono, Luwero | 12/86 | Kampala |

Annex 4CDD Programme Manager's Job DescriptionDuties:

1. Plan and co-ordinate overall programme activities.
2. Monitor and evaluate programme activities on a regular basis.
3. Submit a quarterly written report to the CDD sub-committee.
4. Advise the MOH on the recruitment of personnel and co-ordinate training activities with Bureau of Training.
5. Provide supervision and direction to personnel at all levels involved in CDD activities.
6. Participate in the co-ordination of donor agency activities as they relate to CDD (UNICEF, SCF, USAID/CDC, Catholic and Protestant Mission Board).
7. Ensure an adequate supply of ORS packets are available for health facilities in the regions in accordance with the CDD phase-in plan.
Ensure an adequate supply of ORS packets are regularly distributed to the non-government facilities through Central Medical Stores and to the ORT centre at Malago and other district hospitals.
8. Act as secretary to the CDD sub-committee.
9. Co-ordinate CDD operations research activities.

Qualifications

1. Ability to commit full-time without interference from other responsibilities either work-related or personal.
2. Ability to be available for country-wide travel in Uganda on short notice for periods of up to several weeks.
3. Have taken WHO's CDD senior level manager's course.
4. Proven ability as a supervisor, planner and problem solver.

m/42

MAKERERE



UNIVERSITY

P.O. Box 7062, KAMPALA, UGANDA—Tel. 42471, 56661—5—Telegrams: MAKUNIKA, KAMPALA

DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH

P.O. Box 7072, Tel. 58791 or 57505, 42471 Ext. 51, 54001 Ext. 284 — Telegrams: MEDMAK, KAMPALA

22nd December 1983

Mr. C. Dodge,
UNICEF Representative,
Kampala.

Dodge,

Re: Proposed Oral Rehydration Therapy Centre at Mulago Hospital

Being well aware of the great problem of diarrhoea still with us in this part of the world and the need to find and teach at grass root level an easy and effective method of rehydrating its victims a group of Paediatricians is with great enthusiasm setting up an Oral Rehydration Therapy Unit at Mulago Hospital. This proposal is with a view to making this unit a pioneer proto-type for incorporation into the National Primary Health Care Programme.

To assess more accurately the extent to which diarrhoea and dehydration contribute to morbidity and mortality at Mulago Hospital at present, the total admissions and admissions by diagnosis were tabulated retrospectively for the six months period from June 1 - November 31 1983. The two main paediatric wards 20 and 10 admitted a total of 3,504 patients approximately 584 per month. Measles accounted for 35% of all admissions being 1,225 or 204 per month. The case fatality rate for measles on Paediatric Wards was 18.7% (223 deaths of 1,225 admissions). Forty six of the 223 death certificates specifically listed gastroenteritis or dehydration as a complication of measles.

Gastroenteritis was the 2nd commonest admitting diagnosis resulting in 390 admissions or 65 per month with a mortality range from 45 - 99. Diarrhoea contributes 11.1% of all paediatric admissions. The case Fatality Rate for diarrhoea with 49 deaths from 390 was 12.6%. While diarrhoea and dehydration accounts for appreciable morbidity and mortality in Mulago Hospital at present and indicates the need for an urgent intervention, it is greatly eclipsed in numbers and impact by measles. It seems clear from these figures that measles immunization of patients and rehydration of measles cases are important priorities that should be stressed as part of the ORT programme at Mulago.

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DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH

P.O. Box 7072, Tel. 58731 or 57505, 42471 Ext. 51, 54001 ExL 394 — Telegrams: MEDMAK, KAMPALA

Many of the children seen on the emergency admission ward with diarrhoea and dehydration especially if not of measles origin are discharged within 24 hours after usually intravenous rehydration. It has been common practice among medical staff to treat all moderate-severely dehydrated children, some of whom may not even be vomiting with intravenous fluids. The treatment of such patients has called for early arrival to hospital, admitting beds, intravenous fluids, intravenous giving sets and expert personnel to put the drips. Considering that the emergency admission ward is handling just the tip of an iceberg of a countrywide problem, a relief method of oral rehydration must be found. That many children get more dehydrated with delays in establishing i.v. drips obviously adds to the problem.

It is estimated that presently about 20 children per day are treated for dehydration at Mulago Hospital on the emergency admission ward (Acute Care Unit, ACU). Although some mild cases are treated with oral $\frac{1}{2}$ - strength Darrow's Solution prepared in the hospital pharmacy, a large proportion of cases are treated intravenously. Patients frequently wait hours before being seen by a physician and treatment is initiated. Cases admitted to the hospital are exposed to children with other serious communicable diseases especially measles which may further contribute to morbidity and mortality. Taking these factors into account, the most rational plan to minimize mortality from diarrhoeal disease at Mulago is to institute ORS early and keep infants with uncomplicated diarrhoea and dehydration from being admitted to the wards. The following plan was devised to meet these goals by establishing an ORT treatment centre at Mulago Hospital.

Objectives

1. To institute a prospective surveillance system for infants with diarrhoea and dehydration at Mulago which will determine background rates for morbidity, IV therapy utilisation and percentage of cases admitted and case fatality.
2. To monitor the impact of the ORT centre on the above mentioned factors.
3. To establish a model ORT centre which serves to educate physicians and other health personnel and mothers about the value of ORT as a means of treating and preventing dehydration.
4. To inquire into the immunization status of the admitted children and to immunize these children.

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DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH

P.O. Box 7072, Tel. 58731 or 57505, 42471 Ext. 51, 54001 Ext. 284 — Telegrams: MEDMAK, KAMPALA

Materials and Methods

During January and February 1984 2 persons will be selected and trained in accordance with WHO's Manual for the Treatment of Acute Diarrhoeal Diseases. These persons who are U.S.M. Demonstrators will screen incoming patients and assess the extent of dehydration. Using WHO guidelines, they will institute ORT with UNICEF ORS packets and teach mothers how to prepare and administer the packets at home. They will staff the centre 8 hours a day 7 days a week. They will collect background surveillance data before and after the centre opens using the standardised questionnaire attached. These persons will be supervised daily by a Paediatrician, who will also carry out the medical assessment of every patient. These same persons will give health education with special emphasis on nutrition and immunization and they will immunize these children especially against measles. A minimum of 4 weeks of baseline data will be collected before the centre opens on the Acute Care Unit.

Room 8 and if need be room II will serve as a site for the O.C.U. centre. Patients with diarrhoea due to measles will be treated with ORS in a separate isolation area. Patients who show progressive dehydration while on ORT will go on i.v. rehydration while patients who fail to drink will be given fluids by N.G. tube. Patients who fail to respond to ORT over a maximum of 48 hours will be transferred to a special section of the ORT on ward IC for further management. UNICEF will provide the necessary hardware (cups, bowls, bear-bottles for mixing ORS) and will collaborate in producing health education materials for mother to stress the importance of continued breast feeding in addition to illustrating how to prepare and administer ORS. Patients admitted to the centre will be immunized in accordance with EPI norms and be weighed and given a growth chart which UNICEF will supply. UNICEF will co-ordinate activities with USAID to ensure a sufficient number of ORS packets are available by the time the ORT centre opens in March 1984 (approx. 6,000 packets per month). These are to cater for in and out patients in Mulago Hospital.

Once the centre is operational on going data will be monitored and evaluated and a quarterly report will be presented on the centre's progress.

Please find attached the estimated requirements for the proposed unit:-

Yours sincerely,

Dr. G.M. Zirekubuzi
Dr. G.M. Zirekubuzi

DEPARTMENT OF PAEDIATRICS
AND CHILD HEALTH
MAKERERE MEDICAL SCHOOL
P. O. Box 7072,
KAMPALA, UGANDA.

INITIAL ENVIRONMENTAL EXAMINATION

325

UNCLASSIFIED
AID 06/11/84
REDSO:ADIR:ESRAGON
REDSO:JJGAUDET:DK
REDSO:THARRIS
REDSO-6 CHRON RF, ECON

AMEMBASSY NAIROBI
SECSTATE WASHDC
INFO AMEMBASSY KAMPALA

AIDAC

AID/W FOR AFR/TR/SDP (BUREAU ENVIRONMENTAL OFFICER)

E.O. 12356: N/A

SUBJECT: UGANDA ORAL REHYDRATION THERAPY PROJECT
(617-0107) IEE

1. INITIAL ENVIRONMENTAL EXAMINATION FOR SUBJECT PROJECT
FOLLOWS:

- A. PROJECT COUNTRY: UGANDA
- B. PROJECT TITLE AND NUMBER: ORAL REHYDRATION THERAPY
PROJECT (617-0107)
- C. FUNDING: FY(S) 1984-1986; DOLS. 1,210,000
- D. PREPARED BY: W.A. JEFFERS
- E. ENVIRONMENTAL ACTION RECOMMENDED: CATEGORICAL EXCLUSION
EXCLUSION
- F. JUSTIFICATION: PROJECT ACTIVITIES PROPOSED MEET
THE CRITERIA IN SECTION 216.2(C)(VIII) AS THEY
INVOLVE TRAINING OF HEALTH PERSONNEL, SUPPLYING
OF ORAL REHYDRATION SALTS AND PERFORMING CERTAIN
HEALTH STUDIES.
- G. ACTION REQUESTED BY: I.D. COKER, MISSION DIRECTOR
- H. CONCURRENCE REQUESTED FROM: BUREAU OF ENVIRONMENTAL
OFFICER.

2. REGIONAL ENVIRONMENTAL OFFICER, J. GAUDET, CONCURS IN
ABOVE, WOULD APPRECIATE RESPONSE ASAP. THOMAS##

KIP-3 ECON CHRON-5

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INFO RUQNK/AEMBASSY KAMPALA 0797
BT
UNCLAS STATE 179300
AIDAC, NAIROB FOR REDSO/ESA

REDSO FILE

LOC: 253 306
19 JUN 84 0737
CN: 49533
CHRG: AID
DIST: AID

E.O. 12356: N/A
TAGS:
SUBJECT: ORAL REHYDRATION THERAPY (S17-2107)

REFERENCE: NAIROBI 17715

BUREAU ENVIRONMENTAL OFFICER CONCURS IN ACTION
REQUESTED. SHULTZ
BT
#9300

D. Doughty

NNNN

MM UNCLASSIFIED STATE 17930

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| DATE REC'D: | |
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