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PRITECH PROJECT PROPOSAL
TO ASSIST THE KENYAN NATIONAL CDD PROGRAM

A Report Prepared By PRITECH Consultants:

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EXECUTIVE SUMMARY

A team from PRITECH visited Kenya during the period September 3-18, 1986, to assess the national CDD program and propose specific potential PRITECH inputs to the program.

The team's assessment findings may be summarized as follows:

- ORT Policy -- Questions concerning ORS packet size and appropriate home policy for prevention of dehydration are still to be answered. These are already recognized as priority issues and research is underway to define a common mixing container and different kinds of home-available fluids to serve as a basis for an ORT policy for Kenya.
- Capacity to Achieve Targets -- The CDD plan calls for 50% and 30% mortality and morbidity reductions respectively at the end of 5 years among children under five years of age, but concentrates mainly on CDD promotion in the public sector. As the private sector, traditional systems, and PVOs account for a major part of the health care delivered to the people of Kenya, then the targets may only be achievable through a major involvement of these groups.
- Management and Supervision -- The central CDD program management unit has still not reached its full complement of 3 full-time staff plus 1 secretary (in addition to CDD manager), which will be required for the accelerated program of CDD activities once the program has been launched. It is unclear whether or not the early demands of a new CDD program at District level can be met without the designation of a District CDD manager, as District Management Teams are even now fully occupied with many program activities. The existing national consultative committee does not include representatives from important private sector institutions as the pediatrics and nursing associations and the pharmaceutical industry.
- Finance -- As of now, there is no Government of Kenya financial allocation (except in the form of personnel) specifically for the CDD program, and the program is largely dependent on donor support. The long-term sustainability of the program may be compromised without an increasing GOK financial commitment to the program.
- ORS Supply and Distribution -- ORS packets of several different sizes are currently being distributed in the commercial system. The MOH plans to standardize packet size once it has completed current research on available containers. Other outstanding issues relate to ORS supply in urban areas, private sector involvement and the long-term sustainability of the Essential Drugs Program (and ORS supply to rural areas).

○ Training -- A priority need is for the establishment of an ORT training center to serve as the focus of pre-service and in-service training and to serve as a model for peripheral ORT units. There is a need to better define specific methods and materials that will be used in training staff at ORT units and other training sites. While the national CDD plan makes provision for developing a manual for pharmacists and shopkeepers, provision should also be made for including private sector physicians, traditional healers, and TBAs in CDD educational activities.

○ Evaluation and Monitoring -- In order to adequately monitor program achievements, there is a need to clearly define operational targets and their indicators at various levels of implementation. Data collection forms and procedures should be fully defined. The proposed establishment of sentinel surveillance sites and the conducting of baseline morbidity and mortality surveys should be organized as early as possible.

○ Communications -- The staff of the CDD program has clearly recognized the need to plan a program of communication activities designed to increase public awareness and motivation vis-a-vis the control of diarrheal diseases. Immediate needs are for policy decisions on ORS packet size and home treatments to be promoted; development of a comprehensive CDD communications plan; and a message development exercise which specifies CDD/ORT messages which are precise and appropriate in concept and presentation to Kenya's various language groups.

To address problems and needs identified in its assessment, PRITECH proposes a program of assistance to the Kenyan CDD program consisting of the following elements:

○ Up to 14 person-months of short-term technical assistance in the areas of CDD program planning; financial management and budgeting; clinical training; research, monitoring, and evaluation; ORS supply management; health communication planning; ORT message development; and educational materials development.

○ Provision of a local PRITECH Project coordinator, with expertise in management and/or communications, to assist the national CDD program staff and manage PRITECH's inputs to the program.

○ A limited amount of equipment and operational costs to support the PRITECH coordinator and several components of program activity.

In addition, PRITECH makes the following recommendations to the Kenyan national CDD program:

○ Expedite a national ORT policy decision (including recommendations on ORS packet size and mixing container), ensuring careful attention to the issue of home solutions to be recommended, particularly in view of other recent country experiences with sugar-salt solutions.

o A high priority should be given to the establishment of a national ORT training center, followed by ORT centers in those districts where the program is starting first.

o Expedite the assignment of other full-time national CDD program staff, and clearly define the responsibilities of each.

o Establish a Technical Advisory Group for the CDD program, composed of representatives of research institutions, key donors, and senior staff in the Ministry of Health. This group should meet on a regular (perhaps quarterly) basis to review program progress to date and exchange technical information, including the results of operational research relevant to CDD program policy and operations.

o Identify all NGO's involved in CDD/ORT activities and invite them to join the existing Consultative Committee. In view of the large number of NGO activities underway at the community level and to ensure coordination and standardization of approaches, the Consultative Committee should meet on a regular rather than an ad hoc basis.

o Add to the Consultative Committee representatives from the pediatrics and nursing associations and the pharmaceutical industry, as well as representatives from relevant Ministries (e.g. Information/VOK) not presently included.

LIST OF ABBREVIATIONS

AMREF	-- African Medical and Research Foundation
CDD	-- Control of Diarrheal Diseases
DMS	-- Director of Medical Services
DPPS	-- Department of Preventive and Promotive Services
DANIDA	-- Danish International Development Agency
EDP	-- Essential Drugs Program
GOK	-- Government of Kenya
IDRC	-- International Development Research Center (Canada)
KEMRI	-- Kenya Medical Research Institute
KEPI	-- Kenya Expanded Program of Immunization
KNH	-- Kenyatta National Hospital
MCH	-- Maternal and Child Health
MOH	-- Ministry of Health
MRC	-- Medical Research Center (at KEMRI)
ORT	-- Oral Rehydration Therapy
ORS	-- Oral Rehydration Salts
PRITECH	-- Technologies for Primary Health Care Project
PVO	-- Private Voluntary Organizations
SIDA	-- Swedish International Development Agency
UNICEF	-- United Nations Children's Fund
USAID	-- U.S. Agency for International Development
WHO	-- World Health Organization

1.0 INTRODUCTION

In July 1986, the Kenyan Ministry of Health and the USAID Mission in Nairobi requested PRITECH to send a team to develop a proposal for assistance to the national CDD program. This request followed a series of promotional visits by PRITECH -- the first in March/April 1984 by Dr. Myron Levine and PRITECH Project Director John Alden, and two subsequent visits by John Alden in February and June of 1986.

A team of PRITECH core staff members including Dr. Deborah Blum, a physician/epidemiologist, Mr. Mark Rasmuson, health communications specialist, and Jane Brown, finance and management specialist, visited Kenya during the period September 3-18, 1986. The team was asked to review the Kenya National CDD Program and propose specific potential PRITECH inputs to it. Assistance in the development of a public communication strategy and of training materials for health personnel, were identified by the Ministry of Health as particular, but not exclusive, interests.

The team worked closely during its visit with the staff of the joint CDD/EPI unit of the Ministry of Health, particularly the CDD/EPI program manager, Dr. Dominic Mutie, and the WHO Associate Expert attached to the program, Dr. Anders Blaxhult. In addition to discussions in Nairobi with individuals from a number of institutions involved in the program (see Annex 4), the team also made a three-day field visit to South Nyanza District and Kakamega District in Western Kenya.

2.0 BACKGROUND - KENYA

2.1 General Indicators of Development

During the more than twenty years since independence, Kenya has pursued national objectives of growth, equity, and "Kenyanization." In the ten years after independence Kenya enjoyed about 6.5 percent increase annually in GDP, low inflation rates, and manageable external balances. Since 1973, the Kenya economy, like those of many other developing countries, has experienced a significant slow-down. International economic events including fluctuations in import prices of petroleum and export prices of Kenya's key exports, tea and coffee, high interest rates, and international recession, combined with rapid growth in public debt, have resulted in a decline in Kenya's GDP increase in real terms to only about 3.9 percent in 1983. At the same time Kenya's population, reflecting increased fertility and decreased mortality, rose to an estimated 19 million in 1983--a 4.1 percent rate of population increase.

In the past five years Kenya's current expenditures have increased two-fold, in contrast to an increase in current revenues of slightly more than 50 percent. Lacking a surplus on its current account with which to finance capital expenditures the GOK in recent years has been forced to cut back on projects and operating costs in order to cover staff outlays. Currently the GOK is endeavoring to cut down on expenditures by reducing and reorganizing Government and by encouraging the private sector to play a larger role in the economy. The GOK Five-Year Development Plan 1984-1988 identifies the following responses to the problem of increased demand for services and reduced GOK budget:

- "(1) non-essential government investments and services will be considerably curtailed and in some cases left entirely to the private sector;
- (2) voluntary agencies, the individual and collaborative efforts of the people will be marshalled to supplement Government's provision of selected essential services and basic needs;
- (3) in order to assist and guide collective efforts more effectively, the Government will make the district the management focus for rural development;
- (4) efficiency within the Government will be improved to facilitate planning and delivery of services, project appraisal and implementation; and the discipline of Civil Services would be maintained in order to increase productivity;

(5) the beneficiaries of the government services will be required to share more in the cost of the respective services through levying fees and other charges."

This Development Plan projected an average planned growth rate at five percent per annum over the period 1984-1988. However, the World Bank in 1982 stated that: "Simply to maintain present standards for education, health, water and shelter will require that budget outlays expand by seven percent per annum in real terms during the next decade if there is no change in fertility. This is a formidable budgeting burden."

2.2 Population

In 1983 Kenya's population was approximately 19 million. The rate of increase is accelerating annually and makes Kenya's population one of the world's most rapidly increasing. UNICEF estimates that if mortality and fertility in Kenya remain constant, Kenya's population will be 38 million by year 2000; that is, with an unchanged growth rate, Kenya's population will double between 1979 and 2000.

Of this growing population in 1983 the age group 0-14 years accounted for over 50 percent of the population, with 25 percent below the age of five.

Population In Kenya Projected 1983, 1990 and 2000 (in '000)

	1983		1990		2000	
	Number	Percent	Number	Percent	Number	Percent
Total Population	19,000	100	25,000	100	38,000	100
0-4 Years	3,900	21	5,300	21	8,100	21
0-14 Years	9,700	51	13,000	51	19,000	52
Productive Age (15-59)	8,500	45	11,000	46	17,000	45

Source: ROK, Population Projections for Kenya 1980-2000.

Kenya's growing population problem can be traced to successful development and modernization--improved health and social services and access to these have reduced childlessness and increased the number of children women are able to have; meanwhile modernization has affected traditional practices relating

to birth-spacing and number of children--the practice of breast-feeding, postpartum abstinence and polygamy have all declined. As UNICEF points out, "More women have children, and more women have many children. There has been a steady decline in the proportion of women having less than four and a rise in the proportion having eight or more offspring."

2.3 Population Distribution and Density

The distribution of Kenya's population reflects the scarcity of good quality land in Kenya. Over 75 percent of Kenya is arid or very arid with very little economic potential. Of its 564 thousand square kilometers only 12 percent of Kenya's land can be considered of high economic potential with another six percent classified of medium agricultural potential. As a result 80 percent of Kenya's population lives in this 17-18 percent of agriculturally productive land in Western, Nyanza, and Central Provinces. Land, Kenya's main economic resource, is scarce with increasing pressure on high potential areas.

Agriculture accounts for more than 30 percent of Kenya's GDP and 85 percent of the labor force. It is estimated that smallholding agriculturalists account for about three-fourths of a total agricultural output. However, most of these smallholders are farming less than one hectare and three-quarters are working on areas less than two hectares in size. Few smallholders, however are subsistence farmers (retaining 90 percent of output) -- over 50 percent of smallholders market more than 30 percent of produce. The smallholder population has a diversity of sources of income with regular or casual employment as the major "off-farm" source of livelihood. This "off-farm" employment has eased the pressure on limited land available while offering opportunities for alternative marginal livelihood. As UNICEF points out, "In many cases, especially when it takes the form of agricultural wage employment or informal activity, off-farm earnings are an indication of poverty rather than prosperity."

Five percent of Kenya's population is comprised of pastoralists in the north and north-east where they own sufficient livestock for subsistence. However, population growth and land scarcity are having their effects on the livelihood sources of the pastoralists often forcing them to enter the labor market and/or become urban migrants.

Nairobi and Mombasa have the heaviest concentrations of Kenya's urban dwellers--37 percent and 16 percent of the total urban population respectively. Migration to the cities from the rural areas has been Kenya's response to land scarcity, rural

poverty, rural-urban income differentials, the urban monopoly of modern sector employment opportunities, and the greater availability and quality of urban services.

Population Distribution and Density by Province 1979

<u>Province</u>	<u>Distribution</u>	<u>Density (Persons per sq. km.)</u>
Western Province	12%	223
Nyanza Province	17	221
Central Province	15	178
Rift Valley	21	19
Eastern Province	18	17
Coast Province	9	16
North Eastern	2	2
Nairobi	5	1210
<hr/>		
Total Kenya	100%	27

2.4 Infrastructure

Kenya's transportation system has been considered one of the best developed in Africa, including rail, road and air facilities, limited inland water transport (Lake Victoria), a major seaport at Mombasa and an oil pipeline from Nairobi to the refinery at Mombasa. Most of the country's transportation infrastructure runs along the heavily populated corridor from Mombasa to Nairobi and west to Uganda. The sparsely populated northern and eastern areas of Kenya are generally served only by a few roads and dirt runway airstrips. There are 32,000 km of these secondary or minor roads which serve local rural needs. Important provincial centers are linked by 7750 km of primary roads, and 2785 km of national trunk roads. Finally, there are 3600 km of international trunk roads which lead to Ethiopia, Somalia, Tanzania, and Uganda.

Kenya's public railroad system comprised 2060 km in 1983. Two major airports together with 3 medium-sized airports provide Kenya with domestic and international air contacts. More than 200 landing strips (few are paved) were dispersed throughout the country in mid-1983, providing aerial access to many isolated areas.

Approximately 1.6 million radios were in the country in 1981 to receive regular radio broadcasts in Swahili, English and 15 African dialects. Television broadcasts began in Kenya in 1962, and an estimated 100,000 televisions were in operation in 1981.

2.5 Education

Since independence the number of children enrolled in primary schools in Kenya by 1983 had increased five-fold, as a result of the Government's stated objective of universal primary education, but also because of increasing demand for education consequent to the increased population. In 1985 the Fifth Development Plan (1984-1988) launched a full eight-year basic education program; the objective was to provide a primary school education that was partly geared to those students not proceeding to high school. In ten years (1969-1979) there was a 286 percent increase in enrollments in Standard One primary education while at the same time national gross enrollment ratio increased from 56 percent to 114 percent by 1979.

However, it should be noted that these high enrollment figures do not necessarily reflect universal primary education, which requires that every child has a full primary education and completes the seven-year cycle. Lack of facilities, teachers, patterns of drop-outs and repeat education, and poor performance, inadequate access and coverage all combined to enrollment loss.

Enrollment loss was exacerbated by financial constraints of parents. "The inability to afford the relatively high direct costs of primary schooling constrains the educational system from achieving universal coverage." (ROK, Kenya Education Sector Analysis, Analytical Document No. 1, 29.)

Inevitably with its high rate of population growth Kenya would require increasing number of facilities, equipment, teachers, etc., all of which place a severe strain on the GOK's resources. By 1981 education accounted for seven percent of GDP. In the budget year 1982-1983 about 17 percent of total government expenditure was on education with 20 percent of total recurrent expenditure allocated to education.

In 1983 enrollment in secondary schools was approximately 494,000, demonstrating a growth of 13 percent in enrollments over the previous year.

2.6 Literacy

In 1983 52 percent of the adult Kenyan population was estimated to be illiterate, with a total of approximately 4.5 million illiterates in the country. The breakdown of urban-rural illiteracy ratio was approximately 34:56.

The level of literacy varied between rural areas (68 percent in Kiambu District to 21 percent in Kajiado/Narok). There was also a significant variation between male and female literacy in rural districts: 59 percent of the rural male population compared to 37 percent of the female population.

Literacy is regarded, in Kenya, as a necessary basis for development and since independence Kenya's progress can be seen in the age groups born after independence. The highest proportion of literates in the rural population is the 15-19 year old group with the percentages decreasing to the lowest level of 12 percent in the group 70 years and over. Another indication of the performance of Kenya's primary school system is the dramatic decrease in the gap between male and female literacy in rural children born after independence.

In 1982 the male/female literacy differential was as low as 9 percent in 15-17 year olds and only 4 percent in the age group 12-14 years, compared with as much as 26 percent in 18-19 year olds and 21 percent in 20-24 year olds.

2.7 Health

Since independence major improvements have been achieved in Kenya's health status as evidenced in the following comparison of vital health indicators between 1963 and 1983.

	Vital Health Indicators*	
	1963	1983
Crude death rate	20/1000	14/1000
Infant mortality	120/1000	92/1000
Crude birth rate	50/1000	52/1000
Life expectancy	40 years	54 years

*GOK Five-Year Development Plan, 1984-1988

However, these health indicators can vary widely in different areas of Kenya reflecting variations in socio-economic development, ecological and climatic conditions, and the disproportionate allocation of health resources between urban and rural areas. For example, infant mortality can vary from a low of 56 deaths per 1000 live births in Central Province to highs of 128

and 129 in Nyanza and Coast Provinces. While there was a decline in infant mortality in all provinces except Western between 1967 and 1976 there was no narrowing of the mortality differentials between population sub-groups.

In 1984 the GOK's Integrated Rural Health and Family Planning Program was initiated, aiming to shift the emphasis from curative services toward preventive and promotive health services. However, Kenya still has major health problems in the incidence of diarrheal diseases and of vaccine preventable diseases, endemic malaria, and malnutrition.

Morbidity and mortality data in Kenya are unreliable due to under-reporting. However, in 1983 malaria, respiratory infections and diarrheal diseases were identified as the three major causes of outpatient morbidity amongst the infectious diseases. The major diseases of children under five were reported to be pneumonia, diarrheal diseases, and measles, accounting for more than 50 percent of all reported cases. Diarrhea-associated mortality is estimated to be as high as 33% of all deaths. In a recent Central Province Study it was estimated that each child under five years of age suffered as many as 11 episodes of diarrhea annually.

2.8 Health Services

Kenya's health care delivery system is a pyramid shaped network with Kenyatta National Hospital at the top serving as a referral hospital for patients throughout the country. Below Kenyatta National Hospital are the provincial and district hospitals followed by rural health centers and dispensaries at the base of the pyramid.

Prior to 1970 the local country councils were responsible for rural health services, which were very inadequate and understaffed. In 1970 the Ministry of Health was given the responsibility for these services and in 1972 collaborated with WHO in developing a basic plan entitled: "Proposal for the Improvement of Rural Health Services and the Development of Rural Health Centres in Kenya," which was the basis for the development of Kenya's rural health services for the next ten years.

In 1970 there were 551 central government rural facilities in Kenya. By 1981 these had increased to 1,352. Government hospital beds increased from 8,076 in 1976 to approximately 14,000 in 1981; between the years 1965 and 1978 there was an increase of around 14,000 government health workers with approximately 31,000 workers employed by the GOK health services by 1981.

By 1983 there were 1717 health institutions recorded in Kenya including 216 hospitals and 288 health centers. The bed/population ratio was 156 per 100,000 with 29,294 hospital beds

and cots. Of these 216 hospitals, 84 were government-run, two by municipalities, 84 missionary hospitals, and 48 private hospitals. Sixty-seven percent of the health facilities in 1982 were operated by the Government. The distribution of beds varied between 534/100,000 population in Nairobi to 79/100,000 in North Eastern Province. In 1983 the registered medical personnel in Kenya included 2,366 doctors (13/100,000 population), 8,547 nurses (46/100,000 population), 10,168 enrolled nurses (54/100,000 population), and 1,921 clinical officers (10/100,000 population). Access to and availability of health services varies widely in Kenya:

Availability of Health Services by Province*

<u>Province</u>	<u>Population per Rural Health Facility</u>	<u>Hospital Beds per 1000 Population</u>
Central	11,000	1.4
Coast (Incl. Mombasa)	8,300	1.7
Eastern	12,000	1.0
Nyanza	17,000	0.9
Rift Valley	7,300	1.2
Western	23,000	1.0
North Eastern	16,000	1.0
Nairobi	8,700	6.1

*ILO, 1983.

Percent of Rural Population within a Two-km Radius of a Health Center

<u>Coast</u>	<u>Eastern</u>	<u>Central</u>	<u>Rift Valley</u>	<u>Nyanza</u>	<u>Western</u>	<u>Total</u>
5	12	14	16	18	21	16

Source: ROK, Integrated Rural Survey 1976-1979 Basic Report.

3.0 THE KENYAN CDD PROGRAM

3.1 Overview

The Government of Kenya (GOK) first embarked on a Program for the Control of Diarrheal Diseases (CDD) in 1980. A National Committee on Diarrheal Diseases Control was established in 1980 and an action plan formulated in 1982. The plan was never implemented due to lack of funds, although the CDD program was included in the MOH 1984-1988 Development Plan.

Although no formal CDD program was launched, a number of CDD activities took place during the period 1982-84 on an ad hoc basis. These activities included:

- The supply of ORS (in 1-liter packets) to all rural health centers and dispensaries as part of the DANIDA- and SIDA-supported part of the Essential Drugs Program (EDP).
- The consequent widespread availability of ORS in health facilities.
- ORT training of health personnel in a variety of programs, including the EDP and the MOH/AMREF continuing education program.
- The teaching of home diarrhea management and prevention in the health education component of MCH services, in community-based PVO activities, and in the Ministry of Education's Adult Education Program.
- The establishment of an ORT unit in 1981-82 in the pediatric observation ward of Kenyatta National Hospital (KNH) as part of a pilot research project. (Unfortunately, this unit is no longer operating.)

In late 1984 there was again renewed interest in starting a CDD program, and a request was made to DANIDA for financial support. A joint Kenya/WHO/DANIDA mission to Kenya in September 1984 outlined a CDD project proposal and made a number of recommendations. Prominent among these was the recommendation that a CDD policy paper be issued and a CDD program coordinator appointed, as pre-conditions for DANIDA support.

Over the past year preparatory activities for the launching of a national CDD program have taken place:

A CDD program manager was appointed--Dr. D. Mutie, who is also the immunization program (KEPI) manager.

- A WHO Associate Expert--Dr. A. Blaxhult--was assigned to the CDD program.
- A supervisory skills course was conducted in March 1986 for 37 staff from 8 districts.
- In late April 1986 during the visit of Dr. M. Merson (CDD Division Director, WHO, Geneva) approval was given for 4 full-time staff (1 public health nurse, 1 clinical officer, 1 public health officer, 1 secretary) to be assigned to the CDD program. As of mid-September 1986, only the clinical officer was in place.
- A revised CDD plan for the period 1986-90 was completed in May 1986 (Annex 1).
- An ORT operational manual for peripheral level workers was drafted.
- The Ministry of Health began a survey on the sizes of containers available in rural areas as well as home fluids used. (Survey to be completed October 1986.)
- Major donor support for the CDD program has been promised by UNICEF, DANIDA, and USAID.
- A number of additional CDD research activities were begun by KEMRI, including a study on cereal-based ORS and the flavored ORS marketing study.
- Local production and distribution of ORS (in different sized packets) was begun by three companies--Beecham, Allied Chemicals, an Cosmos.

The official launching of the Kenyan CDD program by senior Ministry of Health officials program will take place during an Intersectoral Workshop on Primary Health Care from October 1-3, 1986, in South Nyanza District.

3.2 Description of CDD Activities

3.2.1 CDD Plan

In September 1983 an Action Plan for Control of Diarrheal Diseases in the Republic of Kenya was developed, but never subsequently implemented. The new CDD plan (Annex 1), covering the period 1986-1990, was developed in the first half of 1986 and presents a general overview of the CDD program, encompassing activities in diarrhea case management and diarrhea prevention. The objectives of the program are to reduce diarrhea-associated mortality in under-fives by 50% in 5 years and to reduce diarrhea morbidity in under-fives by 30% over the same time period. The

plan emphasizes the need to integrate CDD with other primary health care activities in order to achieve these objectives, particularly with regard to morbidity reductions.

ORT is the key component of the CDD program. The plan calls for the complete formula ORS to be available and used at all fixed health facilities (and by community health workers where such exist); for mothers to be taught to use home-prepared fluids and adopt proper feeding practices during diarrhea episodes; and for an appropriate back-up referral and treatment procedure to be established. The specifics of the Kenyan ORT policy vis-a-vis packet size, home solutions and feeding during diarrhea are not presented in the plan and remain outstanding issues; this is recognized, however, and research addressing some of these issues is underway.

The plan calls for a phased implementation schedule over five years:

- Phase 1 (1 year) is a preparatory period during which ORS policy will be established (through operational research), training and health education materials will be developed, baseline evaluation carried out, and training (at various levels) conducted. A national ORT training center at Kenyatta National Hospital (KNH) will be established to assist in pre-service and in-service clinical training and to serve as a model for ORT units in district hospitals. During this first phase, the program will be launched in 8 districts.
- Phase 2 (2 years) will see 24 additional districts involved in the program. An evaluation of phase 1 (details not presented in the plan) will be carried out and data collection procedures strengthened. Access to ORS is to be extended down to the community level through community health workers.
- Phase 3 (2 years) will see the program operating in all 41 districts in Kenya. By this time, it is anticipated that local production of ORS will supply the necessary ORS for the program.

Phase 1 of the plan began in September 1986 with the initiation of a survey on the availability of containers and fluids in the home. This survey is being conducted by the MOH and KEMRI. Data collection should be completed in October 1986. Based on the results, an ORT policy should be formulated before the end of 1986.

A first year plan of activities was drafted in April 1986, to cover the period July 1986-June 1987. Although some of the initial preparatory activities have taken longer than expected (i.e., the posting of national staff and the establishment of the national training center), the schedule indicated the intended general sequence of activities, with an early focus on training, baseline data collection, and development of educational messages and materials.

3.2.2 Management and Supervision

The new CDD plan outlines a management and supervisory arrangement for the program. At the national level, the CDD program lies within the KEPI-CDD unit of the Department of Preventive and Promotive Services of the Ministry of Health. Central management of CDD will lie with a 4-member CDD management unit (1 medical officer (KEPI/CDD manager), 1 clinical officer, 1 public health officer, 1 public health nurse) which reports to the Senior Deputy Director of Preventive and Promotive Services and ultimately to the Director of Medical Services (DMS). A WHO Associate Expert acts as an advisor to the CDD program. Approval for the three full-time professional staff, plus 1 secretary was given by the DMS in April 1986, but as of the PRITECH visit only the clinical officer had reported for duty. Details of individual responsibilities of members of the central management unit still needed definition. To promote intersectoral cooperation at the central level, a "Consultative Committee," composed of members from selected ministries, PVOs, and donor agencies, is to meet on an ad hoc basis.

As outlined in the plan, management and supervision at the district and community levels will lie with the District Management Team (DMT), composed of the District Medical Officer of Health, Public Health Officer, Public Health Nurse, Health Education Officer, and Clinical Officer. In preparation for the CDD program, a supervisory skills course was conducted in March 1986 for the DMTs from the first 8 districts where the program is scheduled to be launched first.

The DMT has responsibility for all preventive activities in the District as well as some administrative responsibilities for the District Hospital. The ability of members of the DMT to carry out regular and adequate supervision is constrained by vehicle availability. There are no plans to appoint a full-time District CDD Manager as such; presumably overall responsibility for the CDD program at District level will lie with the District Medical Officer of Health. The Provincial Health Team Supervisors (Provincial Medical Officer, Health Officer, and Nursing Officer) are to provide back-up supervisory support to the DMT.

Health facility personnel will supervise CDD activities at the health facility and its outreach services into the community.

3.2.3 Training

There have been a number of ORT/CDD educational activities over recent years which have resulted in fairly extensive knowledge about ORT among health and community workers in the public sector. Groups/institutions involved in disseminating information on CDD and ORT include the Staff Education Department at KNH, the College of Health Professions, the Department of Adult Education, Voice of Kenya, the Health Education Department of the MOH, the Essential Drugs Program of the MOH, and a number of PVOs (AMREF, CARE, the Kenya Red Cross, the Aga Khan Foundation, the Salvation Army, etc.). Much of this information, especially that directed at peripheral health workers, community workers, school children, mothers and the public at large, focus on diarrhea and dehydration prevention; the use of sugar-salt solutions is a focus of a number of these educational activities, especially among PVOs.

Prior to the national CDD program, there was little attention placed on the systematic training of health professionals in the use of ORS to treat dehydrated children presenting to health facilities. Such training of medical and nursing staff and students at KNH occurred for a few years while an ORT unit was operating in the KNH pediatric observation ward. For a variety of reasons, this unit ceased operating in 1985, but it has provided a nucleus of people with some practical experience in using ORS. At present, all except the mildest cases of diarrhea are now referred to the Infectious Diseases Hospital (due to the fear of cholera). It is estimated that two-thirds of the referral patients receive ORS.

The formulation of a national CDD program has focused recent attention on the systematic training of health workers in the clinical management of diarrhea, according to national guidelines. Clinical training in conjunction with the new program has been constrained thus far by the lack of an ORT policy and a delay in the establishment of the national training center at KNH. As indicated above, research is underway which will serve as the basis for an ORT policy for Kenya.

With regard to clinical training, two major initial steps have been taken: the decision to establish a national ORT demonstration and training center at KNH and the drafting of an operational manual for health workers. A pediatrician (Dr. J. Alwar) from KNH was sent to the first African intercountry clinical management course, held at the Ethiopia-Swedish Hospital in April 1986. He was then given the responsibility of setting up a national training center at KNH. Progress has been somewhat slow

in this regard; the main constraints seem to be identifying an appropriate site at KNH and the fact that Dr. Alwar has other important responsibilities which limit the time he can devote to setting up the unit. We viewed a number of possible sites for the center at KNH (as did Dr. D. Mahalanabis, CDD Program, WHO, Geneva). It was agreed that a unit should be set up as soon as possible and that the most promising site, presenting the fewest administrative and logistical difficulties, was an examination suite in the pediatric outpatient department. At the time of our departure, Dr. Mutie, Dr. Alwar, Dr. Blaxhult, and the clinical officer recently assigned to the CDD unit in the MOH were taking steps to get approval for the site and to supply the unit.

Once the national training center has been set up, it will serve to train district-level staff who will then set up a similar center in each of the districts involved in the program. The training schedule, materials and methods for use in these training units (including the national unit) have not yet been finalized. A training manual for operational level workers has been drafted but still needs to be tested and will undoubtedly need to go through a revision process. The manual as it stands at present includes both managerial and clinical material which might best be presented in different documents aimed at different audiences. Although the draft manual is billed as "self-instructional", experience in other countries has shown that training of health workers will need to be supervised with adequate attention to practical hands-on experience using ORS to treat dehydrated patients. Until these training materials are available, it is planned to conduct district operational level training courses using the clinical management module of the WHO supervisory skills course so as not to delay the start of the program in the first 8 districts.

A large, if unknown, proportion of medical care is provided outside the Ministry of Health infrastructure -- by private physicians, pharmacists, traditional healers and midwives, and by PVOs. Given the ambitious morbidity and mortality targets of the CDD program, these groups will need to be a priority focus for training in conjunction with the new program. The mechanism for training these groups and involving them in the new program has not yet been explored.

3.2.4 ORS Supply and Distribution

ORS is widely available in rural areas of Kenya due to the drug distribution network of the Essential Drugs Program (EDP). It is planned to continue to use this system for the ORS needs of the new program in rural areas. The EDP began in 1980 and is considered a successful effort and a model for other countries. The 41 drugs on Kenya's essential drug list were

extracted from the WHO list. ORS (1 liter packets) are on Kenya's essential drug list. Antimicrobials for the infectious diarrheas are limited to septrin, ampicillin, and tetracycline. There are no antidiarrheal agents on the list.

A two-kit system is used: kit 1 (containing ORS) is donated (by Denmark and Sweden) and kit 2 is locally produced and packaged (by Allied Chemicals). The contents of the kits and the amounts of drugs vary according to the type of health facility (to serve 3000 new cases at a health facility or 2000 new cases at a dispensary) and to some extent on the type of diseases seen in the area at different times of the year. Under this system, health centers are provided with 300 one-liter ORS packets and dispensaries with 200 one-liter packets of ORS. This supply of packets, supplemented by 2,000,000 packets of ORS provided by UNICEF by early 1987, is expected to serve the short-term needs of the new program. In the longer-term it is anticipated that the needs of the public sector will be met through local production of ORS and that the packet size will reflect the national policy.

The kits come packed and sealed to the Central Medical Store in Nairobi and then are transported, by a private company contracted by the MOH, to all 41 District stores on a regular basis. The District stores have a one month back-up supply. Once at the District, more peripheral distribution is the responsibility of individual Districts. Transport at this level is a constraint in some cases; some Districts have set up local depots serving zones to receive the kits. Drugs left over at the end of month can be returned to the District store and dispatched to areas where additional drugs are required.

Drugs for District and Provincial Hospitals do not come through the EDP at present. Rather, the MOH provides funds directly to the Districts for the purchase of drugs. The mechanism for supplying ORS to urban areas has not been as fully explored as supply to rural areas. One option discussed in the CDD plan is for larger centers to receive bulk ingredients to prepare their own ORS.

The EDP has a training component, which includes the management of diarrhea. One week training seminars on the diagnosis of disease and the correct use of drugs have been held in all 41 districts for pharmacists and supply officers at the District level and for community nurses and clinical officers. The training is conducted by members of the Drug Management Unit of the MOH. These seminars are periodically repeated, upon the request from the Districts. A new Manual for Rural Health Workers, including a revised section on diarrhea and dehydration, is under development and should be available by the end of 1986.

In the private sector, ORS is available through pharmacies. There are both imported and locally-produced packets available; mixing volumes vary according to the product -- 250 mls, 300 mls, 500 mls, and in the case of an ORS tablet, 120 mls. Information on how to use these products comes from drug detail men and/or package inserts. It is planned that the Bureau of Standards will standardize the packet size available in the private sector in line with the national policy. It is not clear how this directive will affect local production of ORS. One of the three companies now locally-producing ORS would apparently have trouble coping with a different packet size.

The CDD plan calls for the development of a "manual" for pharmacists and shopkeepers in phase 1 of the program. The nature of this manual and the exact mechanism for involving these groups in the program needs further definition.

3.2.5 CDD Budget and Financial Resources

It is difficult to estimate the GOK expenditure for preventive services as a proportion of the total GOK expenditure for health since a number of budget categories overlap the curative preventive division. The total GOK commitment to development health expenditure^a for 1986/87 is 16.6 million Kenyan pounds (US\$20.7 million); appropriations in aid will result in an additional 9.4 million Kenyan pounds (US\$11.7 million) (MOH Budget estimates). The corresponding figures for the recurrent expenditures for health for 1986/87 are: GOK -- 92.7 million Kenyan pounds (US\$115.9 million) and appropriations in aid -- 2.3 million Kenyan pounds (US\$2.9 million) (MOH Budget estimates). Thus, external funding accounts for a significant proportion of the projected total development expenditure for health (36%). External funding plays a much less prominent role in the formal budget estimates for recurrent expenditure in health; in practice the characterization of development versus recurrent expenditure is fuzzy.

The CDD plan (Annex 1) includes a 5-year budget, totaling 215,952,000 Kenyan shillings (\$13.5 million)^b and broken down into GOK and non-GOK commitments. Non-GOK commitments constitute the major part of the funds for the CDD program over

a US\$1 = 0.8 Kenyan pounds

b US\$1 = 16 Kenyan shillings

the next 5 years. GOK commitments are in the form of personnel and certain operational expenses (and possibly per diems although this item may be provided by DANIDA). The 1986/87 MOH budget contains no line item for CDD activities.

The main providers of external financial support to the CDD program over the next five years are UNICEF, USAID, DANIDA, and WHO.

UNICEF will provide approximately \$200,000 - \$400,000 per year from general resources for training, vehicles, other equipment, and supplies. It is also providing an initial supply of 2 million ORS packets. UNICEF is also the conduit for \$1.4 million/year in Italian child survival funds, \$300,000/year of which is designated for CDD and EPI public education activities.

DANIDA has committed a total of approximately \$200,000 to the program for a vehicle, vehicle operating costs, training costs and training materials, per diems for national staff, and operational research. DANIDA and SIDA are also providing 1 million ORS packets per year through the Essential Drugs Program, valued at approximately \$62,500 per year. SIDA is also funding the Associate Expert attached to the program.

USAID is committed to supporting the program through the PRITECH activities proposed here and through additional operational research activities funded by central AID projects.

WHO, in addition to providing an Associate Expert, is funding certain diarrheal disease research activities, including a study of weaning diarrhea.

Ciba-Geigy and the Aga Khan Foundation are also providing some support to research activities, and many other NGO's like AMREF, the Salvation Army, and the Red Cross are involved in some level of CDD program implementation.

3.2.6 Research

Numerous recent and current diarrheal disease research projects have been carried out or are underway in Kenya. These activities were reviewed in the recent visits to Kenya by Dr. Carl Kendall (on behalf of the USAID-funded Applied Diarrheal Disease Research (ADDR) Project) and Dr. Robert Black (on behalf of the ADDR Project and the Diarrheal Disease Control Program of WHO). Descriptions of these projects can be found in their trip reports.

The MOH has not been involved in conducting diarrheal disease research per se, except for the recent survey on container sizes and home fluids. However, a number of the research projects alluded to above have important potential applications for policy and implementation of the new program. The MOH has been somewhat divorced from these research activities and has not been kept fully up-to-date on research progress and findings. Improvements are anticipated with the new CDD program.

3.2.7 Evaluation and Monitoring

The CDD plan outlines general morbidity and mortality targets and lists several general output indicators to monitor program progress. Little has been done beyond this to define targets and indicators (including process indicators such as ORT use) at various levels of health delivery and at various time periods in program implementation. Data collection forms, methods and training have not yet been developed. Baseline morbidity and mortality surveys are planned, as is establishing sentinel disease reporting centers.

3.2.8 Health Communication

The national CDD program is only now beginning to consider public communication strategies and materials; essentially no plans or materials have been produced to date. Public health communication has been recognized by national program staff as an important priority, however, and it is one of the specific areas in which PRITECH assistance has been requested. A number of PVO's in Kenya have been carrying out independent communication efforts on ORT, including the widespread promotion of sugar-salt and other home solutions.

While little has been accomplished to date, Kenya has a rich diversity of communication resources that could be utilized by the CDD program, and there are a number of potentially useful activities to choose from. These are listed in Annex 2 (A Preliminary Communication Strategy for the Kenya CDD Program). The overall strategy of the CDD communications program should be to deliver consistent, actionable educational messages to target audiences, through multiple channels, and over a significant period of time to ensure adoption and maintenance.

4.0 MAJOR CDD PROGRAM ISSUES

Considerable progress has been made in the past year to initiate a CDD Program. However, there are still a number of unresolved issues, constraints, and problems which will need to be addressed. These are briefly outlined below:

ORT Policy

Questions concerning ORS packet size and appropriate home policy for prevention of dehydration are still to be answered. These are already recognized as priority issues and research is underway to define a common mixing container and different kinds of home-available fluids to serve as a basis for an ORT policy for Kenya. In view of the data emerging from several countries on the difficulty many mothers have in preparing safe sugar-salt solutions, the use of Kenyan traditional home fluids for dehydration prevention should be given increased attention.

Capacity to Achieve Targets

The CDD plan calls for 50% and 30% mortality and morbidity reductions respectively at the end of 5 years among children under five years of age. The plan mainly concentrates on CDD promotion, training, education, and mobilization in the public sector. If the private sector, traditional systems, and PVOs account for a substantial, or even major, part of the health care delivered to the people of Kenya, then the targets may only be achievable through a major involvement of these groups; this is an area of further exploration and consideration.

Management and Supervision

The central CDD program management unit has still not reached its full complement of 3 full-time staff plus 1 secretary (in addition to CDD manager), which will be required for the accelerated program of CDD activities once the program has been launched; nor have the specific responsibilities of each unit member been defined. DANIDA has been reluctant to release its committed program funding until full staff of the unit is complete.

The national consultative committee proposed in the CDD plan does not now include representatives from such private sector institutions as the pediatrics and nursing associations and the pharmaceutical industry.

CDD research activities to date appear to have been somewhat divorced from CDD program operational planning activities. A mechanism for the regular input of research findings into CDD program management decisions needs to be established.

District Management Teams are even now fully occupied with responsibilities for managing and supervising a number of District health activities, including nutrition education, family planning, EPI, and environmental sanitation. It is unclear whether or not the early demands of a new CDD program at District level can be met without the designation of a District CDD manager.

Finance

As of now, there is no Government of Kenya financial allocation (except in the form of personnel) specifically for the CDD program, and the program is largely dependent on donor support. The long-term sustainability of the program may be compromised without an increasing GOK financial commitment to the program.

ORS Supply and Distribution

ORS packets of several different sizes are currently being distributed in the commercial system. The MOH plans to standardize packet size once it has completed current research on available containers.

The Essential Drugs Program (EDP), which is currently the means for distributing ORS into rural areas, appears to be functioning well, with reliable distribution to the districts. However, transport constraints at the District level, if not addressed, may impede the delivery of ORS to peripheral facilities. Other outstanding issues relate to ORS supply in urban areas, private sector involvement and the long-term sustainability of the EDP (and ORS supply to rural areas).

Training

A priority need is for the establishment of an ORT training center to serve as the focus of pre-service and in-service training and to serve as a model for peripheral ORT units. Until now, there has been some difficulty in locating an approved site for this center at Kenyatta National Hospital. If further delay is anticipated, it may be advisable to establish the first ORT training unit at an appropriate District hospital so as not to delay health staff training activities.

This is a need to better define specific methods and materials that will be used in training staff at ORT units and other training sites.

While the national CDD plan makes provision for developing a manual for pharmacists and shopkeepers, provision should also be made for including private sector physicians, traditional healers, and TBAs in CDD educational activities.

Evaluation and Monitoring

In order to adequately monitor program achievements, there is a need to clearly define operational targets and their indicators at various levels of implementation. Data collection forms and procedures should be fully defined.

The proposed establishment of sentinel surveillance sites and the conducting of baseline morbidity and mortality surveys should be organized as early as possible.

Communications

The staff of the CDD program has clearly recognized the need to plan a program of communication activities designed to increase public awareness and motivation vis-a-vis the control of diarrheal diseases. This is one of the specific areas which the MOH has requested PRITECH to consider funding.

Immediate needs in this area are for policy decisions on ORS packet size and home treatments to be promoted; development of a comprehensive CDD communications plan which prioritizes, schedules, and budgets for activities to be undertaken; a message development exercise which specifies CDD/ORT messages which are precise and appropriate in concept and presentation to the various language groups being addressed; and the development, testing, and production of necessary broadcast, print, and training materials.

5.0 PRITECH PROJECT PROPOSAL

5.1 Objectives

A. To assist the Ministry of Health plan and implement a systematic and comprehensive national program of public education about diarrheal disease control and ORT.

B. To assist in the development of facilities, methods, and materials for training health personnel in the clinical management of diarrhea, and of materials for training extension workers to promote and teach ORT in communities.

C. To strengthen the following additional technical aspects of the national CDD program: program planning at the national and district levels; financial management and budgeting; ORS supply estimation and management; program evaluation and monitoring.

D. To strengthen the overall management of the CDD program and accelerate the implementation of the national CDD plan.

E. To assist in the mobilization and complementary programming of other donor resources; coordination and standardization of approach among the various public and private organizations involved in CDD activities in Kenya; and the strengthening of coordination between CDD research and CDD program implementation.

5.2 Inputs

5.2.1. Short-term Technical Assistance

PRITECH will provide short-term technical assistance to national CDD activities in the areas outlined below. While this assistance will be primarily targeted to and channeled through the Ministry of Health, it will also be made available to non-governmental organizations (NGO's) involved in CDD activities. (AMREF, CARE, the Salvation Army, and Ciba-Geigy have already expressed interest in receiving assistance from PRITECH, particularly in the area of communications planning and materials development.) All technical assistance will be designed both to help accomplish specific tasks required by the CDD program and to impart skills to counterpart staff which they can subsequently apply themselves.

Health Communications Planning (2 person/months)

A health communications specialist or specialists will assist the CDD program to develop a comprehensive communications strategy and plan consistent with and supportive of the overall CDD plan. This plan will review the many communication resources available in Kenya (see Annex 2), identify appropriate roles for them to play in the CDD program, and prioritize their use according to clearly stated communication objectives and to the program's management capacity. It will identify the specific training and public education materials required by the program, develop an implementation schedule for all activities, and establish a budget. It will also outline appropriate communication strategies and plans for use at the district level. The consultants will be available to assist NGO personnel develop appropriate plans for their CDD communication activities. (Ciba-Geigy, for example, has expressed interest in receiving assistance in planning the second promotional phase of the experimental ORS marketing project it is conducting in Western Kenya.)

ORT Message Development (1 person/month)

A consultant experienced in ORT message development will work with CDD program staff and health education personnel from the national and district levels to develop appropriate CDD messages for public dissemination to the major ethnic groups in the 8 districts where the CDD program will first be launched. This activity will involve review of existing data on diarrhea-related beliefs and practices, as well as an original research activity. Focus group discussions, a market research technique, will be conducted among members of the target ethnic groups to discover existing concepts and vocabulary for diarrhea and dehydration and current treatment practices. The research will guide the "positioning" of ORS to each target group--i.e., if ORS should be presented as a medicine for diarrhea, as a replacer of fluids and salts, as a "food" to restore strength, etc. The discussions will also complement other available data on what types of foods and fluids are already commonly given in the home for an episode of diarrhea. Since this message development activity should result in a final comprehensive list (in each target group language) of appropriate ORT messages, it should take place only once the MOH has made a policy decision on ORS packet, size and mixing containers to be promoted.

Materials Development (3 person/months)

Consultants will be provided to assist with specific materials development tasks identified during the development of the overall CDD communications plan. Priority tasks will include:

- Development and testing of an ORT manual for community workers.
- Development and testing of an ORT/ORS instructional flyer or pamphlet for mass public distribution.
- Development of a series of radio spots and programs and a broadcast schedule for use in vernacular language broadcasting in Western Kenya by the Voice of Kenya (VOK) during the first year of the program.
- CDD Program Planning (2 person/months)

A consultant or consultants experienced in CDD program planning will work with the national CDD management team to review and fine-tune the CDD plan so that it can better serve as an operational basis for action at national and district levels. Particular attention will be paid to define further the following aspects of the CDD plan:

- Program objectives, targets (by year of operation), and performance indicators;
- ORT strategy (pending the results of the present operational research);
- Management structure and personnel responsibilities at national and district levels;
- Priorities for, and sequence of, training activities and the people responsible for these activities.
- Strategy for integration of CDD activities with other PHC activities;
- Detailed work plan.

In addition, assistance will be provided in assessing the capacity of the CDD program to meet program targets and in investigating avenues for enhancing the capacity of the program to achieve major morbidity and mortality reductions.

- Financial Management and Budgeting (1.5 person/months)

A consultant experienced in financial planning will work with CDD program staff to strengthen the national and district capacity in financial management and budgeting, using the CDD program as a prototype for financial planning for other health programs. Specific tasks will include the following:

- Conducting a financial situation analysis, including review of the projected budget and financing arrangements for the national CDD program;
- Developing a detailed budget for CDD activities at national and district levels;
- Delineating funding sources for CDD activities over the period 1986-90;
- Improving, if necessary, the system of expenditure accounting for CDD activities;
- Exploring possible cost recovery mechanisms.

In addition, the consultant will work with at least one District Management Team, particularly the District Medical Officer of Health, to develop a prototype budget for district CDD activities. This budget can be shared with Medical Officers of Health in other districts to assist in their own financial planning.

- Clinical Training (1.5 person/months)

A consultant or consultants experienced in diarrhea case management and ORT training will assist in accelerating the establishment of ORT training units, in the development of the training program, methods and materials for use in ORT training units, and help conduct a clinical training course. In addition, assistance will be given in establishing mechanisms and methods for follow-up training and clinical supervision.

- Research, Monitoring, and Evaluation (2 person/months)

Short-term technical assistance will be provided to assist in designing a monitoring and evaluation system for program activities, based on the program's specific operational targets and incorporating and/or improving upon existing information systems and routine reporting. In addition, short-term TA will be provided for the design of CDD operational research activities and for the implementation of a small number of operational research studies.

- ORS Supply Management (1 person/month)

Short-term TA will be provided to ensure the steady supply of adequate amounts of ORS in both rural and urban areas. Specific tasks will include:

- Reviewing the estimated packet requirements over the period 1986-90 and making re-estimates as required;

- Assessing current and projected donor commitments for ORS, including ORS in the Essential Drugs Program, and their adequacy vis-a-vis estimated packet requirements.
- Assessing local production capacity to fulfill public sector ORS needs (especially as the GOK assumes increasing financial support for the Essential Drugs Program);
- Examining the role of private sector sales of ORS in the CDD program;
- Examining the implications of current import policies on ORS supply (imported finished packets are now subject to duty since they are classified as food items).

5.2.2 Long-term Technical Assistance

PRITECH will also provide up to 21 person-months of long term technical assistance through the provision of a project Resident Expert. This expert will be recruited in Kenya to work full-time on the CDD program with the national program staff. He/she will be expected to make a substantive technical contribution to the program in one of several areas of expertise -- ideally health communications and/or project administration/management. The expert will also act as PRITECH's representative in Kenya and be responsible for managing PRITECH's overall contribution to the program. Two alternative job descriptions for the PRITECH Resident Expert are listed in Annex 3.

5.2.3 Equipment

PRITECH will provide a vehicle for use by the Resident Expert and a limited amount of office equipment for his/her office if required.

5.2.4 Operational Costs

PRITECH will also provide a limited budget for operational costs in the following areas:

- Fuel and maintenance for the Project vehicle;
- Salary and per diem for 1 driver;
- Operational research;
- Materials development and production.

5.3 Implementation Schedule

	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J
1. Review of proposal by MOH, USAID, and PRITECH				X	X																		
2. Final approval of proposal.						X	X																
3. Recruitment of Resident Expert.				X	X	X																	
4. PRITECH visit to interview candidates.							X	X															
5. Resident Expert hired and in place.							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6. Program planning TA visit.					X	X				X													
7. Clinical training TA visit.						X				X													
8. Communication planning TA visit.				X																			
9. Financial management TA visit.							X																
10. Research, monitoring, evaluation TA visits.					X							X										X	
11. Message Development TA visits.					X							X											
12. Materials Development TA visits.																							
A. Training Materials					X	X	X																
B. Print Materials							X	X	X														
C. Radio Materials									X	X	X							X	X	X			
13. ORS Supply TA visit.							X																
14. PRITECH home office visits.									X			X										X	

5.4 Management

The primary overall responsibility for managing the PRITECH intervention will be with a designated Kenya program manager at the PRITECH home office. This program manager will coordinate the proposed shortterm TA, provide technical support for the PRITECH Resident Expert (see below), and ensure continuity of PRITECH inputs through periodic (at least 3) visits to Kenya. The proposed short-term TA will be provided by the following institutions:

Communications - Academy for Educational Development (AED)

Program Planning - PRITECH or Johns Hopkins University (JHU)
School of Hygiene and Public Health

Clinical Training - PRITECH or JHU

Financial Management - PRITECH or JHU

ORS Supply Management - Management Sciences for Health

Research/Monitoring/Evaluation - PRITECH or JHU

PRITECH also proposes to hire a local full-time Resident Expert for the ORT program to provide ongoing technical assistance to the program in the areas of either management/administration or communications; to ensure the timely provision of PRITECH short-term TA; and to coordinate and manage this TA locally. Two alternative job descriptions are included in Annex 3. The Resident Expert would be under the administrative supervision of the CDD Program Manager. Technical back-up, including visits to Kenya, would be provided by the Kenya program manager at PRITECH (and by a communications expert at AED if the Resident Expert is a communications specialist).

5.5 Evaluation

For the short-term TA and operational funds proposed, there are a number of expected outputs which will be measured (Did they occur? What was their quality? How timely were those inputs?) Expected outputs are outlined below for the various inputs.

<u>Proposed Input</u>	<u>Output</u>
Program planning	<ul style="list-style-type: none">• CDD program objectives, targets, indicators defined• ORT strategy formulated• Management system and responsibilities established• Detailed work plan formulated

Proposed Input

Output

Financial management	<ul style="list-style-type: none">• Financial analysis (including CDD needs) done• Detailed budget (national/district) formulated• Funding sources defined (short term/long term)• Cost recovery or other internal funding options explored and proposed
Clinical training	<ul style="list-style-type: none">• ORT training centers established• Clinical training program formulated• Training schedule formulated and training begun
ORS Supply management	<ul style="list-style-type: none">• Packet requirements determined• Sources of packets defined for short- and long-term• Local production capacity to meet anticipated need determined• Private sector involvement in ORS supply and distribution explored• System for peripheral distribution of ORS strengthened
Research/monitoring/evaluation	<ul style="list-style-type: none">• Program monitoring and evaluation system formulated• Operational research studies formulated and conducted
Health communications	<ul style="list-style-type: none">• National CDD communications plan formulated• Priority CDD messages for all major language groups formulated• Priority educational materials (ORT community workers manual; ORT flyer; radio series scripts) developed• Pilot educational campaign in priority districts in Western Kenya conducted
Operational funds	<ul style="list-style-type: none">• Workshops conducted• Training and educational materials produced• Operational research studies conducted

An evaluation of the Resident Expert's activities and of PRITECH's role in fulfilling the objectives of the PRITECH contribution as outlined on page 9, will occur through both internal qualitative reviews based on a review of monthly reports from the field and periodic visits by the Kenya program manager based at the PRITECH home office, and by an external review in year 2 by a team of technical consultants (perhaps as part of WHO program review).

PRITECH will support, with short-term TA, MOH efforts to develop evaluation tools for measuring the impact of its CDD program vis-a-vis its goals, especially focusing on acceptance of ORT and behavioral change (effective use).

5.6 <u>Budget</u> (Draft)	<u>Budget over</u> <u>21 or 22 months</u>
SHORT-TERM TECHNICAL ASSISTANCE (14 p/m @ \$11,000 per month)	\$ 154,000
EQUIPMENT	
Vehicle	\$ 14,000
Office Equipment	\$ 1,000
OPERATIONAL COSTS	
Vehicle Gas and Maintenance	\$ 15,000
Driver	\$ 1,500
Driver Per Diem	\$ 6,750
Operational Research	\$ 30,000
Materials Development/Production	\$ <u>45,000</u>
	\$ 267,250

In addition, PRITECH will finance the PRITECH Resident Expert and his/her supporting costs.

This draft budget, particularly operational costs, is subject to review and approval by the PRITECH Washington office and AID/Washington.

6.0 STRATEGIC OPTIONS

There appear to be two major strategic options available to Kenya's national CDD program planners and managers at this time.

The first of these is to proceed basically as the program is now proceeding--as an essentially public sector program, with moderately increasing levels of support accorded by the Ministry of Health and funding assistance provided by donors, which will place the program firmly among primary health care priorities in the country over the next five years. This is a solid strategy and will certainly move CDD far ahead of the halting progress it has made over the past five years. Given competing program priorities in the public sector, however, and the fact that many health services in Kenya are provided through private sector institutions (PVO's, private practice physicians, traditional practitioners), it is highly unlikely that the national program will be able to come anywhere near the morbidity and mortality reduction targets it has set. The potential danger in such a strategy, as seen in other countries, is that support for the program may lapse in the absence of clear evidence that it is having an impact.

The second strategic option is a considerably more ambitious one. This option would require the Kenyan government to make a significantly greater commitment to CDD than it is currently making. Greater priority would need to be given to CDD and ORT at national and district levels in terms of staff time and responsibility. A significant commitment to expanding and coordinating private sector involvement would be required, in terms of ORT promotion and training among private practitioners and facilitating an orderly but rapid expansion of commercial production and distribution of ORS. CDD would become the leading edge of a major Ministry of Health initiative in child survival. While a more ambitious and resource-intensive alternative, this option would have concomitantly higher pay-offs. Most importantly, such a strategy would almost certainly demonstrate significant, measurable reductions in child morbidity and mortality in the relatively short term. Above and beyond the gains for CDD, this strategy could assist the MOH strengthen certain of its fundamental systems, such as budgeting, financial management, and drug supply. For example, as in other countries PRITECH is assisting, substantial technical assistance and training could be provided to national and district staff in budgeting and determining recurrent costs for CDD activities, an exercise with clear salutary effects on the MOH's capability to conduct financial planning and management in other areas as well.

7.0 OTHER RECOMMENDATIONS

1. Expedite a national ORT policy decision (including recommendations on ORS packets size and mixing container), ensuring careful attention to the issue of home solutions to be recommended, particularly in view of other recent country experiences with sugar-salt solutions.

2. A high priority should be given to the establishment of a national ORT training center, followed by ORT centers in those districts where the program is starting first.

3. Expedite the assignment of other full-time national CDD program staff, and clearly define the responsibilities of each.

4. Establish a Technical Advisory Group for the CDD program, composed of representatives of research institutions, key donors, and senior staff in the Ministry of Health. This group should meet on a regular (perhaps quarterly) basis to review program progress to date and exchange technical information, including the results of operational research relevant to CDD program policy and operations.

5. Identify all NGO's involved in CDD/ORT activities and invite them to join the existing Consultative Committee. In view of the large number of NGO activities underway at the community level and to ensure coordination and standardization of approaches, the Consultative Committee should meet on a regular rather than an ad hoc basis.

6. Add to the Consultative Committee representatives from the pediatrics and nursing associations and the pharmaceutical industry, as well as representatives from relevant Ministries (e.g., Information/VOK) not presently included.

Annex 2

A PRELIMINARY COMMUNICATION STRATEGY FOR THE KENYA CDD PROGRAM

I. COMMUNICATION RESOURCES IN KENYA

Kenya has a rich diversity of communication resources that could be utilized by the CDD program and other national health programs. The spectrum of these resources is indicated by the institutions visited by the PRITECH team which had a communications function, including:

- The Department of Adult Education in the Ministry of Education, whose adult education/literacy programs reach approximately 300,000 people every week and which is producing a set of health materials (with UNICEF assistance) developed around the UNICEF GOBI themes.

- The Kenya Rural Press Project, operated by the Ministry of Information and UNESCO, which is publishing 7 regional newspapers in Kiswahili estimated to reach 50,000 people each on a fortnightly basis.

- AMREF, whose Training Department is involved in regular health programming with the Voice of Kenya and the production of a wide range of low-cost health learning materials, and whose Health Behavior and Education Department conducts research and provides technical assistance in health education for many other institutions.

- The College of Health Professions, with a current enrollment of 1860 students in 15 different faculties, which along with 12 provincial institutions trains all allied health professionals in Kenya.

- The Faculty of Medical Education at the College of Health Professions, which trains teachers for all Kenya's health training institutions and is also currently operating a health learning materials project with WHO assistance.

- The Staff Education Department at Kenyatta National Hospital, which provides in-service education on a regular basis to the hospital's 1200 nursing personnel.

- The Voice of Kenya (VOK), which broadcasts in English, Kiswahili, and 18 vernacular languages to an estimated 12 million listeners (radio), and has several weekly health-related radio programs, a regular schools broadcast service, and a commercial service which provides a 50% discount on purchased air time for socially-oriented programming.

- The Health Education Department in the Ministry of Health, which trains health education officers, provides technical support to District Health Education Officers, produces pamphlets and posters at its own print facility, works regularly with VOK, and has just completed a primary school health education curriculum with the Kenya Institute of Education.

- CARE, which produces a comic-book style educational magazine and distributes it to every primary school in the country six times a year.

- The Kenya Red Cross and other NGO's such as the Salvation Army and the Aga Khan Foundation, which together operate a vast private service delivery network.

- Ciba-Geigy/Orrro Marketing, which are exploring the potential of the private retail system to increase the distribution and use of ORS.

II. LESSONS FROM OTHER ORT PROGRAMS

A. Media

ORT communications experience to date has strongly suggested the integrated use of three communication systems in order to achieve maximum impact:

- Radio, the most effective medium for achieving extensive informational coverage in most countries;

- Physicians, health workers, and other influential providers of care and information, the channel most likely to give credibility to ORT and assure its acceptance as a new health practice;

- Simple print and graphic materials, such as an ORS packet label or a pictorial flyers on mixing ORS, given to every mother, to assure that the educational message is timely and that the advice a mother needs is at hand when she needs it.

B. Messages

The most successful ORT communications programs have focused on the intensive dissemination of a small number of messages. These messages must be carefully developed through formative research among target audiences to ensure that they are understandable and acceptable in terms of local language, concept, and culture.

The priority messages for public dissemination in an ORT program include:

- Correct mixture of ORS.
- Correct administration of ORS.
- Encouragement of feeding during and after an episode of diarrhea, including continued breastfeeding and use of appropriate home-available foods and fluids.
- Discouragement of purging and other harmful practices when they exist.
- Referral advice--when to seek help from the health system.

C. Problems

Two major problems, or potential problems, for communications efforts have been identified through the experience of a number of ORT programs.

First, a premature communications program, particularly one designed to stimulate consumer demand, can have serious negative consequences for a national health program if it is not sufficiently prepared for the demand created. A clearly-articulated ORT policy, well-trained health staff, and reliable ORS supply and distribution systems must be in place before the launching of an ambitious communications program.

Second, a number of country programs have experienced difficulties in teaching the use of sugar-salt rehydration solutions to a large public audience. The difficulties stem from the complex instructional task of teaching a new procedure involving three separate measurements--sugar, salt, and water--each of which must be accurate. In several countries, data show that as many as 25-30% of the solutions mixed by mothers soon after receiving instruction contained dangerously high levels of sodium. Even where large percentages of a population have been taught to correctly mix sugar-salt solutions through intensive education programs, experience has shown that mixing accuracy and use have fallen off drastically if a strong program of educational reinforcement is not maintained.

In a recent paper on home management of diarrhea (WHO/CDD/SER/86.9) WHO states the following about the choice of home fluids to promote in an ORT program:

"Countries should select the approach that is safest, most effective, and most practical in their particular circumstances. As a general guide, solutions should be used that are physiologically appropriate, easy to prepare accurately, and for which the ingredients and utensils are widely available. Solutions which require that mothers learn and carry out new instructions for their preparation and use--be they SSS or food-based solutions to which more salt than usual is added--should be recognized as being more difficult to prepare and use accurately.

"The review has shown that the education of mothers to prepare and administer properly a reasonably acceptable SSS is a task requiring considerable time and reinforcement. Evidence to date suggests that it is increasingly more difficult for mothers to understand a message on the preparation of SSS, to remember the message to prepare SSS accurately, and to administer it properly when required." (WHO/CDD/SER/86.9)

III. DEVELOPING KENYA'S CDD COMMUNICATION STRATEGY

A. Potential Activities

As already indicated in Section I by the large number and variety of communication available in Kenya, there are many potential communication activities which could be usefully undertaken by the CDD program. These include:

- Development of a comprehensive broadcast activity, using both existing health programs and strategic placement of purchased spot programming, with a particular emphasis on VOK's vernacular language services.

- Development of a training program to make health workers more effective face-to-face health educators, with ORT as the content focus.

- Development of a CDD/ORT manual for health and other community workers to help ensure standardization of ORT practice and educational messages.

- Mass distribution of of simple print and graphic materials, such as posters and flyers, to target populations.

- Preparation of articles for existing print media, including national newspapers, regional newspapers, medical journals, Ministry of Health newsletters, NGO publications, etc.

- Accessing the newsreels produced by the Ministry of Information for distribution in commercial cinemas.
- Ensuring that CDD/ORT content is incorporated into the appropriate pre-service curricula at the College of Health Professionals and other health training institutions.
- Incorporating CDD/ORT content into the health education curricula of primary and secondary schools.
- Incorporating CDD/ORT content into VOK's schools' broadcasting program.
- Intensifying the use by community health workers of schoolchildren and women's groups as channels and multipliers of CDD and other health education messages.
- Targeting physicians and pharmacists as particularly important audiences for ORT education through the development of special educational materials and professional conferences.
- Establishing regular communications among the major institutions involved in CDD activities through such means as a CDD program newsletter, regular meetings at the national and district levels with NGO partners, etc.
- Facilitating policy decisions that will encourage maximum distribution and promotion of ORT and ORS by the private commercial sector within accepted national standards.

B. Planning for Priorities

With such a multiplicity of resources and options to choose from, the obvious immediate task for the CDD Program vis-a-vis communications is to establish clear priorities among activities to be undertaken. PRITECH recommends that this be done through the development of a comprehensive CDD communications plan. This plan will identify the various resources available and appropriate roles for them to play in the national program, prioritizing use according to clearly stated communication objectives and to the management capacity of the program. It will establish a detailed implementation schedule for communication activities, identify specific training and public education materials required, and develop a budget for their production. A PRITECH consultant or consultants will be made available to assist the national CDD Program staff develop this plan.

An essential part of this planning process is the development of key messages for public dissemination, based on careful formative research conducted among members of the various target populations. This research, probing existing health knowledge and practices, will provide the Ministry of Health

another source of data upon which to base a policy decision critical to the communications effort -- what home foods and fluids should be promoted by the program. The other important policy decision that the Ministry must make before communications activities can be launched concerns the size of the ORS packet the program will promote. This decision, based upon a survey the Ministry is now conducting on the sizes of containers available in rural areas, is expected within the next several months.

C. Goals and Objectives

The overall immediate goal of the communications of the CDD program should be to increase the use, correct use, and continued use of ORT. Other goals, including prevention of diarrhea, while extremely important, should take second priority until ORT, with its more immediate impact on child mortality, is firmly established.

Specific measurable communication objectives (e.g., percent of audience exposed to messages, percent knowledgeable about messages, percent acting on messages) should be developed and included in the CDD communications plan.

D. Target Audiences

The primary audience for the CDD communications program is mothers and other caretakers of children under 5, i.e., those who must be taught how to recognize the signs of diarrhea and dehydration and what appropriate home management actions to take to treat and prevent the illness.

Important secondary audiences include health service providers (physicians, nurses, community health workers, and pharmacists), as well as extension workers, teachers, schoolchildren, and others.

E. Strategies

The overall strategy of the CDD communications program should be to deliver consistent, actionable educational messages to target audiences, through multiple channels and over a significant period of time to ensure adoption and maintenance.

While specific strategies should be chosen during the development of the CDD communications plan, the following are recommended as priorities on the basis of PRITECH's assessment visit:

1. Reaching all relevant medical and health workers, in both public and private sectors, with well-designed ORT training programs and/or training materials.

2. Mobilizing and coordinating the CDD/ORT activities of Kenya's large NGO sector, ensuring that a standardized set of messages is being disseminated throughout.

3. Integrating standardized CDD/ORT content into primary health care and other community development project activities at all opportunities.

4. Improve the Ministry of Health's health education capability for CDD and other programs by strengthening District-level health education operations and including a health education methodology module in all CDD training sessions.

5. Maximize the exposure of target audiences to CDD messages through intensive use of mass media, both broadcast and print, using them in a complementary fashion for not only promotion but instruction as well.

F. Messages and Materials

Decisions on specific messages and materials must also be reached during the planning and message development activities above. Messages selected should include those priorities areas identified in Section II-B (Lessons from Other ORT Programs); however, PRITECH also recommends consideration of the development of the specific types of educational materials indicated below.

The following types of educational materials have proven useful in a number of national ORT programs:

- An ORT manual for community-level workers.
- Simple educational materials (e.g., booklet or flip chart) that community workers can use to teach mothers.
- A simple pictorial flyer or leaflet on ORS mixing and administration for mass distribution to mothers (This has taken the form in some countries of an illustrated ORS packet label, an instructional envelope in which ORS packets are distributed, and a plastic envelope with ORS mixing instructions which also services as a measure of 1 liter of water).
- A diarrhea management wall chart for use in training health personnel and posting on health clinic walls.
- Specially designed packets of technical readings on ORT for physicians to inform and persuade them about ORT.
- Materials targeted at pharmacists, including ORS promotional posters and point-of-purchase ORS displays.

- A CDD program logo, which is used on print materials to provide visual coordination and publicity for the program.

- A variety of radio materials, including a program slogan, repeated spots carrying single messages, and longer instructional programs on ORS mixing and administration.

Annex 3a

PRITECH RESIDENT EXPERT

Job Description #1 (Management Specialist)

The PRITECH Resident Expert will have the following responsibilities:

1. Facilitate CDD program implementation, including the integration of CDD activities with other health initiatives.
2. Assist the CDD program manager in the planning and coordination of CDD activities, including regular liaison with research bodies, NGO's and private sector groups active in CDD.
3. Participate in the program supervision and operational problem-solving through regular visits to the districts.
4. Provide administrative support the CDD central management unit.
5. Plan and organize PRITECH (and other) technical assistance, in cooperation with the CDD program manager.

The PRITECH Resident Expert will be recruited locally in Kenya and financed by PRITECH, and seconded to the CDD Program. He/she will be supervised by the CDD program manager. He/she will submit monthly reports to the CDD program manager and to PRITECH. An initial appointment will be made for 90 days; this period can be extended for approximately 18 months.

Annex 3b

PRITECH RESIDENT EXPERT

Job Description #2 (Communications Specialist)

The PRITECH Resident Expert will have the following responsibilities:

1. Provide long-term technical assistance to the CDD

Program in the area of health communications.

2. Provide a central point of coordination for all CDD/ORI communication activities conducted by the Ministry of Health, NGO's, research institutions, and other organizations.

3. Coordinate the specialized short-term TA in health communications which PRITECH will provide (e.g., planning, message development, materials testing).

4. Assist the CDD program manager in the planning and coordination of other CDD activities as appropriate.

5. Provide local management for PRITECH's overall contribution to the CDD program.

The PRITECH Resident Expert will be recruited locally in Kenya and financed by PRITECH, and seconded to the CDD program. He/she will be supervised by the CDD program manager. Technical supervision will be by PRITECH's health communications specialist. He/she shall submit monthly reports to the CDD Program Manager and to PRITECH. An initial appointment will be made for 90 days; this period can be extended for approximately 18 months.

Annex 4

Persons Contacted

USAID

Ms. Linda Lankenau, Health Officer
Mr. Gary Merritt, Chief, HPN
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Dr. Anders Blaxhult, WHO Associate Expert, CDD/EPI Program
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Dr. Mutema, Faculty of Medical Education, College of Health Professions
Dr. Dominic Mutie, CDD/EPI Program Manager
Mr. Peter Ndungu, Kenya Health Learning Materials Project
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Mr. W. Omondi, Clinical Officer

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UNESCO

Mr. Kabiro, Coordinator, Kenya Rural Press Project

UNICEF

Mr. Francis Kamondo, Programme Officer
Mr. John Spring, Programme Officer for Health

Voice of Kenya

Mr. James Mungai, Commercial Manager