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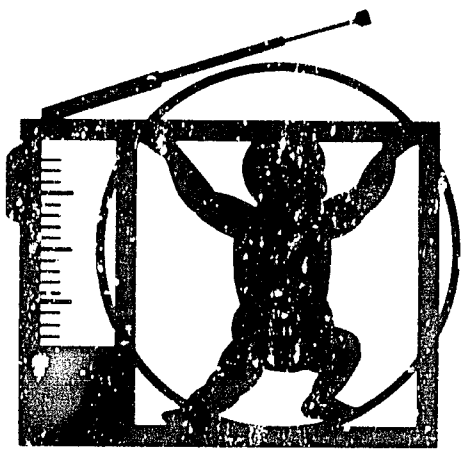


HEALTHCOM

INDONESIA

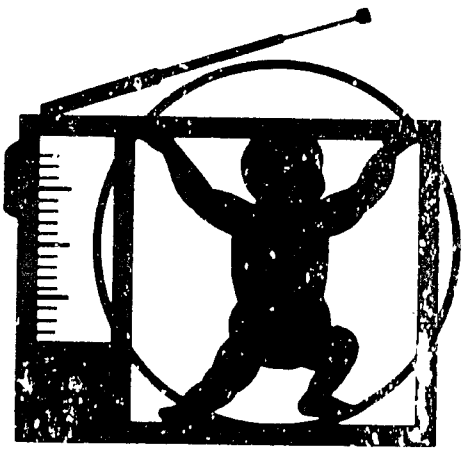
Implementation Plan

a program of the
Bureau for Science and Technology, Office of Health and Office of Education
Agency for International Development

through a contract with the
Academy for Educational Development

and subcontracts with the
University of Pennsylvania, Applied Communication Technology, Needham Porter Novelli and PATH

Contract #DPE-1018-C-00-5063-00



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HEALTH COMMUNICATION FOR CHILD SURVIVAL

IMPLEMENTATION PLAN — INDONESIA

1986 - 1988

Dr. John Davies - Field Director
Dr. Benson Hausman - Epidemiologist

HEALTHCOM Project

DPE-1018-C-00=5063-00

Academy for Educational Development

October 1986

GLOSSARY

AED	Academy for Educational Development
BKKBN	National Family Planning Coordination Board
Camat	Subdistrict chiefs
CDC	Centers for Disease Control
CDD	Control of Diarrheal Diseases
FETP	Field Epidemiology Training Program
GOI	Government of Indonesia
HKI	Helen Keller International
HTR&D	Health Training Research and Development
IMR	Infant Mortality Rate
Kabupaten	Regency
Kader	Community health volunteers
Kanwil/Diklat	Provincial Administrative Office/Provincial Directorate of Training
KAP	Knowledge, Attitudes, and Practices survey
Kecamatan	Subdistrict
LGG	Homemade sugar and salt solution
LKMD	Village Self-Reliance Board
MIS	Management Information System
MMHP	Mass Media and Health Practices
MMT	Morbidity, Mortality, and Treatment
MOH	Ministry of Health
MSH	Management Sciences for Health
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PIL	Project Implementation Letter
PKK	Women's Family Welfare Organization
PKM	Center for Community Health Education
PLKB	Family planning
Pos Yandu	Integrated Services Post
PSU	Primary Sampling Unit
Puskesmas	Community Health Center
Repelita IV	Fourth Five-Year National Plan, 1985 - 1989
RRI	National Radio Indonesia
R.T.	Smallest administrative grouping of houses, equivalent to a neighborhood
SRI	Survey Research Indonesia
TVRI	National Television Indonesia
USAID	United States Agency for International Development
WHO	World Health Organization
YIS	Yayasan Indonesia Sejahtera

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APPENDIX

I. HEALTHCOM PROJECT BACKGROUND

In August 1985, the Academy for Educational Development was awarded the contract to implement HEALTHCOM for the U.S. Agency for International Development for a five-year period. The project represents the continuation of a USAID-sponsored program entitled Mass Media and Health Practices (1978 to 1985). HEALTHCOM is an initiative of the Office of Health and the Office of Education within AID's Bureau for Science and Technology. In Indonesia, it is jointly funded by the USAID/Mission and this central bureau of AID.

HEALTHCOM is designed to help developing countries and USAID Missions increase the impact of their child survival programs through improved communication. It is part of the Agency for International Development's overall strategy to reduce infant mortality, and it works with other AID programs, such as PRITECH, SOMARC, CCCD, and the Agency's Child Survival Action Program. HEALTHCOM coordinates its efforts with international agencies, such as WHO and UNICEF, to improve consumer education and to promote the correct use of oral rehydration therapy (ORT), immunizations, and other child survival technologies.

HEALTHCOM will work in up to 17 countries, using its research and development approach to adapt lessons from past programs to the special needs of each country. HEALTHCOM is also committed to strengthening the local institutional capacity to use communication more systematically and will provide both short- and long-term technical assistance for training and development. Primary attention will be given to diarrheal disease control, immunization, breastfeeding, Vitamin A, infant nutrition, vector control, and personal hygiene.

It is a comprehensive program of assistance which relies on insights from several disciplines, including social marketing, instructional design, behavorial analysis, and anthropology. The project strengthens child survival programs by working with local professionals to:

- Conduct audience and product research
- Select appropriate messages
- Design radio, TV, and print materials
- Integrate different message themes
- Select local advertising agencies
- Train counterpart professionals
- Link private- and public-sector resources.

The Academy for Educational Development is the prime contractor responsible for selecting and fielding 17 resident advisors and the short-term consultants, as well as coordinating HEALTHCOM activities with each Mission, other centrally funded AID activities and other donors.

The Annenberg School of Communication of the University of Pennsylvania is the principal evaluation subcontractor charged with developing practical evaluation designs to measure the effectiveness of the communication strategies in each country. Applied Communication Technology is the subcontractor responsible for follow-up evaluation studies in Honduras and The Gambia and longitudinal analysis of program impact. Needham Porter Novelli, one of the leading U.S. social marketing firms, will be providing marketing and advertising assistance to the project. PATH will use its considerable experience in the development of print materials and appropriate health technology, and its "Safe Birth Plus Two" program, to provide assistance in these areas.

In addition, the following leading institutions have agreed to collaborate with HEALTHCOM, providing specialized assistance as required. They include The Futures Group, John Snow Health Group, Management Science for Health, University Research Corporation, the Wilmer Institute (ICEPO) and the Department of International Health, and the School of Hygiene and Public Health of John Hopkins University.

This Implementation Plan describes the proposed HEALTHCOM activities in Indonesia from 1986 through 1988. It was developed based on two previous documents and planning activities, "The Five-Year Plan of Public Health Communication in Indonesia" written in 1984 and the "First-Year communication Plan for West Java" written in February 1985.

HEALTHCOM has provided technical assistance to Indonesia since February 1985. Dr. John Davies, the Field Director, was selected in August 1985 and took up residence in January 1986. He works with both the Ministry of Health and private-sector agencies to develop the public health communication activities described in this Plan. In October 1985, Dr. Benson Hausman was contracted as the HEALTHCOM epidemiologist; he provides assistance to the Ministry of Health Diarrheal Disease Control Program.

II. INDONESIA — PROJECT BACKGROUND

The HEALTHCOM Project will assist the Government of Indonesia in applying diarrheal disease, immunizations, family planning, nutrition, and maternal/child health. The project will initiate communication work in diarrheal disease, followed by immunizations, Vitamin A, and nutrition.

West Java was selected as the first site for implementation. The lessons learned from conducting systematic communication in this province will then be applied to other provinces. HEALTHCOM will continue to work in West Java, however, five-tuning and institutionalizing the public health communication activities.

A. RATIONALE FOR THE PROJECT

West Java is one of the three most highly populated provinces in Indonesia, with a total population of 28 million. The 1984 Indonesian Consumer reports that the strip between Jakarta and Bogor, known as the Jakarta-Bogor corridor, has a population density of more than 1,300 people per square mile and represents one of the major markets in the country. West Java is also representative of Indonesia in that approximately 78 percent of the population resides in rural areas and 12 percent live in urban areas.

Following is a profile of the province:

Total population: 32 million

Number of mothers with children less than five years of age: 2 million

Number of children under five years of age: 5.4 million

Number of children under one year of age: 850,000

Infant mortality rate: 130/1,000

Principal causes of infant mortality: diarrheal disease, pneumonia, and immunizable diseases, particularly tetanus

Number of households: 5.6 million

Number of regencies (counties): 24

Number of villages: 7,000

Number of hospitals: 35 that are Government-operated; 38 that are private

Number of Puskesmas (MOH clinics): 612

Number of CDD Puskesmas where staff have received training by the CDD program: 70

Approximate numbers of village kader (primary health care workers): Nutrition - 73,580, BKKBN - 55,785, CDD - 31,500

Peak diarrhea season - October through January.

Indonesia has been described as an "interrelated conglomerate of distinct regional cultures." An effective communication component will, therefore, need to consider the cultural and socioeconomic differences, as well as infrastructure, of each province. At the same time, one of the keys to previous successful communication activities has been placing responsibility for implementation at the provincial level. This approach has resulted in greater interministerial and intersectoral coordination and support and has made the print materials and messages more responsive to the unique differences of each province. The proposed plan, therefore, calls for implementation of the communication component by province and attempts to strengthen the provincial-level institutional skills and capacity for continued communication planning and delivery.

Dehydration caused by diarrhea is the leading cause of infant morality in Indonesia. Almost a half million children under the age of five die from dehydration every year. The GOI in its 1984 to 1989 Five-Year Plan (Pelita IV) committed the government to lowering the case fatality rate of diarrheal disease to less than 1 percent by 1990, through extension of the Control of Diarrheal Diseases (CDD) Program and improved ORT promotion. The 1983 CDD program review and consultancies by Dr. John Snyder, Drs. Huq and Mulia from ICCDR-B, and Dr. Stephen Lerman, all report extensive coverage of ORS packets throughout the MOH health system as well as various kader (primary health care workers) programs. The reports indicate, however, a limited demand for ORS and numerous instances of incorrect use. As a result of these finding MOH health planners cite the need for a concentrated, intensive public education component to increase ORS demand and to support correct ORT behaviors.

B. OBJECTIVES

The primary objectives of the communication component are to:

1. Change public behavior and ultimately lower infant mortality by applying a systematic, health communication component applicable to the five priority programs -- diarrheal disease, immunizations, family planning, nutrition, and maternal/child health.

2. Strengthen national, provincial, and local-level institutional capacity to apply a continuing and systematic public health communication program.

3. Support the Subdirectorate for Control of Diarrheal Disease in designing and implementing a communication component to modify behavior related to oral rehydration therapy (ORT).

C. PARTICIPATING INSTITUTIONS

The project requires the coordination of several sectors, not all of which are normally geared toward working together. The four of the sectors include the Government of Indonesia, supporting United Nations agencies, USAID, and the Indonesian private sector. At this point, the following organizations are involved in implementing the plan:

1. Government of Indonesia includes Directorate of Communicable Diseases, Directorate of Immunization and Subdirectorate of Nutrition, Subdirectorate of Family Planning, BKKBN, West Java Health Department, and several other governmental departments in West Java.

2. United Nations agencies include UNICEF and WHO.

3. USAID includes USAID Mission to Indonesia, sectoral areas of diarrheal disease control and immunization, Asia Bureau, plus several contracting agencies chiefly through either HEALTHCOM or PRITECH contracts, and USAID Washington.

4. Indonesian private sector includes Ciba-Geigy, Fortune Advertising, Pharos, Survey Research Indonesia, and Yayasan Indonesia Sejahtera (YIS).

D. CONSTRAINTS

Project activities are restricted by the following:

1. A general lack of experience regarding mass media in support of health activities, particularly in rural areas

2. A lack of information concerning the possible reach and effectiveness of specific mass media, particularly in rural areas

3. Prohibition of product advertising on television and difficulties in obtaining access to television for health programming

4. Inadequate funding for health communication activities

5. A possible overdependence upon a formal health care system, which is understaffed, underfinanced, and overburdened in some areas

6. Limited experience with massive interpersonal communication activities, such as thoroughly training thousands of nonformal volunteer health workers (kader)

7. A possible overdependence upon volunteers as a long-term, reliable adjunct to the health care system

8. High drop-out rates for kader in some areas

9. A complex coordination system between governmental agencies and among varying levels of government

10. An organizational system for the integrated health activities which has not yet been faced with all of the complexities involved in integrating varying sectors and interventions into a more intensified community-based health care system

11. Numerous differences among the various participating organizations.

III. THE COMMUNICATION PLAN

This third section describes the seven major activities accomplished to date: (1) completion of three studies in West Java; (2) placement of long-term consultants; (3) partial implementation of evaluation studies; (4) designation of management responsibility within the Department of Health; (5) development of communication material, (6) drafting of the USAID Project Amendment for additional control of diarrheal disease activities; and (7) the workshop on Communication and Social Marketing for Child Survival.

A. SUMMARY OF ACTIVITIES TO DATE

1. Specific Studies

Three studies with implications for communication design in West Java were completed in 1985. They were the "ORT Service Provider Research, West Java;" "A Qualitative Survey on Oral Rehydration Therapy in Five Regencies in West Java;" and "ORS Mixing Trials." The results of the three studies are described later in this document.

2. Long-Term Consultants

Several long-term consultants are in place and have continued to assist with planning since 1984. They are Rodney Hatfield of UNICEF, Warren Jones of CDC/USAID, and Mohammed El Naggar of WHO.

Dr. Benson Hausman, AED/USAID epidemiologist attached to the Subdirectorate for Control of Diarrheal Diseases (CDD), began work in November 1985. James Bates, MSH/USAID management consultant to CDD (50%), began work in October 1985. Dr. John Davies, AED/USAID representative for health communication and social marketing, began work in 1985 and assumed a full-time position in January 1986. Steven Fitzgerald, CDC/WHO training and logistics consultant, began work in January 1986. He is based in West Java; the others are based in Jakarta, but also have worked extensively in West Java.

3. Evaluation Studies

Two major baseline studies have been conducted in West Java. The first, a Morbidity, Mortality, and Treatment (MMT) household survey, funded by WHO, was implemented in 1985. Because mortality data were determined to be invalid, resurveying was conducted in 1986. The utility of the results and implications for its use as a baseline instrument are discussed in Chapter V, along with a plan for obtaining additional useful measurements of the effects of planned interventions upon morbidity and mortality. While the quality of mortality data obtained from the MMT Survey has been questioned, some of the treatment information may be quite useful for communication design purposes.

The second set of studies are Knowledge, Attitudes, and Practices (KAP) surveys of three populations: mothers, or other caretakers, of children under five years of age; community volunteers (kader), and community health center employees. Design of the study was completed in January 1986, with the assistance of Dr. Robert Hornik, of the Annenberg School of Communication, University of Pennsylvania, through a sub-contract with AED.

In April, USAID provided necessary funds to the Department of Health, which signed a letter of intent to use Survey Research Indonesia (SRI) to undertake the studies. Data collection for the first wave of the study was conducted in June 1986. The results will be used as a baseline for evaluation through annual replications. The results will also be used for guiding modifications of communication design. The KAP activities are described in more detail in Chapter IV, "Summative Evaluation."

4. Management Organization

For management of the CDD component, technical policies are elaborated by the Directorate of Communicable Disease of Direct Transmission and implemented by the Subdirectorate for Diarrheal Disease Control, with assistance from several central governmental agencies, provincial governmental agencies, and private-sector firms. Two important central governmental institutions for communication are the newly formed central offices: (1) the Directorate for Community Participation, which has direct links with the Ministry of Interior's Village Self-reliance Boards (LKMDs) and the Women's Family Welfare Organization (PKK), which in turn have close links with kader; and (2) the Center for Community Health Education (PKM), which designs and pretests communication materials.

At the provincial government level, management of the intensified CDD activities is the responsibility of a committee made up of officers of two units, namely PKM and Communicable Disease Control. This committee has drafted a detailed Implementation Plan for the provincial activities, which includes plans for establishing linkages with other governmental offices and community organizations. The committee receives assistance with planning, implementation, and evaluation from the respective counterpart offices at central level and from the consultants described in Section C, "Participating Institutions."

5. Development of Communication Materials

In 1985, two contracts for CDD communication materials development were placed with two private-sector organizations. Financial assistance for this activity was provided by UNICEF. Yayasan Indonesia Sejahtera (YIS) produced and pretested a manual for training health clinic workers, a manual for training kader, a manual for use by kader in training caretakers, and a training game that simulates the decision-making process required when implementing the diarrheal disease treatment plan at the community level. The flipchart was completed and printed in March by Ciba-Geigy. While it was designed for nationwide use, some copies may be used in West Java. The YIS work was completed during March and April 1986.

Fortune Advertising developed and pretested two posters, plus educational radio spots and television spots. The work was completed and delivered during February and March 1986.

6. Drafting of USAID Amendment

USAID has produced a two-year amendment to its existing CDD assistance, which will provide approximately $3,000,000 for nationwide activities and for West Java CDD activities. Approximately $1,000,000 has been allotted for communication activities, including technical assistance, operational support, and several studies designed to improve communication.

7. Workshop on Health Communication and Social Marketing

UNICEF held a two-day workshop, from April 9 to 10, 1986 which focused on the principles of social marketing, as applied to integrated health services in Indonesia. The 50 participants included representatives of the Department of Health offices responsible for the integrated primary health care intervention as well as for health education. Invitees also included officers of UNICEF, USAID, Needham Porter Novelli, and WHO.

The first day included an introduction to social marketing concepts by the HEALTHCOM resident advisor; a description of the recently launched BKKBN/USAID/SOMARC condom social marketing project by Dr. Haryono Suyono, Director of the National Family Planning Board (BKKBN); and a description of the advertising agency process for diarrheal disease control message development by Mr. Indra Abidin, Executive Director of Fortune Advertising (Fortune Advertising also designed the communication component of the BKKBN condom project.). The second day of the workshop included a description and analysis of: (1) the Bangladesh Social Marketing Project for contraceptives; (2) the California Heart Study; and (3) the Honduras MMHP oral rehydration activities by the HEALTHCOM resident advisor. This portion was followed by small-group sessions aimed at applying social marketing principles to the design of a hypothetical tetanus toxoid project.

B. SUMMARY OF RESEARCH AVAILABLE TO DATE

The Five-Year Plan relied partly on preprogram research to delineate specific communication activities. On the basis of an analysis of the medical problem (infant diarrhea) and the communication and instructional requirements to be used, the following investigation topics were identified: (1) understanding of and response to diarrheal episodes in children under five years of age; (2) general child-care practices; (3) infant feeding patterns; (4) existing distribution systems; (5) health system outreach; (6) media habits and preferences; and (7) opinion leadership patterns.

The preprogram research was completed in 1984 and 1985. It consisted of the following three specific studies:

- Caretaker Research: Five kabupatens, 12 rural villages (none with electricty). Ten "focus groups," with nine to ten mothers in each group. In-depth interviews with selected mothers, kader, and opinion leaders. Implemented by Survey Research Indonesia (SRI), with funding from UNICEF.

- Provincial-Level Inventory: Identification of and interviews with existing institutions, programs, and personnel who could work with and support the communication component in West Java. These included the Ministry of Religion, the Ministry of Information, PKK, National Radio Indonesia (RRI), and other institutions. Implemented by central and provincial-level MOH staff.

- Service Provider Research: Five regencies (kabupaten) in West Java province were chosen -- two coastal, two mountainous, and one in Banten. Two villages in each kabupaten. In-depth interviews and direct observation with 48 community health center (Puskesmas) staff and 195 kader. Implemented by central and provincial-level Department of Health staff.

Because the results of the preprogram research are so critical to the design decisions reflected in this Implementation Plan, a brief summary of some of the most noteworthy findings are presented below.

1. Summary of Information from Caretakers

- Mothers and grandmothers are the principal caretakers.

- Diarrhea was viewed as a common problem which mothers divided into two types, nonserious and serious. Serious diarrhea is further subdivided into three categories, that is, normal or mild, moderate, and serious, as follows:

  - Normal diarrhea ("indah, huamprok, luga, mapag, and tangga"): Perceived as being part of and important to infant development. Three to five defecations per day. Normal appetite and activity. Treatment: none.

  - Moderate diarrhea ("nyiur, tetoya, and banyu"): Five to six stools per day, more watery than normal. Appetite and or activity loss. Treatment: traditional or store-bought medicinces. Later: Puskesmas.

  - Serious diarrhea ("mejan, ngahejan, ngelamat, sariawar usus and senget"): Ten or more stools per day. Blood and mucus. Caused by food. Treatment: Puskesmas.

  - Critical diarrhea ("muntaber and kolera"): More than ten times per day in form of fluid. Vomiting. Body weight decreases rapidly. Hollow eyes. Treatment: Puskesma.

- Although virtually no mothers either knew or understood the concept of dehydration, they did notice that a child with diarrhea is thirstier than normal. They report giving five or more glasses of tea to a child who has diarrhea. They also report giving more breastmilk than normal, because the child cries more often.

- Treatment is generally related to perceived seriousness. Signs which concern mothers are loss of appetite, loss of activity, vomiting, and fever.

- The most common early treatments are traditional infusions (jamus) and store-bought medicines, particularly amebicides and antibiotics.

- Purging does not appear to be a common treatment at any stage of diarrhea, although some of the jamus may have purging properties.

- There was less use of homemade sugar and salt solution (LGG) and of packaged salts, such as "Oralit." Those who did know about LGG frequently recited formulas that were too high in sodium.

- Mothers report mixing Oralit incorrectly; they said they mixed the 1,000 cc packet in a small amount of water because "medicines should not be diluted."

- Mothers were probably not given ample amounts of either LGG or Oralit solution to prevent dehydration.

- Reported feeding behaviors were much more positive. Mothers report that they continue feeding during diarrheal episodes and, as stated earlier, actually increase breastfeeding.

- Mothers also report feeding soft foods during diarrheal episodes, particularly bananas, rice flour, porridge or pudding, steamed rice, and vegetables.

- Radio and television ownership was much lower than expected. People, however, appear to listen to both media in groups. One of the problems for programming radio is the low range of many of the radio stations. Radio coverage for all of West Java may require broadcasting materials on many radio stations.

- Most radio listening occurs during the early morning. The most common viewing time for television is between 8:00 p.m. and 10:00 p.m.

- Print materials are almost nonexistent in the villages.

- Younger mothers (20 to 30 years of age) tend to be more literate than older mothers (and speak more Bahasa Indonesian). Fathers and children are the more literate members of the family.

- Other reported important sources of information are religious leaders, teachers, school children, the village head, and Puskesmas staff.

2. Summary of Information from Service Providers

Oral rehydration therapy (ORT) apparently suffers from an image problem at the service-provider level. Providers often prescribe antibiotics and other inappropriate drugs.

- Providers report prescribing ORS; the majority, however, could not correctly mix either the ORS packet or LGG.

- Some providers prescribe ORS for episodes with mild or no dehydration, but do not feel that ORS is appropriate for either moderate or severe dehydration. Providers also tend to stop ORS when the child vomits.

- Providers are, however, recommending breastfeeding and feeding of soft foods during diarrheal episodes.

- Almost all of the providers report that mothers have no liter measure with which to mix ORS packets.

- Most providers reported that they did not offer instruction regarding either the concept of dehydration or the use of ORS to replace fluids. One quarter of the Puskesmas staff stated that they do not provide patient instruction on any subject. Those who do so primarily use demonstration, posters, or brochures to relay information.

- Suggestions to improve the CDD program included "increase packet supply," "recommend the 200 cc packet," and "give more training to providers."

- More than half of the providers reported that they listen to the radio frequently. No single radio station had a majority of the audience, however. Early morning was again reported as being the most common listening time. The majority of the providers welcomed the idea of a radio course to improve training.

- Almost half of the providers reported that they watched television frequently -- generally betweeen 8:00 p.m. and 10:00 p.m.

- Most providers state that they enjoy reading, particularly magazines and newspapers.

- Almost all of the providers welcomed the idea of a competition to improve CDD program implementation. Approximately one-third favored competitions between Integrated Services Posts (Posyandu), one-third intervillage competition, and one-third inter kader competition. (Providers were allowed multiple responses to this question.)

- Village kader reflect the KAP patterns of the Puskesmas staff. Few differences exist between the two groups. Two-thirds of the kader reported that they currently have and distribute ORS packets from their homes.

C. FUTURE FORMATIVE RESEARCH

Eighteen communication development studies will be used to assess specific aspects of the ORT communication system and to test new techniques before attempting to use them on a provincewide basis. The rationale for these studies includes: (1) little is known about the various methods that the health care system can use to communicate with kader and mothers about ORT; (2) information about specific communication methods will help to provide more efficient and effective communication; (3) small studies often cost less than implementing larger-scale communication on a trial-and-error basis; and (4) a systematic testing of existing methods, along with some new and untried methods, should lead to a cost-effective media mix, which dovetails with the training system and the Oralit distribution system.

The following communication studies do not form an exhaustive list, but are illustrative of the types of studies needed. Some can probably be implemented most effectively by MOH personnel, others by private-sector agencies. Results of these studies will be used to help plan improvements in continuing activities during Phase 2 of the USAID CDD Amendment.

1. Simulation trial. A simulation trial of interpersonal and print communication required to train clinic staff, kader, and mothers will be implemented as soon as the training manuals and the print materials are available. The simulation trial will use trainers from the regency level in Garut Regency, to train workers in six clinics. The clinic workers will then train kader, who will then train some mothers in their own neighborhoods. Trained interviewers from the Department of Health will then evaluate the process by interviewing clinic trainers, kader, and mothers to quantify knowledge and compliance with correct mixing and administration practices, as detailed in Chapter IV. The simulation trial report will be used to make any necessary improvements in the training process. The trial and the report can probably be completed within a two-week period. The USAID Mission provided the funds to the Department of Health in April.

2. Child caretaker communication network. What is the communication network surrounding a sick child? Is it mostly the mother? Grandmother? Other caretakers? Are husbands a prime source of information? Where does the caretaker seek advice when the child is sick? What are caretakers' attitudes toward health care providers, such as commercial providers, kader, the health system? What mass media do caretakers have access to? This study delineates the most suitable channesl to use in communicating with caretakers.

3. ORS mixing. What home fluids are being used? What are the most efficient ways of training caretakers to mix home fluids correctly? Person-to-person? Mass media? Some combination? Are special techniques needed for illiterate mothers? Are there language-specific communication needs? Is the ORS packet an important communicator? What conflicting information do caretakers receive about mixing and giving ORS? Is enough ORS solution given? If not, why not? Is the number of ORS packets given to the mother a factor in deciding how much to give? What are the most convenient sources of ORS? Kader? Puskesmas? Pharmacies? Other commerical outlets? This study should help to specify the best types of information and communication channels needed for improving ORS use.

4. Improvement of training techniques. What training techniques work best in Indonesia? Are training techniques passed on to trainers of kader? Are kader trained in training techniques so they can train mothers and other caretakers? This study will be used to find and insert useful techniques at the several levels required to undertake training in West Java. A video camera and playback equipment will be needed for this study. The equipment will be used to photograph trainees as they demonstrate their new skills. The film will then be played back to them immediately. This method, called "video microlesson transfer training" has been found to be one of the fastest and most cost-effective training methods. It will be used at the kabupaten level and at the Puskesmas level, to help train the more than 2,000 health workers who be training other staff as well as kader.

5. Kader training by radio. Is radio training of kader feasible? Through RRI? Private stations? What format(s) would be most effective? At what time of day? Which language(s)? What format aimed at individuals or at listening groups? Who should design and produce such programs? This study should identify the potential of radio as a training channel.

6. ORS Packaging. How well does the Oralit-200 packet communicate? Are the words and the graphics well understood? Is the print large enough? Are there some simple improvements required? Is a catch-cover required? Should several packs be packaged together? This study should lead toward the design of a superior package, which communicates more effectively, if such a packet is required.

7. Liquid ORS. "Would a ready-mixed ORS liquid be more acceptable to caretakers of children? More efficacious? More cost-effective? What size should it be? Bottled in glass? Tetrapak? Distributed free of charge or sold through commercial channels? This study should determine whether there is a market niche for a ready-made liquid form of ORS.

8. Village communication media. Is radio the only easily accessible mass medium? Is TV watching among illiterates prevalent? Are mobile cinemas feasible? Cost-effective? Is puppetry feasible? Are graphic flyers for mothers useful as reinforcement? If so, how would they interact with kader and health workers? This study should identify cost-effective communication channels that may reach illiterate mothers who have poor access to other media.

9. **Reaching kader by mail.** Are most kader accessible through the postal system? Will their names and addresses be readily available? What materials could be sent by post? Would the system be reliable? Cost-effective? This study would test the efficacy of the postal system as a direct mail communication method for kader.

10. **Kader communication aids.** What communication aids do kader need, as a minimum? An interactive poster? Mnemonic games? Handouts for mothers? For other workers? A mixing glass or cup with graphic instructions? A bag in which to hold the materials? An identification badge or insignia? This study should prepare kader to interact successfully with mothers and to train mothers well.

11. **Diarrheal disease process.** How do caretakers define of the diarrheal disease process? The causes? The effects? What elements in their perceptions of the process can be built upon? Which must be contradicted? Is diarrheal disease perceived as being a problem? What are the most useful signs or symptons that signify danger? This study will assist planners in designing messages that are most acceptable and that will result in optimal behavior.

12. **Provider-mother communication.** How do clinic workers, kader, and mothers interact? What advice do the providers give the mother about treating diarrheal disease? How do providers treat the child? With ORS? Other medication? What questions are asked? How are questions answered? Which communication materials are used? How? What are the problems in the system? Training? Understanding? Logistics? What sources of information do providers have? What supportive supervision is available? This study, requiring in-depth discussions with clinic workers and kader, as well as observation of clinic processes, will provide a useful picture of the communication and treatment patterns from which resistance points may be identified and overcome.

13. **Consumer marketing study.** Where do mothers who currently provide ORS to their children obtain supplies? From where would they prefer to obtain supplies? What form would they prefer? What quantities would they want to obtain? At what price? This study will seek to build on mothers' and caretakers' preferences for obtaining oral rehydration assistance in the most efficient manner.

14. **Retailer study.** What do various types of retailers know about oral rehydration? Who is aware of ORS? What types of promotion, education, and motivation would be required to persuade retailers to participate in diarrheal disease control activities? This study would provide guidelines for planning a distribution campaign at the retail level.

15. **Manufacturers' and distributors' study.** What would most interest manufacturers and distributors with respect to taking a more active part in diarrheal disease control? Production of ORS? Are they amenable to reducing promotion of other drugs? What criteria should be used in selecting one or more manufacturers and distributors of oral rehydration products? This study may include a workshop aimed at exchanging information about diarrheal disease control methods and programs.

16. **Pricing study.** What is the price elasticity of demand curve for oral rehydration products among the at-risk families? What retail prices might maximize the market? What would a suitable pricing structure be for the manufacturing and distribution chain? What type and quantity of subsidies might be required to provide optimum maximization of the market size? This study should provide information about an important factor in the marketing mix.

17. Pharmacists' feasibility study. What are the possible roles of commercial pharmacists? Of dispensers? Can they be reached through the pharmacists' professional groups? Reached better by detail-men? What do they need to make them more knowledgeable? This study could be linked to the retailer study. It will be critical to find the most efficient and effective ways of reaching and working with this group, which provides the lion's share of diarrheal disease products to the public.

18. Learning from mothers. What are the best ways to learn from mothers? By asking them directly through interviews? Observing their purchasing habits? In-depth discussions? How do commercial entrepreneurs change mothers' behavior? What are the techniques used by communication researchers, behaviorists, and anthropologists? How can program officers at central levels and provincial levels enlist the help of mothers in designing programs? This study will provide a picture of useful consumer-centered research methods that can be used in Indonesia. It should probably take the form of a seminar or workshop using MOH employees, donor representatives, and commercial-sector entrepreneurs as the resource people who have successfully studied and used consumer information. The resource people should include experts in quantitative communication research, qualitative research, behavior modification, and anthropology.

D. BEHAVIOR ANALYSIS

1. West Java Diarrheal Disease Treatment Policy

The national treatment policy for oral rehydration includes a three-level treatment plan: (1) for "beginning diarrhea," provide additional fluids, breastmilk, and food; (2) for mild and moderate dehydration ("diarrhea with weakness"), continue home fluids and provide either a homemade solution of sugar and salt, or a solution made from prepackaged ORS, such as "Oralit-200," and (3) for dehydration which does not respond to treatment or for severe dehydration, provide oral rehydration as above, and seek help from a fixed health facility, such as a hospital, health clinic, or doctor. Treatment from such fixed facilities may include intravenous infusions.

For West Java Province, the policy has been simplified by relying on Oralit rather than on a choice of Oralit or sugar-salt solution. The treatment policy for West Java has three stages:

Home Therapy to Prevent Dehydration: Increase fluids (any that are available in the home, including teas, water, juices, coconut water, and so forth) as soon as the child has "abnormal stools." Increase breastfeeding. Continue feeding.

Treatment of Mild Dehydration with Prepackaged WHO-Formula ORS: Mothers will obtain prepackaged ORS ("Oralit-200") from the Puskesmas, village kader, or retail stores as soon as the child with abnormal stools loses appetite or activity or has vomiting or fever. Continue breastfeeding. Give additional foods to recuperate weight loss during and after diarrheal episodes.

Fixed Facility Therapy for Moderate and Severe Dehydration: Seek assistance at fixed facilities if the child does not improve with the foregoing treatment.

Rationale for the West Java treatment policy includes the following considerations:

The policy builds upon mothers' reported perceptions.

- As reported above, mothers appear to perceive four stages of seriousness for diarrhea: normal, moderate, serious, and critical. This implementation plan employees a similar typology.

- Mothers appear to use signs and symptons, such as loss of appetite, loss of activity, and fever, as indications that treatment is required. The policy uses these same signs and symptoms to indicate more appropriate action, namely ORT instead of unnecessary amebicides and antibiotics.

The policy builds upon mother's reported behavior.

- Mothers report that their children are thirstier when they have diarrhea and that tea and other home fluids are given. Mothers also report that they are breastfeeding more because children cry more when they have diarrhea. This treatment plan builds on these behaviors by promoting the use of any available home fluids to prevent dehydration.

- Mothers report that they continue to feed soft foods during diarrheal episodes. The treatment plan builds on and reinforces this behavior.

The policy helps to overcome reported constraints.

- The preprogram research indicates an extremely limited knowledge of LGG. Many mothers who did know about LGG described formulas which would result in solutions with too much sodium. To effectively teach LGG to such a large population would require a major portion of the limited time and resources avaiable. Such an approach would provide less time and resourses to teach other parts of the treatment policy, which, in itself, is a massive educational task. The new plan maximizes limited MOH resources by simpliflying home therapy to any available fluids and focusing educational activities on effective treatment of mild dehydration at the community level.

- Mothers report that one of the most common problems with administering ORS is that children reject the solution. By teaching mothers and kader to use ORS only when the child is mildly dehydrated (as indicated by appetite and loss of activity), children may be more willing to drink sufficient quantities of the solution.

- The treatment plan standardizes packet distribution for treatment of mild dehydration using the 200 cc packet. Most mothers already have a suitable glass. One of the previous mixing constraints was that mothers did not have a liter measure to mix 1,000 cc packets.

The policy is cost-effective.

- The Ministry of Health is distributing Oralit 200 packets to prevent dehydration in the home in some areas. With a population of 32 million people and more than 4 million children under five years of age in West Java alone, packet distribution to prevent dehydration among 60 percent of cases

of diarrhea in children under the age of five would have required approximately 50,000,000 annually. Under the new policy, where Oralit-200 is used to treat dehydration, all cases of dehydration could be treated with and estimated 9,000,000 packets of Oralit-200.

- The new treatment plan focuses Ministry of Health activities on relatively inexpensive drugs, namely Oralit-200, plus some intravenous infusions. This policy will act to decrease the quantity of expensive, inappropriate drugs now being used.

This treatment plan is based on hypotheses that will continue to be tested in West Java. Formative research will be implemented in other provinces, to ensure that the Ministry CDD policy is appropriate to provincial infrastructure and cultural socioeconomic patterns.

2. Specific Behaviors Derived from Treatment Policy

- **If Child has "Beginning Diarrhea":** tell caretaker to: (a) give breastmilk, (b) give food, and (c) give additional fluids after each defecation.

- **If Child has "Diarrhea and Weakness":** (a) take child to trained kader or to Puskesmas worker, (b) kader or Puskesmas worker assesses child.

- **If Kader or Puskesmas Worker Assesses Mild Dehydration (signified by loss of activity or loss of appetite or by fever or vomiting):** (a) kader or Puskesmas worker mixes and administers one packet of Oralit-200; (b) explains correct mixing and administration of Oralit-200 to caretaker; (c) gives caretaker five packets of Oralit-200 to use at home; (d) tells caretaker to return in 24 hours if diarrhea continues, or the appetite does not return, or activity does not return, or child vomits more than three or four times.

- **If Kader or Puskesmas Worker Assesses Moderate or Severe Dehydration (signified by sunken eyes, or rapid weight loss, high fever, or vomiting more three or four times):** kader or Puskesmas worker: (a) mixes and administers one packet of Oralit-200; (b) explains correct mixing and administration to caretaker; (c) gives caretaker five packets of Oralit-200; (d) tells caretaker to take child directly to hospital or doctor; and (e) tells caretaker to give as much mixed Oralit-200 as possible and breastmilk or food while traveling to hospital or doctor.

- **If Kader or Puskesmas are not Readily Available:** Caretaker: (a) obtains Oralit-200 and instructions on how to mix and administer, from retailer (b) mixes and administers one packet of Oralit-200, (c) continues to search for trained kader or Puskesmas worker for assessment.

E. TARGET AUDIENCE

The primary audience will consist of: (1) caretakers (usually mothers) of children under five years of age and (2) kader. The rationale for including kader, as well as caretakers, in the primary audience is that both groups are primary providers of health care for children.

The secondary audience will consist of: (1) provincial-to-Puskesmas level MOH staff, (2) subdistrict chiefs (Camat), intersectoral forums and village chiefs, (3) PKK leaders, (4) traditional birth attendants, and (5) retailers of Oralit-200. Within the secondary audience, the provincial-to-Puskesmas level MOH staff and the retailers who stock Oralit-200 will receive special emphasis, because they are the providers to whom the community looks for guidance and for treatment.

F. COMMUNICATION OBJECTIVES

The following objectives are based upon the national target set by the Department of Health, that is, to treat 60 percent of the diarrheal cases with ORT by 1989. The target date for the following objectives is for the time of the KAP wave to be fielded prior to the termination date of this Implementation Plan. Thus, if launch in one kabupaten occurs in July 1986, followed by provincewide expansion by June 1987, and a KAP round in June 1988, the entire province will have had a minimum of 12 months of activities, and the following objectives should have been met.

- Ninety percent of the caretakers of children underlying trained kader, trained retailers, and trained Puskesmas workers will know that all cases of diarrhea should be given food and fluids.

- Fifty percent of the caretakers, 70 percent of health kader, 70 percent of retailers who stock household drugs, and 90 percent of Puskesmas workers will know that Oralit or Oralit-200 is a recommended treatment for either mild or moderate dehydration (operationalized as "diarrhea with weakness").

- Sixty percent of the caretakers and 70 percent of the health kader will expect that food and liquids will be recommended by Puskesmas workers for children who have diarrhea.

- Sixty percent of the caretakers and 70 percent of health kader will expect that Oralit or Oralit-200 will be recommended by Puskesmas workers for children who have "diarrhea and weakness."

- Forty percent of the caretakers who have treated a case of diarrhea within the six-month period prior to interview will have given food and liquids to the child.

- Forty percent of the caretakers, 60 percent of the health kader, and 70 percent of the Puskesmas workers who have treated a case of "diarrhea and weakness" within the six-month period prior to interview will have given either Oralit or Oralit-200.

- Seventy percent of the kader, retailers who stock household drugs, and Puskesmas workers will recommend food and liquids for diarrhea.

- Seventy percent of the kader, retailers who stock household drugs, and Puskesmas workers will recommend Oralit or Oralit-200 for diarrhea with weakness.

- Fifty percent of the caretakers and 80 percent of health kader will report that they do know how to mix packaged ORS, and 80 percent of each of those two groups will be able to mix Oralit-200 correctly (dissolve all of the package in between 200 cc and 300 cc of water).

G. SOCIAL MARKETING ANALYSIS

1. Products

This part describes the "product line" for the integrated primary health care interventions from a social marketing perspective. It also analyzes ORT as a "product."

For the next two years, the product line might include ORT, tetanus toxoid immunization, and Vitamin A. As a result of discussions with the Director of Immunization and Epidemiology, the baseline KAP survey in West Java will include a module on tetanus toxoid. A Vitamin A intervention has been discussed with an officer of the Directorate for Nutrition and with the Country Representative for Helen Keller International. These products will be distributed and promoted through the same public-sector network using a common logo and theme. At present, however, only the ORT intervention has been planned to the point where a social marketing analysis is particularly beneficial.

ORT may be perceived as a "product" to be marketed. The ORT product includes the behavioral changes named above concerning recognition of diarrhea and the three levels of behavior required to treat the disease. Part of the ORT product is a tangible product, namely the "Oralit-200" brand of oral rehydration salts.

ORT is not a simple product. It is a complex product with several shortcomings, which include the following:

Three ORT products. The product design has three levels of treatment, not each of which may always be clear in the minds of customers. Thus, there may be some difficulty in describing the three products to the consumer. This constraint will be partially removed when the results of planned consumer development studies inform management about customer perceptions of different types of diarrhea. Then the product may be modified, as necessary.

Different brands of ORS 200 cc equivalent now exist. Commercial brands include "Oralit-200," and "Oralit," "Krystalit 200," and "Pharolit 200." Public-sector brand names are being standardized to one -- "Oralit-200" -- for distribution and use at the Puskesmas, kader, and household level.

Different sizes of ORS packets exist. Public-sector brands in West Java include "Oralit-200" and "Oralit" in a 1,000 cc size. An attempt will be made before product launch to "retrench" the 1,000 cc size out of health clinics and into hospital pharmacies only, where they can be used for preparing liter bottles of solution for use on wards. Near sanitary "Oralit-200" will be the standard for distribution through clinics and kader for home use, while the 1,000 cc equivalent will be used only in hospitals.

Commercial brands are uncoordinated with public-sector brands. The fairly large range of brands and sizes in the commercial-sector make promotional support by the public sector for commercial brands quite difficult. A set of guidelines for involving commercial-sector distributors is currently being discussed. If the guidelines for involving the commercial sector are followed, the results could substantially improve the cost-efficiency and cost-effeciveness of the West Java activities. The commercial involvement depends upon brand names as well as size selection. A Pharos Co. will be distributing "Oralit-200" in West Java.

The benefits of this private-sector distribution will be large. First, an ORS product with one brand name will have wider distribution. Second, the planned communication activities will include the promotion of commercial Oralit-200 as well as public-sector packets. Third, the public-sector activities will be easily expanded to include educational communication for retailers and point-of-sale materials for shops that stock the commercial "Oralit-200." Fourth, commercial distributors will be asked to underwrite the costs of retailer education materials and point-of-sale materials and to distribute them to shopekeepers, set them up, and maintain them. Finally, a potentially important provider, namely retailers, will become part of the activities. One implication of this systematic involvement of the commercial sector will be the need for the public sector to assist in designing suitable communication materials needed for training retailers.

ORS packet information is not necessarily clear. As currently designed, the Oralit-200 packet is small, uses extremely small print to provide instructions, and incorporates graphics which may be unclear. Although the UNICEF packet was pretested, it was not designed by potential consumers, some of whom are illiterate. One or more of the Communication Development Studies should help to provide instruction that are readily understood. A recent PIACT/PATH study indicated that a paper catch-cover may be a useful addition to the packet.

ORS packet preparation may be difficult. The content of the Oralit-200 packet must be mixed with 200 cc of water. The PIACT/PATH study illustrated that a substantial proportion of mothers, particularly illiterate mothers, mixed inappropriately concentrated or inappropriately diluted solutions. The planned communication activities should help to alleviate this problem. Further, one or more of the Communication Development Studies should help to provide improved ways for communicating the mixing instructions more clearly.

ORS administration may be difficult. The currently formulated Oralit-200 may not be particularly well-flavored and, therefore, not well-accepted by children under five. If it is unacceptable to children in need, compliance with correct administration will be low. One or more of the Communication Development Studies may lead to improved formulations, perhaps including a ready-mixed liquid.

2. Price

This portion provides a discussion of price from a social marketing perspective. For the purpose of this report, price will consist of both the pricing structure and socioeconomic cost. Pricing structure refers to actual pricing of the products. Socioeconomic cost 19 refers to the entire cost of the product, including all types of the costs incurred by customers.

a. Pricing structure

Public-sector policy includes a zero retail price, that is, customers do not pay for either ORT products or services provided to them as a result of the integrated activities described here. Most of the packets to be used in West Java are provided by UNICEF and will be distributed free of charge.

Commerical-sector products of the 200 cc equivalent size have a retail price range of 200 to 300 Rupiah, depending upon the brand name, although the suggested retail price is not printed on the packet. Most commercial brands available in West Java do have a price sticker, which is applied by the retailer. Public-sector policy does not

include attempting to regulate the commercial pricing structure, that is, the retail price or mark-ups through the distribution pipeline. This pipeline may have several levels -- including manufacturer, distributors, jobbers, wholesalers, wholesaler/retailers, fixed retailers and mobile retailers (hawkers).

b. Socioeconomic cost

The socioeconomic costs of obtaining and using ORT may be quite high. One or more of the planned Communication Development Studies will probably give management a better idea of the nature and severity of these costs and thus of ways of lowering them. The following may be involved:

- Changing entrenched perceptions of diarrheal disease. These perceptions may range from beliefs in supernatural causes to traditional beliefs about appropriate medications. The cost to the public sector of changing these beliefs may be considerable.

- Acceptance of new ideas. The perceived cost of changing from beliefs held by an entire community to the new, recommended behavior may be high. Some individuals may be quite reluctant to change behavior that is contrary to the views held by others in the community -- perhaps by important leaders. Public relations activities aimed at important secondary audiences should help to reduce this cost to consumers.

- Travel time. Travel time required to obtain help in the form of Oralit-200 or from trained people may deter acceptance of ORT, if the time involved is perceived as valuable and, therefore, expensive. Studies in other public health areas, particularly in family planning, have shown that travel time is quite strongly associated with acceptance of the product. As noted in the following section, this cost will be lowered by making the product more readily available.

3. Place: Product Procurement and Distribution Plan

This portion provides a discussion of "place" from a social marketing perspective. "Place" includes the entire procurement and distribution system to be used to make products readily available to customers who need them.

Currently, ORT is not readily available in many places. Upon implementation of the planned activities, however, ORT should be available in many hundreds of thousands -- perhaps millions -- of homes in West Java as well as in many additional homes in other parts of the country. It will also be available from thousands of health workers and kader. In addition, the commercial sector will provide ORT, particularly by providing ORS through knowledgeable retailers in more places.

Logistics

Oralit-200 packets are manufactured in Indonesia by several firms. They are purchased by central and provincial levels of government as well as by UNICEF. In West Java, they will be provided in cartons of 500; each carton will contain ten boxes of 50 packets. Cartons will be shipped from Bandung to each regency. Each regency will distribute cartons to each Puskesmas in the regency. Each Puskesmas will distribute one box of 50 packets to each kader at the time of training. Each Puskesmas will keep stocks for use at the Puskesmas as well as additional stocks for replenishing kader on demand.

Community-level resupply points will be set up; Puskesmas staff will ensure that these points are replenished periodically. When kader need more ORS, they will resupply themselves from these points; they will not have to travel all the way to a Puskesmas.

Commercial-sector distribution will operate independently of the public sector. At least one supplier (Pharos) plans to distribute Oralit-200 through commercial outlets in West Java. Oralit-200 packets will be needed in greater quantities as the number of distributors, including kader and retailers, increases and as demand increases. Funds from MOH and UNICEF are calculated to provide packets for only the initial year of each three-year provincial program, calculated at 145 packets per kader. Given expected dropouts and varying usage between kader, however, plus actual distribution to kader initially of only 50 packets with the remainder to be held at strategically located sites for resupply, more effective demand-based distribution plus increased consumption of commercially obtained packets should make this amount suffice for two or perhaps three years in actuality.

Supply Management

The following ORS supply management activities will be strengthened at the central level and in West Java:

- Public-sector logistics system development
- Commercial-sector expansion
- Dispenser training and motivation
- Production.

Some activities to be undertaken in West Java are antecedents to, and preconditions for, carrying through the national activities. In this sense, West Java will serve as the "laboratory" for gathering much of the information necessary for developing the national program. It will also serve as the "testing ground" for initial implementation and refinement of the elements of that program.

For example, a comprehensive review of procurement and distribution policies of ORS will be conducted. ORS supply management cannot be isolated from supply management of pharmaceuticals in general. To develop effective measures for improving the procurement and distribution of ORS, it will be necessary to have precise information on the operations, strengths, and weaknesses of the overall supply system, including the budgetary mechanisms, procurement procedures, storage, and transport as they function at the provincial and subprovincial levels. It also includes the links between the formal supply system and community-based workers. Finally, it will be necessary to understand the relevance of manufacturers of traditional medicines (Jamu) and community-level groups, such as PKK that are candidates for local sugar-salt mix income-generating activities.

Once a set of appropriate measures has been developed for improving supply management, it will be necessary to train provincial staff to execute them. In general, this will require a "training-of-trainers" approach in which selected national, provincial, and regency level staff will to train others in the new measures. While improved management of information will be at the center of this training effort, relevant aspects of supervision, transport, storage, and stock handling will also be covered. The following section describes the promotion strategy.

H. COMMUNICATION MESSAGES

Varying assortments of messages will be channeled to different audiences. The messages have been grouped for both primary and secondary audiences.

1. **Messages for primary audiences.** In West Java province, the primary audience will be exposed to messages instructing them to treat "beginning diarrhea," "diarrhea with weakness", and moderate-to-severe cases. Nationwide, only the first message will be used. The rationale for using only the first message nationwide is because of different treatment policies in the various provinces.

The rationale for not including messages about discontinuing inappropriate drugs is a tactical choice based upon the amount of information already included in the communication campaign. The amount is quite high, and to add additional information during early stages may be confusing. Thus, during the early stages, Oralit-200 will be stressed as the drug of choice without reference to other medicines. Later, Oralit-200 will still be stressed, but perhaps within the context of being better than other specific drugs. The communication designed to lower the use of inappropriate durgs will be combined with implementation of a supply management policy aimed at the same objective.

2. **Messages for secondary audiences.** In West Java, secondary audiences will be exposed to the same three messages, as well as to additional messages regarding the nature of the integrated health program the need for cooperation at all levels and the reduction of the use of inappropriate drugs. Nationwide, only the first two messages will be used; they will be designed as part of the recently negotiated "Second Nutrition and Community Health Project" supported by the World Bank, in which a "provider campaign" to be implemented by PKM, with assistance from Fortune Advertising, will educate employees of the Department of Health about the integrated primary health care activities and their intensification. The details of the communication plan have not yet been decided.

Rationale for the inclusion of messages about inappropriate drugs for West Java secondary audiences is based upon biomedical and budgetary grounds; many of the drugs currently used are in fact quite ineffective, some have detrimental side effects, and most are costly. Perhaps the supply of those drugs will be curtailed as the supply of Oralit-200 is increased. At the national level, it may be possible to include some messages about diarrheal disease treatment policy through the provider campaign.

I. MEDIA MIX

Four channels will be used: interpersonal, print, broadcast, and institutional. The first three channels will be used to reach primary and secondary audiences. The institutional channel will only be used to reach secondary audiences. Other channels may also be used later.

1. Interpersonal Channels

Interpersonal channels will be used in two ways: first, to reach the secondary audience in West Java with messages about the integrated program as well as the treatment policy. This will take the form of meetings at provincial, regency, and subdistrict levels. Many meetings will include officers of the Department of Health; as well as other governmental departments, such as the Department of Information. Print

materials will also be distributed at the meetings. These meetings will be planned and implemented by provincial staff, with the assistance of central staff. Fortune Advertising may also assist in the public relations aspects of some of the meetings.

The rationale for holding these meetings is based upon the need to involve decision-makers in the diarrheal disease control activities at as many levels as possible; meetings have been successfully used for this purpose throughout Indonesia. The rationale for using Fortune Advertising to assist with some types of meetings is based upon the public relations aspects of the process; Fortune recently assisted the launch of the Dua Lima condom project in the same way.

Second, interpersonal communication will be used to train caretakers (mostly mothers), kader, and health workers to provide appropriate treatment for diarrheal disease. The objectives of the training plan are to:

- Reinforce existing knowledge of kader on what is meant by diarrhea -- both in governmental and West Java terms
- Increase kader knowledge of the consequences of diarrhea
- Teach kader the ORT treatment policy or plan
- Reinforce kader skills on giving information to other kader and mothers
- Reinforce kaders' skills on recording and reporting cases of diarrhea.

2. Print

The following print materials will be produced:

- Logo (including a graphic-plus-theme)
- Badge for trained volunteers (kader), including the logo
- Certificate for trained volunteers
- Identification sign for volunteer's house
- Kader manual
- Reporting forms for kader
- Simulation game (A board game for four players, plus a trainer and recorder. The game simulates decision-making for diarrheal treatment. It will be used for training kader.)
- Interactive graphic for treatment of "diarrhea plus weakness," including use of Oralit-200 (in three sizes)
- Interactive graphic for treatment of "diarrhea plus weakness," including use of Oralit-200 (in three sizes)
- Plastic bag for volunteer supplies

- Public relations booklet for health workers (Pedoman umum)
- Covering letter for public relations materials
- Envelope for public relations materials (each envelope to contain items 12, 11, 9, 8, and 5 above, along with Oralit-200 packets).

Rationale for using print is based upon past experience in Indonesia and in other countries where community-based ORT programs have been successfully implemented. The combination of interpersonal communication (which usually begins with a formal training component) and print materials which are used to interact systematically with the interpersonal channel, is a powerful method of influencing knowledge, attitudes, and practices.

3. Broadcast

Broadcast will use two media: radio and television. Radio will be used nationwide as well as locally. Television may be used nationwide originally, then perhaps regionally. Radio will include spots as well as program. Two types of spots will be used which provide parallel content to the two interactive graphics, namely for "beginning diarrhea" and for "diarrhea and weakness." The following four plans have been drafted:

a. Plan for radio spots, West Java, July 1986 to June 1988. Following is a summary of the draft plan for radio spots. This draft is subject to change and elaboration; it does not include either ad type or spot length.

	Place	Station	60" Cost	Rupiah X/Day	Months	(000's)	Subtotal
A.	Launch Area						
	Garut	Antares	1,200	8	24	7,000	
	Garut	Rex	900	8	24	5,000	12,000
B.	Area 2						
	Bandung	All (RRI)	-	-	-	6,000	
	Tasikmalaya	Galuh	1,200	8	21	6,000	
	Tasikamlaya	Martha	900	8	21	4,500	16,500
C.	Area 3						
	Sumedang	Yusan	900	8	18	4,000	
	Sukabumi	Airlangga	1,500	8	18	6,500	
	Sukabumi	El Amigo	900	8	18	4,000	
	Cianjur	Chandra	900	8	18	4,000	
	Cianjur	Trisna K.	1,200	8	18	5,000	23,500
D.	Area 4						
	Majalengka	Artaco	1,500	8	15	5,500	
	Majalengka	Angkasa	1,500	8	15	5,500	
	Kerawang	Historis	1,260	8	15	4,500	
	Kerawang	Virgin	600	8	15	2,000	17,500
E.	Remainder of Province						
	Eight towns	(18)	1,000	8	12		50,000
			Total				119,500

Note: U.S. $Rp 1,124.

RRI Bandung broadcasts with 10,000 watts and, therefore, has a large radius; thus, "beginning diarrhea" spots will be started early on RRI, along with other RRI stations throughout Indonesia. "Diarrhea with weakness" spots will, however, be broadcast on RRI only after all kader within RRI radius have been trained.

b. Draft plan for radio spots, nationwide. Short spots promoting available food and drink for "beginning diarrhea," along with tie-in to "integrated primary health services" theme for the Provider Campaign described above. Preliminary discussions with R.R.I. central and provincial offices were promising.

c. Draft plan for radio programs, West Java. Programs probably aimed at community volunteers, perhaps a weekly short program. Content, timing, and cost under discussion with R.R.I., Bandung. Initial discussions were promising. First broadcast probably in September 1986.

d. Draft plan for television, nationwide. Same content as for nationwide radio spots, namely for "beginning diarrhea" only. Preliminary discussions with Television Republic Indonesia (TVRI) possibly in May 1986.

The rationale for using broadcast media is based upon some experience in Indonesia with radio and with considerable experience in other countries; radio has proven to be a powerful medium, particularly when combined with interpersonal communication and print. The rationale for using radio spots is their proven mnemonic power when used frequently. The rationale for using radio programs is based upon the need to complement interpersonal training of kader with continued training; not only will the radio programs give kader additional training, but they will also probably increase motivation, thereby resulting in a lower kader drop-out rate.

The rationale for using television is based upon its probable excellent cost-efficiency and cost-effectiveness. While obtaining access to TVRI is not simple, educational programming for ORT could be very inexpensive, because there is no direct charge for program time. Moreover, because commercial advertising is proscribed, good public health programming might be readily viewed and remembered by several important target audiences. Also of importance is the value of motion pictures as a training device; potentially, TV programs showing mixing of Oralit-200 could help immensely in establishing high levels of compliance with correct mixing and administration of the salts.

4. Institutional Communication Methods

Three institutional communication methods will be used to reach secondary audiences, namely an annual ORT Conference, a CDD Newsletter, and an Information Center. The annual ORT Conference will aim to stimulate interest in ORT and CDD activities, particularly by publicizing operational studies from within Indonesia. It will also include clinical studies and information from other countries. Primary health care activities which involve ORT, and specially interactions between ORT and other primary health care activities, will be given priority. Guidelines will be developed annually by the CDD. Conference management will be contracted to an outside institute.

The CDD newsletter will aim to publicize the value of ORT as a primary health care activity which is being integrated into health services. It will emphasize ORT-related activities in Indonesia as well as in other countries. It will include operational as well as clinical aspects. The audience will include MOH administrators and physicians, family planning supervisors, medical and nursing school faculty, nongovernmental agencies, and donor agencies. Editorial policy will be set by the CDD working group. The publisher will be the CDD Subdirectorate. Printing and distribution will be contracted to a suitable agency. The newsletter will be produced quarterly in Bahasa Indonesia. It will include translations of excerpts from "Diarrhea Dialogue" as well as original articles from Indonesia.

The Information Center for Diarrheal Disease will collect, catalogue, and distribute operational and clinical material to program planners, implementors, and evaluators. The Center will be located in an institution currently engaged in information-sharing activities. It will prepare a bibliography and an updated bibliography annually. Initial files will be provided from international sources, including WHO, PRITECH, and Johns Hopkins University. Announcements of accessions will be made through the newsletter described above.

The rationale for originating and developing these three institutions is that each will have a different, but important, role to play in disseminating information about diarrheal disease control. Currently, the flow of such information is limited to a few professionals. The additional communication should help to establish ORT as the treatment of choice among professionals and decision-makers throughout Indonesia.

5. Unconventional Media

Unconventional ("below-the-line") media will be piloted by way of the Communication Development Studies. Piloting is needed to establish indices of cost-efficiency and cost-effectiveness. Possibilities include special events, sampling, use of the postal system, puppetry, and mobile commercial film ("layar tancap").

The rationale for using unconventional media is based upon the need to use whatever media are cost-effective in reaching the various target audiences. The rationale for not including unconventional media at the outset is because of their unknown value and cost. Given available resources, it is probably a sound strategy to begin with the four major channels, each of which has proven value in public health communication programs, but to experiment with unconventional media in a systematic fashion. Then, those unconventional media which provide effective levels of cost-effectiveness could be included on a larger scale, perhaps becoming an integral part of the communication mix.

J. TRAINING PLAN

The Training Plan will be implemented using a tiered system of training: 18 key provincial trainers train five health workers in each regency (5 x 24 regencies = 120 regency trainers). Then the regency trainers instruct three workers in each health clinic (3 x 668 health clinics = 2,004 health clinic trainers). Then the trained health clinic workers train kader (668 health clinics x an average of 50 - 130 kader per clinic = 33,000 - 87,000 kader). The kader will then train mothers. There are two critical junctions in the system: (1) between health workers and community kader, and (2) between kader and caretakers (mothers). It is important that the clinic workers and kader are trained in "how to train" and that they have adequate training materials.

The rationale for this system is that it has been used successfully in Indonesia for other programs, such as family planning and nutrition. Similar systems have also been used successfully in other countries, such as Honduras, The Gambia, and Swaziland, for training village volunteers as part of an ORT program.

The training content is based upon the treatment policy. Three manuals have been designed by YIS, a private-sector organization under contract to PKM, using UNICEF funds: (1) for the regency-level trainers to use while training the clinic workers, (2) for the trained clinic workers to use while training kader, and (3) a kader manual with graphics for the trained kader to use while training mothers. One additional training tool, namely a two-piece graphic poster will also play an important role; the two graphics will be produced in three sizes: (1) large size for institutional use, namely on walls of clinics and Pos Yandu; (2) medium size for walls of kaders homes; and (3) small size for handouts to mothers as reminders of correct ORT therapy. The graphic was designed by Fortune Advertising under contract to PKM, using UNICEF funds.

IV. SUMMATIVE EVALUATION

Summative evaluation includes a multiround survey of knowledge, attitudes, and practices of three populations and several methods of measuring associations between the interventions and the effects of the interventions, particularly changes in morbidity and mortality.

A. Survey of Knowledge, Attitudes, and Practices

1. Purposes and Objectives

The information will be used to assist with the creation of campaign components and to measure progress, impact, successes, and problems. The objectives are to obtain information about: (1) the knowledge, attitudes, and practices of three populations, namely, caretakers of children, kader, and Puskesmas workers concerning diarrheal disease, and communication; (2) the social and economic characteristics of the three populations; (3) incidence and prevalence of diarrheal disease; and (4) tetanus immunization for mothers.

The specific topics on which data will be gathered are as follows:

- Knowledge about diarrheal disease and its treatment
- Knowledge about information sources, including personal and mass media communication
- Attitudes toward diarrheal disease, including its dangers and treatment by various methods
- Practices concerning treatment of diarrheal disease, including types of treatments and their availability, plus ORS mixing behavior
- Practices concerning communication, including interpersonal networks and mass media habits
- Social status of respondents, including languages understood, literacy, education, and demographics
- Knowledge, attitudes, and practices surrounding tetanus toxoid immunization.

2. Data Sources

Caretakers of children under the age of five are necessary data sources because they can provide the correct diarrheal disease treatment for their children, if they have ready access to the right products and information. Kader are necessary because they are the trainers of mothers and because they also provide treatment directly to children. Puskesmas workers are necessary because they are the critical links between the health care system and the communities.

3. Data-Collection Cycles

a. Provincewide. The first round of data collection will take place prior to launching the activities. The second round of data collection should take place approximately one year after the launch.

b. Garut. A short-term, before-and-after study will be implemented in Garut kabupaten because it will be the launch area. A replication study will be implemented approximately three to five months after launch, to provide a rapid assessment of the effectiveness of the activities.

4. Sampling Design

The following sample sizes should provide adequate validity and reliability for purposes of showing changes over time for knowledge, attitudes, and practices among caretakers. Highly statistically significant measurements of changes over time for kader and Puskesmas workers are not required.

	Puskesmas	Kader	Caretakers	All
Provincewide	50	50	750	850
Garut	30	30	300	360
Total	80	80	1,050	1,210

a. Provincewide. The provincewide survey will use 50 RTs (the smallest administrative groupings of houses, roughly equivalent to a "neighborhood" containing perhaps 35 to 45 households) as primary sampling units (PSUs). Selected PSUs will then be mapped and 15 households selected at random from each, to give a total of 750 respondents (caretakers of children under years of age). One kader and one Puskesmas worker from each PSU will also be interviewed. A two-stage cluster sampling procedure will be used. In the first state, 50 kecamatans will be chosen randomly, with a probability proportional to their population. Within each selected kecamatan one set of four contiguous RTs will be chosen randomly. Of those four a different one will be chosen randomly for each of the annual waves. The primary sampling list of 15 households will be backed up by a secondary list of ten households, some of which may be required to replace those on the primary list which do not have a child under the age of five.

b. Garut. The launch kabupaten of Garut will use an additional 20 PSUs, each with 15 caretakers, plus 30 kader and 30 Puskesmas workers. Two contiguous RTs or RWs, will be selected -- one for the "before" test and one for the "after" test.

5. Data Collection

Structured interviews of the three populations will be used. To the extent possible, the research instruments (questionnaires) for the three populations will be similar, to maximize comparability. Survey Research Indonesia (SRI) has been selected to undertake the KAP studies. SRI is probably the best available agency for this type of research; it has had considerable experience with household surveys in West Java, including diarrheal disease surveys. The quality of past work on behalf of USAID, the Department of Health, and BKKBN has been uniformly high.

6. Technical Assistance

Technical assistance is available to SRI from the Department of Health and from Dr. Robert Hornik, of the Annenberg School of Communication, University of Pennsylvania.

7. Organization and Management of the Research

The Directorate General of Communicable Disease Control and Environmental Health will contract with SRI, using USAID funds requested by way of a Project Implementation Letter (PIL). Three officers of the Department of Health will participate in the research -- one each from CDD, PKM, and from the CDD Committee in West Java. The three officers will assist SRI with implementation and will gain experience in quantitative survey techniques.

Questionnaires for use by SRI interviewers will be drafted in English, with the assistance of Dr. Robert Hornik. SRI will translate the questionnaires into Bahasa Indonesian and Sunda. CDD and PKM officers and Dr. Hornik will review the questionnaires prior to pretesting (the immunization module will be reviewed by the Immunization Directorate). SRI will then pretest and complete the questionnaires, interview respondents, process and analyze the data, provide a oral and a written report, and forward copies of the data tapes or disks to Dr. Hornik for additional analysis and reporting.

The implementation schedule for conducting the research appears below:

8. Implementation Calendar

		Completion Date 1986
1.	Contract with SRI	April 15
2.	Obtain Funds	April 31
3.	Design Questionnaire	May 15
4.	Pretest Questionnaire	May 31
5.	Garut:	
	o Interview respondents	June 30
	o Process and tabulate data	July 15
	o Report	July 30
6.	Provincewide:	
	o Interview respondents	June 30
	o Process data	July 31
	o Report	August 15
7.	Report: Dr. Hornik	November 31

B. MORBIDITY AND MORTALITY MEASUREMENT

The ultimate goal of the treatment plan is to reduce child morbidity and mortality. Through the prevention of dehydration and appropriate treatment of dehydrated children, deaths associated with diarrhea can be reduced substantially. Accurate measurement of this reduction, however, is difficult in most developing countries, where vital statistics are often either lacking or incomplete and routine surveillance systems are often rudimentary. Indonesia is no exception to this general rule. Accurate measurement of mortality through either special efforts or studies, whether for baseline or project impact evaluation purposes, remains difficult from a cost-effective point of view.

1. Background

To illustrate some of the difficulties already encountered, in West Java two efforts undertaken to obtain baseline mortality rates have produced results that are probably invalid. For practical evaluative purposes, the results should probably not be used.

From September to October 1985, using WHO funds and with WHO technical assistance, a Morbidity, Mortality, and Treatment (MMT) survey was conducted in 6 regencies (out of 24) in West Java Province. A total of 23,390 children under five years of age were surveyed, using provincial and regency health staff as supervisors and interviewers. All causes and diarrhea-associated death rates obtained with the survey were far below those expected. The reported average all-cause death rate was 37.1 per 1,000 for infants and 10.7 per 1,000 for children under five, while the diarrhea-associated mortality was 3.0 per 1,000 for infants and 1.6 per 1,000 for those under five. These low rates are not considered to reflect accurately mortality rates for West Java. Previous studies have obtained much higher infant and under-five death rates. According to the 1980 Indonesian census, for example, the infant mortality rate (IMR) for West Java averaged 129 per 1,000.

In January and February 1986, a second attempt at measuring mortality was undertaken by the Indonesian CDD program. This time training and supervision were intensified, and only mortality data were gathered. The same sample frame was used, and the same population was surveyed. When the figures for the same regencies were compared with those from the 1985 survey, the 1986 rates were twice as high in some regencies, but in one regency they dropped by one-half. In only one regency did the mortality figures remain approximately the same. The overall result of this second effort to obtain valid baseline data on mortality increased the average reported all-causes mortality rates to only 41.2 per 1,000 for infants and 10.6 per 1,000 for children under the age of five. The diarrhea-associated death rates increased to 6.8 per 1,000 and 2.0 per 1,000 for infants and those under five, respectively.

2. Plans

Valid and reliable data on mortality remain elusive, and the West Java intensification effort will have to look to other methods and resources to obtain this information. If an MMT survey is to be repeated, it may well be worth the extra investment to involve an experienced, professional survey organization.

At present, a number of possibilities for obtaining more reliable and accurate mortality data are being investigated. Perhaps one of the most promising of these is improvement in the diarrheal diseases surveillance system in West Java. An improved

system would provide not only improved mortality data but also better data on morbidity and could possibly link both of these to improvements in diarrheal diseases case management. Such an improvement in the surveillance system would involve data collection at both the village- and health-center level. In addition, such an effort would have implications for the CDD surveillance system in other areas of Indonesia and perhaps lead to improvements in other surveillance programs as well.

Initial discussions have been held with the Field Epidemiology Training Program (FETP) on ways of improving CDD surveillance, and indications are that such an effort would benefit both the West Java communication campaign evaluation and FETP training needs. A rapid data flow must be established, however, and some form of data computerization will be required in the near future. The necessary equipment is described in Chapter VII of this report.

An additional possibility closely connected with the above is integration of CDD sentinel areas in West Java with those of the immunization program in the province. Joint training and information flow from these areas could provide high quality data on deaths and diseases. Another possibility for obtaining better mortality data is vital statistics registration through the involvement of the PKK. The use of PKK to collect data is being promoted, in cooperation with the Indonesian immunization intensification program in West Java. This effort has been initiated only recently, however, and there are as yet no indications regarding how valid or reliable such data will be.

Of course, other possibilities for obtaining mortality data could involve special longitudinal prospective studies in selected areas of the province. Who could carry out such studies and the cost involved have not yet been determined; several agencies, however, will be actively explored. Efforts are being made to measure the project's ultimate goals, but the reality of the Indonesian, and especially the West Java Province situation, requires that the subject be approached with a realistic sense of what is, and is not, possible.

V. IMPLEMENTATION SCHEDULE

At the national level, messages about "beginning diarrhea" will be broadcast on radio as soon as funding is available. The spots have been completed, as have negotiations with RRI. The same strategy will be used for television messages. It may be possible to integrate the timing of these messages with the Provider Campaign messages concerning the integrated interventions, although the Provider Campaign messages may not be available for several months. The combination of "beginning diarrhea" messages with the Provider Campaign messages should be quite powerful because they will be complementary. The three institutional channels will be developed as soon as possible, but their effects will not be felt for several months.

In West Java Province, secondary audiences will be addressed first, using interpersonal communication and print media described above. The rationale for this decision is based upon the need to motivate as many levels of decision-makers as possible to support the new ORT program. Primary audiences will be addressed as soon as the secondary audience has been addressed; interpersonal communication plus print media will be used to train the kader level throughout the launch area before radio spots are added. The "beginning diarrhea" radio spots may be used as soon as possible after the KAP baseline survey has been completed. The "diarrhea with weakness" radio spots will follow soon after. Television is not expected to be used soon because of the expected difficulties in obtaining access; every effort will, however, be made to obtain TV time as soon as possible.

The same phasing of messages will be used when the activities are rolled out provincewide from Garut. Secondary audiences will be addressed first; this will be followed by interpersonal communication plus print for training of kader. Then radio will be added. The Sunda-speaking areas of West Java will be addressed first. Then Javanese- and Bantenese-speaking areas will be added; this approach will require providing some messages -- including radio -- in the local languages. Radio programs will be scheduled to begin as soon as large numbers of kader have been trained within the radius of RRIs 10,000 watts.

The following table summarizes the schedule of major events:

		CALENDAR YEAR QUARTERS								
		1986			1987				1988	
		II	III	IV	I	II	III	IV	I	II
A.	**Nationwide**									
	1. Radio development	X								
	2. Radio broadcasts		X	X	X	X	X	X	X	X
	3. TV development		X							
	4. TV broadcasts			X	X	X	X	X	X	X
	5. Newsletter launch			X	X	X	X	X	X	
	6. National conference					X				X
	7. Information center launch					X				
B.	**West Java CDD Launch**									
	1. Area 1 (Garut)		X	X	X	X	X	X	X	X
	2. Area 2			X	X	X	X	X	X	X
	3. Area 3				X	X	X	X	X	X
	4. Area 4					X	X	X	X	X
	5. Provincewide						X	X	X	X
C.	**West Java CDD Development**									
	1. Design and Production	X	X	X	X	X	X	X		
	2. Formative evaluation	X	X	X	X	X	X			
	3. Printing and distribution		X	X	X	X	X	X		
	4. Radio	X	X	X	X	X	X	X		
	5. TV broadcasts		X	X	X	X	X	X		
	6. Development studies		X	X	X	X	X	X		
	7. Training expansion		X	X	X	X	X	X		
	8. Training modules		X	X						
	9. Posyandu		X							
D.	**West Java Immunization**									
	1. Formative evaluation			X	X					
	2. Launch					X	X	X	X	X
E.	**West Java Vitamin A**									
	1. Formative evaluation				X	X				
	2. Launch				X			X		X
F.	**Program Assessment**									
	1. Review					X				X
	2. Summary evaluation	X	X			X				X

Note: For the WEST JAVA CDD LAUNCH, activities in each area will begin in the following order: (1) communication with secondary audiences, (2) training and product distribution, and (3) communication with primary audiences.

VI. MANAGEMENT PLAN

This fifth section describes managerial responsibilities for diarrheal disease control activities at the central and provincial government levels. It also describes the roles of private-sector agencies.

A. CENTRAL LEVEL

At the central level, policy development will rest with the Task Force for Integrated Health Activities. Day-to-day executive management will be the responsibility of the Directorate of Communicable Disease of Direct Transmission, assisted by the Subdirectorate for CDD. Additional assistance will be given by several governmental and private-sector agencies, including the Subdirectorate of Epidemiology (for planning and implementing field epidemiology); PKM (for planning and coordinating communication design); the Subdirectorate for Community Participation; and by private-sector agencies, such as Survey Research Indonesia (for planning market strategies and for implementing the KAP survey and other market studies); Fortune Advertising (for designing market strategy and designing and implementing some communication activities); commercial manufacturers of Oralit-200 (for commercial distribution); and long-term and short-term consultants.

It is expected that a similar management structure will exist for implementing other intensified interventions, such as immunization and nutrition, that is, that the central government offices will have responsibility for policy-making and for providing technical assistance to the provinces.

B. PROVINCIAL LEVEL

The West Java provincial government's CDD Committee will be responsible for implementing the following communication activities: (1) interpersonal, including public relations for other provincial government workers as well as training and supervision of health workers and kader; (2) design of radio programs for use on RRI/Bandung; and (3) distribution of print materials produced in Jakarta. The Committee will manage the distribution and resupply of Oralit-200 to Puskesmas and kader. It will also participate in the formative and summative evaluations of communication activities; for example, a provincial representative will be attached to the KAP survey work.

The Committee will be assisted by: (1) other provincial departments, such as Interior, Information, and several levels of the provincial Department of Health; (2) central Department of Health offices; (3) commercial distributors of Oralit-200; and (4) consultants.

C. STRENGTHENING OF MANAGEMENT ACTIVITIES

Several activities aimed at strengthening management and supervision will be implemented, including:

1. Orientation of health officers to communication and evaluation techniques by: (a) short-term attachment to activities, such as the KAP surveys; and (b) on-the-job training and implementation of formative studies, such as the Simulation Trial in West Java.

2. Improvements in the current management information system (MIS), primarily in the analysis and use of information by West Java program managers.

3. Establishment of sentinel areas which use the MIS to monitor program activities. The first area will include the launch area in West Java.

4. Training of supervisors, including all kabupaten-level supervisors. A curriculum will be developed and two training courses provided, with the support of the Provincial Administrative Office/Provincial Directorate of Training (Kanwil/Diklat).

5. CDD supervision meetings at kabupaten and provincial levels to be held monthly for the first year and quarterly thereafter.

6. CDD supervisor's travel from central, provincial, and kabupaten levels averaging five days per month. Quarterly intersectoral meetings for one day at the provincial level with kabupaten managers, Kanwil and Dinas staffs, from MOH and BKKBN, foreign advisors, and central MOH staff.

7. A WHO management or training consultant, who will be stationed in West Java.

D. CONSULTANT PLAN

This part describes the types of long-term consultancies that affect communication. It also includes the plan for short-term consultants.

a. Long-Term Consultants

Long-term consultants involved in diarrheal disease control activities, who will have an effect upon communication activities in West Java will include:

Epidemiology	USAID (2) and WHO (2)
Management and Logistics	USAID (2)
Communication	USAID (1)
Training and Logistics	UNICEF (1) and WHO (1)

b. Short-Term Consultants

A summary of the numbers of person-months of short-term consultancies to be supplied by USAID for communication activities is provided below:

Communication	Pritech	AED	Aw	Timeline
Design and Production	1/16	6	-	1-12
Formative Evaluation	-	3	-	1-12
Printing and Distribution	1/8	2	-	1-12
Radio	1/8	4	-	1-16
Television	1/8	1	-	3-12
Development Studies	1/2	8	-	1-26
Newsletter	1/8	-	1/2	3
National Conference	1/16	-	1	3, 6
Information Center	1/2	-	1	3, 6
Training Expansion	1/2	2	-	3- 8
Training Modules	1/2	2	-	3- 8
Posyandu 1/2	-	-	3	
Program Review	1	-	2	12, 20
Summary Evaluation	1/4	2	-	4, 8, 14, 20
Total	**4 1/4**	**30**	**4 1/2**	

Note: PRITECH = R.S. Northrup. AED = HEALTHCOM Project. AW = AID/WASHINGTON.

The scopes of work for most of the technical assistance are described in other sections of the plan. Recipients of the assistance will include planning, implementing, and evaluative officers and offices, such as governmental offices in West Java. Commercial-sector agencies will also be recipients.

Consultancy will be needed from several sources in order to fulfill all of the foregoing needs, including the Academy for Educational Development and its subcontractors to the HEALTHCOM Project such as the Annenberg School of Communication, Needham Porter Novelli, PIACT/PATH, and anthropological and behavioral modification consultants.

Some of the design and production and technical assistance should be provided by communication specialists in Indonesia, specifically by advertising experts. Indonesian private-sector consultants have not yet become an integral part of the strategic planning for diarrheal disease control activities as, for example, they are with social marketing of condoms in Indonesia. Until now, they have been used only on an ad hoc basis to provide specialized services, such as research, graphic design, and training design.

In addition to the provision of specialized services, it will be beneficial to use existing Indonesian private-sector experience to assist in a more systematic and long-term way, for example by applying commercial experience to long-term strategic and tactical planning of several activities, including market research, advertising, and commercial distribution. Representatives of commercial firms are usually willing to provide their expertise to assist long-term strategic and tactical planning, particularly if their firms are also used to provide specialized services. The combination of three sources of expertise, namely from government, from donor agencies, and from the local commercial sector, is usually effective in providing the required skills to make social marketing work well.

VII. ADMINISTRATIVE REPORT

A. BUDGET

The following table lists the funding provided in the 1986 HRT&D Amendment for West Java communication activities:

Communication	HTR&D Remaining Funds	HTR&D Amended Funds	Comments
Design and Production	-	$ 185	Contractual
Formative Evaluation	-	75	Contractual
Printing and Distribution	-	190	Contractual
Radio	-	195	Contractual
Television	-	45	Contractual
Development Studies	-	237	Contractual
Newsletter	-	41	
National Conference	-	50	
Information Center	-	27	Contractual
	0	$1,045	

Summative Evaluation Budget Provided By The AID Mission

1. Survey Research Indonesia

Launch Area Pretest (SRI)			
Preparation Stage		3,624,900	(Rupiah)
Fieldwork Stage		5,799,840	
Reporting Stage		5,074,860	
	Subtotal	14,499,600	
Launch Area Posttest (SRI)			
Preparation Stage		2,416,600	(Rupiah)
Fieldwork Stage		3,866,560	
Reporting Stage		3,383,240	
	Subtotal	9,666,400	
Provincewide Wave 1 (SRI)			
Preparation State		7,572,950	(Rupiah)
Fieldwork Stage		12,116,720	
Reporting Stage		10,602,130	
	Subtotal	30,291,800	
Provincewide Wave 2 (SRI)			
Preparation Stage		6,519,200	(Rupiah)
Fieldwork Stage		10,430,720	
Reporting Stage		9,126,880	
	Subtotal	26,076,800	
	Total	**80,534,600**	

2. Department of Health (per diem and travel)

Central:

2 persons x 42 days x Rp 45,000	3,780,000
2 persons x 4 round trips x Rp 15,000	120,000

Province:

1 person x 42 days x Rp 32,000	1,344,000
1 person x 42 days x Rp 15,000	630,000
1 vehicle x 30 liters x 42 days x Rp 350	441,000
Total	**6,315,000**
Grand Total (U.S. $77,200)	**86,849,600**

B. EQUIPMENT NEEDS

Only a small amount of communication equipment is needed to implement this Implementation Plan, because most equipment is available in commercial agencies, including computers for data analysis and equipment for designing and producing print and broadcast materials.

The Department of Health in West Java Province will need equipment to enhance its ability to undertake formative research and training of trainers and to assist in data collection for summative research. Radio cassettes, a video setup, and a micro-computer will be needed, as follows:

Equipment	Cost ($)
Eight x radio/cassettes with earphones, tapes, and batteries	$ 600.00
One x video unit, including camera, film, monitor, sound, 220 volt stabilizer, and movable rack	4,000.00
One x IBM XT compatible microcomputer and printer, with voltage stabilizer and statistical software	4,000.00
Total	**$ 8,600.00**

The radio equipment is necessary for the simulation trials described in Chapter III. It will also be needed for later formative evaluation tests of communication materials and for monitoring radio messages. It will be used by mothers, kader, and trainers of kader.

The video setup is needed for Communication Development Studies Number 3. As described in Chapter II, it will be used for providing "microlessons," one of the most cost-effective ways of training trainers.

The computer and software will be used to speed up morbidity and mortality data collection and data processing in West Java. The additional speed should result in a superior summative evaluation system.

The radio cassettes and the video setup will be introduced to the West Java provincial PKM by the AED Communication Consultant. The Resident Consultant will train the staff and kabupaten-level trainers in the microlessons technique and the use of the video setup. The microcomputer and its use will be introduced to the provincial health authorities. The radio/cassettes will be needed in May 1986. The video setup will be needed in August 1986. The microcomputer system will be needed in July 1986. All should be purchased locally. It is quite difficult to purchase and import such equipment from abroad.

APPENDIX
BEHAVIOR CLUSTERS TO BE CHANGED

I. MOTHERS AND CARETAKERS

The following behaviors of mothers and other caretakers have been targeted for improvement following implementation of the communication activities:

Diagnosis: Recognize that child's stool pattern is abnormal (change in frequency, color, or consistency) and observe one of the following:

- o Vomiting
- o Fever
- o Loss of activity
- o Loss of appetite

If "one" is "yes," mother performs "home therapy" behavior.
If "two" is "yes," mother performs "complete" behavior.

a. "Home Therapy"

1. State that child with abnormal stools needs special care.

2. State that child with abnormal stools needs more liquids than normal.

3. Give more fluids -- tea, rice water, water, fruit juice, or other available fluid -- after each defecation (or as much as child will drink).

4. Give breastmilk more frequently than usual.

5. Continue feeding soft foods, such as banana, rice porridge or pudding, steamed rice, lauk pauk, and vegetables.

b. "Complete" Therapy

Cluster A: Acceptance/Knowledge

1. State that appetite loss, activity loss, fever, or vomiting when child has abnormal stools are danger signs that child's life could be threatened.

2. State that child needs ORS when he has abnormal stools accompanied by one or more of the following: reduced appetite, reduced activity, fever, or vomiting.

3. Identify ORS packet as being able to restore appetite and activity of child without either stopping the watery stools or reducing the number of stools.

4. State purpose of ORS as replacing liquids which are important to child's activity and appetite.

5. Identify ORS packet as better than antibiotics, other store-bought remedies, and home remedies when child has abnormal stools and reduced activity and or appetite.

APPENDIX

Cluster B: Procurement

1. Name packet.
2. Identify packet visually.
3. State locations where packet can be obtained -- Puskesmas, kader (with sign), and stores.
4. State packet's cost (free from kader).
5. State how they will obtain ORS.
6. Obtain ORS.

Cluster C: Mixing Ability

1. Identify appropriate vessel to mix 200 cc ORS packet.
2. Fill glass with cool drinking water.
3. Open ORS packet without spilling salts.
4. Add all of the contents of one packet, with minimal spillage.
5. Stir until dissolved.
6. Add nothing else to solution.
7. Do not heat solution.

Cluster D: Administering the Liquid

1. Use a spoon to give to infant. Give slowly in small sips to child who can drink from a glass.
2. In instances of vomiting, allow child to rest for a few minutes, and begin again to give solution slowly, in small amounts.
3. Mix and administer another packet each time the child defecates (or as much as child will drink).

Cluster E: Feeding Regime

1. State that child needs to eat to prevent becoming weakened by the diarrhea.
2. Breastfeed as frequently and as long as the child will drink.
3. Feed child soft foods, such as banana, rice porridge/pudding, steamed rice, lauk pauk, and vegetables as soon as the child's appetite returns.

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4. If child does not want to eat a lot, offer the food several times a day in small portions.

Cluster F: When To Seek More Help

1. Go to kader (with sign), or Puskesmas, or store when packets are finished or within 24 hours if:

   - Appetite does not return
   - Diarrhea continues
   - Activity does not return
   - Child vomits more than three or four times.

Cluster G: Recovery Behaviors

1. State that child needs extra food following a diarrheal episode in order to regain lost weight and strength.

2. Feed child more than normal (one to two dishes per day) until the next village weighing.

3. Attend the next village weighing post to ensure that child has recuperated weight loss.

II. KADER AND PUSKESMAS WORKERS

1. Tell mother she has done well to bring her child to you for treatment.

2. Ask mother:

   - How long child has had abnormal stools?
   - Has child been vomiting?
   - How many times today?
   - Is activity normal?
   - Is appetite normal?

3. Observe:

   - Child's general appearance
   - Child's eyes

4. Feel:

   Forehead for fever

5. Decide on treatment plan.

6. "Home therapy" treatment plan:

   Abnormal stools

7. Mild dehydration treatment plan:

   - o Abnormal stools
   - o Activity loss
   - o Appetite loss
   - o Vomiting more than three or four times daily

8. Referral treatment plan - any signs in addition to those mentioned above, such as:

   - o High fever
   - o Vomiting more than three or four times daily
   - o Sunken eyes
   - o Rapid weight loss

9. Use print and mass media materials to assist in teaching mother: As you teach mother, use appropriate print materials as audio-visual aids. Refer to mass media materials.

III. "HOME THERAPY" TREATMETN PLAN

ORS distributor has assessed that child has only abnormal stools, with no other accompanying signs.

Step One: Teach mother what to give child with abnormal stools. Tell mother she has done well to bring child for treatment because:

- Child with abnormal stools needs special care.
- Child with abnormal stools needs more liquids than normal
- Give more fluids -- tea, rice water, water, fruit juice, or any other available fluids -- after each defecation. As much as child will drink.
- Breastfeed more frequently than usual.
- Continue feeding child soft foods, such as banana, rice flour porridge or pudding, steamed rice, lauk pauk, and vegetables.

Step Two: Teach mother danger signs. Tell mother to return immediately or go to Puskesmas when child with abnormal stools has one or more of the following:

- o Vomiting
- o Fever
- o Loss of activity
- o Loss of appetite.

Step Three: Teach mother why child needs ORS packet:

- Child needs ORS when he has abnormal stools accompanied by reduced appetite or reduced activity.
- ORS replaces liquids which are important to child's activity and appetite.

- ORS packet restores appetite and activity of child without either stopping the watery stools or reducing the number of stools.

- ORS packet is better than antibiotics, other store-bought remedies, and home remedies to return activity and appetite when child has abnormal stools.

IV. MILD DEHYDRATION TREATMENT PLAN

ORS distributor has assessed that child has abnormal stools and at least one of the following:

- o Loss of appetite
- o Loss of activity
- o Vomiting less than three to four times.

Step One: Teach mother why child needs ORS packet. Tell mother she has done well to bring child for treatment because:

- Appetite loss, activity loss, fever, or vomiting when child has abnormal stools are danger signs that child's life could be threatened.

- Child needs ORS when he has abnormal stools accompanied by reduced appetite or reduced activity.

- ORS replaces liquids which are important to child's activity and appetite.

- ORS packet restores appetite and activity of child without either stopping the watery stools or reducing the number of stools.

- ORS packet is better than antibiotics, other store-bought remedies, and home remedies to return activity and appetite when child has abnormal stools.

Step Two: Prepare one ORS packet for mother to administer while you observe. Teach mother as you are preparing:

- Mix packet in vessel 200 cc in size.

- Fill glass with cool drinking water.

- Open ORS packet without spilling salts.

- Add all of the contents of one packet, with minimal spillage.

- Stir until dissolved.

- Add nothing else to solution.

- Do not heat solution.

Step Three: Have mother administer one packet of ORS while you observe. First demonstrate how to administer; then have mother administer the remaining packet. Demonstrate and teach mother the following:

- Use a spoon to give to infant. Give slowly in small sips to child who can drink from a glass.
- If child vomits, allow him to rest for a few minutes. Begin again to give solution slowly, in small amounts.
- Mix and administer another packet each time the child defecates (or as much as child will drink).

Step Four: Teach feeding regime.

- Child needs to eat to prevent him from becoming weakened by the diarrhea.
- Breastfeed as frequently and as long as the child will drink.
- Feed child soft foods, such as banana, rice porridge or pudding, steamed rice, lauk pauk, and vegetables as soon as his appetite returns.
- If child does not want to eat a lot, offer the food several times a day in small portions.

Step Five: Teach mother recovery plan.

- Child needs extra food after diarrheal episode to regain lost weight and strength.
- Feed child more than normal (one to two dishes per day) until the next village weighing.
- Attend the next village weighing post to ensure that child has recuperated weight loss.

Step Six: Teach mother when to return for help when packets are finished, or within 24 hours if:

- Appetite does not return
- Diarrhea continues
- Activity does not return
- Child vomits more than three or four times.

Tell mother she will know when the ORS is effective when her child's appetite and activity return.

Ask mother to repeat "seek help" message.

Step Seven: Give mother five 200 cc ORS packets. Tell her again she has done well to bring child for treatment.

Step Eight: Give mother "reminder flyer."

V. REFERRAL TREATMENT PLAN

ORS distributor has assessed that child has abnormal stools and signs more than those mentioned for mild dehydration treatment plan. Signs, such as:

- High fever
- Vomiting more than three or four times.
- Sunken eyes
- Rapid weight loss.

Step One: Tell mother that her child is very ill. She must go as quickly as possible to a doctor or Puskesmas. She must, however, give ORS on the way.

Step Two: Prepare one ORS packet for mother to administer while you observe. Teach mother as you are preparing:

- Mix packet in vessel 200 cc in size.
- Fill glass with cool drinking water.
- Open ORS packet without spilling salts.
- Add all of the contents of one packet, with minimal spillage.
- Stir until dissolved.
- Add nothing else to solution.
- Do not heat solution.

Step Three: Have mother administer one packet of ORS while you observe. First demonstrate how to administer, then have mother administer the rest. Demonstrate and teach mother the following:

- Use a spoon to give to infant. Give slowly in small sips to child who can drink from a glass.
- If child vomits, allow him to rest for a few minutes. Begin again to give solution slowly, in small amounts.
- Mix and administer another packet each time the child defecates (or as much as child will drink).

Step Four: Give mother five 200 cc ORS packets to administer to child during her trip to the Puskesmas. Tell her she must go as quickly as possible.

VI. FIXED FACILITIES TREATMENT PLAN

The treatment plan for the fixed facilities has already been defined by the CDD Program. The communication component will seek to strengthen and reinforce this plan. In particular, it will focus on problem areas identified in the preprogram research:

1. Inappropriate prescription of antibiotics
2. Use of ORS although the child vomits

3. Use of ORS for moderate dehydration as well as mild dehydration. Teaching skills to support mothers and kaders in the correct use of home therapy and complete formula.