DEVELOPING AND USING AUDIO-VISUAL MATERIALS IN WATER SUPPLY AND SANITATION PROGRAMS

WASH TECHNICAL REPORT NO. 30

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TABLE OF CONTENTS

Chapter Page

TABLES

FIGURES

ATTACHMENTS

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Chapter 1

INTRODUCTION

1.1 The Important Role of Audio-Visual Materials

As the International Drinking Water and Sanitation Decade moves toward its mid-point, those involved in programs in the field have become acutely aware of the critical place occupied by the human element in the success of programs. Human resource development and training, institutional development, community participation, user education, and human behavioral change are all issues that have risen to the forefront of thinking about how to make programs work in order to obtain lasting benefits.

User education and human resource development are linked through a common concern with human behavioral change, the one focused more on the general population, the other more on the personnel of organizations that are implementing programs. The major framework for user education and resulting behavioral change is provided by communities participating actively in the planning, implementation, and maintenance of programs. Community participation is in fact both a necessary means for making programs work and a behavioral objective of user education.

In all these interrelated efforts there is an important role for audio-visual materials. Evidence from their effective use in oral rehydration and family planning programs demonstrates that these materials can serve in a complementary way to inform, inspire, and motivate client populations and public health workers to take effective action in the context of water supply and sanitation programs. There is a prevalent impression, however, that really effective audio-visual materials can only be had at great cost. Whether from a profit motive or unwittingly, some international donors have contributed to this impression by using media and producing materials that require expensive or hard-to-obtain equipment and supplies. Many low budget organizations are then left thinking that they cannot possibly produce anything of real value. National health education units are in a particularly vulnerable position in this regard. Charged with the health education of an entire population, they frequently have little in the way of a budget, qualified personnel, or transport to do the job. Producing a few visual materials or a radio emission is all they can afford. Cut off from field operations because of lack of transport, they lack new ideas and the chance to test and evaluate materials. The resulting discouragement leads many to conclude that health education is indeed a feeble component of most programs. Ultimately, of course, the issue is not cost but the process by which insights into existing beliefs and attitudes are obtained and incorporated into the content and images of audio-visual materials.

1.2 The WASH Survey of Audio-Visual Production Centers

At the same time, WASH staff and consultants traveling to developing countries have had the impression that audio-visual materials useful to water supply and sanitation programs are being produced in developing countries, many on low budgets and some with great effectiveness. In an effort to validate this

impression, but more importantly to discover where materials-producing centers are and to share experiences among those producing materials and those who would like to, in 1982 the WASH Project decided to institute a study.

1.2.1 Methodology

The first step was to identify centers producing materials related to water supply and sanitation. Three separate mailings produced a list of over 300 materials-production centers in Asia, Africa, Latin America, and the Near East. Some 50 centers sent unsolicited examples of materials. This list was subsequently reduced to about 140 centers that did work relevant to water supply and sanitation and that seemed willing to share information and materials. These 140 centers were then sent a questionnaire (see Attachment A: Questionnaire on Educational Materials on Water and Sanitation) and asked to send samples of materials described in the questionnaire. About 100 organizations sent responses of which 54 are reviewed in this report (see Table 1). The organizations included governmental units, international agencies, religious and other private voluntary agencies, universities, and research institutes.

1.2.2 Organization of the Report

Several groups of individuals should find this report useful, among them USAID health and engineering officers and their host country counterparts, officials of international agencies funding water supply and sanitation projects, officials of private voluntary organizations, students of health education and communications, and those who responded to the WASH-initiated correspondence and questionnaire. To help readers unfamiliar with audio-visual communication and to orient communication professionals, the main body of the report is divided into five parts, each making reference to the materials and information received:

- Chapter 2 focuses on the basic rationale for using audio-visual aids in water supply and sanitation programs. An attempt is made to set materials production in the context of an entire program, looking at behavior that must be changed for health benefits to be achieved, and drawing from literature on communications, health education, community participation and psychology as well as from the extensive experience of the family planning movement to provide a conceptual framework.

- Chapter 3 deals with the data needed to conceptualize materials and points to the experience of the Academy for Educational Development in Honduras and to the need for effective communications between designers of materials and fieldworkers.

- Chapter 4 establishes a rationale for pretesting materials, and suggests some low-cost methods of pretesting. The pressing need to conduct pretests is emphasized.

- Chapter 5 discusses training for both developers and users of audio-visual materials. It deals with target groups and training design and then surveys training resources.

- Chapter 6 looks at materials production, including media selection. This chapter is richly illustrated with examples of materials received.

As a further help to readers, many attachments, tables, graphs, and illustrations on pretesting and graphics are included in the report. Names and addresses of respondents, together with a brief description of the materials they produce and their intended audiences, are included, so that readers can obtain additional information.

1.2.3 What the Report Does Not Cover

There are some things this report does not do. It treats evaluation of audio-visual materials in only a cursory manner, largely because little information was provided by respondents. This result is regrettable since constant assessment and improvement of audio-visual materials is quite important. Impact evaluation of materials is, however, a less fruitful activity for fieldworkers than careful planning of content and form. Likewise, no attempt was made to present materials from a full-scale mass media campaign, although examples were drawn from Ghana, Honduras, and the Gambia. (A Planning Module from Ghana is included as Attachment B.) Further, the focus of this report is not on campaigns but on the integrated use of audio-visual materials in programs. Use of radio, TV, or tape cassettes is not treated since no information related specifically to water supply and sanitation was received on these media.

Thus, this report attempts to treat the development and use of audio-visual materials in water supply and sanitation programs in a comprehensive manner, but only insofar as reflected in the materials received and reviewed. The number of respondents was probably limited by the fact that many had not pretested or evaluated their efforts and were thus not prepared to complete the questionnaire. In addition, time has not allowed follow-up of non-respondents.

This is not a complete guide on audio-visual materials, but rather an attempt to stimulate the use of both new and improved methods by those already involved and especially by those wishing to be involved in materials production. The experience of colleagues in over 30 countries was needed to provide the focus on what can be done under budgetary and other constraints. It is hoped that that experience has been faithfully interpreted.

TABLE 1

AUDIO-VISUAL MATERIALS REVIEWED IN THIS STUDY

COUNTRY	ORGANIZATION/ ADDRESS	ITEM	TOPIC	LANGUAGE	SPECIAL FEATURES
Bangladesh	Government of Bangladesh and UNICEF/Bangladesh House No. 52, Road No. 4A Dhanmondi, RA G.P.O. Box 58 Dacca 5, Bangladesh	Poster	Water fetching, carrying, and storage	Bengali	
		Pamphlet and booklet	Water and excreta-related diseases	Bengali	
		Pamphlet and booklet	Latrine construction	Bengali	
Brazil	Companhia Estadual de Tecnologia de Sanesmento Basico (CETESBS), Rua Av. Prof. Frederico Hermann, Jr. 345 Sao Paulo, Brazil	Illustrated booklet	Potable water	Portuguese	Primarily on handpump installation over protected wells. Includes basic hydrogeologic information and equations. Limited usefulness.
Burundi	Government of Burundi Rural Hydraulic Service and UNICEF/Burundi B.P. 1490 Bujumbura, Burundi	Two booklets	"Water and Health" "How to Cap a Spring"	Kinudi	Second item is a technical guide. Good use in both of photographs and illustrations. Black and white glossy. Little information on pretests or evaluation.
Cameroon	L'Atelier de Matérial pour l'Animation (AMA) B.P. 267 Yaoundé, Cameroon	Illustrated booklet	Germ theory, basic hygiene, dental health	French	Attractive use of black, blue, and white halftones; contents well organized and laid out. Not much information on how developed.
		Illustrated booklet	Water hygiene	French	Black and white, more illustrations, less text. Art excellent. Little information on process.
		Flipchart	Water hygiene	French/ English	Silk-screened posters in attractive series.
		Comic book, "The Adventures of Akono"	Health	French	Black and white.
Chile	Ministerio de Salud Casilla 3979 Santiago, Chile	Pamphlets and guide books	Water and food protection	Spanish	Use of black and white with one color. Text in form of questions and answers with questions on tabs. Preliminary studies and pretesting, some modifications in materials.
Ecuador	Ministry of Public Health and Academy for Educational Development 1255 23rd St. N.W., Suite 400 Washington, D.C. 20037	Flipchart on silk-screen cloth	Water and sanitation	Spanish	Very attractive silkscreens.

COUNTRY	ORGANIZATION/ ADDRESS	ITEM	TOPIC	LANGUAGE	SPECIAL FEATURES
Ecuador	Institute Ecatoriano de Obras Sanitarias Ministerio de Salud Publica Casilla 680, Toledo y Lerida 684 Quito, Ecuador	Foto-novela	Decision of a newly wed couple to construct a latrine: construction guide	Spanish	Good balance of photographs and words. Attractive photographs. Easy-to-follow story. Black and white. Professionally developed and pretested.
		Pamphlet	The sanitary latrine	Spanish	Excellent combination of photographs, illustrations, and clear text.
Ethiopia	Ethiopian Nutrition Institute P.O. Box 5654 Addis Ababa, Ethiopia	Flipchart	Hygiene in child care	English	Uncluttered large photograph in black and white of a woman caring for a child, some drawings. Limited information given on development of materials.
Guatemala	Institute of Nutrition for Central America and Panama (INCAP) Apartado Postal 1188 Guatemala, Guatemala	Manual on using A-V aids for project development	A-V aids for village decision-making for community health workers	Spanish	This is a rather unique and potentially valuable document containing sample scripts, photocopies of audio-visual aids, and various guidelines. Materials were pretested in the village of El Bongo and later modified.
		Posters	Hygienic use of water at home	Spanish	Set of posters showing modifications after field testing.
		Illustrated booklet	A family builds a latrine	Spanish	Black and white with two color cover. Careful advance studies, pretests and evaluation. Attractive and inexpensive.
		Illustrated booklet	"Your Water"--sources, storage, hygiene	Spanish	Same remarks except done in two shades of blue.
		Illustrated booklet	Sanitary care of animals	Spanish	In two colors, otherwise same remarks.
		Booklet	Guide to family health	Spanish	Excellent resource. Detailed development pretesting and revisions. Materials used as a part of a reflection-action community development process.
Honduras	AED/PRASAR A.P. 140 Tegucigalpa D.C. Honduras	Comic book Posters	Theme about how water transmits disease and what to do about it	Spanish	Considerable information available about the development of their most interesting and potentially valuable materials.
India	Voluntary Health Association of India C/14 Community Centre Safdarjung Development Area New Delhi 110016, India	Five booklets	Health communications	English	Carefully prepared materials on data collection, pretesting, evaluating, and similar training materials pertinent to health communicators.

COUNTRY	ORGANIZATION/ ADDRESS	ITEM	TOPIC	LANGUAGE	SPECIAL FEATURES
India	Holy Family Hospital Community Health Project Bandra Bombay 50, India	Version of the game "Snakes and Ladders"	Health and hygiene	English Marathi	Can be compared with similar game used in Indonesia. Training materials and guide book available.
Indonesia	CARE/West Java Jl. Setiakudi 388 Bandung Indonesia	Pamphlets	Hygiene for school-age children	Indonesian	Black, blue and white. Based on dialogue between Adi and Ida, brother and sister. Information sufficient but not excessive. No special studies, pretests, or evaluations.
		Pamphlet	Drinking boiled water for school children	Indonesian	Black, red and white. Otherwise same as above.
		Pamphlet	Using family latrines for school children	Indonesian	Black, green and white. Same as above.
		Booklet with training materials and flipchart	Household sanitation and water use	Indonesian	Very attractive booklet and training materials. No special studies or pretest but use monitored through use of notes.
Indonesia	UNICEF/Indonesia P.O. Box 202/Jkt Jakarta, Indonesia	Flipcharts (2) in a series	Management and use of village water at home	Indonesian	Water color art with text on back. Well bound in spirals. Covers water supplies, hygiene, home filters, pumps, drainage, rainwater catchment. Field tested. Important because of their comprehensiveness, art, and binding.
Indonesia	Foster Parents Plan International P.O. Box 18 Yogyakarta, Indonesia	Hand puppets and guide	Well improvement and new well construction	Indonesian	Attractive puppets with well written text.
Indonesia	Yayasan Indonesia Sejahtera Jalan Kimat VI/II Kotak Pos 3028 Jakarta, Pusat, Indonesia and Save the Children/Indonesia	Games: Snakes and ladders Dial-a-food Cards Dominoes Puzzle Follow-the-path	Various health and hygiene topics	Indonesian	Beautiful artwork.
		Posters on cloth	Drinking water and personal hygiene	Indonesian	Attractive study posters.

COUNTRY	ORGANIZATION/ ADDRESS	ITEM	TOPIC	LANGUAGE	SPECIAL FEATURES
Ivory Coast	Institut National de la Santé Publique B.P. V47 Abidjan, Ivory Coast and Institut Africain pour le Développement Economique et Sociale (INADES) 15, AV. Jean Mermoz Cocody 08, B.P. 8 Abidjan, Ivory Coast	Booklet	How to repair and maintain a handpump Meant to encourage villagers to take charge	French	Good use of photographs to show how to change cylinder leathers and other parts. Minimum text. Minimum pretest. Evaluation anticipated. Potentially useful example of training materials to leave in community.
		Poster	Let us improve our well	French	Colorful drawing showing villagers at work. Was pretested with modifications.
		Flannelgraphs	Urinary schistosomiasis Guinea worm disease Diarrhea Asseariasis	French	Comprehensive development, testing, and evaluation.
Ivory Coast	Office National de Promotion Rurale B.P. V165 Abidjan, Ivory Coast	Booklet	Five water-related diseases	French	Black and white; blue cover. Good illustrations and captions. Suitable for school children and others.
Kenya	Mazingira Institute P.O. Box 14550 Nairobi, Kenya	Comic book	Water, latrines, hygiene, and related diseases	English	Multi-color, mix of comic book approach with illustrated information on latrines and diseases. Includes health contest. Also used in Uganda.
Lesotho	Urban Sanitation Improvement Team Private Bag A41 Maseru, Lesotho	Pamphlets and instruction sheets	Latrine construction	Sesotho	Black and white ronetype. Extensive preliminary studies revealed attitudes toward defecation. Pretesting resulted in modifications. No evaluation.
Malawi	Ministry of Health Health Education Section P.O. Box 30377 Lilongwe 3, Malawi	Flashcards	Solving health problems in the village	English Chichewa	Innovative training materials employing plastic card holders and illustrated color-coded cards for discussions.
Mexico	PIACT/Mexico (Programs for the Introduction and Adaptation of Contraceptive Technology) Shakespeare #27 11590 Mexico, D.F., Mexico	Pamphlets	Oral rehydration therapy and intestinal parasites in children	Spanish	Strong emphasis by developer on self-explanatory photographs and illustrations with minimum of words. Directed toward audience with minimum literacy. Very careful pretesting and evaluation. Strong documentation.
Mexico	Gobierno de los Paises Bajos Av. Eugenio Sue 45 Mexico 5, D.F., Mexico	Illustrated book	Technical manual on household construction, including latrines	Spanish	Major usefulness is to demonstrate need to include information on latrines in manuals for builders.

COUNTRY	ORGANIZATION/ ADDRESS	ITEM	TOPIC	LANGUAGE	SPECIAL FEATURES
Nepal	Government of Nepal and UNICEF/Nepal Kathmandu, Nepal	Booklets Posters	Rural water supply and domestic sanitation	Nepali	Educational materials and guide book. Attractively illustrated.
Peru	Ministry of Health Sanitary Engineering Department Lima, Peru	Training materials for rural promoters	Rural water supply and latrines	Spanish	Excellent detailed material on community organization as well as techniques of water supply and sanitation.
Philippines	Panay Unified Services for Health (PUSH) Regional Training Center Jaro, Iloilo City Philippines	Cloth flipchart	Role of the Barangay health worker in water and hygiene	Tagalog	Colorful cloth posters.
		Handbook for Barangay Health workers	Health and hygiene	English	Good balance of print and illustrations. Arranged in systematic order from entry in community to elaboration of projects.
Sierra Leone	CARE/Sierra Leone P.O. Box 744 Freetown, Sierra Leone	Booklet (Project Learn)	Stories about a water problem and how a village solved it	English Mende Temune	Used with a flipchart based on booklet listed below. Black and white illustrations, text and some photographs. Special preliminary studies conducted but materials not pretested. Evaluated.
		Booklet	"Health Education Small Talks" -- a wide range of health and hygiene topics	English	Half of the book consists of clear black and white photos with background details eliminated for clarity. Facing each photo is text for health workers. Book is a training resource used in conjunction with posters and other audio-visual materials. Materials pretested and evaluated.
Sudan	Health Education Section Ministry of Health and UNICEF/Kadugli Water Project P.O. Box 1358 Khartoum, Sudan	Posters	Training in health education for handpump caretakers	Arabic	Suitable for use with farmers and rural villagers. Seeks to create an awareness of the relation of unsafe water to disease.
Swaziland	UNICEF and Ministry of Health P.O. Box 5 Mbabane, Swaziland	Flashcards and posters	Personal hygiene Intestinal parasites Schistosomiasis Water supply protection Pit latrines	English	Good documentation from this project.

COUNTRY	ORGANIZATION/ ADDRESS	ITEM	TOPIC	LANGUAGE	SPECIAL FEATURES
Togo	USAID Togo	Posters and use manual	Guinea worm prevention	French	Drawings not completed but pretesting has resulted in some modifications.
Tunisia	Ministère de la Santé Publique Direction des Soins de Santé de Base Sous-Direction de l'Education Sanitaire Bab Saadoun, Tunis, Tunisia	Booklet	Drinking water in rural areas	Arabic	Black, blue and white. Clear layout and script, for children, parents and teachers. Minimum information on development, probably inexpensive.
United Kingdom	Institute of Child Health 30 Guilford Street London WCIN2EH	Pamphlet	Children's stools and hygiene	English Spanish Arabic French	While this is not an indigenous item from a developing country, it does provide a useful example of an extremely well laid out, low-cost pamphlet with practical information and illustration.
World Health Organization	World Health Organization Diarrhoeal Diseases Control Programme Programme Manager Ch-1211 Geneva 27 Switzerland	Catalog	Health education materials	Multiple	Clear photographs of examples of available visual aids.
Zaire	Bureau d'Etudes et de Recherche pour la Promotion de la Santé (BERPS) B.P. 1977 Kangu-Mayombe, Zaire	Magazine, posters, field manuals	Health and hygiene Spring protection	French Lingala	
		Posters in series that can be made into flipchart	Parasites and their control and latrine construction	French	The organization that developed these materials serves most of Francophone Africa. Detailed interview of Dr. J. Courtejoie, the developer of many of these materials, conducted by WASH consultant in Belgium.
		Illustrated booklets	Health education Intestinal worms		

Chapter 2

A CONCEPTUAL FRAMEWORK FOR USING AUDIO-VISUAL AIDS IN WATER SUPPLY AND SANITATION PROGRAMS

Health education as a part of a water supply and sanitation program is frequently assumed to be synonymous with the use of visual materials. The latter are often produced by national or international organizations far from the field and distributed to fieldworkers without thought or study of their relevance or application to specific programs. Fieldworkers as well have produced and used visual materials and assumed that the health education task was accomplished. Visual materials, in fact, are only a tool in the process of changing health-related behavior (see reference 32).

In this section an attempt will be made to provide a rational basis for the use of audio-visual aids in water supply and sanitation programs. In addition, some of the principles for the use of visual materials will be discussed.

2.1 Rationale for Using Audio-Visual Aids in Water and Sanitation Programs

2.1.1 Improvements in Water Supply and Sanitation Lead to Improvements in Health

The first assumption one makes is that water supply and sanitation programs can have a potential health impact. Improvements in water supply are potentially beneficial to health principally through reduced incidence of gastrointestinal diseases. For the purpose of discussion, water related diseases have been classified as waterborne (typhoid fever, cholera, hepatitis A), "water-washed" or those resulting from an insufficient quantity of water (bacillary dysentery, other diarrheal diseases, trachoma, skin infections), water-based where an intermediate host is found in the water (schistosomiasis and dracunculiasis), and finally diseases transmitted by water-related insect vectors (malaria, trypanosomiasis, onchocerciasis). The first two categories are those most affected by water supply improvements, but the greatest health impact by far can be realized among populations with insufficient quantities of water (that is, less than 10 liters/person/day). Among these populations, increasing the supply of water can result in reductions in diarrheal disease, skin infections, trachoma, and other diseases of filth. Among children, the fewer the days with diarrhea, the better their nutritional status and growth rates. Survival rates for children tend to improve as well. Improving the quality of water is most effective among those populations dependent on polluted surface sources. In such instances there are marked diminutions in diarrheal disease, typhoid, and cholera, and in some areas Guinea worm disease.

Sanitation includes more than excreta disposal. This needs to be emphasized at the outset of any discussion of the potential health benefits of sanitation improvements. Excreta disposal facilities (latrines, toilets, etc.) are certainly an important means of breaking the feco-oral transmission cycle. However, they are ineffective without an adequate supply of safe water, a means for safely transporting and storing it, the sanitary protection of the water supply and its surroundings, a means of protecting food, and handwashing

and bathing. The means for protecting the home against insect vectors, including the suppression of obvious breeding sites (inadequate drainage around wells and springs, open receptacles, and collections of waste water) are essential to diminishing the risk of diseases transmitted by water-based insects.

The foregoing discussion leads us to the second point in building a rationale for using audio-visual aids. It should be obvious that almost none of the improvements in water supply or sanitation mentioned are possible without the full participation and cooperation of the groups and individuals affected. In brief, change in human behavior is necessary for achieving many of the health benefits cited above.

2.1.2 To Improve Health, Human Behavior Must Be Changed

Before considering specific strategies for changing human behavior it is worthwhile to consider just what human behavior to focus on in the context of water supply and sanitation programs. For this purpose it is helpful to consider a series of water supply and sanitation improvements and to detail the human behavior relevant to each one. Seven areas of behavioral concern will be considered. Those pertain to:

- water supply at the source
- water transport
- water storage
- water use
- preparation and storage of food
- protection of the home
- excreta disposal.

For each, examples of desired behavior are listed.

1. Water supply at the source

   a. Assisting in the planning of improvements

      - Deciding on sites
      - Deciding on the type of improvement (e.g., a dug or a drilled well)
      - Deciding on the type of lifting or distribution device (e.g. a handpump or other)
      - Contributing money for construction

   b. Assisting in the implementation of improvements

      - Contributing and/or hauling materials
      - Contributing labor for digging or other work
      - Feeding and housing drilling/digging crews

   c. Maintaining the system once installed and carrying out minor repairs

      - Selecting caretakers

- Contributing to their support
- Contributing to the purchase of spare parts
- Noting and reporting breakdowns
- Abiding by rules for proper use and care of the system

d. Protecting the source against contamination

- Contributing labor, financing, or materials to the construction of the apron, drainage, animal watering trough, or washing place

- Helping to maintain these features after they are installed

- Helping to construct a barrier against domestic animals around the water supply

- Helping to reinforce rules against standing on the parapet, playing on the well cover, playing on the pump, defecating or washing babies' bottoms, or similar behavior in reference to springs or taps garbage.

- Helping to keep gravel on the ground surrounding the well

- Avoiding the use of contaminated buckets for drawing water, i.e., use of a device for hanging the buckets up or use of a bucket and pulley system

2. Water Transport

   a. Regular cleansing of transport vessels
   b. Using covers on transport vessels

3. Water Storage

   a. Using a clean receptacle for storage
   b. Regular cleansing of the receptacle
   c. Covering the receptacle
   d. Avoiding dropping or dipping contaminated cups or other objects into the water
   e. Skimming water for drinking or cooking off the top of stored water rather than from the bottom
   f. Regularly using a disinfectant in stored water if available

4. Water Use

   a. Avoiding the use, if possible, of unprotected polluted sources of water
   b. Washing hands regularly (with soap) after defecation, after cleaning babies' bottoms, and before eating
   c. Regularly bathing all family members
   d. Washing foods (especially meats, fruits, and vegetables) before preparing

5. Preparation and storage of food

   a. Avoiding storage over six to eight hours of foods containing milk, sugar, or other fermentable substances
   b. Covering all stored foods
   c. Thoroughly cooking all foods
   d. Thoroughly washing hands (with soap if possible) before preparing food

6. Protection of the home (as possible)

   a. Screening against insects
   b. Protecting food against rats and insects
   c. Using building materials that protect against storm damage

7. Excreta disposal

   a. Installing latrines using local materials as much as possible and cement slabs and other costly materials only as feasible. In the latter case, contributions should be made to a community fund for purchasing cement to make slabs.
   b. Contributing labor and cash for latrines for the elderly and the infirm
   c. Regularly using latrines
   d. Maintaining any excreta disposal facility that has been constructed
   e. Constructing special latrines for women and small children as culturally appropriate
   f. Taking special care in handling the fecal matter of small children and animals in and around the house.

Given these specific aspects of human behavior in relation to water supply and sanitation, the next question is how to bring about the change necessary to ensure that this behavior, essential to achieving health benefits, will in fact occur. How can behavioral change theory help us in this endeavor? What approaches have been effective?

2.1.3 Successful Approaches to Changing Health-Related Behavior

A premise of health education theory is that individuals should be induced to change health-related behavior only on a voluntary basis and that coercion or manipulation have no role in bringing about the permanent change needed to improve health. Three models of voluntary health-related behavior change are helpful.

The Adoption Process

One such model, the "adoption process," was presented by H. Lionberger in 1962 (31) and was quickly adapted by family planning communicators in support of their rapidly expanding world-wide information, education and communications (IEC) efforts. In this model, individuals are thought to pass through a number of distinct stages before fully adopting a new behavior. These stages include awareness, when very general information is acquired about a new

behavior or idea; interest, when there is a willingness to learn more; evaluation, when advantages and disadvantages are considered; trial; and finally, adoption, the continued use or rejection of the new behavior.

Qualities of Innovation

E. Rogers (42) provides additional practical guidance to communicators by focusing upon the change or "innovation" itself and defining its qualities in terms of perceived relative advantage, compatibility with one's social and economic situation, the complexity of the change being considered, how easy or difficult it would be to try it, and how observable the results are of the innovation in question. Rogers goes on to describe how innovations such as family planning practices are "diffused from person to person and to other communities." Those responsible for planning strategies and studying responses to recommended change should be interested in these characteristics of the change process.

The Health Belief Model

A last conceptual system -- probably less well known than the others -- is the "health belief model" which evolved from the seminal work of G. Hochbaum (44) in the early 1950s. Whereas the adoption and diffusion models focus upon the change process or characteristics of an innovation per se, the health belief model stresses perceptions of individuals as a key to determining behavioral change. Change is most likely to occur when an individual:

- perceives a high severity of a disease or health factor,
- perceives a high susceptibility to the relevant disease or condition,
- perceives low barriers to taking recommended action,
- perceives high benefits as a result of taking action, and
- receives appropriate cues to action.

Health, social, and economic benefits all play a part. Indeed, social benefits may, in some cases, prove more powerful than expected health benefits in motivating action. M. Tonon (48) reports, for example, that her study of 600 families in two Guatemalan villages over a period of four years revealed that changes in both sanitation attitudes and behavior occurred. Apparently these changes were, however, independent phenomena. She concludes: "At the level of the family, people did not take on new sanitation-related behavior as a result of learning new attitudes and perceptions. Rather, it appears that the village as a whole responded to changing norms and social pressures created by the program." Such a finding need not be interpreted as lessening at all the importance of health education efforts. Rather it reaffirms the need for skillful and continuous monitoring of community responses to water supply and sanitation programs. If, for example, rural Thai villagers desire water-seal latrines as status symbols and have only a vague understanding of the chain of disease transmission, health benefits will still accrue if the latrines are properly used. However, workers would need to remain alert to other specific hygiene practices that persist as a threat to health, such as casual handling of children's feces.

2.1.4 Community Participation Is the Key to Changing Behavior

This discussion leads us to the next very important point: that behavioral change in most traditional societies occurs not as an individual but as a group phenomenon; therefore, seeking community-wide participatory responses to programs is crucial. In effect one could say that community participation in a water supply and sanitation program is in itself a key objective of health education and a necessary condition for the wide range of behavioral change needed to bring about health objectives.

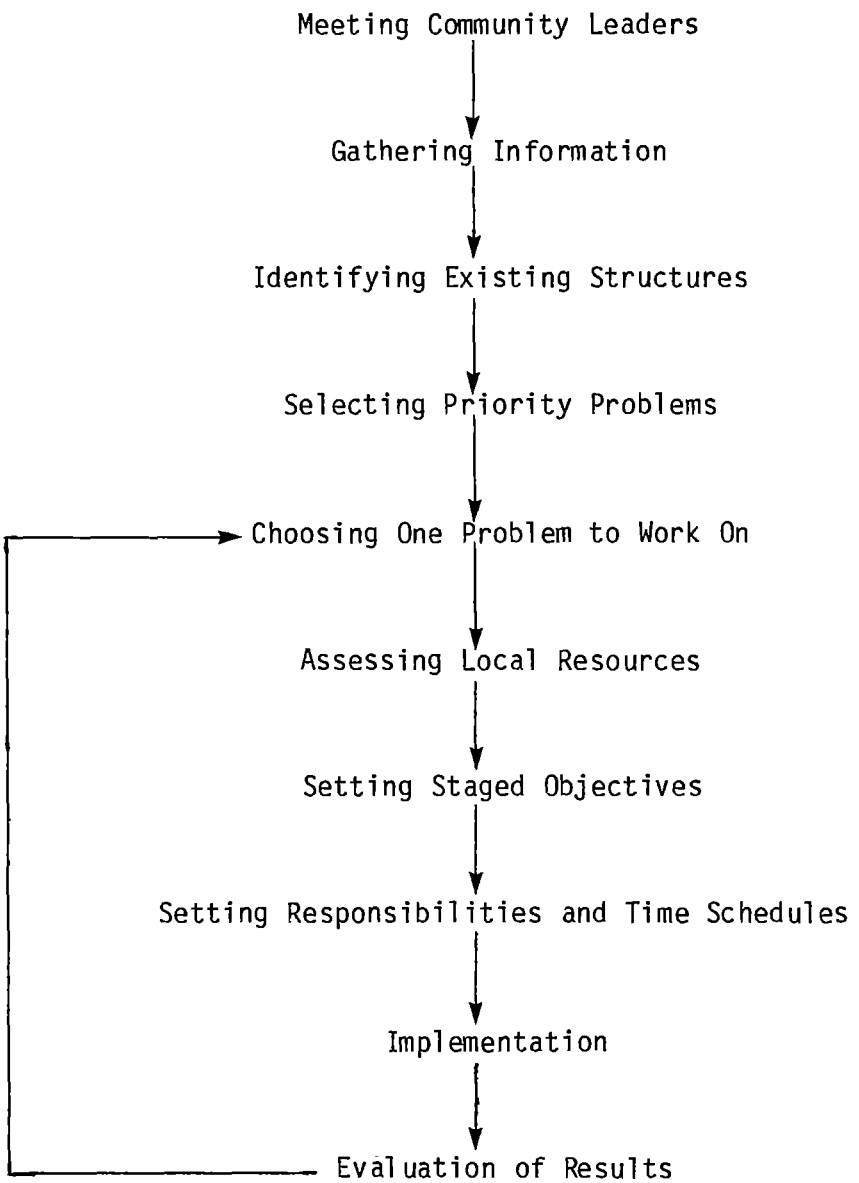
The literature on primary health care and water supply and sanitation, and, for that matter, on development in general is replete with references to the need for communities to participate in projects from their inception if those same projects are to succeed (see references 16 and 51). Case studies of successful participatory efforts are as numerous as those of failures where participation was neglected. Community participation has frequently been separated conceptually and programmatically from health education in the context of water supply and sanitation programs. Promoting the participation of a population is seen as the responsiblity of the water supply agency or sometimes more vaguely the "sociologist." In effect it usually does not occur unless some other agency is involved in the project, such as a ministry of social affairs, health, community development, or agriculture and rural development. Health education, on the other hand, is more often viewed as related to sanitation and domestic hygiene and therefore the clear responsiblity of the ministry of health. Ministries of health and in particular their health education divisions are, however, held in general mistrust by ministries charged with water supply. Health education divisions are frequently understaffed, underbudgeted, and so lacking in transport that staff almost never get to the field. The whole program is often centered on the production of a few visual aids and a radio program. Health education as a part of a water supply and sanitation program may therefore be quite reduced or even absent. This discussion is meant to point up the obvious interface between the need for community participation in these projects and the objective of health education which is to change specific human behavior in relation to water and sanitation. The fact is that achieving these behavioral objectives is as dependent on the participation of whole communities as is the maintenance of a facility. Visual materials can add greatly to the efforts of fieldworkers to promote participation and can satisfy the need and right of participating communities to make informed decisions.

How can efforts to change human behavior be combined with parallel efforts to promote the participation of communities in a water supply and sanitation project? One must first of all be clear about how to promote participation. A number of guidelines have been written (references 25, 58, and 60). There are a number of steps which R. Isely et al (25) refer to as a critical pathway. (See Figure 1.)

The Togo Rural Water Supply and Sanitation Project

One of the most successful examples of this kind of thinking in action can be found in the Togo Rural Water and Sanitation Project. This project, financed by USAID, began in 1981 as a wells project with a health and sanitation component and is today an integrated water supply and sanitation project in the best sense of the term. Nearly everyone associated with the project will

Fig. 1 - The Generic Process of Facilitating Community Organization: A Critical Pathway



today agree that the key to success has been the adherence to a systematic approach to community participation (39). In this approach, successive training cycles introduce each new step in the process. Trainees include supervisors, fieldworkers, and villagers. The target group in each village is the 7- to 13-member village health committee.

The training cycles cover successively:

- Establishing the health committee
- Deciding on roles and functions of officers
- Assigning responsibility for the well and pump, including appointing and training a caretaker
- Selecting and planning village-level projects.

Many problems have presented obstacles to the success of this project. Wells were sited and drilled before the health committee could be formed. Wells dried up, leaving villages with a sense of abandonment; villages planned projects with little sense of what health problems the projects were designed to address; and villagers got into conflicts over access to a well.

Patient work among agencies and with villages has reduced the seriousness of most of these problems. Throughout the project there has been great flexibility as to program content but strict adherence to participatory methods and processes -- the critical aspect in successful programs. If from this process an organization results that can take charge of the long-term maintenance and repair of water and sanitation facilities, then the change in human behavior needed to assure health benefits becomes possible as well.

Assuring Popular Participation

There are several ways in which a health committee might create a climate favorable to behavioral change:

- Promoting as wide a participation in decision-making and project execution as possible
- Making a point of including as many influential persons as possible, including women, in the committee itself and in decision-making and project implementation
- Applying direct social pressure on households that do not cooperate
- Holding community-wide meetings for information and education
- Engaging school teachers, students, and other youth in activities of the committee.

A. White (58) suggests six factors which singly or in combination can induce individual health-related behavioral change:

- New understanding of benefits
- Acceptance of authoritative assurances
- Change endorsed by a respected "reference" group
- Informal social sanction supporting conformity
- Formal sanction requiring conformity
- Facilitation of change to make adoption of new practices easier.

Through these and other means of assuring popular participation in project activities and the behavioral change needed to make those activities effective, audio-visual aids have proven useful both for providing information and motivation.

2.1.5 Audio-Visual Aids Promote the Process of Behavioral Change

Recognizing the importance of human behavior in reaching Drinking Water and Sanitation Decade goals, WHO declared in Drinking Water and Sanitation, 1981-1990:

> "People can be encouraged and motivated at an early stage to help achieve the objectives of the International Water Supply and Sanitation Decade by the carefully planned use of communications media, which are also a permanent feature of training, support programs for community participants, and health education. Communications work should stress the close relation between safe water, good sanitation, food hygiene, adequate nutrition levels and health, as well as the meaning of the Decade as an institutional framework. The difference in local traditions, customs and behavior makes planning and preliminary testing of communication methods for each target group essential. Preparations for and promotion of the Decade should be integrated with all current or planned programs of health education."

Audio-visual aids can play an important role in bringing about the behavioral changes we have discussed although they, like education, are not ends in themselves; rather they serve to assist programs in accomplishing their goals.

Audio-visual aids may also be used for a variety of non-educational purposes. They transmit emotional appeals, exaggerations, and distortions employed by propagandists. They announce demands of authorities and compel compliance. They offer products and services being marketed by catering to existing consumer needs and wants and by seeking to modify these desires. While some of these purposes will be addressed in this document, primary emphasis is given to educational approaches to behavior change stressing voluntary individual and community changes within the context of community health and development programs. To a lesser extent, materials will be presented which are employed in "user education programs" which might be more accurately described as user instruction for proper use and maintenance of water and sanitation systems.

While audio-visual aids can serve to support health communications, they can also undermine educational goals by over-emphasizing the provision of information, disrupting two-way person-to-person communications, and blocking effective participation.

J. Vella, in her article "Visual Aids for Nonformal Education," (53) makes a number of important points:

> "The argument for building up a repertoire of visual aids that can be used in adult nonformal education is corroborated by recent research on adult learning. In The Modern Practice of Adult Education (1975),

Malcolm Knowles has compiled some fundamental facts on adult learning. His research holds that adults learn best:

1. when they feel themselves respected in the environment;

2. when the new learning exploits their life experience and builds upon it;

3. when they see the things being learned as immediately useful; and finally

4. when there is some visual or practical component to the lesson.

As a rule of thumb we recall 20 percent of what we hear, 40 percent of what we hear and see, and 80 percent of what we can discover for ourselves. That pattern lends an urgency to the need for relevant and significant visual aids."

Audio-visual aids, by their nature, contain pre-determined messages. Instead of seeing them within the context of a community education program, there is a tendency to see such aids as simply tools for information-giving or possibly for motivating behavorial change. In the past, it was commonplace for health education messages to be decided upon by officials and technicians at headquarters who felt that they understood what people ought to know or do to protect themselves from environmental risks. For example, campaigns have been launched urging people to boil water whether or not they believe in the germ theory or can afford the required fuel. More recently, message content has been determined by the findings of social scientists who employ survey techniques to discover the knowledge, attitudes, and practices of individuals. A contrasting approach is presented by L. Green (20), who sees community health education and aids which support such education as a participatory process which includes self study by the community of its values and needs, documenting of needs and health barriers by the community, and decisions by the community about its own priorities. K. Pisharroti (38) insists that health education goes beyond knowledge, attitudes, and behavioral components. Health education promotes interaction of individual, family, and community behavior through a process involving a series of steps and efforts by learners themselves. Health educators provide the framework in which these steps can occur.

This report does not aim to justify using audio-visual aids in support of water and sanitation programs. Very little evaluation has been done to measure the effectiveness of these materials. Also, audio-visual aids constitute only a part of one component of water and sanitation programs. No studies have been uncovered which account for the role of audio-visual aids in water and sanitation programs in contrast to other educational interventions. Evaluations undertaken, as reported by J. Jenkins (27) and J. Leslie (31) refer primarily to nutrition, immunization, and other components of primary health care (see Attachments C and D: Mass Media for Health and Nutrition Education). An exception is Tanzania's "Mtu ni Afya" (Man is Health) campaign which employed radio, booklets, and group discussions among some two million people during 1973. Prior to the campaign, 20 percent of the population were reported to have latrines. This number increased to 50 percent within six years (60). No mention is made, however, of the persistence of the effect.

An evaluation was also made of the national development campaign in Botswana which, in addressing water supply and health issues, gave major emphasis to community participation in mass media education (12). It was reported that there was a significant increase in knowledge and awareness on the part of government of how people can contribute in the development process. Additional discussion of findings from programs using audio-visual aids can be found in Chapter 6 of this report.

2.2 Using Audio-Visual Aids -- Some Basic Principles

2.2.1 Stages in Health Education

The process selected for developing and using audio-visual aids will be strongly influenced by the overall policies and strategies of a program, as discussed earlier in this section. A six-stage model appearing in Figure 2 is largely followed in the organization of this report, and offers a useful framework for discussing the communications progress inherent in using audio-visual aids.

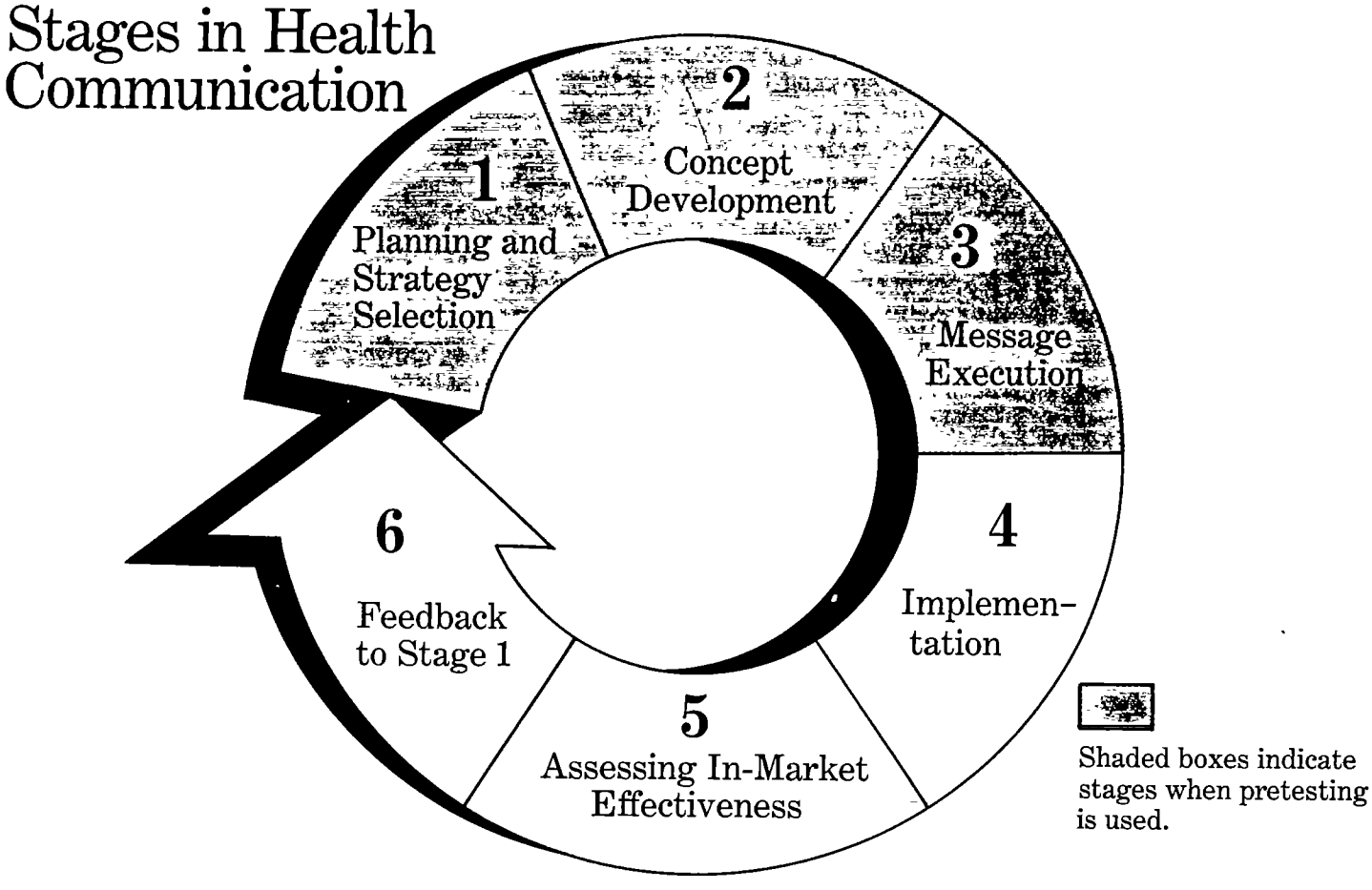
Stage 1: Planning and strategy selection involves careful determination of program objectives and target audiences and the development of an overall strategy for a consistent program, both in terms of technical content and program policies. At this stage, one reviews existing information and decides what additional information is required for formulating a communications strategy. While this scheme was originally applied to family planning communications, its contents are just as applicable to water supply and sanitation.

Stage 2: Concept development consists of a series of ideas or drawings which can be further developed if pretest results are favorable. Field research findings commonly support the preparation of several concepts. Only a few will eventually be selected for use while others might be reserved for later phases of a project. The process of selecting the most important messages is critical to successful communications and must include such factors as probable impact on achieving overall program goals, costs, social compatibility, complexity, and other characteristics such as those discussed in the change models presented earlier.

Stage 3: Message execution consists of a process of developing complete messages through a series of pretests which assess how well messages are being comprehended and the extent to which they can be recalled. Strong and weak points of an audio-visual aid are determined and measures made of perceived relevance by various target audiences. Sensitive or controversial messages are uncovered, and other factors of importance in inducing change are studied.

Stage 4: Implementation consists of making a series of decisions concerning message content, sequences or phasing of communications, and formats to be used; training workers and volunteers with responsibilities for health communications; printing or reproducing audio-visual aids; and carrying out message dissemination activities.

Fig. 2 - Stages in Health Communication



Source: "Pretesting in Health Communications," U.S. Department of Health and Human Services, National Cancer Institute, Pub. 83-1493, 1982.

Stage 5: Assessment of effectiveness determines the extent to which audio-visual aids have supported changes in knowledge, attitudes, specific behaviors, or other factors to be influenced with the help of the aids, such as perceptions of social acceptability. A common practice, where it is possible, is to compare levels of knowledge, attitudes, and practices prior to introducing audio-visual aids with levels measured at various times during or after a campaign. When resources permit, more scientific techniques, including using control areas, are employed. Before/after measurements are also made in other control communities to determine if changes found in program areas can be attributed to communication efforts or to other factors.

Stage 6: Feedback to stage 1 prepares educators to improve upon their efforts through analyses of all factors which might bear on the outcomes of evaluation, including message content, choice of communication channels, adequacy of training, adequacy of message distribution, and others. This stage offers important opportunities to uncover problems and plans for improved future communication cycles.

It should be admitted here that, although these are the steps that one should follow in the process of developing audio-visual materials, not every health education unit of a ministry of health or every community health program will have the wherewithal to follow them. Throughout the report references will be made to options for resource-poor organizations. The objective after all is not to discourage health workers from producing materials by making the process too costly but, on the contrary, to show how almost every organization can and should produce materials itself.

2.2.2 Planning Health-Related IEC Programs

In a recent publication, J. Middleton (33) highlighted eight principles for planning health-related information, education, and communication (IEC) programs based upon many years of experience in family planning communication:

1. National or overall project policies will strongly influence communications strategies. Therefore, assessment of existing policies, including material and organizational resources and mass media systems, should be carried out early.

2. All successful IEC programs require careful analyses of the human behavior to be changed, including factors which determine varieties of behavior, such as sociocultural and political conditions.

3. Effective strategy design must be based on a clear understanding of how people learn and change behavior. Programs must apply human learning principles, as well as take advantage of multiple channels of communication, to disseminate consistent and reinforcing messages in carefully predetermined sequences.

4. Even well done technical analyses will not be sufficient without making message analyses and pretesting integral components of IEC efforts.

5. Direct and continuing audience participation is essential for long-term success.

6. Skilled, flexible, and creative management is as important as quality media design for successful implementation.

7. Evaluation and feedback are critical elements, and require effective management information systems.

8. Health programs cannot succeed if they are isolated from related health and development activities. Effective collaboration with other "stakeholders" needs to be built into each stage of developing communications.

The Ghana Plan

A useful example of national IEC planning is provided in a workplan developed by a team from Ghana and presented at an international workshop on communications planning held in 1970 (8). The Ghana plan, which is presented in Attachment B, had six distinct goals: to increase awareness of family planning as a desired behavior, to legitimize family planning, to sensitize the public about its population problems, to provide information concerning contraception, to motivate people to use and encourage the use of contraception, and to reassure people about the safety, effectiveness, and appropriateness of contraception. For each of these goals, there were sub-goals, accompanying strategies, target groups, and the designation of the media to be employed. The plan also included both annual and monthly work plans. It must be noted, however, that the Ghana plan represents only Stage 1 in the six-stage process discussed earlier. It offered a tentative plan of what could be done, how and when, but would be subject to change based on pretesting and evaluation feedback.

It is noteworthy that the Ghana plan went well beyond the technical issues of contraception in formulating campaign goals. It is equally important for water and sanitation communications planners to identify overall goals for specific target audiences. For example, in a water and sanitation program implemented by the Institute of Nutrition of Central America and Panama (INCAP) in Guatamala, a major communications goal was to convey to the population of El Bongo community the idea that they had a sanitation problem as well as the power to eliminate the problem through community action (18). Audio-visual aids were designed to support the "reflexion-accion" (conscious awareness-action) program philosophy. Detailed training materials were therefore developed which gave strong emphasis to effective use of audio-visual aids to foster community awareness and action rather than simply conveying information about using sanitary systems brought into a community from outside agencies.

Honduras: Programs in Environmental Sanitation

Another important effort which provides useful information about planning IEC activities is being undertaken by the government of Honduras with assistance from the Academy for Educational Development (AED) in Washington, D.C. There, two separate programs are underway to improve environmental sanitation and to decrease morbidity and mortality associated with severe diarrhea. Two recent

publications draw upon experiences in Honduras and elsewhere for designing a health education strategy and applying behavioral analysis to training health workers. (Portions of these reports can be found in Attachments E and F).

The first publication, "Mass Media and Health Practices Project Paper" (26), begins by noting that earlier moods of pessimism concerning what can be expected of mass media have changed as a result of recent successes. IEC planners and workers have come to realize that communication support cannot serve as a "quick fix" through intensive short-term campaigns. Rather, such activities serve project goals well when they are part of carefully defined communication strategies supporting integrated service-delivery systems, and when they are properly monitored and corrected. The report goes on to say:

> "The success of a public education approach...requires a sensitive understanding of how people are affected by specific health problems, articulate crafting of educational messages which are both useful and practical, and a coordinated distribution network which reaches each individual through various channels, simultaneously."

The second publication, "Behavioral Analysis Applied to Health Training" (49), reports that in Honduras, 108 possible health messages concerning prevention and treatment of diarrhea were developed and subjected to intensive analysis and scoring according to a nine-item behavioral evaluation index. Behavioral analysis based upon field observations, related these possible messages to needed knowledge and skill among rural people and to information about when certain kinds of health-related behavior are required. Attention was given to actual availability of resources essential for behavioral change, e.g., oral rehydration salts. IEC planners were concerned not only about positive and negative observable consequences of new behavior, but also about rewards derived from earlier behavior which had failed adequately to protect health. By applying these rationales, the preliminary list of 108 messages was pared down to five messages concerning prevention and nine concerning treatment of diarrhea, all of which were subsequently pretested in the field. (Additional details describing AED activities in Honduras can be found in subsequent sections of this report.)

1984: The Year of National Village Water Supply in Burkina Faso (Upper Volta)

No information is currently available concerning communications plans worldwide in support of the goals of the Water and Sanitation Decade. The effort connected with this report made no attempt to obtain such plans, although one, dated June 1983, was received from the Ministry of Rural Development in Burkina Faso (Upper Volta). Burkina Faso has designated 1984 as the Year of National Village Water Supply, has held a series of meetings and campaigns in its support, and has identified the resources required to accomplish its educational goals. This plan appears to be particularly well thought out in respect to involvement of a wide variety of government units but does not contain information describing the collection and analysis or the types of data needed for preparing communications.

Agencies which participated in this study of audio-visual aids in water and sanitation were asked if special studies had been conducted to learn about the beliefs and attitudes of target audiences which could be used in determining

media content. Over two-thirds of those who responded stated that such studies had been carried out. However, descriptive data indicated that many of these studies were quite informal and were carried out by staff without special training.

2.2.3 Recent Trends

A review of recent publications on planning health-related IEC programs shows that perhaps the most important observable trend is away from viewing communications as the linear process of sending a message from a source of information, through a channel of communication, to a receiver -- the four traditional elements in communications design. Rather, there is a growing appreciation of the complexity of the behavioral change process and how communications can have an impact on this process. For example, as reported earlier, Tonon found changes in water and sanitation attitudes and behavior to be independent phenomena. An additional noteworthy trend is to give greater attention to discrete segmented audiences such as women and/or older siblings rather than simply considering audiences as "rural masses." This change appears to have been influenced both by the contributions of marketing specialists, as well as by the less than satisfactory results of addressing undifferentiated audiences.

Chapter 3

DESIGNING MATERIALS: DATA NEEDED AND HOW TO COLLECT AND INTERPRET IT

3.1 Data Needed

Chapter 1 makes the point that the purpose of audio-visual materials is to assist community health workers in the often difficult task of changing deeply ingrained and customary patterns of health-related behavior. Workers can best use audio-visual aids if they employ change strategies which are well founded and tested. Audio-visual aids must be consistent with such strategies if their messages are to be clear and believable. The information required for designing a primary health care program or other health interventions is quite similar to that needed for designing communications support. With the exception of pretesting specific messages or materials, such data collection can meet the needs of many different program workers.

Those designing audio-visual materials for use in a water supply and sanitation program need a thorough knowledge of the program itself and of the populations it serves in order to develop materials that are specific, realistic, and potentially effective.

Data needed to design effective audio-visual aids fall into several categories:

1. Data on objectives and content of the specific program for which materials are being developed, including the technologies employed in the program.

2. Data on program successes and accomplishments. What has worked and why?

3. Data on problems and obstacles that the program has encountered in the field or is likely to encounter, such as

    - o attitudes and beliefs toward water supply and sanitation
    - o deficiencies in knowledge concerning water supply and sanitation
    - o current practices regarding water and sanitation.

6. Data on local social organization, decision-making, and communication patterns.

7. Data on leadership: traditional, political, opinion leaders, and influential people of all kinds.

8. Data on prevalent diseases and other health conditions.

9. Data on the economic characteristics of the communities served.

3.1.1 Program Objectives and Content

These data should be used to answer basic questions about the purpose, objectives, and activities of the program.

- What is the overall purpose of the program? Improved health? Enhanced socio-economic well-being?

- What are the objectives of the program?

  - In terms of the number of installations
  - In terms of the population to be served
  - In terms of the geographic area to be covered
  - In terms of other measurable health, sanitation, behavioral, or social indicators, e.g., diminutions in disease prevalence, increases in handwashing and latrine use, numbers of active health committees, etc.

- What are the main program activities?

  - Installation of wells? Capping springs? Installing infiltration galleries? Constructing rainwater catchment systems?

  - Latrine construction? Well protection and drainage systems with soakaways? Construction of cattle troughs? Of washing places?

  - Training health and water supply personnel? Training village leaders, committees, health workers, pump caretakers? Others being trained?

  - Health education? User education? Modes and methods used? Techniques employed?

3.1.2 Program Successes

Here the focus is on accomplishments -- not merely in numerical terms (e.g., number of wells dug or drilled, number of latrines constructed or number of trainees of a particular type trained) but on a qualitative estimate of success. One is therefore interested in the depth and output of wells, the quality of spring construction, the aesthetic or practical quality of latrines, the performance of trainees, and the function of village health committees. It is probably as important to depict successes in visual aids as to describe problems. Equally important is to describe why programs have been successful, looking at characteristics of both the program and the recipients for explanations. Too much health education material related to water supply and sanitation dwells on the negative, the pathologic, and the unclear, rather than on giving confidence to recipients in their ability to solve problems.

3.1.3 Problems and Obstacles

Attitudes and Beliefs

Being concerned with attitudes surrounding water supply and sanitation is not a new phenomena. In 1955, E. Wellin (56) discussed at length problems faced in attempting to get Peruvians to boil drinking water (44). His article, which was included in a well known collection of social science case studies, contributed to the growing concern with the behavioral change process as it applied to developing countries. Interest in attitudinal factors received a conceptual impetus from the agricultural extension movement in the early 1950s when the adoption and diffusion of ideas were first studied (6). By the early 1960s, demographers working on population and family planning projects were trying to find a correlation between certain attitudes and beliefs and acceptance of family planning. "Knowledge, attitudes, and practices" (KAP) studies, which they soon developed, were widely used as an innovative means of gaining insight into how to encourage support for family planning. It was disappointing however that KAP studies failed to provide answers about why people believed or acted as they did (43), leaving communications planners with inadequate information for developing change strategies. In addition, methodological weaknesses in these early KAP studies resulted in uneven reliability and validity.

Deficiencies in Knowledge

While it has not been proven, it seems improbable that anyone using or maintaining a pump or a spring, constructing a latrine, or participating in a health committee would not behave in a more correct manner if proper information were offered and acquired. Data on what people know about specific subjects would therefore be of crucial importance to designers of audio-visual aids. For example:

- Pump caretakers must have a knowledge of parts of the pump and how to maintain it.
- Women must know how water could be contaminated from the source to the lips and how diarrhea and other intestinal infections are transmitted.
- Health committee members must know what their roles and responsibilities are as members and officers vis-a-vis the community.

Current Practices

The data sent from Peru probably contains the most important KAP data for the designer of audio-visual materials. Examples of questions needing answers include:

- What experience, if any, have people had with the use of latrines?
- What are current defecation practices for various groups (male and female and small children)?
- Where do people draw water at various seasons?

- How much water is drawn per day?
- How much time is spent drawing and carrying water?
- What is the water used for? From which sources?
- How is water transported and stored?
- What practices are connected with various water uses: handwashing, bathing, clothes washing, housecleaning, etc.? How frequent are they?

With respect to all three (attitudes, knowledge, and practices) care should be taken to discern what are already problem areas for project implementation, i.e., where especially intensive educational efforts are needed, including the use of specially designed materials, and also to designate areas where problems are likely to occur. Thus, a rather broad set of data might be needed.

Studies of knowledge, attitudes, and practices concerning water supply and sanitation reported by C. van Wijk-Sijbesma (52) tend to have grown in number since the early 1970s. The work of G.F. White, studies by M. Elmendorf (15), and particularly W. A. Smith (47) at the Academy for Educational Development (AED) in Washington, D.C., and his colleagues at Stanford University's Institute for Communications Research have further advanced knowledge of attitudes regarding water supply and sanitation.

3.1.4 Prevalent Diseases and Other Health Conditions

An effort might be made to establish prevalence rates for certain easily identifiable diseases to guide workers in the design of audio-visual aids. Examples of diseases related to water and excreta that could be identified by workers without clinical skills might include those shown in Table 2. It is emphasized that these suggested indicators are not precise measures but only indirect estimators of disease prevalence. These proposed measures can be enhanced by combining them with certain environmental observations regarding urination and defecation patterns. For example, if there is a high rate of bloody urine in young boys and the most frequent sites for washing and bathing are ponds and lakes, one can assume a high prevalence of schistosomiasis. Of necessity non-health personnel will have to be trained in certain techniques of physical examination and medical history taking.

3.1.5 Data on the Economic Characteristics of Communities Served

Certain data should be collected from which conclusions can be made concerning the economic capacity of a community to adopt certain behavioral changes. In order to assess the economic base of a community, both assets and liabilities must be considered. The assets of a community consist of its stock of goods, equipment, and money, the flows of labor services, and the production of goods. The liabilities consist of consumption demands within the community which include disposal "costs" for wastes and waste products, and flows from the community in the form of taxes and payment for imported goods and

Table 2

Easily Identifiable Water or Excreta-Related Diseases

Disease	Relation to water or excreta	Prevalence markers
Malaria	Water-bred vector	Enlarged spleen
African sleeping sickness	Breeding sites near water points	Somnolence
Bilharzia	Water-based vector	Hematuria, Hepato/ splenomegaly
Hookworm	Contaminated soil	Pallor
Diarrhea (various etiologies)	Polluted water Insufficient quantity of water Lack of personal hygiene	Number of days with diarrhea per week (infants and small children only)
Trachoma	Insufficient quantities of water	Inflamed eyelids
Filariasis	Water-bred vector in Africa breeds in polluted water and latrines	Elephantiasis, hydrocoele
River blindness	Fast moving water is a breeding site for vector	Nodules near joints, inflamed eyes

services. The resultant estimate of net surplus is what could be allocated, in part, to water and sanitation development. It must be pointed out that the form that the net surplus takes is dependent upon the basic socioeconomic structure of the community, whether it be agricultural, fishing, or job/wage dependent.

Finally, the community infrastructure must be analyzed: marketing (including financial markets) communication, and transportation systems (road network, truck, and bus system), and the distance from sources of materials and market outlets. Additional socioeconomic factors to be considered include the borrowing/lending tradition within the community, the land tenure tradition and traditonal occupational stratification, caste dictated or otherwise.

From these data it can be concluded whether certain practices should be promoted (for example cement slab or pour-flush latrines, straining water through a double thickness cotton cloth to prevent Guinea worm, or using UNICEF oral rehydration packages) and what to depict in audio-visual aids in the way of house type, dress, and other signs of relative affluence.

3.1.6 Local Social Organization, Communication Patterns, and Decision-Making

Existing Local Organizations

Organizations such as local cells of the political party, cooperatives, savings and loan associations, parent-teacher associations, associations of artisans, age groups or persons having special roles should be identified, and an estimate of the degree of participation by the total population, various age groups, and males and females should be made. Finally the strength of these organizations should be assessed.

Communication Patterns

It is important to know about patterns of communications because one can then predict how efficiently information about potential modifications in water supply or sanitation-related behavior may be transmitted, how decisions are enforced, and how innovation is introduced from outside the community. The basic set of questions should attempt to identify kinship and friendship networks and to find out how specific kinds of information are communicated. The net result should be the elucidation of leverage points for intervention in the community.

Decision-Making Patterns

Questions regarding this set of data need to be directed at selected groups of community leaders: both decision-makers and others. The basic questions concern who makes what decisons, who participates in decison-making, and how decisions of various sorts are communicated and implemented.

3.1.7 Leadership

An attempt should be made not only to identify local leaders and their relationship to each other and to groups in the population but also to

determine how a leadership role is attained. G. Ukandi and H. Seibel (50) suggest that societies having predominantly inherited leadership roles accept innovation less well than those where leadership roles can be achieved through individual effort. Other evidence, however, suggests that societies with inherited leadership may be more coherent and thus more likely to engage in an organized effort (25).

3.2 Collection and Interpretation of Data

Most organizations engaged in the production of audio-visual materials are not able to undertake a major data-collection effort in order to provide information for the materials development process. No doubt the only recourse left to most organizations is to work closely with technicians and trainers in the field in order to produce materials that respond as closely as possible to the needs for behavioral change as they perceive them. Such collaboration implies that at a minimum artists and designers be given small travel allowances to permit travel to field sites and that they be invited to participate in workshops, seminars, and formal training sessions where ideas are exchanged, successes reviewed and analyzed, and problems discussed. Other alternatives include:

1. Try to locate other units in the ministry which can collect data for them or which have existing relevant data

2. Piggy-back certain questions to other surveys, for example, the census

3. Eliminate less vital information and have existing staff collect only essential information

4. Use simplified non-random data collection techniques such as focus group interviews.

In Thailand, villagers themselves are being helped to conduct their own studies of basic needs including information on knowledge, attitudes, and practices regarding water supply and sanitation. A further option is for government agencies or private organizations to contract with universities or research institutes to collect data.

For those who have the means, however, more sophisticated ways of gathering data are available. Figure 2 in Chapter 2, showing the stages in health communications, calls for the use of pretesting in the first three stages. These early stages have been referred to as "pre-program" stages when research requirements differ markedly from those needed for implementation, assessment, and feedback. During these early stages, developmental investigations are required for clarifying desired behavior, observing and measuring current practices by specific segments of the community, and for gaining a deeper understanding of attitudes, beliefs, social constraints, economic conditions and other factors which influence prevailing practices.

3.2.1 Behavioral Analysis

Figure 3 offers a graphic presentation of how information collected in a variety of ways feeds into both national media and health systems to assist in defining a given health problem such as diarrhea. Rather than beginning with a list of what people need to know to stimulate behavioral changes, the approach supported by AED in Honduras, the Gambia, Swaziland, and elsewhere is to conduct behavioral analyses. Attitudes, although important, are of secondary interest (2).

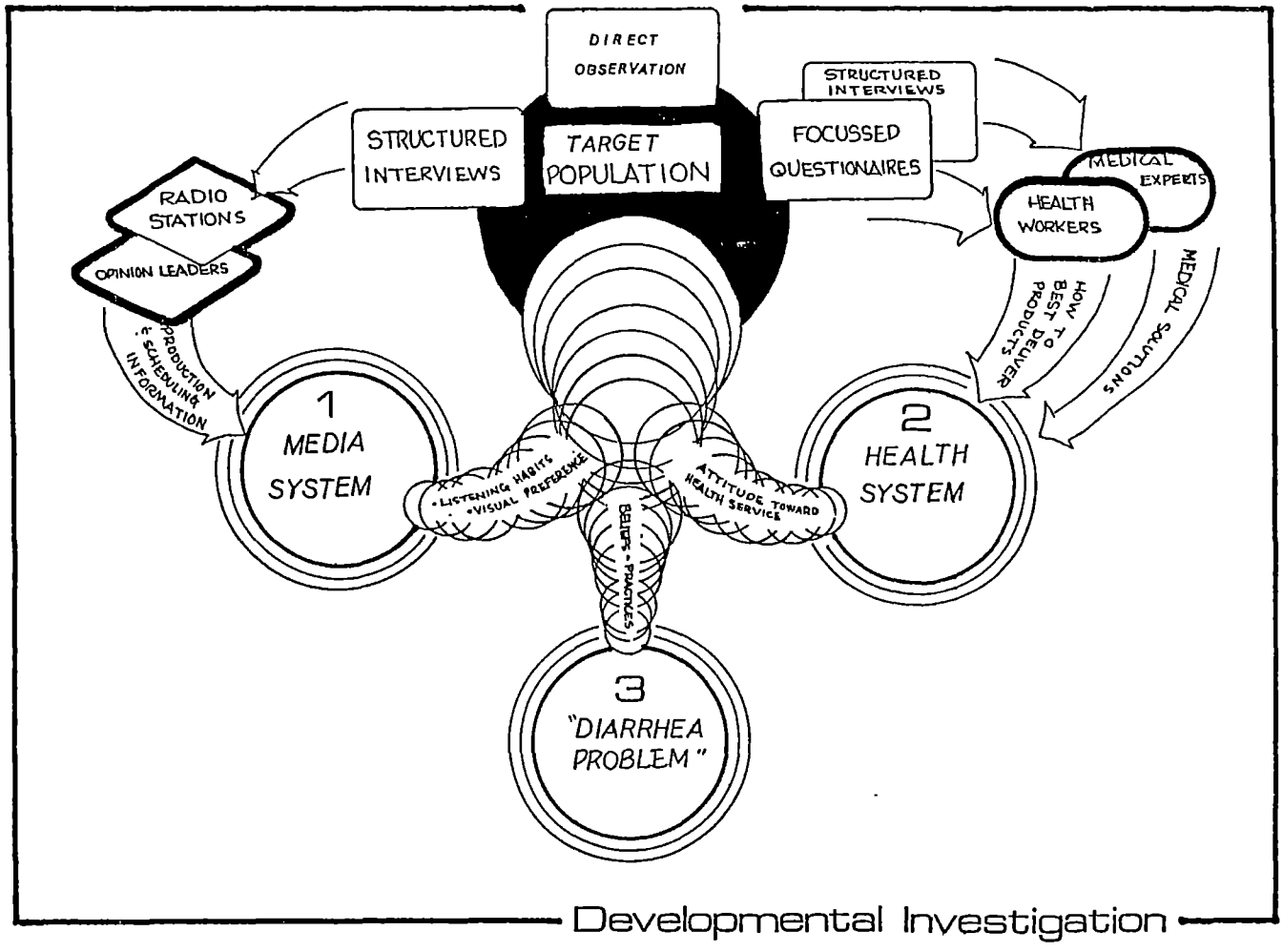
The Mass Media and Health Education Practices Project in Honduras devoted nine months to carrying out behavioral investigations and employed four general strategies: analysis of existing statistical and social science information; interviews with about 175 individuals; 62 "focus group" interviews with approximately 402 rural individuals; and direct observation of selected practices in 24 rural homes. While the resources required for behavioral analyses of this depth are unlikely to be available to many program planners, the approach taken in Honduras offers a sharp contrast to the much more casual studies undertaken in many programs. Early reports indicate that the Honduras program has greatly benefited from its intensive studies, avoiding serious errors which might have otherwise been made. For example, a combination of direct observation and bacteriological laboratory investigations revealed that, contrary to expectations, beans prepared by mothers were not a significant cause of diarrhea, since mothers withheld beans from young children in the belief that they were too difficult to digest. However, corn tortillas were fed to children, and they proved to be highly contaminated as a result of poor food preparation and handling practices, a fact which would not have been uncovered without direct behavioral observation. Programmatic goals and communications strategies were adjusted accordingly.

3.2.2 Social Feasibility Analysis

A second category of information important to water supply and sanitation communicators concerns whether or not a community will find program goals compatible with prevailing customs and conditions. Social feasibility analysis is an approach designed to answer such questions as:

- Do the intended beneficiaries want improved sanitation?
- Are the beneficiaries able and willing to pay for sanitation improvements?
- Are the beneficiaries able and willing to contribute labor and/or materials toward the cost of sanitation improvements?
- Do people's likes and dislikes fit those of the technology options to be provided?
- Are the technology options to be provided compatible with the existing defecation practices and related habits of the project population?
- Are the planned locations of latrines acceptable to beneficiaries?

Fig. 3 - Developmental Investigation



Source: "Mass Media and Health Education Practices Project," Academy for Educational Development, Document 18, 1981.

Fig. 4 - The Process of Social Feasibility Analysis

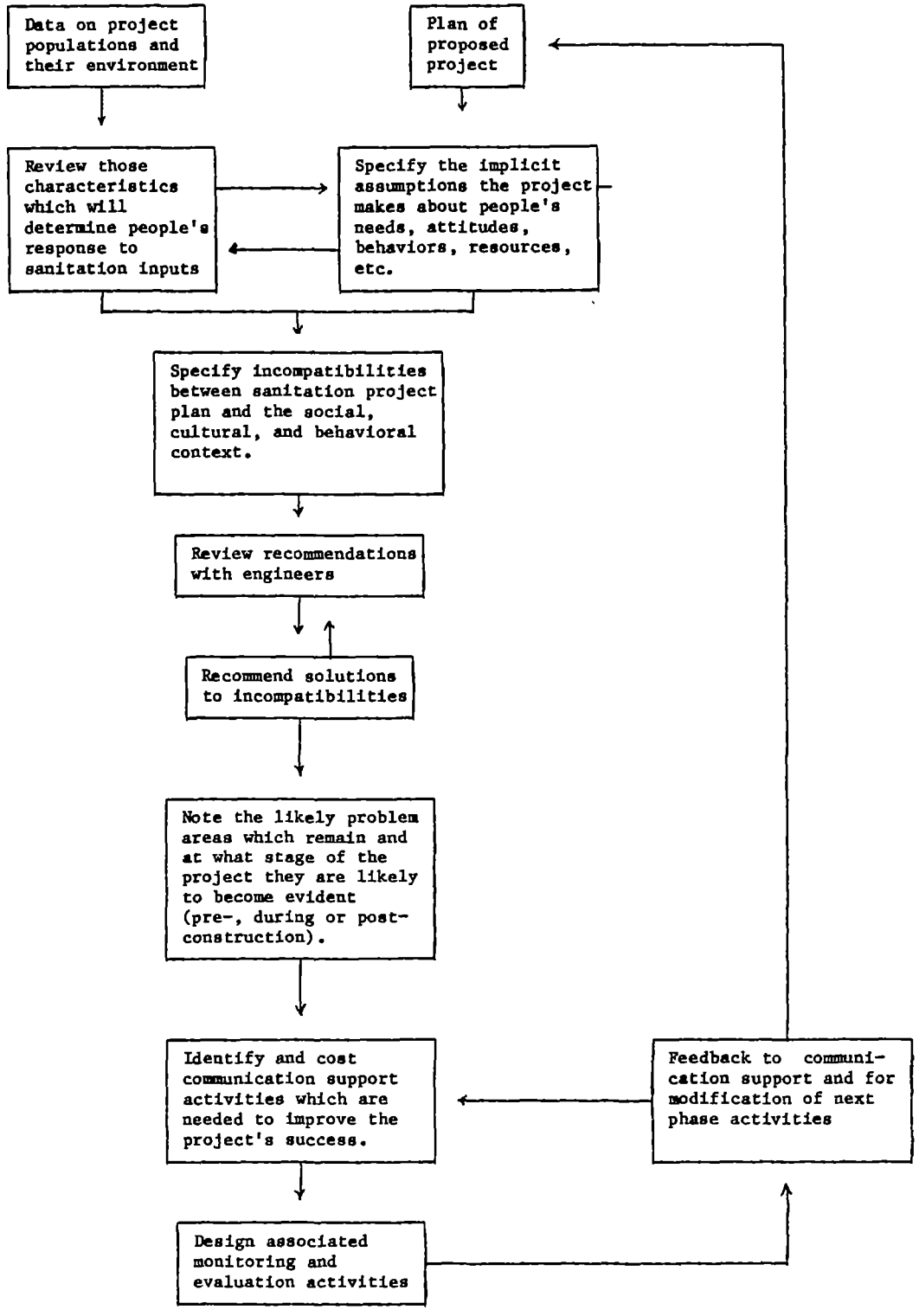


Table 3

Types of Social Input that Can Occur
in Low-Cost Sanitation Projects

Types of Social Input that can occur in Low-cost Sanitation Projects

Input	What it does	Timing	Functional Linkage to Engineering	Linkage to Other Social Inputs
1. Social Assessment [or Rapid Social Assessment]	Collects, organizes and interprets useful social, cultural, and behavioral information about the project population and its environment.	During sector work or the early stages of project work. It can also occur as a rapid social assessment during feasibility work at later stages: (2) below.	Provides the basis for any consideration of non-engineering aspects in engineering decisions.	Lays the basis for social feasibility work. Can also prove useful in designing communication support or health education components.
2. Social Feasibility Analysis				
(a) During early stages of project planning. (Pre-feasibility Report)	Helps to identify the initial idea for the sanitation project and makes sure that it will work in social terms.	Ideally should take place at same time as engineering pre-feasibility work; sometimes is combined with social feasibility analysis: (b) below.	Directly linked to engineering pre-feasibility work and should help to decide what kind of project is needed most, and whether a cash or labor contribution would be indicated.	Builds on social assessment, where it exists.
(b) During later stages of project planning (Feasibility Report)	Reviews the compatibility between the engineering design and the project, its populations and social environment.	Should occur as an iterative process during engineering feasibility work.	Checks assumptions made by engineers about how people will participate and respond, in order to recommend necessary changes in any aspect of the project design.	Builds on social assessment. Lays basis for communication support design by defining objectives for it.
3. Social Design				
(a) General social design of project	Adapts project technologies and implementation strategies to social, cultural and behavioral environment.	Later stages of project preparation, linked to social feasibility analysis, and during early implementation stage.	May suggest modifications in engineering design.	Builds on social feasibility analysis most specifically, but also relies on information available in social assessment.
(b) Design of communication support activities	Identifies and details a package of information, motivation and education (IME) activities which will "sell" the sanitation improvements and also ensure that they will have the desired impact.	Towards latter part of project preparation process, following feasibility analysis.	The IME component has to be closely coordinated with engineering construction schedule.	Builds on social assessment and feasibility analysis, and attempts to make up for what social design has not been able to do in ensuring project success.
(c) Design of social monitoring and evaluation activities.	Monitors how response materializes to the sanitation project, how well latrines are used, and studies what effect project has had on beneficiaries and their environment.	Design of social IME activities usually done in conjunction with design of communication support activities where these exist.	Often helps to explain the cause of engineering findings, particularly where people play a part in any problems experienced.	Builds on all previous work but especially social feasibility analysis. Feeds back into next cycle as project undergoes expansion or replication.

Source: Heli Perrett, "Social Feasibility Analysis in Low-Cost Sanitation Projects," Technical Advisory Group, UNDP, World Bank, Technical Note 5, 1983.

- Are the planned latrine sharing arrangements acceptable to beneficiaries?

- Do projections about the rate at which new latrines will be built or existing ones improved match beneficiaries' capacity to change their habits or to adopt new technologies?

The process of developing a communications plan based upon social feasibility analysis is presented by H. Perrett (36) in a diagram reproduced here as Figure 4. Perrett's diagram presents three levels of studies: social assessments, social feasibility analysis, and social design, all of whch provide information needed in developing communication strategies and content (see Table 3).

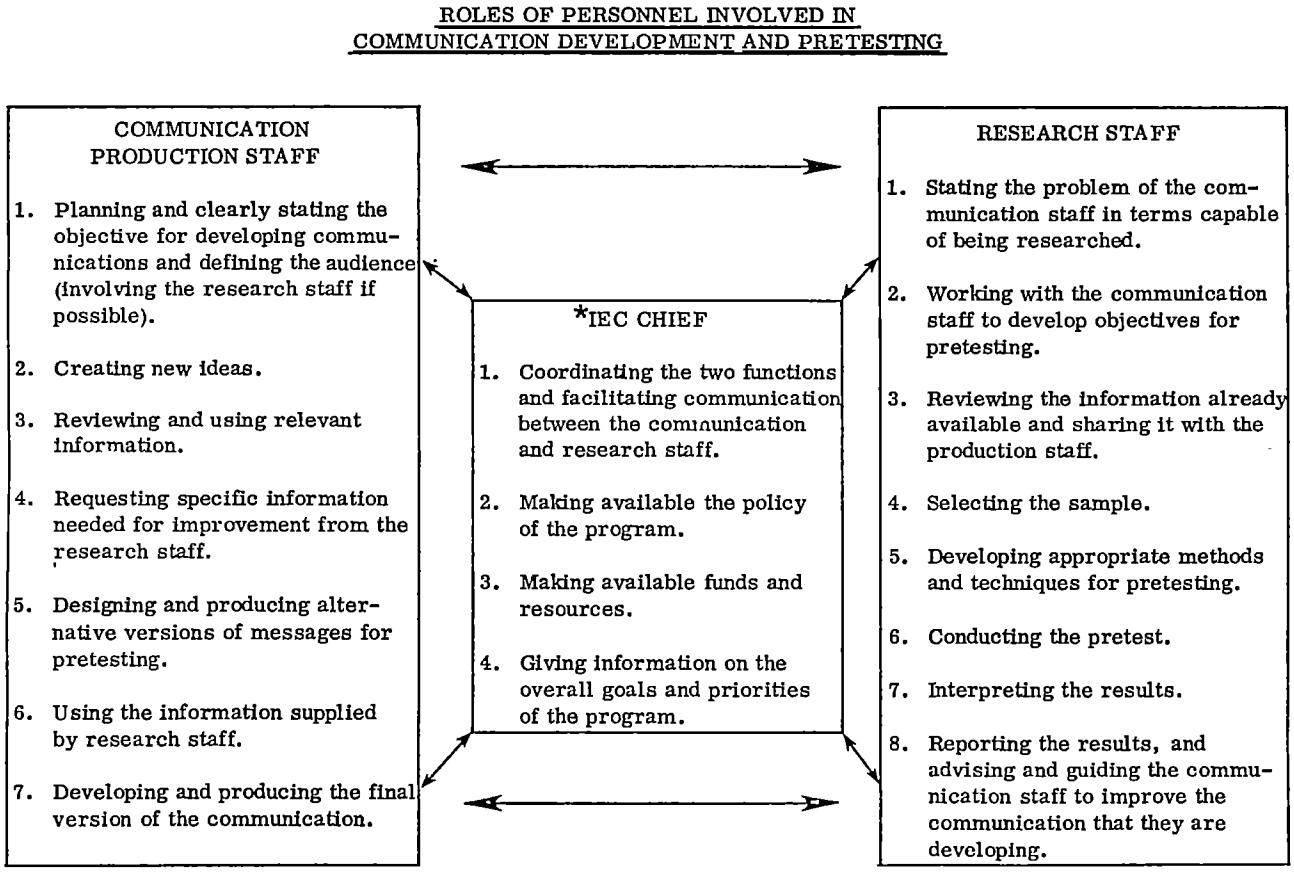
3.2.3 Data-Collection Techniques

Clearly an enormous amount of data which has some bearing on communications planning could be collected. A communication specialist may be needed to keep data collection both pertinent and within the fiscal and time resources of a project. Similar care is needed in determining how data will be collected. Earlier references were made to data collection in Honduras (2). In an article entitled, "Beyond Campaigns: A New Approach to the Media and Education," which can be found in Attachment G, five data-collection techniques are described (see section C2). Each of these methods requires its own research instrument specific for each unique program. At the other extreme, selected questions could be asked during the course of conducting sanitary surveys by sanitarians or others with some specialized training interview techniques. An example of such a questionnaire is to be found in Attachment H: Sanitary Survey Form, which was prepared for training community health workers in Senegal (10). Additional discussion and references to environmental data collection can be found in an article by M. Elmendorf (15) in Attachment I, and in the World Bank document by M. Simpson-Hebert (46). (See also Attachment K for a discussion of pre-testings which is similar in method to basic data collection).

A recent study of considerable importance to water supply and sanitation communication planners was reported by E. Green (19) describing KAP findings in Swaziland. Researchers there recognized that traditional KAP studies might be unsuitable in Swaziland in that Swazis might be unable or unwilling to respond candidly to questions concerning intimate sanitation behavior. Two parallel studies were therefore undertaken to supplement KAP studies, one being a study of traditional healers which employed participant-observation techniques. A second study was conducted among rural health motivators. Findings of these studies were useful in planning KAP data collection from rural populations and are reported in Green's publication. Also included are sample questions and scoring notes.

Of importance is the question of who should collect communications data. While technical social science studies may require well-trained anthropologists, sociologists, or skilled interviewers, other workers such as health educators, sanitarians, nurses, or community motivators may be quite suitable for many studies. In Swaziland, a combination of social scientists, trained

Fig. 5 - Roles of Personnel Involved
in Communication Development and Pretesting



Source: I. Qureshi and D.L. Kincaid, "Pretesting Communication for Family Planning Programs," East-West Center, Hawaii, 1977.

*Information, Education, and Communication

Fig. 6 - Examples of Hygienic Practices
Based on Research Findings

Source: B. Jackson and T. Khaketla, Lesotho Urban Sanitation Improvement Team.

interviewers, and community motivators were able to handle these responsibilities. One benefit in training community health workers is that the skills required in asking pertinent and non-biased questions, as well as accurate recording of responses, are valuable assets in helping workers in local communities.

Regardless of who collects and analyzes information, however, a close relationship needs to be developed between field researchers and those who produce the health education materials. Figure 5 helps clarify some of these relationships. Many respondents to the survey of audio-visual materials that forms the basis of this report reported that their data base consisted of information provided by community health workers, educators, and other staff members, sometimes supplemented with data from prior studies conducted independently. Others, such as the Lesotho Urban Sanitation Improvement Team, employed a sociologist who used "social distance" techniques to asssess people's attitudes toward feces and related topics. In-depth interviews revealed that it was widely believed that because children's feces are harmless, children need not use latrines. Handwashing was not viewed as related to health in any way. These important discoveries led to modification of planned communication strategies and messages. Figure 6 contains examples of hygienic practices based upon the foregoing research findings.

A particularly useful general resource on communications for health in less developed nations is A. Brownlee's (11) cross-cultural guide. Methods of gathering information, community communications, and local health systems are discussed at length, including water supply and sanitation beliefs and practices.

Chapter 4

PRETESTING

4.1 The Rationale for Pretesting

In simple terms, pretesting audio-visual materials is a way to uncover possible errors in conception or design of the materials before a costly investment is made in production or distribution of multiple copies.

J. Bertrand (7) defines "pretesting" as the systematic measurement of the reaction of a group of individuals to a communication prior to its widespread use in order to identify elements which could be strengthened or to compare the effectiveness of various versions of the same communication. Pretesting is used to measure a number of characteristics of audio-visual aids. D. Dubey and A. Bardhan (14) suggest pretesting of effectiveness of appeal; readability; clarity; effectiveness of presentation; comprehensibility; acceptability; length; appropriateness of layout, artwork, color, etc.; agreement of audience with the measure; and credibility. Bertrand has condensed these characteristics into five components: attraction, comprehension, acceptability, self-involvement, and persuasion. By "self-involvement," she refers to whether the audience feels that the message is directed toward themselves or whether they perceive it to be for "others."

Another approach to pretesting is to measure how effectively a given medium and message promotes the desired change: A person's perceptions of how severe a health problem might be or how susceptible he might be to it, can be altered, as in the "health belief" model. Success in inducing individuals to try a new behavior, as a stage in the adoption process, can be measured, as can the extent to which messages are diffused from person to person.

Pretesting has been widely practiced for decades by those marketing products. However, in public health education or community development it is more recent. One stimulus to this development was the work of A. Knutson in 1953 (29) which stressed the importance of understanding differences in individual perceptions and patterns of understanding and of learning how changes might be tied to existing beliefs and behavioral patterns. He cautioned, however, that pretests cannot take the place of sound exploratory studies and competent educational evaluation. A bibliography on pretesting and related communication issues taken from a recent U.S. National Institutes of Health publication is included in Attachment J. It indicates how extensively pretesting has become a part of communications for health since Knutson's publications.

The impetus for pretesting comes also from research on visual perception. J. Deregowski et al (13), for example, found that Ethiopians with minimal or no contact with pictorial materials were able to recognize correctly clearly-depicted animals although some anomalous responses occurred and the task was generally stressful. J. Kennedy (27, 28) in commenting on Deregowski's study, interprets the remarks of his subjects as demonstrating a process of gradual generalization from recognizable details (head, tail, hoof) to the entire object (ox, buffalo). Kennedy stresses the importance of retaining relevant features of objects depicted in pictures. Designers of audio-visual aids should probably use familiar objects, but pretesting would help to eliminate misuses.

Others have pointed out that rural non-literate people may not understand three dimensional drawings, drawings of objects in proportions larger than life, or stick drawings. All these possible obstacles to perception can be picked up through pretesting.

A. Wainaima (54) found that rural Kenyans understood pictorial illustrations provided they depicted things related to their lives and experience; understanding also depended on the quality of the picture. She details factors of importance in determining the success of an illustration in her report, concluding that it should never be assumed that a group of people can understand a visual aid before the material has been tested. For best comprehension, she adds, materials should not be used in isolation but as a part of an entire program.

4.2 The Difficulties of Pretesting

Although pretesting audio-visual materials is a highly desirable activity, many organizations will not find it possible to carry on the relatively sophisticated pretesting detailed below. Nearly everyone knows about pretesting, but few are really doing it. The main reasons for not pretesting are based on the harsh realities of running a health education service or a struggling community health program in a developing country.

4.2.1 Travel Costs Are Prohibitive

Government approval for travel is probably the most difficult to obtain. Private organizations are frequently operating on shoestring budgets. The cost of gasoline has in itself caused major reductions in all kinds of rural health extension services. Thus, it is not difficult to imagine why governments or private organizations would be reluctant to allow an artist to travel to the field to pretest a set of visual materials.

4.2.2 Perceived Lack of Time

In the rush to finish and distribute materials, pretesting may be seen as a non-essential impediment to the progress of a program. The objective is to have the materials in use, irrespective of minor faults that will probably turn up in any case. Pretesting is seen as research rather than as a part of the action.

4.2.3 Lack of Interest

Those who prepare visual materials frequently are not trained either as artists or in the social sciences or education. Their artistic ability and experience has led to the job of preparing materials. With health education units underbudgeted as they are, there are also severe shortages of qualified professionals to guide materials development. Frequently they have neither the time nor the interest to engage in pretesting.

4.2.4 Psychological Barriers

There is a prevalent opinion that little valuable information can be gathered from pretesting. It probably stems from lack of experience with how pretesting helps or the fear of having one's materials shown to be deficient. There is a resistance to change materials once they have been prepared. Jobs are on the line. There is no reward for errors found. Even if the barriers of cost and lack of expertise could be overcome, the psychological barriers would remain.

The advantages of pretesting need to be demonstrated with groups and individuals, with the focus not only on what people see and understand but on what they like. How could such questions be answered even in a minimal way by underbudgeted, understaffed organizations?

4.3 Minimal Pretesting

A program of pretesting visual materials may be undertaken even with a small budget for travel and a low level of expertise in social science and educational research. Essential elements in a minimal pretesting program include:

- Pretesting a limited number of priority visual materials. They should include those for which there is a well-demonstrated programmatic need -- for example, those concerning pump maintenance, latrine use, hand-washing, or the role of a village health committee.

- Selecting pretest sites that require a minimum of travel. In most cities of developing countries there are neighborhoods inhabited by ethnic groups from every part of the country. Many residents are recent immigrants to the city. They still think as their rural relatives do and could be subjects for pretesting materials.

- Using a simple guide on methods of pretesting. Of particular value for health and development workers is J. Bertrand's volume on pretesting referred to earlier in this chapter and also listed as item No. 19 of the National Institutes of Health bibliography (see Attachment J).

- Asking simple questions of groups and of individuals, including males and females, young and old, literate and illiterate. These questions should include:

    - What do you see?
    - What do you understand?
    - Do you like the materials? Why? Why not?

4.4 Pretesting When Resources Are Sufficient

For the convenience of readers, summaries of five pretesting methodologies are Included in Attachment K.

Method 1: Readability testing allows workers to test how easily an item can be read. The National Institutes of Health employs a standard formula for measuring proportions of polysyllabic words but does not measure such factors as conceptual difficulty, how materials are organized, contents, etc. and may be of only limited use unless coupled with other measures. ("Making Print Materials Easier to Read" is included as Attachment L.)

Method 2: Focussed group interviews which are sometimes called exploratory group sessions, provide insights into reactions of a segment of a target audience based upon their perceptions, beliefs, and linguistic abilities. It is a form of qualitative research.

Method 3: Individual in-depth interviews seek information similar to that sought in group interviews but is on a one-to-one basis. Both Methods 2 and 3 require skilled interviewers.

Method 4: Central location intercept interviews are perhaps the most common form of pretest and are carried out at locations frequented by people from target audiences such as markets or bus stops.

Method 5: Self-administered questionnaires can be of some use for selected media or training materials if respondents are carefully selected.

Some two-thirds of those who responded to the questionnaire used in this study indicated that materials had been pretested, although many of these pretests consisted of showing prototypes to colleagues rather than of systematically studying the reactions of the target group.

4.5 Examples of Successful Pretesting

4.5.1 The Yemen Arab Republic (Save the Children)

Beginning first with pretesting experiences from the water and sanitation field, the work of C. Ansell (5) in the Yemen Arab Republic is of special relevance. Her pre-development research among rural people in Wadi Ayyan revealed a number of important insights. Concern was expressed that clean, healthy-looking children are the most vulnerable victims of "the evil eye." Both children and adults commonly clean their bodies with a variety of pleasant smelling herbs and natural products. People live in extremely close proximity to a variety of domestic animals, and animals often have access to well water and water stored in households. However, it is widely believed that water from the community well had a magic quality of being able to clean itself. Latrines of any sort were rare and the hot dry climate limited aesthetic problems associated with using the family compound for defecation.

Health education aids prepared for this project included casette tapes, poster-sized pictures prepared from photographs, and two sets of photographs. Three tapes, lasting from 1-1/2 to 3 minutes consisted of couples talking about hygiene, plus a male "voice of authority" summarizing rules of hygiene. Drawn pictures were of women washing a baby, washing plates, boiling water, etc. Photographs covered similar hygienic scenes but avoided showing feces or much of a person's body.

Of the three types of media, tapes were most readily received. Males in the community found them acceptable for household playing, and their short length eliminated most, but not all, distraction. Women best identified with issues such as washing babies, while men were engrossed in the "voice of authority" tape. Of particular interest was the fact that the tape referred to the community well by name. It was found that listening groups larger than about five people would result in distracting side conversations. Repeated playing of the tapes greatly enhanced learning by overcoming the novelty effect.

Drawn pictures were less effective in that viewers spent considerable time attempting to decipher each picture without really considering its message. Women could not readily relate to drawings of veiled women whom they viewed as not like themselves. Drawings of unveiled women could be shocking and were rejected. In spite of these limitations, drawings were found to be useful in introducing new subjects and for attaching special importance to them.

Photographs were least useful in that such realistic depictions could be shocking and cause suspicions that health workers had cameras. However, local health assistants gained credibility by using tapes and drawings, and interest in the topics under discussion was increased.

4.5.2 Guatemala (INCAP/AID)

At an INCAP/AID supported project in Guatemala (see Table 1 for summary information about audio-visual aids reviewed in this report), slides were made of prototype pamphlets and shown to small groups of people who were asked what they thought the pictures showed. Comments from these focal groups revealed the need for many modifications.

Various drawing and format styles were tested with comical drawings (Illustration 1) receiving the best viewer response. These were drawn by a project sanitarian.

Another INCAP effort in Guatemala was the development of a household hygiene poster containing places to check off whether the household exhibited certain environmental hazards. Pretesting resulted in several changes in the direction of simplification, clarification, and closer approximation to local practices. Illustrations 2 and 3 show some of these changes. In this case, a decision was made to go from less to more sophisticated settings or household resources.

4.5.3 Indonesia (UNICEF)

Respondents frequently reported that prototype materials were pretested only on health workers rather than on the audiences for which the messages were actually designed. However, a number of projects report using the two groups sequentially as a savings technique. Such two-step pretesting in Indonesia, for example, revealed that considerable simplification of messages and illustration was needed. Furthermore, additional revisions were needed if the materials were to be suitable for regional and local programs, policies, and situations. Illustration 4, showing some of the final results, is taken from a well-bound flipchart which is used both in the field and for health-worker training. No long-term evaluations were conducted of the impact of these aids.

4.5.4 PIACT and PATH

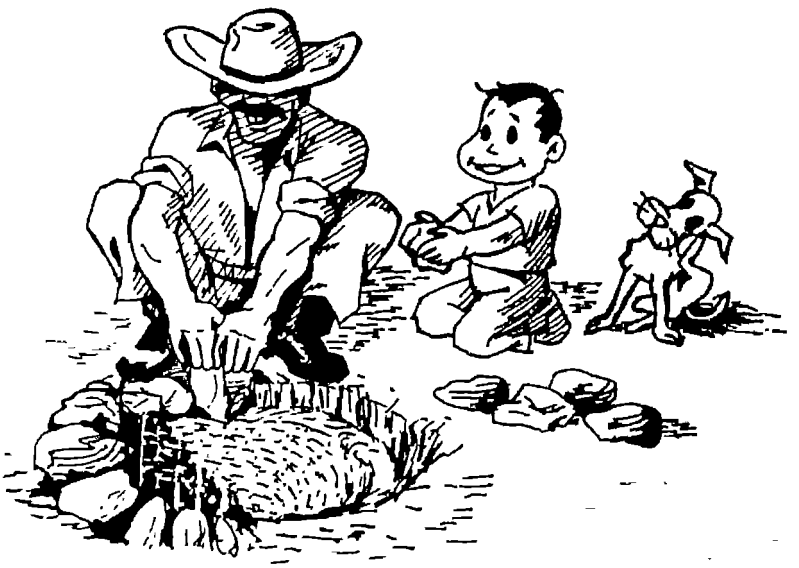
Some of the most carefully pretested health education materials have been developed by two associated organizations, the Program for the Introduction and Adaptation of Contraceptive Technology (PIACT) and the Program for Appropriate Technology in Health (PATH). PIACT, working in some 13 countries since 1978, has given major emphasis to developing educational family planning materials for nonreaders, while PATH has focused upon other health concerns, including family hygiene, oral rehydration therapy, breastfeeding, and immunization. Their valuable publications summarize some of their major experiences in Mexico and elsewhere (63). These materials, some of which have been synthesized with the assistance of UNICEF, have been assembled by the Population Information Program at Johns Hopkins University in Baltimore. These are a rich source of insights, a few of which are cited below.

PIACT suggests that ideas and information probably cannot be communicated directly to nonreaders in villages using pictures alone. Villagers who were not accustomed to looking at pictures had difficulties in perceiving what was depicted. Even drawings of hands were confusing. A series of drawings intended to instruct Honduran mothers in the mixing of oral rehydration salts were not viewed as instructions at all but only as labels. Similar studies in Nepal showed that villagers did not necessarily look at illustrations in the expected order or connect the pictures as a reader might be expected to do. Symbols such as an "x" or check-mark are misunderstood, and other symbols convey very different meanings from one culture to another. However, these findings by no means suggest that illustrations are useless for nonreaders. People are both interested in and attracted to pictures, although they need help in understanding them.

When pictures are explained by a health worker, messages are remembered better, and the messages are reinforced by having health workers available in a home or community. Furthermore, illustrated materials help to standardize messages conveyed by health workers.

A few anecdotes at this point give emphasis to the importance PIACT places on careful pretesting. In Bangladesh, it was thought that a red drop might serve to symbolize blood or the onset of menstruation in a pamphlet on contraception. Instead, women interpreted the drops as fruit, shades of lipstick, flower petals, or medicines. When the women themselves were asked how best to portray this message, they suggested a red dot on the back of the sari of a woman who was asleep and had forgotten to take her pill. In the same pamphlet a woman was shown sleeping. The viewers saw her as being dead, perhaps from taking the pill, because her hair was loose rather than tied (Illustration 5). In Bangladesh women's hair is braided or tied at night. Without pretesting, there might have been a setback in the oral contraceptive program.

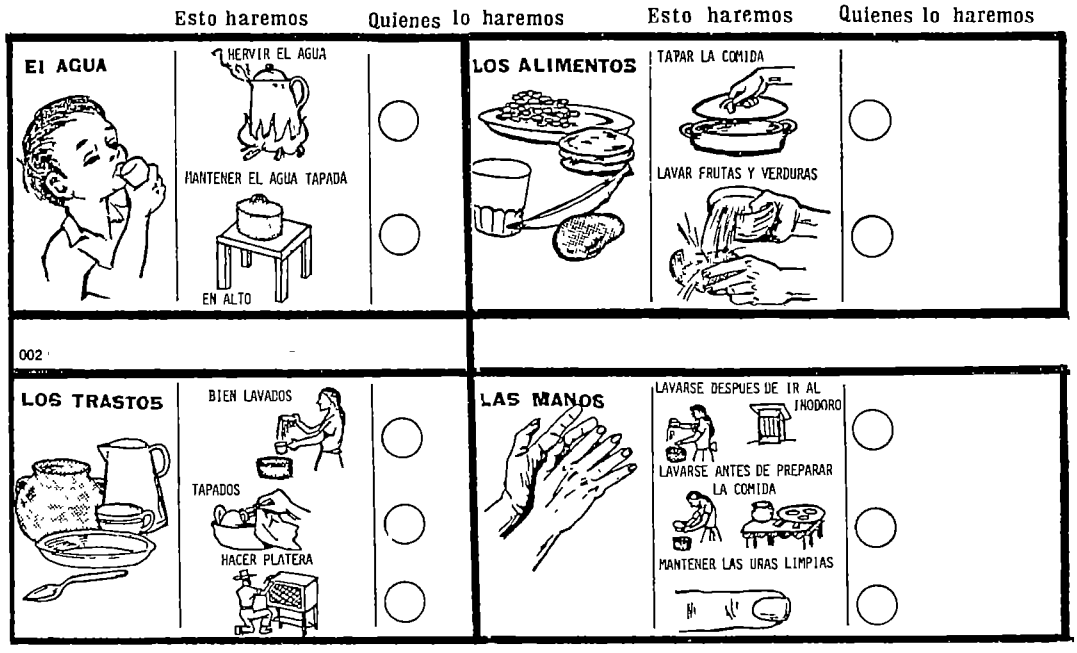
A number of studies of PIACT and PATH materials have shown that recipients demonstrate signficantly greater understanding when verbal messages are accompanied by audio-visual aids. A number of lessons learned in developing and pretesting health messages are presented in Attachment M.



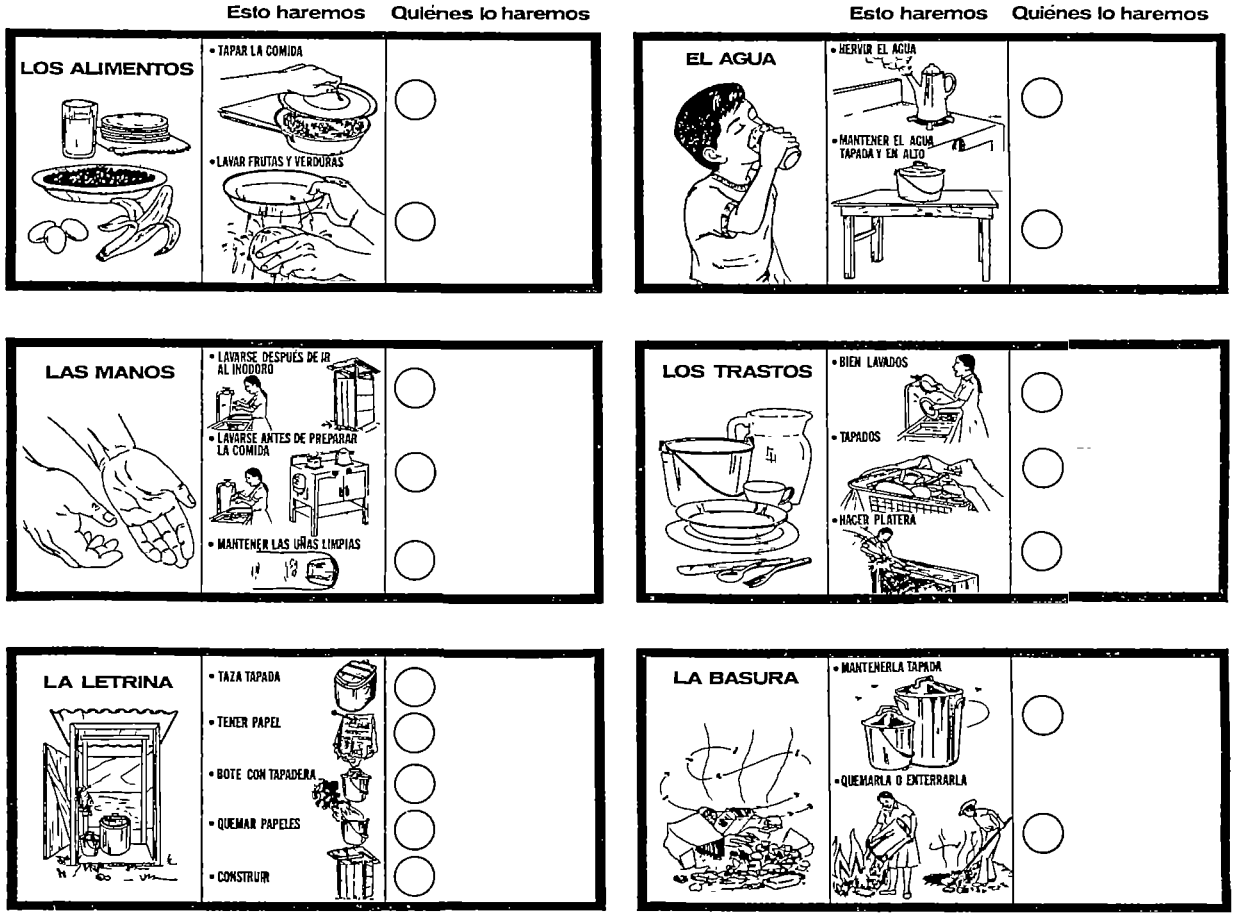
LE HIZO SU BROCAL DE PIEDRA PARA QUE QUEDARA FIRME.

CON SU PRIMO ASENTO LA PLANCHA Y LA TAZA.

Illus. 1. Comical drawings used in an illustrated booklet, "A Family Builds a Latrine." Pretesting of several styles showed that the comical drawings were favored. (Courtesy of INCAP (Guatemala), Dr. Leonel Gallardo.)



ESTA CASA ES DE LA FAMILIA DE:_____



Illus. 2 and 3. How pretesting can result in more sophisticated drawings. Illustration 3 is the final version. The drawings were used in a poster as part of a community education program. As household improvements are made, the item is checked off. (Courtesy of INCAP (Guatemala), Dr. Leonel Gallardo.)

Illus. 4. The final result of pretesting a flipchart for use in health-worker training and in the field. Here the cover of the spiral-bound flipchart is shown. The chart is entitled "Management and Use of Village Water at Home." (Courtesy of UNICEF, Jakarta.)

Illlus. 5. Photos taken from a family planning program in Bangladesh illustrate how pretesting saved a program from near disaster. Important facts about how viewers perceived the drawings were uncovered. For example, pretests showed that Bangladeshi women assumed the woman shown sleeping with her hair down was dead. (Courtesy of PIACT.)

4.5.5 Swaziland (AID/AED)

In Swaziland, Ministry of Health special studies of beliefs and attitudes toward water, sanitation, and health revealed a dislike of the flat taste of boiled water, concern about the danger of pit latrines for children, a fear of sorcery when using latrines, and a belief that schistosomiasis is caused by sorcery. Audio-visual materials were designed to respond to a number of these concerns. Pretesting was conducted by rural health motivators and assistant health inspectors among groups for whom the materials were intended. The process revealed that a number of illustrations and phrases were found offensive, and certain colors had to be avoided. These improved materials are scheduled to be distributed to schools, clinics, and travel terminals, and to be put in buses, stores, and other public places. This program and the KAP studies associated with it are discussed in detail in Section 3.2.3.

4.5.6 Zaire (Bureau for Studies and Research in Health Promotion)

A major source of health education materials for West Africa and elsewhere is the Bureau for Studies and Research in Health Promotion at Kangu-Mayombe in the Republic of Zaire. This organization has, over a period of many years, produced a great variety of mass media and training materials (see its publication catalogue in Attachment N). Its response to questions concerning pretesting will be of interest to readers:

> "Isolated images are difficult for people to grasp. Therefore, a series of images is better. Try to convey only one idea in several images...villagers like to be depicted in a desired state, not in poverty. They want to identify with well-being. In order to motivate them, therefore it is necessary to include symbols of well-being, a tin roof, an attractive house, a metal bucket. The educator must therefore be well acquainted with the habits and culture of the target group in order to know what are the local symbols of well-being."

An example of this group's artwork is shown in Illustration 6 taken from a series of silk-screened unbound illustrations on hookworm entitled, "I Am Strong Because I Have No Worms."

4.5.7 Kenya (The Mazingira Institute)

A comic book prepared for use in Kenya and Uganda by the Mazingira Institute in Nairobi provides a useful illustration of a visual aid pretested among the children for whom it was designed. Pretesting revealed that translations from English into local languages were not satisfactory and required considerable change. Special training materials for teachers were needed, and messages were linked to radio announcements in Uganda. This publication contains a number of noteworthy features. It combines comic book stories with factual text. It contains pertinent nutrition, dental, sanitation, and population growth information, and features both puzzles and national essay contests on health topics. The many responses to these contests provided feedback for evaluation. (Illustrations from this publication may be found in Chapter 6.)

Diela a mal au ventre, il a la diarrhée.

Andrew has stomach-ache and diarrhea.

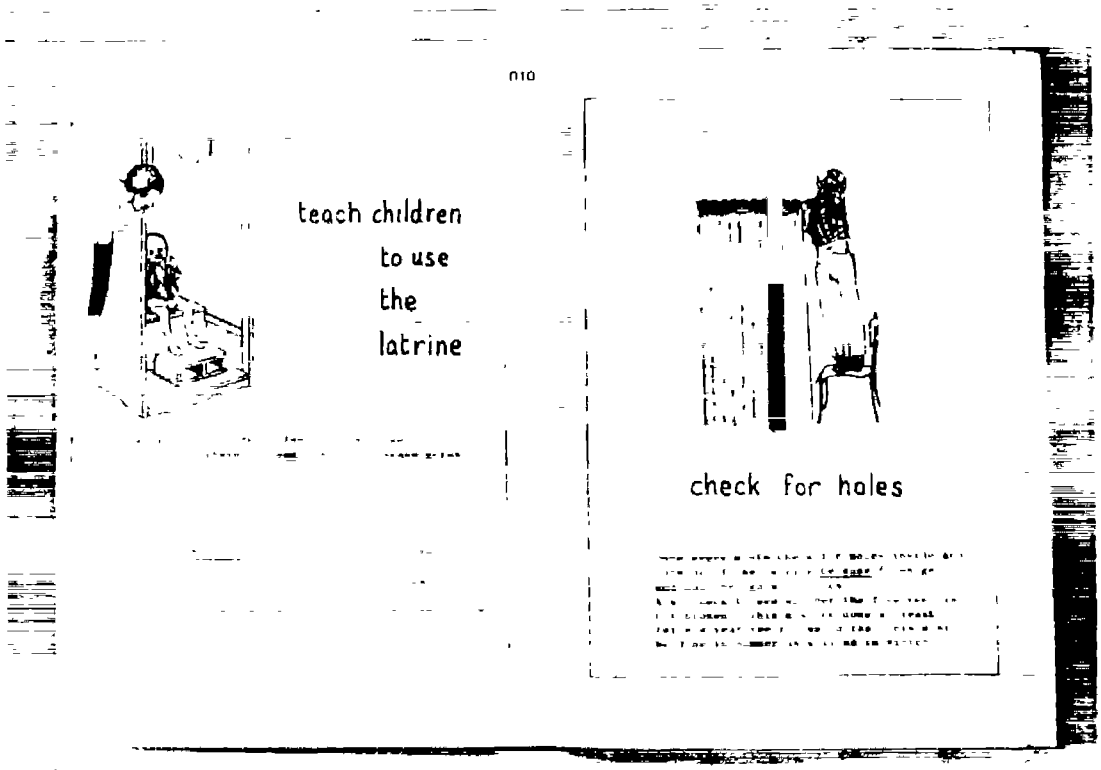
ANKYLOSTOMOSE 006

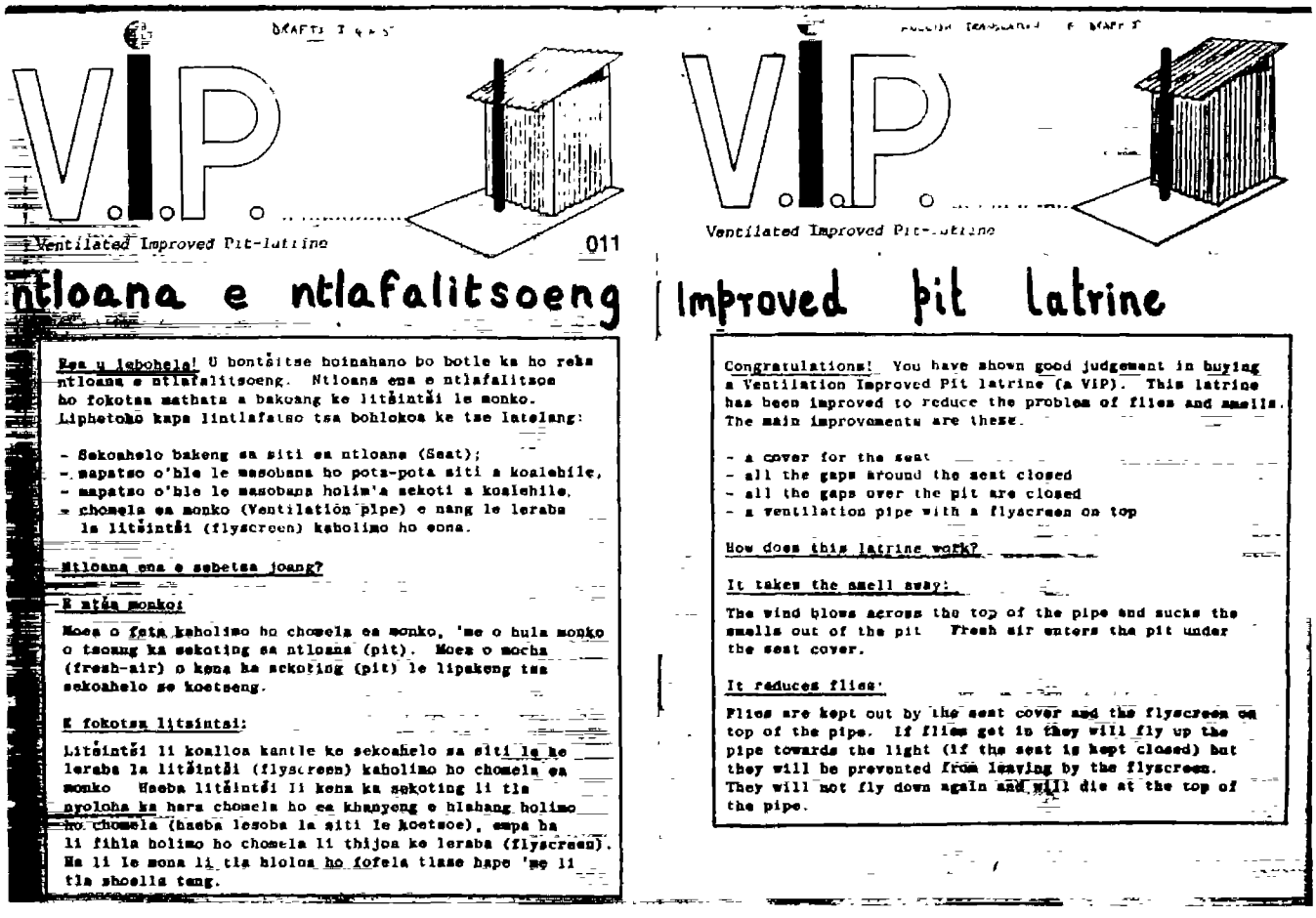
Illus. 6. One image taken from a flipchart entitled, "I Am Strong Because I Have No Worms." It illustrates the artwork of the Bureau for Studies and Research in Health Promotion, Kangu-Mayombe, Zaire. (Courtesy of Dr. Jacques Courtejoie.)

Illus. 7. Comic drawings from a booklet on how water can be prevented from transmitting disease. The story is told through the adventures of the character Juanita la Gotita. (Courtesy of PRASAR, Honduras.)

Illus 8. Poster on latrine construction. (Courtesy of PRASAR, Honduras.)

Illus. 9. One of three drawings from a poster on maintaining clean drinking water. (Courtesy of PRASAR, Honduras.)





Illus. 10 and 11. Pages from a pretested booklet on improved pit latrines and hygiene in Lesotho. Note the emphasis on children's use of latrines. (Courtesy of the Urban Sanitation Improvement Team, Lesotho.)

4.5.8 Honduras (PRASAR)

One of the most noteworthy health education efforts in the field of water and sanitation is that being undertaken by the government of Honduras through the PRASAR Project, which receives support from the Academy for Educational Development (AED). AED communication strategies have been referred to a number of times earlier in this report. A variety of articles describing PRASAR's efforts can be found in Attachment O. PRASAR has developed an excellent series of comic books, high quality flipcharts made of silk-screened cloth, posters, and photo-novel booklets (Illustrations 7, 8, and 9). Readers are encouraged to get details on PRASAR directly.

4.5.9 Lesotho (Urban Sanitation Improvement Team)

In Lesotho, the Urban Sanitation Improvement Team pretested booklets, posters, and decals concerning improved pit latrines and hygiene. As a result, it was decided to change from a four-page pamphlet format to a smaller eight-page booklet. It was also discovered that people were unaware of the dangers of children's feces. More emphasis was therefore given to this topic (Illustrations 10 and 11).

4.6 Conclusion

Pretesting need not be extensive if resources do not permit, but it should be carried out whenever new audio-visual materials are produced for people participating in a water supply and sanitation program or whenever existing materials are introduced to a new population. Its purpose is to be sure materials are preceived correctly, understood, and appreciated by the intended audience. Both minimal and extensive pretesting are possible. The choice depends on budget, expertise, and attitudes. A number of successful pretesting exercises have been carried out in developing countries which have produced valuable insights.

Chapter 5

TRAINING THE DESIGNERS AND USERS OF AUDIO-VISUAL AIDS

5.1 Target Groups for Training

In previous chapters the need for skilled personnel to both design and use audio-visual materials has been emphasized. Those who design or develop materials are usually a small group of persons attached to the health education unit of a ministry of health or personnel of special materials production centers, sponsored by public or private funds, such as GRAAP (Groupe de Recherche d'Appui pour L'Auto-promotion Paysanne) in Upper Volta, INADES (Institut Africain pour le Developpement Economique et Social) in the Ivory Coast, the Centre d'Etudes et de Recherche pour la Promotion de la Sante in Zaire, or the Voluntary Health Association of India. Still others are individual practitioners engaged in community health work in developing countries who, in an artisanal fashion, develop materials for the use of their programs. This list is not complete, but should help to define the first target group for training in the development of materials.

This group needs to be expanded. If materials production is to keep up with the need in water supply and sanitation programs, then more fieldworkers and their supervisors need to be involved in the process. There is no better way both to expand the corps of materials designers and enhance the quality of materials produced than to carry on skill-based training.

The second target group for training is much larger. It is the users of audio-visual materials: personnel in health, social affairs, rural development, and water supply agencies who work directly with client populations.

5.2 Training Needs

Both groups exhibit profound needs for new and/or enhanced skills.

Designers of materials often need skills in interviewing, in order to gather needed information in pretest design and implementation. For certain individuals special skills are needed: silk-screening, printing, photography, developing film, and making filmstrips and overheads. Nearly all need enhanced drawing skills, whether in general or in terms of specific techniques such as cartoons, line drawings, etc. All should be sensitized to the need for the relevance of their products for continuing programs and then be fitted with the skills to interview, observe, and incorporate findings into the materials. Lastly, they should be trained as trainers of others if the corps of materials designers is to be expanded.

Users of materials need fundamental skills in counseling, group work, and community organization so that the audio-visual materials can be properly used in their supportive role. Only then will training in specific techniques such as puppets, drama, films, flannelgraphs, flipcharts, group discussions of radio broadcasts, etc., have meaning.

5.3 Planning and Training

There is no "best" way to design training for the target groups. The needs of the program, the skill levels of trainees, the work environment, and the availability of skilled trainers will all play influential roles. Hence, only the most general set of guidelines can be given here. Suffice it to say that training is key to program success. To be successful training must pay attention to how people learn best rather than to a fixed form of "education."

5.3.1 For Designers

Given the training needs of this rather diverse group and the complexity of what must be learned, either longer-term training (three to four months), on-the-job training over a long period, or the latter in combination with periodic workshops is to be recommended. The skills to be acquired fall into three basic categories.

- Social skills: interviewing of individuals and groups and participant observation of project activities.
- Training skills: for training others to design and produce materials.
- Technical skills: for materials production.

Each skill adapts itself best to a different training design. Since the total number of trainees in a given locale may not be great, one might plan the following:

1. On-the-job training in social skills by a consultant able to spend six to eight weeks at a time with the trainees. This person would work in the field with the designers gathering data and then incorporating the information into materials designs. Periodic one- to two-day workshops could be used to teach specific skills, the on-the-job time being used more for supervision and follow-up.
2. Training skills would best be learned in a train-the-trainers workshop organized eight to ten days for the designers of an entire country or region.
3. Individual technical skills could be learned in short two- to-four-day workshops or in combination with on-the-job training, provided the consultant possesses the correct skills.

5.3.2 For Users

Users present an equally diverse group of potential trainees, but have in common a relatively well circumscribed set of training needs. As a group, they need skills in community organization, group work, and individual counseling. Otherwise the materials will be used without a context. Such training has been successfully done in Malawi by the WASH Project in two-week seminars for from 15 to 20 participants. The emphasis was on hands-on

experience working with villagers on sanitation issues. It is easy to imagine how training in the use of a few appropriate visual aids might have been included.

The second set of skills involves the actual manipulation of audio-visual aids: incorporating them easily and with dexterity into the work with an individual, a small group, or an entire community. This type of training can be integrated with training in social work skills as above, but ideally it should follow that training. Save the Children in the Dominican Republic and Indonesia (45) has carried on quite successful training of rural health workers in the use of visual aids for promoting community participation. In this training, visual aids were prepared as a group exercise by trainees and then used by those same trainees in field projects. This approach may be more effective than asking trainees to use already-prepared materials.

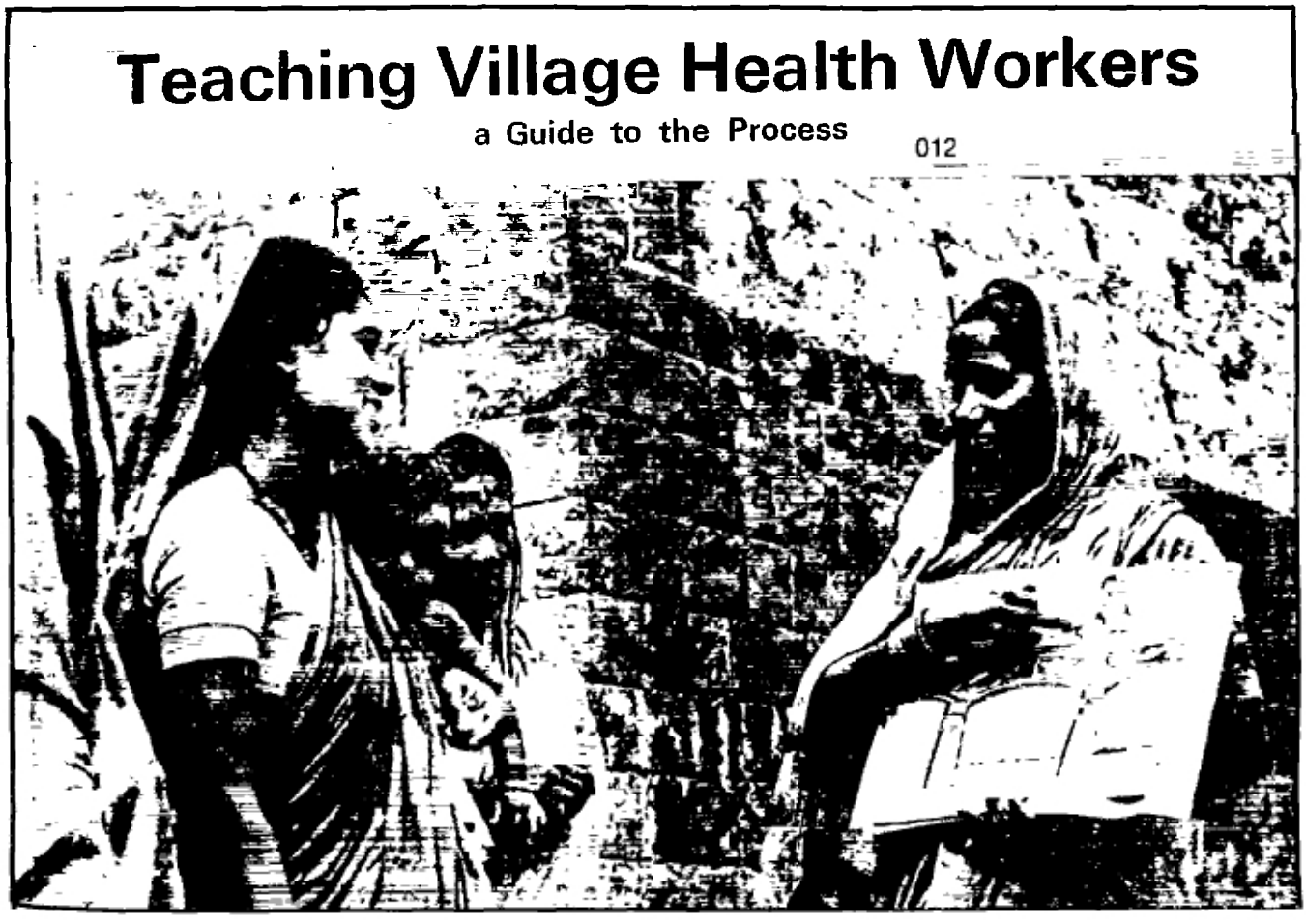
5.4 Training Resources Used in the Field

Although this study focuses on water supply and sanitation, some materials were received that focused on audio-visual aid in general or on training workers to develop these materials. Some materials were part of a broader package addressed to community health development and the role of effective communications. In other instances, materials developed for use by community health workers were also used for training these same workers. Workers were often provided with simpler and less expensive versions of the training audio-visual aids which they could leave behind for their clients. These training materials provide a basis for both didactic and competency or skill-based training, help to ensure that audio-visual aids will be used correctly and regularly, and serve to standardize information disseminated by project workers.

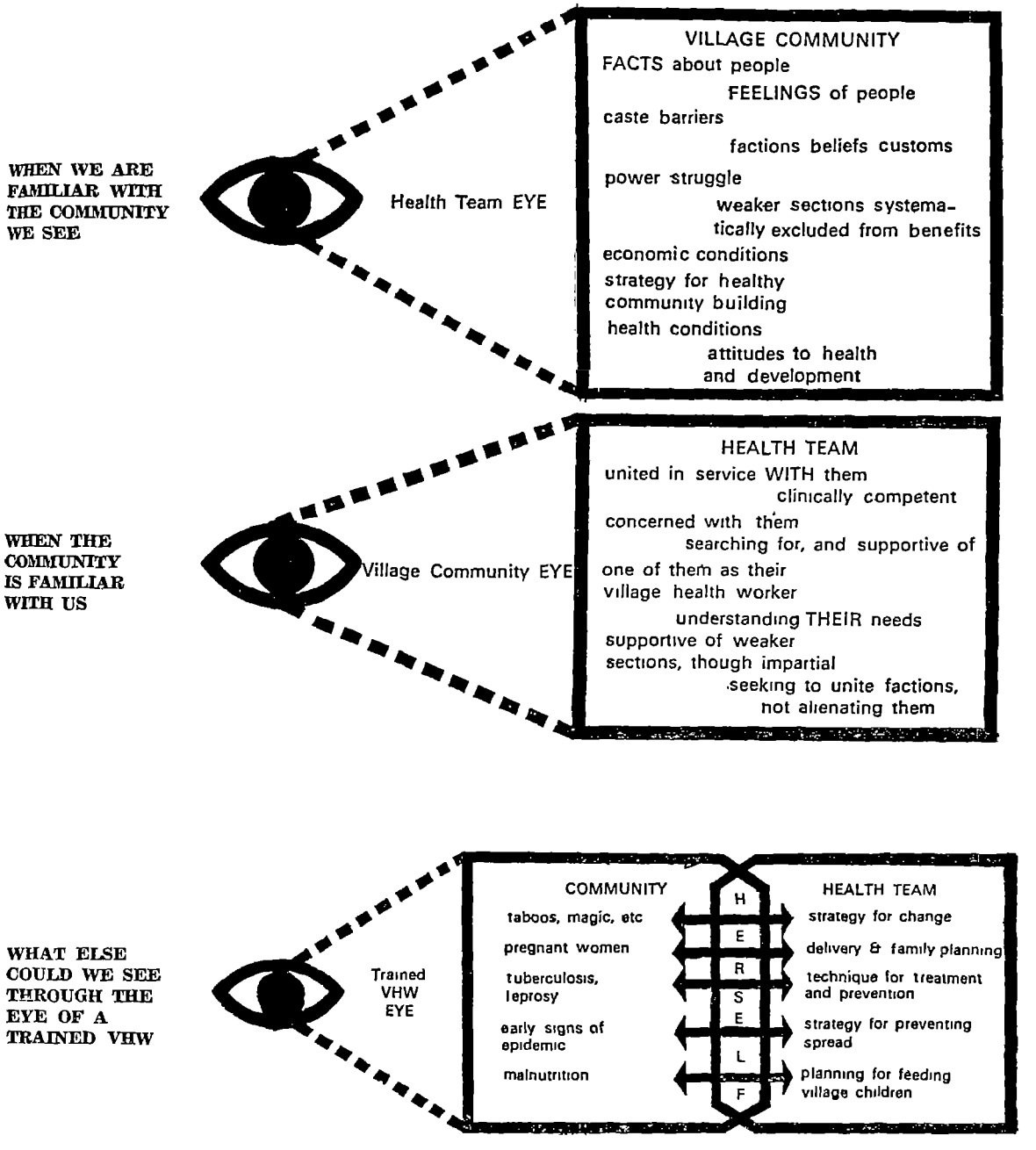
During the 1960s and 1970s, a number of excellent documents were published on training for communication in family planning (see references 4, 9, and 22). No such text has been uncovered which is devoted specifically to water supply and sanitation activities. Nevertheless, a number of excellent publications were received from the field.

5.4.1 Teaching Health Workers to Communicate Effectively

The Voluntary Health Association of India has published a most attractive book (21) on the process of teaching village health workers to communicate effectively, including using audio-visual materials. A wide variety of illustrations, graphs, and colors strengthen this teaching tool, including a chapter on making audio-visual materials in villages. Particular emphasis is given to a developmental philosophy and training techniques that result in respectful and open relationships between trainers and trainees. It is expected that such relationships will serve as models for worker-villager communications. Trainees are taught to listen to and learn from villagers as they are being listened to by their trainers. A few examples of their materials are included here (Illustrations 12 and 13).



Illus. 12. Cover from a training guide used by the Voluntary Health Association of India. The guide emphasizes the modes of communication between health worker and villagers. (Courtesy of the Voluntary Health Association of India.)



Illus. 13. Conceptual model illustrating what community members and trained health workers perceive in a village situation as a background to communication. This is part of the training guide shown in Illustration 12. (Courtesy of the Voluntary Health Association of India.)

5.4.2 Participatory Training

A somewhat similar document published in 1982 by Save the Children (45) provides systematic guidelines for training community health workers in participatory approaches to health and nutrition education. This well-executed publication begins by developing a team approach to community health and outlines steps required for effective workshop planning. A chapter is devoted to ways of sensitizing community workers and expanding their awareness of community traditions and beliefs. "Flexiflans," serialized posters, and preparation of a community map provide community members with opportunities to express their own beliefs and consider their own resources. Other audio-visual materials are described for stimulating careful exploration of community health problems, including road-to-health charts, open-ended stories, and "lollipuppets." Other chapters discuss developing and using materials to assist learning, evaluation, and planning by community members. Throughout this important publication, stress is given to using audio-visual materials to stimulate community participation through the process of discovering one's own needs and resources rather than viewing audio-visuals simply as tools for conveying information which an outsider feels residents should know. Examples of lesson plans are included in Attachment P.

5.4.3 Primary Health Care Training

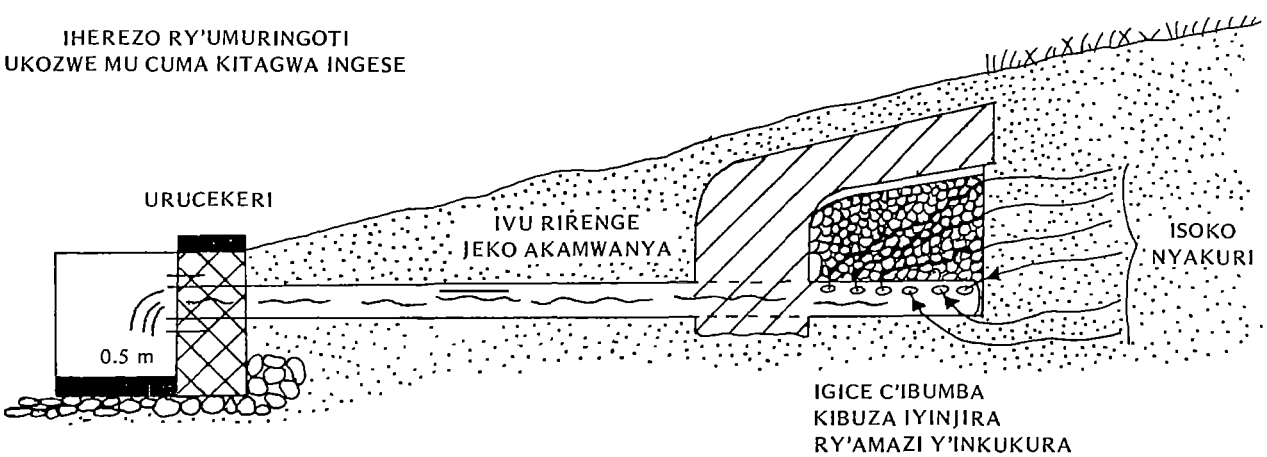
A valuable resource for planning primary health care training programs, including communications and organizational issues, is the recent publication by the American Public Health Association, "Training Community Health Workers" (3). In addition to addressing a number of central training issues, it contains detailed references to training activities throughout the developing world and an annotated bibliography.

Another publication of great value in planning and conducting training programs for workers with educational responsibilities is Helping Health Workers Learn by D. Werner and B. Bower (57). Nine chapters of this volume are devoted to such topics as making and using teaching aids, storytelling, and homemade low-cost written materials. This text is available in many languages and has a liberal copyright provision.

5.4.4 Training in Communications for Water Supply and Sanitation Personnel

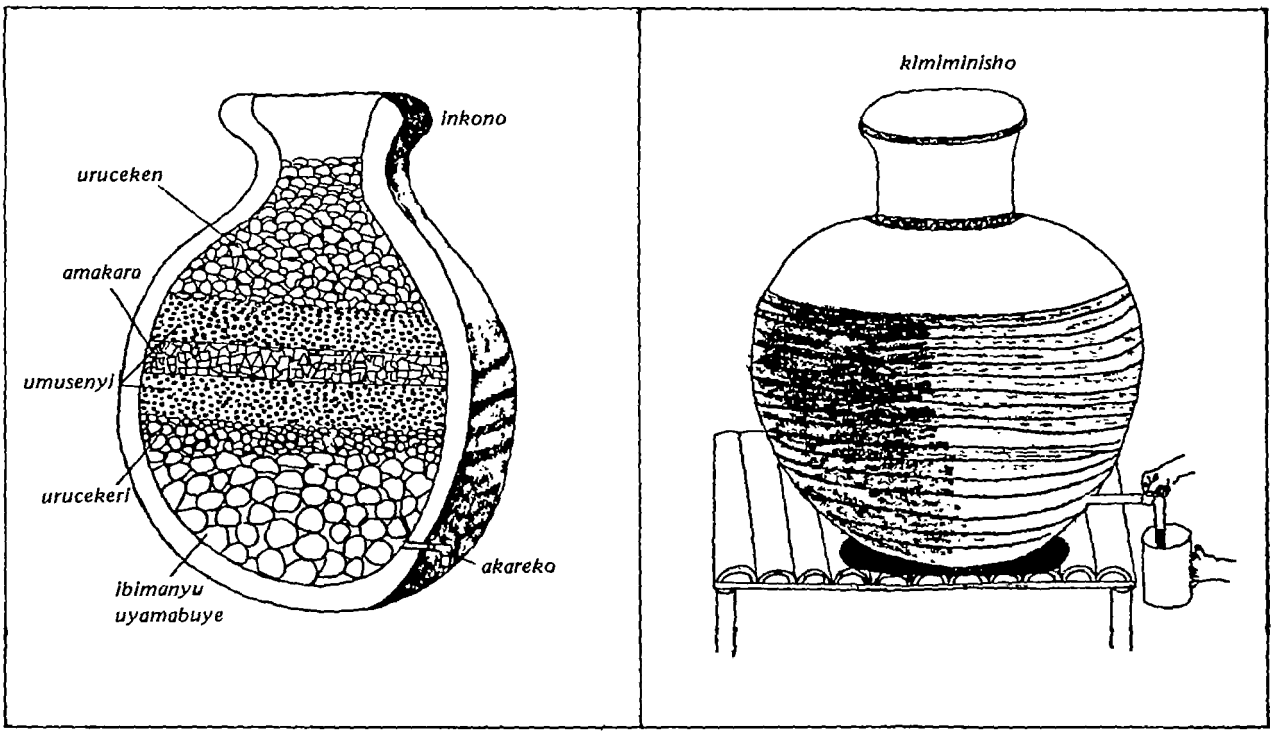
A number of important documents have been received from projects in the field which relate to training in communications for water supply and sanitation personnel. For example, the Ministry of Public Health and Social Assistance in Guatemala, with assistance from INCAP and PAHO (the Pan American Health Organization), has published a series of such training materials in Spanish which are well organized and illustrated (18). Also, a noteworthy combination of photographs, line drawings, and text are found in two publications of the government of Burundi, with assistance from UNICEF, for training water supply and sanitation workers in spring capping and hygiene (Illustrations 14, 15, and 16). The final example is a series of captioned photographs (Illustration 17), that clearly explains pump maintenance and repair to workers in the Ivory Coast in an inexpensively produced publication of the National Institute of

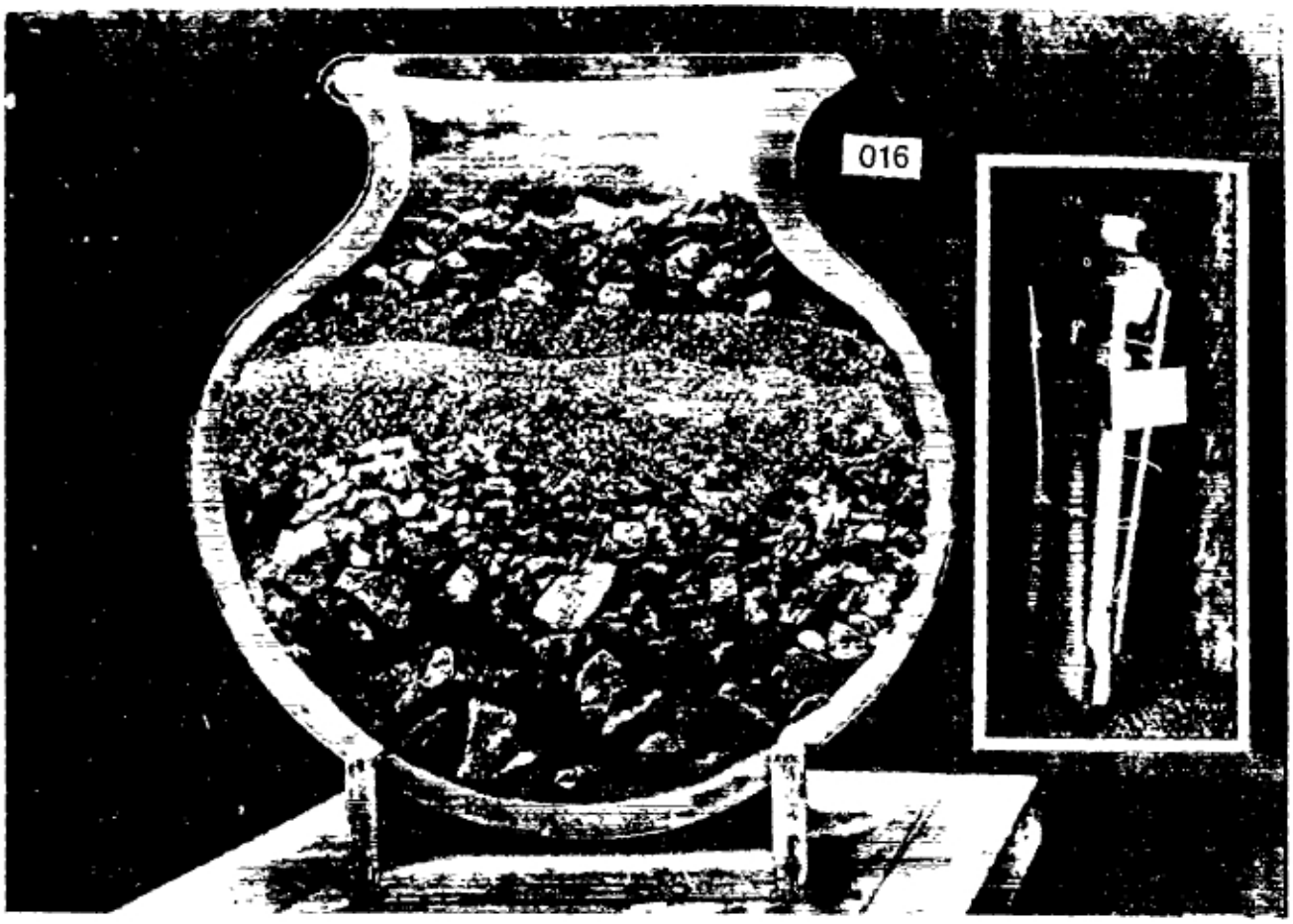
6. ICAPWA RYA GATANDATU



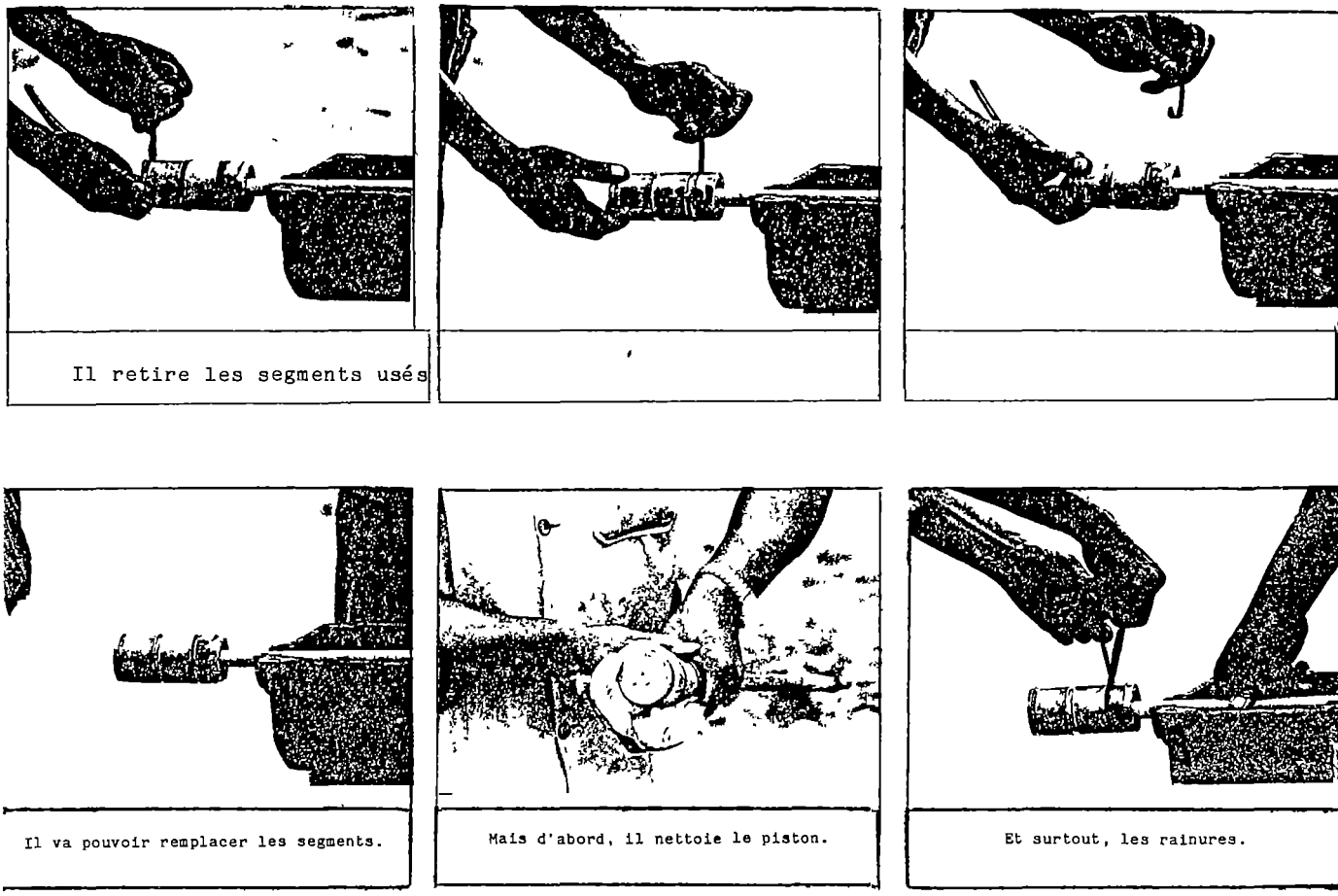
Igikorwa c'ukwubakira giheze, igisigaye gikuru n'ugukingira ayo mazi avomwa, agume ari meza.

Illus. 14. Line drawing of the spring capping model used in Burundi, taken from a technical manual prepared for field workers. (Courtesy UNICEF/Government of Burundi, Rural Hydraulic Service.)





Illus. 15 and 16. Drawings and photographs taken from Burundi field manuals on water filtration. (Courtesy of UNICEF/Government of Burundi, Rural Hydraulic Service.)



Illus. 17. Photographs of how to replace piston rings. The manual from which these photos are taken is used for training fieldworkers. (Courtesy of the National Institute of Public Health, Ivory Coast.)

Public Health. This Institute, in cooperation with INADES has published a large number of training materials in French concerned with environmental sanitation, including technical information, stories, poems, photographs, drawings, etc. (23).

A useful example of combining community-level educational materials with training materials for workers is found in "Health Education Small Talks" from CARE/Sierra Leone. It contains reduced photographs from posters and pamphlets used in the field, plus easy-to-read educational messages (Illustration 18). A well-illustrated discussion guide which contains songs, short educational stories, and other practical communications training materials is also used.

CARE has also assisted the government of Indonesia in producing high quality educational materials concerned with its water supply and sanitation program. Its booklet, "Materi Kursus Pendidikan Kesehatan" (Materials for Health Education Courses) contains reduced poster art and lined blank paper for trainees to keep notes on how best to explain each poster (Illustrations 19 and 20). These booklets are used at mosques, public baths, and other public places to open discussions with the community.

The Sanitary Engineering Division of the Ministry of Health in Peru has published an interesting combined series of training and audio-visual materials that explain the national potable water plan and how rural communities can participate. The materials, written in basic Spanish, provide community leaders with step-by-step explanations of what can be done (Illustration 21).

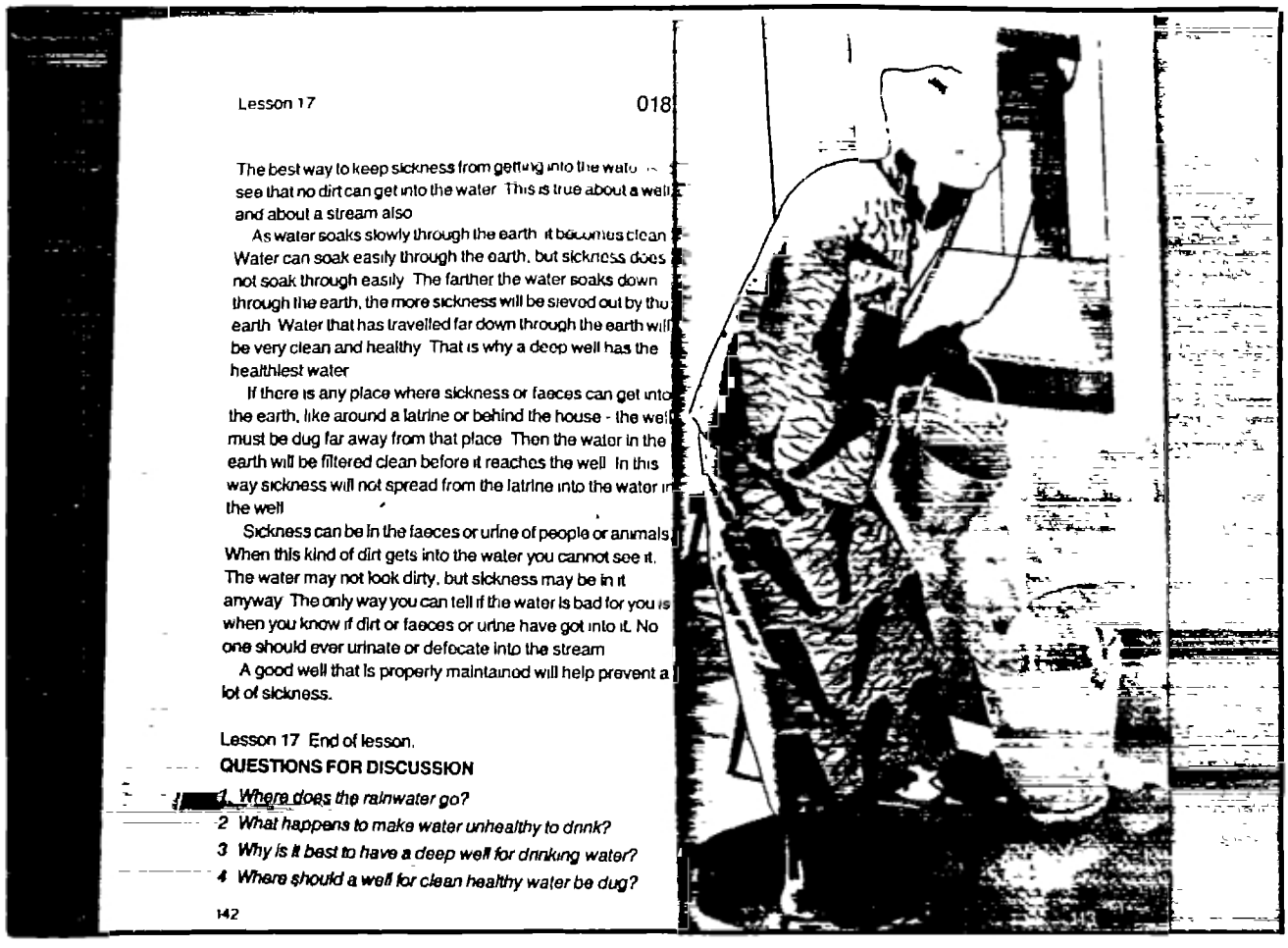
An extensive series combining audio-visual and training materials for water supply and sanitation programs has been produced by the government of Nepal with assistance from UNICEF. Posters, booklets, pamphlets, flipcharts and detailed illustrated training materials are all available.

Training of Indonesian water supply and sanitation workers includes detailed instruction on how to communicate through locally made hand puppets, "maxiflans". Story texts, discussion suggestions, and evaluation methods are a part of these training guidelines which were prepared by Foster Parents Plan International in Yogyakarta (Illustrations 22 and 23).

In Chile, the Ministry of Health has prepared a combination of striking health education pamphlets on handwashing and other water uses which are supplemented by training materials. These pamphlets were carefully pretested and modified prior to use (Illustration 24).

5.5 Materials to Support Training

A large number of resources exists at present to support training in the use of audio-visual materials for water supply and sanitation. Sources of information on other related subjects include the Water and Sanitation for Health (WASH) Project (55). WASH has developed a variety of training modules for water supply and sanitation which, although they are technical in content, are professionally designed and could serve as useful models for training in use of visual aids. They contain some training materials on community surveys and organizational skills.



Lesson 17 018

The best way to keep sickness from getting into the water is to see that no dirt can get into the water. This is true about a well and about a stream also.

As water soaks slowly through the earth it becomes clean. Water can soak easily through the earth, but sickness does not soak through easily. The farther the water soaks down through the earth, the more sickness will be sieved out by the earth. Water that has travelled far down through the earth will be very clean and healthy. That is why a deep well has the healthiest water.

If there is any place where sickness or faeces can get into the earth, like around a latrine or behind the house - the well must be dug far away from that place. Then the water in the earth will be filtered clean before it reaches the well. In this way sickness will not spread from the latrine into the water in the well.

Sickness can be in the faeces or urine of people or animals. When this kind of dirt gets into the water you cannot see it. The water may not look dirty, but sickness may be in it anyway. The only way you can tell if the water is bad for you is when you know if dirt or faeces or urine have got into it. No one should ever urinate or defecate into the stream.

A good well that is properly maintained will help prevent a lot of sickness.

Lesson 17 End of lesson.

QUESTIONS FOR DISCUSSION

1. *Where does the rainwater go?*
2. *What happens to make water unhealthy to drink?*
3. *Why is it best to have a deep well for drinking water?*
4. *Where should a well for clean healthy water be dug?*

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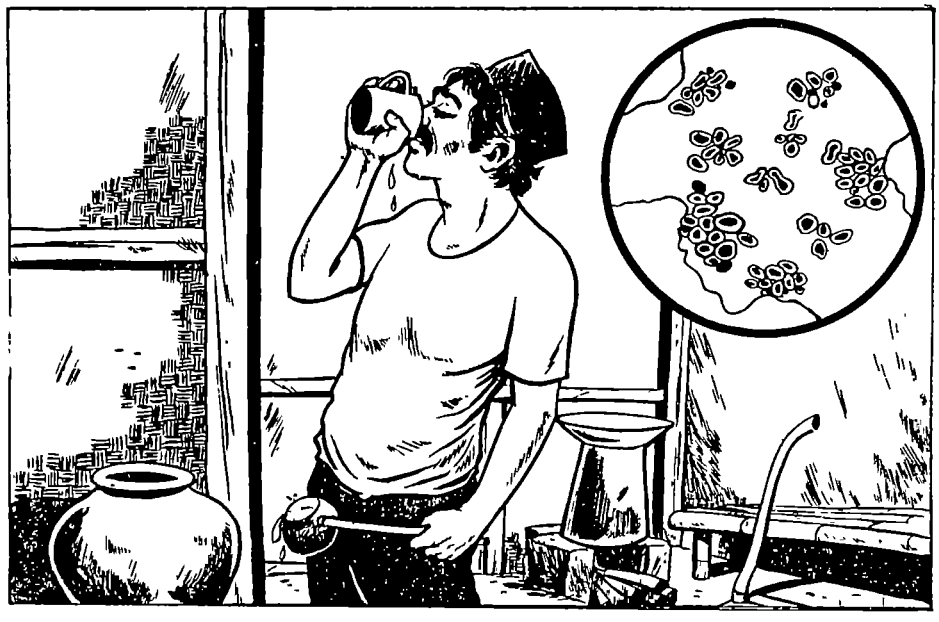
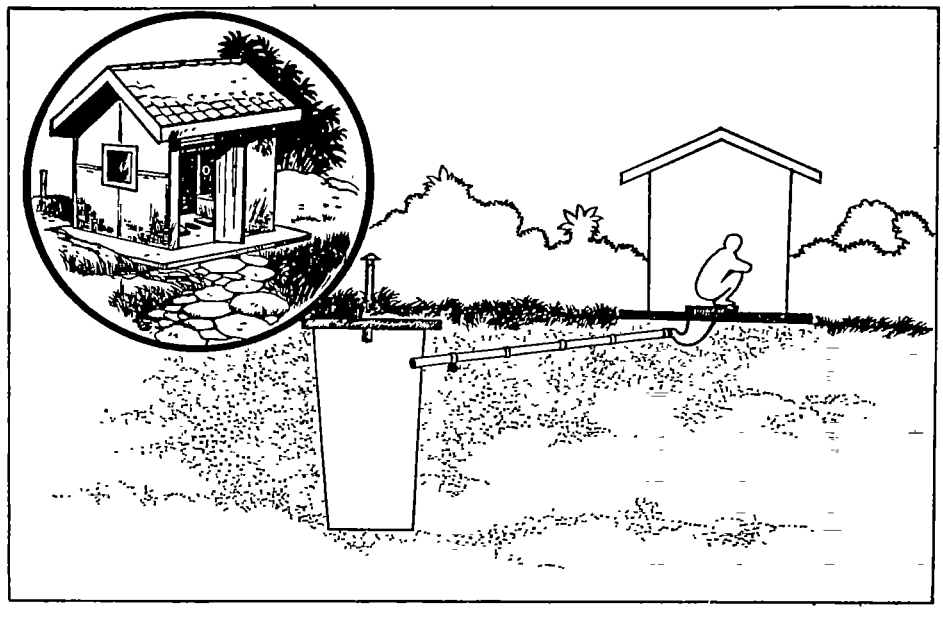
Illus. 18. A page from "Health Education Small Talks" showing an attractive photo with text and questions beside it. (Courtesy of CARE/Sierra Leone.)

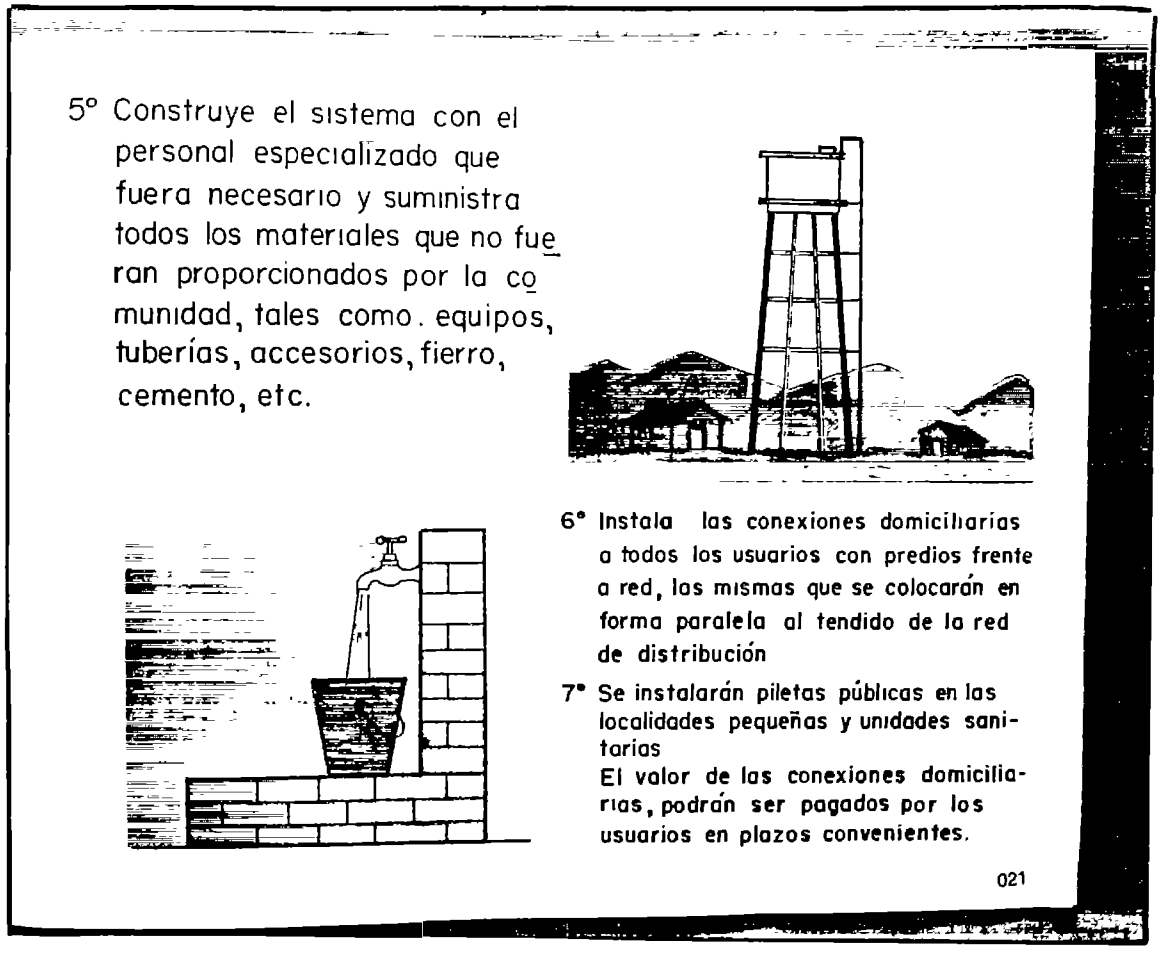


8. Air yang tadi, disimpannya di dapur. Pak Udin suami bu Ani yang baru pulang dari pekerjaannya merasa haus. Air teh tidak ada, dia pergi ke Dapur lalu minum air gentong yang baru diisi istrinya tadi.

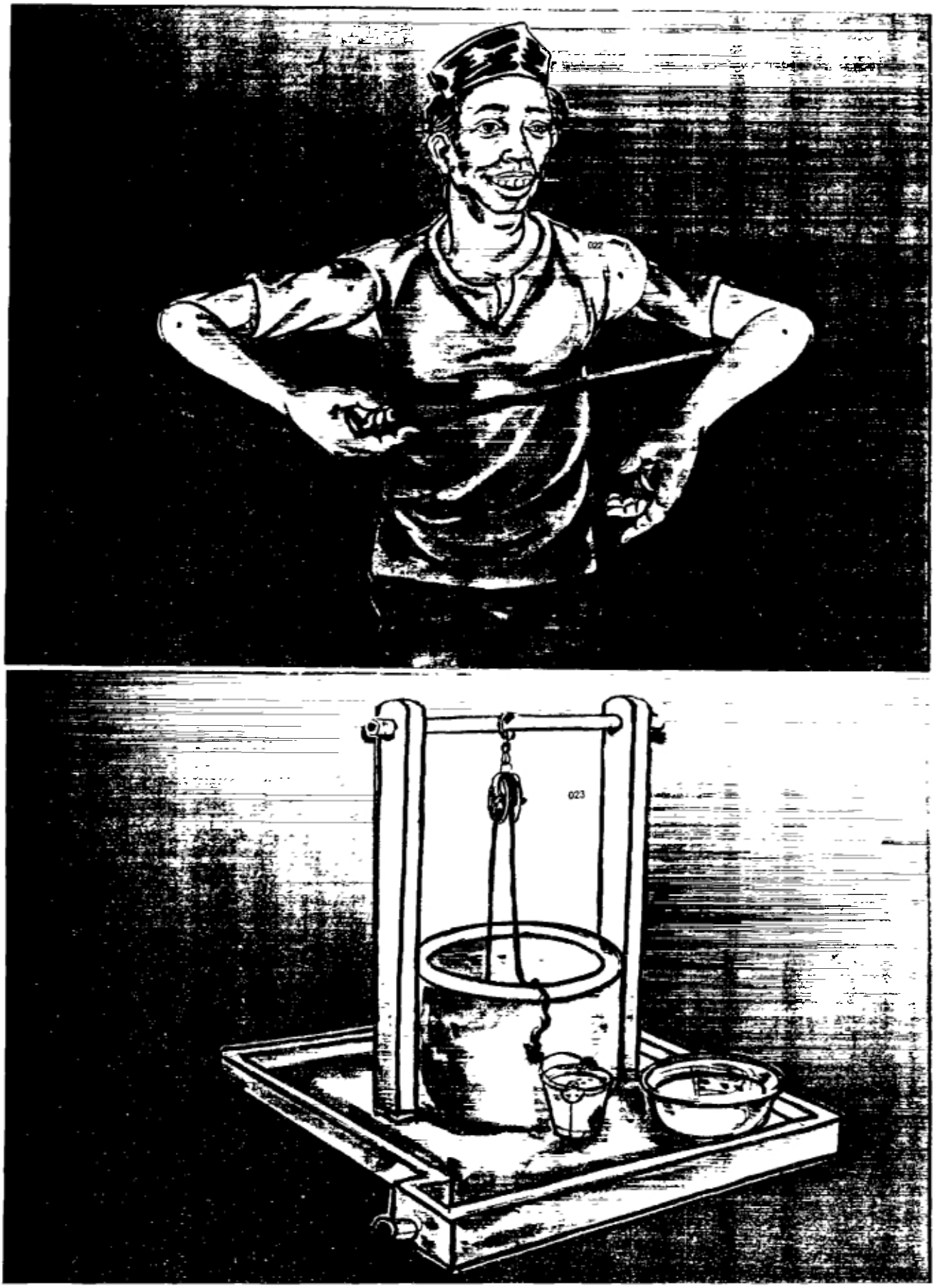


21. Kalau mungkin buatlah jamban yang sempurna, dengan membuat saluran pembuangan atau septictank. Lihatlah contoh!

Illus. 19 and 20. Drawings from a training booklet used in Indonesia for training in health education. Space is left beside the drawings for student notes on how to explain the drawing. (Courtesy of CARE/Indonesia.)



Illus. 21. Drawings taken from a booklet used for training rural promoters in the operation and maintenance of rural water systems. (Courtesy of the Ministry of Health, Sanitary Engineering Division, Peru.)



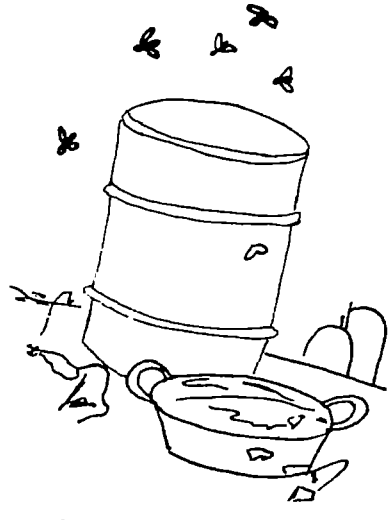
Illus. 22 and 23. Puppets and other objects used to tell stories and stimulate discussions of water supply and sanitation. (Courtesy of Foster Parents Plan International, Yogyakarta, Indonesia.)

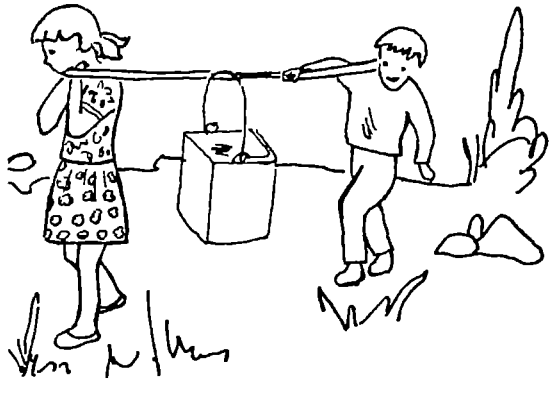
TAMBIEN SE PUEDE CONTAMINAR

¿COMO SE CONTAMINA EL AGUA?

Acarreando el agua en baldes mal lavados o sucios.

Almacenando el agua en depósitos o estanques sucios.





No protegiendo los baldes y depósitos (tinas o tambores) contra ratas, moscas y animales domésticos.

Illus. 24. Simple drawings used in a booklet on water use. (Courtesy of the Ministry of Health, Chile.)

Another valuable resource for information and articles related to community participation and, to a lesser extent, communications, is the International Reference Centre in the Netherlands. Its technical papers and periodic newsletters are both of considerable interest (52).

A source of in-service reference materials which often include material on water supply and sanitation are found in the publications of the Child to Child Programme at the Institute of Child Health in the United Kingdom. The World Bank also has an impressive and rapidly expanding collection of publications on water supply and sanitation, some of which have already been cited in this study. In addition, the Bank is in the process of developing and testing a series of training modules with slides and sound tracks which include such topics as health education, user participation, audio-visuals and materials production and pretesting (61), but the target audience is at the middle level or above.

Another important source of information is the U.S. Peace Corps whose Information Collection and Exchange program has given considerable attention to audio-visual aids development, testing, and use. Local Peace Corps representatives are helpful, or one can write directly to Peace Corps, Information Collection and Exchange, 806 Connecticut Avenue, N.W., Washington, D.C. 20526. Of particular interest is the audio-visual communication handbook (37).

Chapter 6

PRODUCING MATERIALS

6.1 Inexpensive Approaches

It must be recognized at the outset of this section that many organizations producing or wishing to produce audio-visual materials for use in water supply and sanitation programs have very little material or financial resources at their disposal. The health education unit of an unnamed African country serves as an example. Personnel producing the attractive photocopied black and white and multi-colored silk-screened posters consists of a graphic artist with four years of post-secondary training and two untrained artists, one a former messenger, the other a former garage mechanic, both with innate artistic ability. For equipment and supplies there are drawing boards, ink, pens, paint and brushes, and a silk-screen. There are seven old film projectors but only one is working. This unit produces posters and a few flipcharts, both on demand and on its own initiative. Many times, however, it can do nothing unless the requester supplies paper, ink, and/or paint. Its annual budget is $2,000.

Other organizations may have even less -- only paper and pens from which line drawings are made on the kitchen table. Others may fear to start producing materials because they lack needed resources. Let it be said here that even the most modest resources can be employed to make materials that can be used effectively, for effectiveness lies not in the materials alone, but even more so in the user. This fact highlights even more the importance of training users. Among the materials reviewed, those that were produced with slim budgets included a Snakes and Ladders game from Bombay, India; black, blue and white posters from Indonesia; and a booklet on hygiene from CARE/Sierra Leone.

Also to be mentioned is the relative inexpensiveness of using people-centered media such as songs, games, drama, and puppet shows. In Indonesia some very inexpensive puppets have been made and used effectively on homemade stages. The project was supported by the Foster Parents Plan.

6.2 Useful Examples of Indigenously Produced Materials

In all, nearly a hundred items were received in response to the letters and questionnaires that went out. Those which sent in enough information about the development and use of their audio-visual and were related to water supply were included in the study. These are listed in Table 1. They come from 24 countries in Asia, Africa, and Latin America. Of the number received, 20 that are particularly useful examples of indigenous production are reviewed below. Not all the materials reviewed were inexpensive; however, regardless of their monetary and other resources, all organizations should find enough relevant examples which demonstrate that they too can produce their own materials.

LA BILHARZIOSE

LA MALADIE

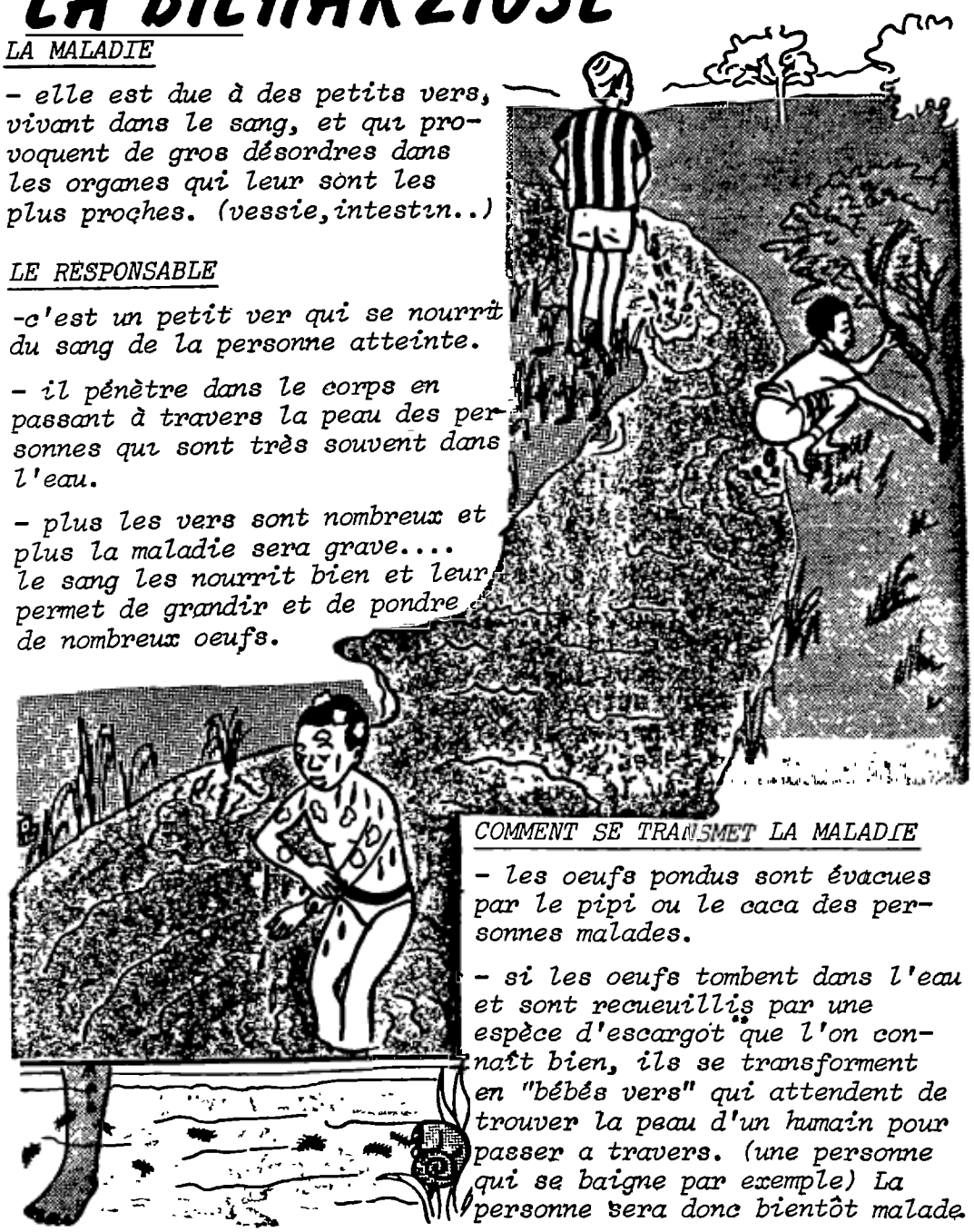
- elle est due à des petits vers, vivant dans le sang, et qui provoquent de gros désordres dans les organes qui leur sont les plus proches. (vessie, intestin..)

LE RESPONSABLE

-c'est un petit ver qui se nourrit du sang de la personne atteinte.

- il pénètre dans le corps en passant à travers la peau des personnes qui sont très souvent dans l'eau.

- plus les vers sont nombreux et plus la maladie sera grave.... le sang les nourrit bien et leur permet de grandir et de pondre de nombreux oeufs.



COMMENT SE TRANSMET LA MALADIE

- les oeufs pondus sont évacues par le pipi ou le caca des personnes malades.

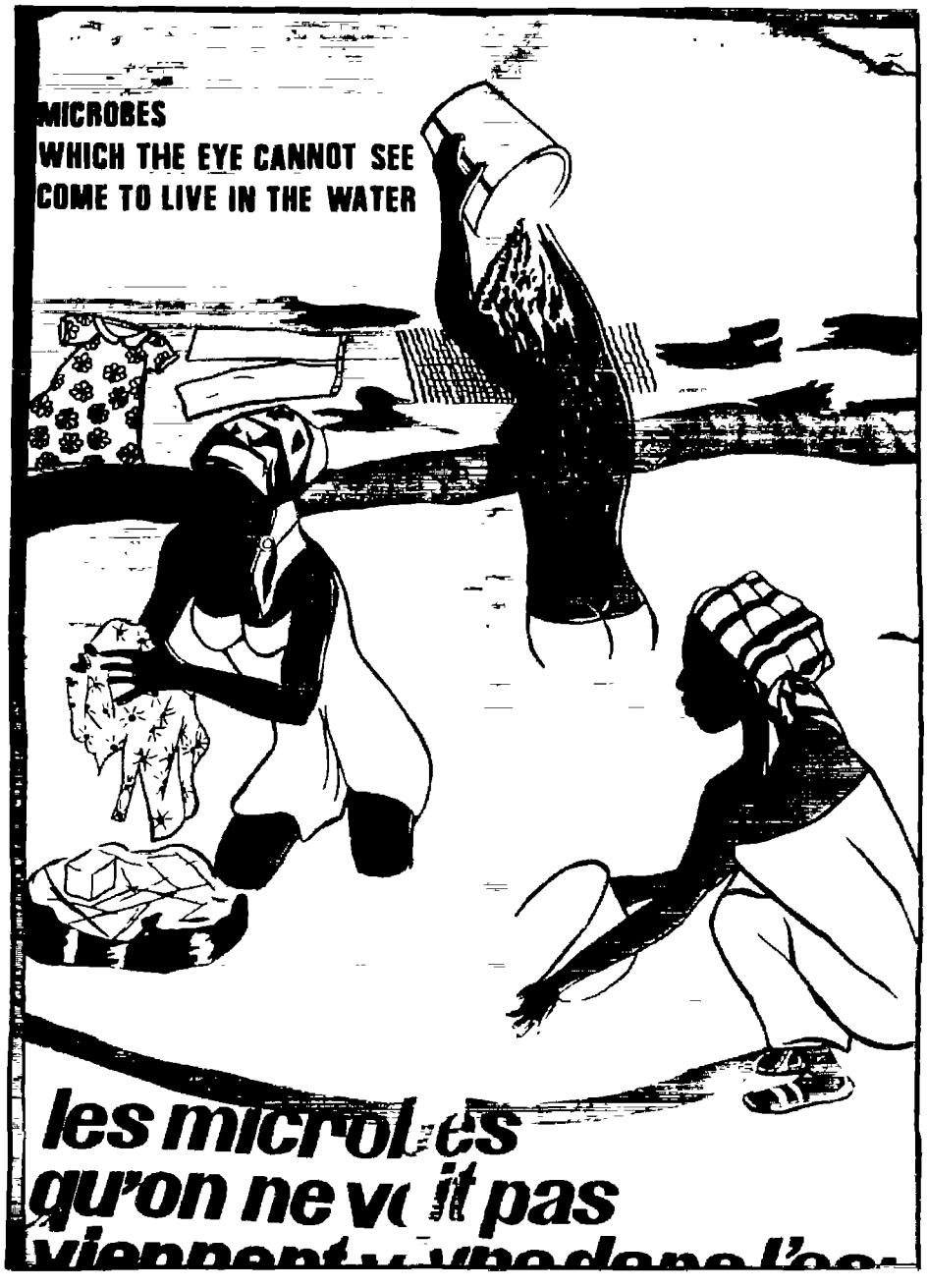
- si les oeufs tombent dans l'eau et sont recueuillis par une espèce d'escargot que l'on connaît bien, ils se transforment en "bébés vers" qui attendent de trouver la peau d'un humain pour passer a travers. (une personne qui se baigne par exemple) La personne sera donc bientôt malade.

Illus. 25. Page taken from a booklet on schistosomiasis showing the cycle of transmission. This inexpensive booklet is printed in blue and black. (Courtesy of Atelier de Matériel pour l'Animation, Cameroon, Père Dany Desmet.)

Illus. 26. Drawing from booklet, "Hygiene de l'Eau." (Courtesy of Atelier de Matériel pour l'Animation, Cameroon, Père Dany Desmet.)

Illus. 27. On this and the following page are samples from "Les Aventures d'Akono," a comic book about a community water supply project. (Courtesy of Atelier de Matériel pour l'Animation, Cameroon, Père Dany Desmet.)

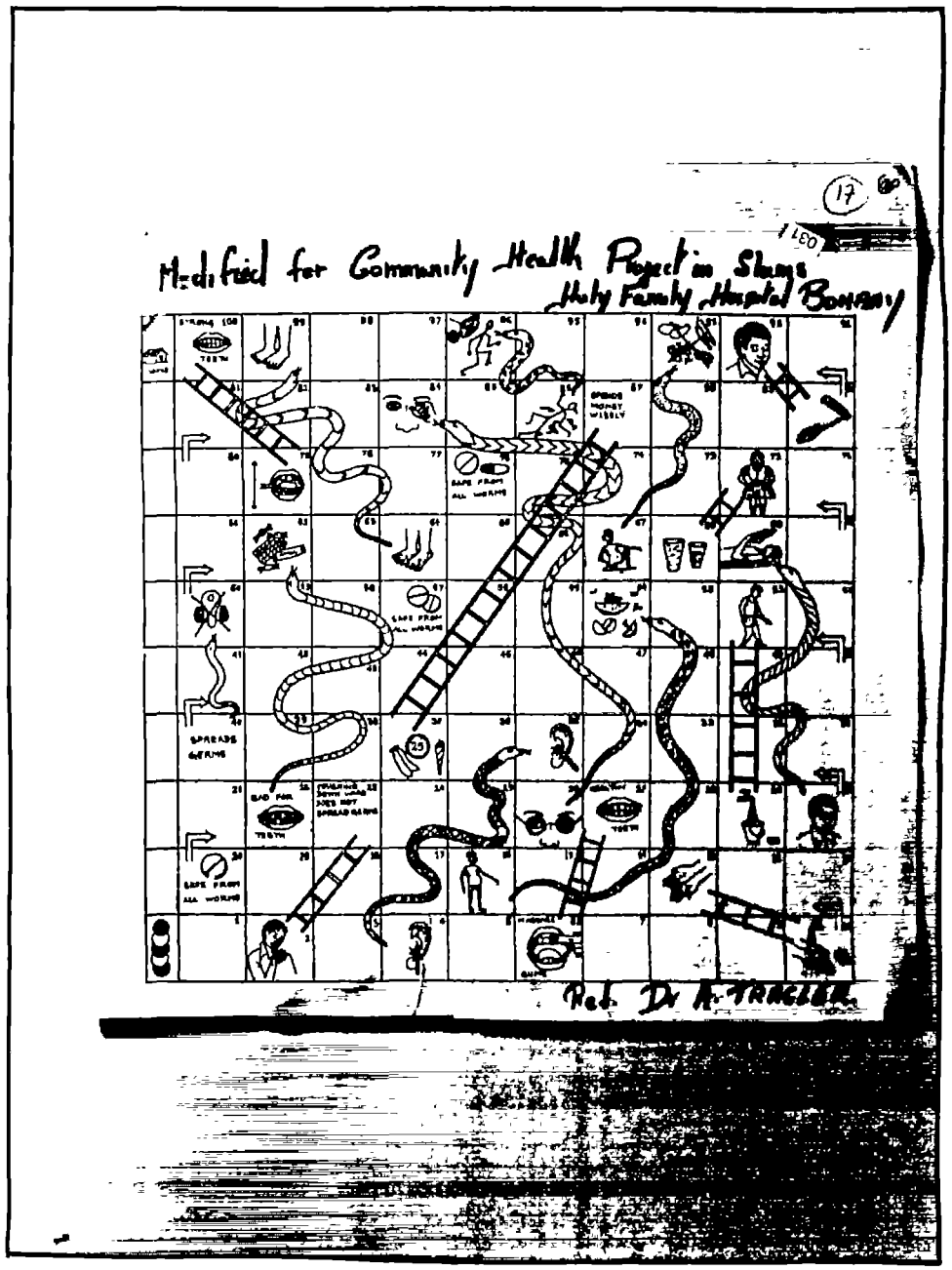

ET L'AUTRE RIGOLE-LÀ C'EST QUOI ?
C'EST CELLE D'EVACUATION DES EAUX DE LA SOURCE.
RIGOLE
SOURCE
LES FEMMES VIDENT L'EAU DE LA SOURCE EN CHANTANT POUR STIMULER LES ARDEURS.
MOT ANE NGUL A MANYAN
NSO NGON ÉÉÉ NGUL AI MA-NYAN ÉÉÉ ÉÉ.
PAR ICI MAINTE-NANT, IL FAUT CREUSER, LES PA-ROIS INTERIEURES DE LA SOUR-CE POUR AMENA-GER LE FOND



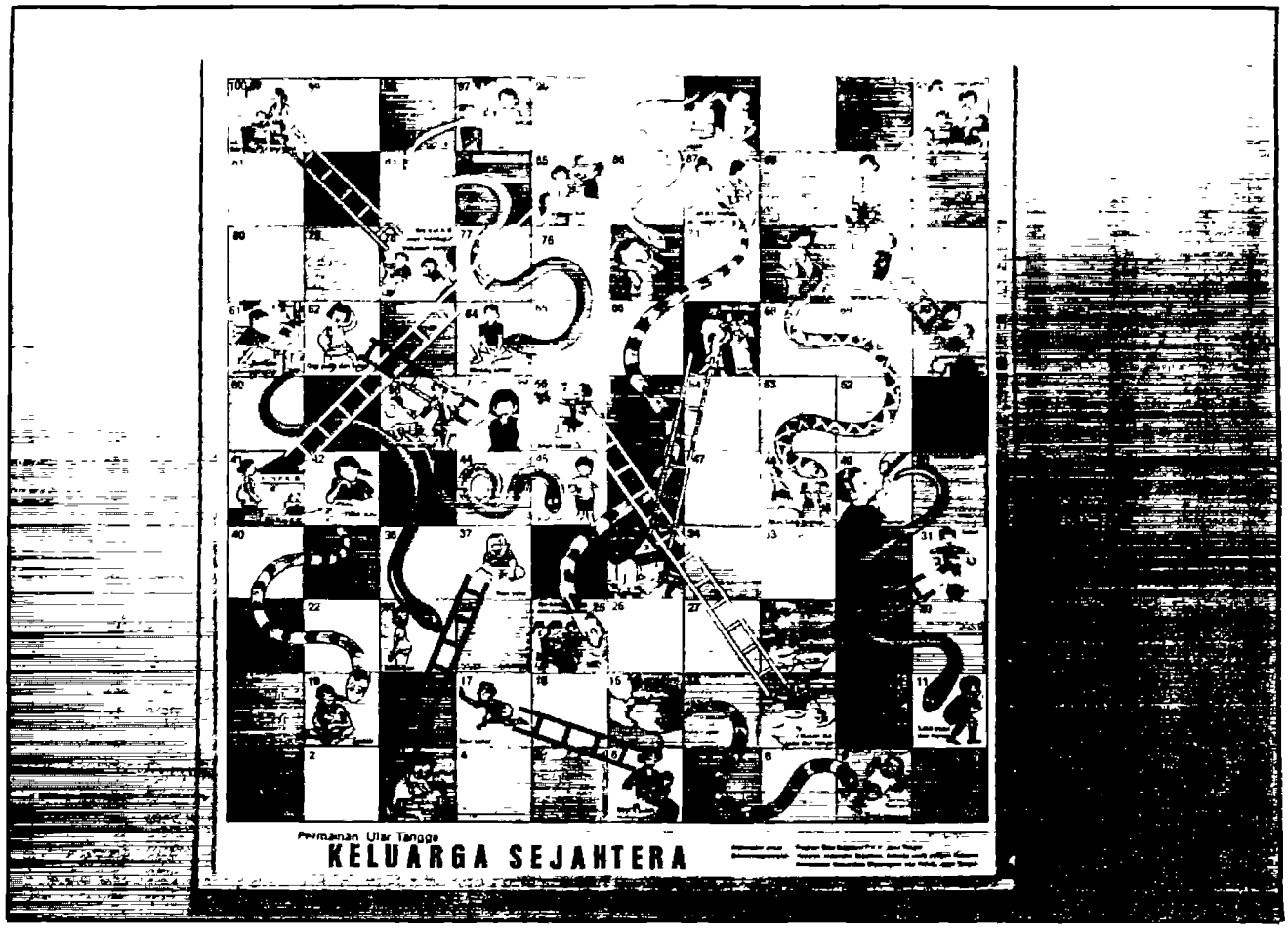
Illus. 28. Poster on water-transmitted diseases. (Courtesy of Atelier de Matériel pour l'Animation, Cameroon, Père Dany Desmet.)

Illus. 29. Pages from a comic foto-novela from Ecuador telling the story of an engaged couple struggling to build a latrine. (Courtesy of the Ministry of Public Health, Ecuador.)

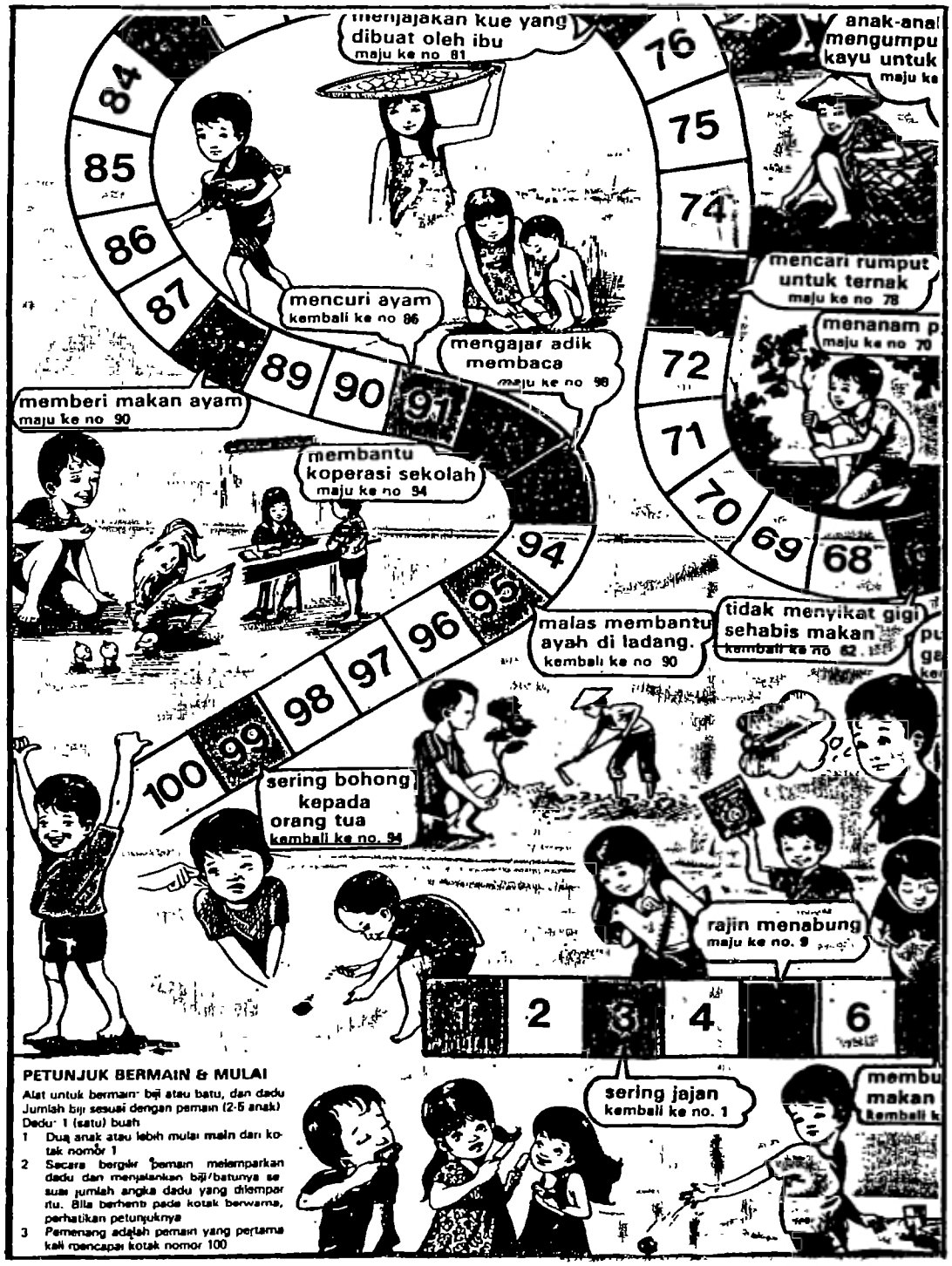
Illus. 30. Drawing from silk-screened cloth flipchart on hygiene. (Courtesy of the Ministry of Public Health, Ecuador, with support from the Academy for Educational Development.)



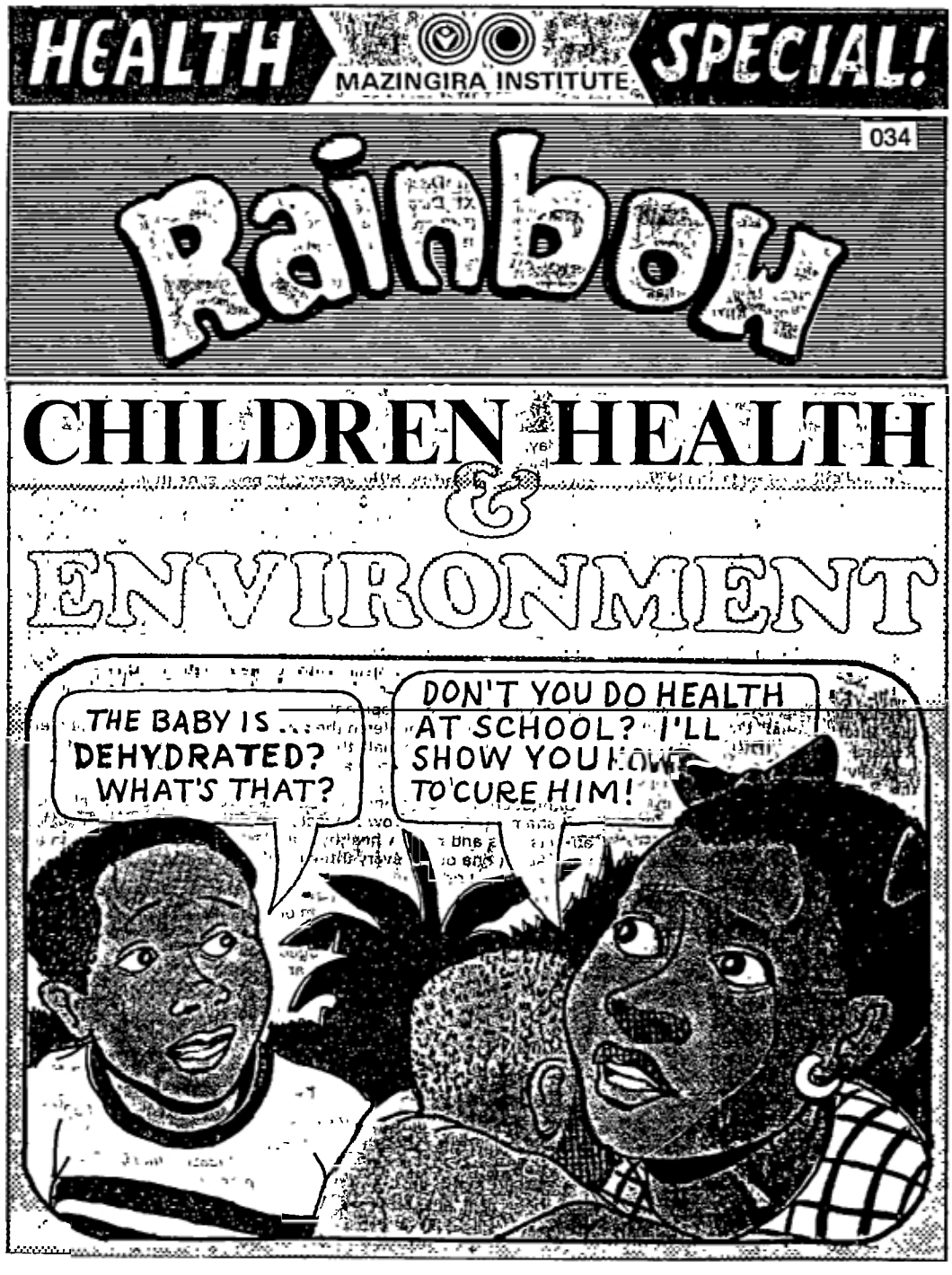
Illus. 31. Snakes and Ladders game as printed on newsprint in Bombay. (Courtesy of the Holy Family Hospital, Bombay, India.)



Illus. 32. Snakes and Ladders game printed in color on envelope paper, glued to pressboard. (Courtesy of the Yayasan Indonesia Sejahtera Project, supported by Save the Children/Indonesia.)



Illus. 33. Snakes and Ladders game silk-screened onto cloth. (Courtesy of the Yayasan Indonesia Sejahtera Project, supported by Save the Children/Indonesia.)



Illus. 34 through 39. This illustration and the five that follow are from the comic book Rainbow. The issue shown is devoted to children and their environment. (Courtesy of the Mazingira Institute, Nairobi, Kenya.)

-and the SICK BABY!

RAINBOW, June 1983

Dehydration and Rehydration

FACTS WHICH COULD HELP YOU TO SAVE A LIFE!

The Sick Baby

Mingu's baby brother, Toto, was a healthy baby. Now, he is ill. All night long he had diarrhoea, which is the frequent passing of watery stools. Now he looks thin and weak. Toto's mother and brother Mingu are very worried, and confused about what to do.

Sweetie knew that Toto was dehydrated, which means that the body is dry. This is because the body loses a lot of liquid through diarrhoea. Sweetie knew that Toto was dehydrated. How would we know?

WHAT TO LOOK FOR

Look for the following signs in dehydrated persor

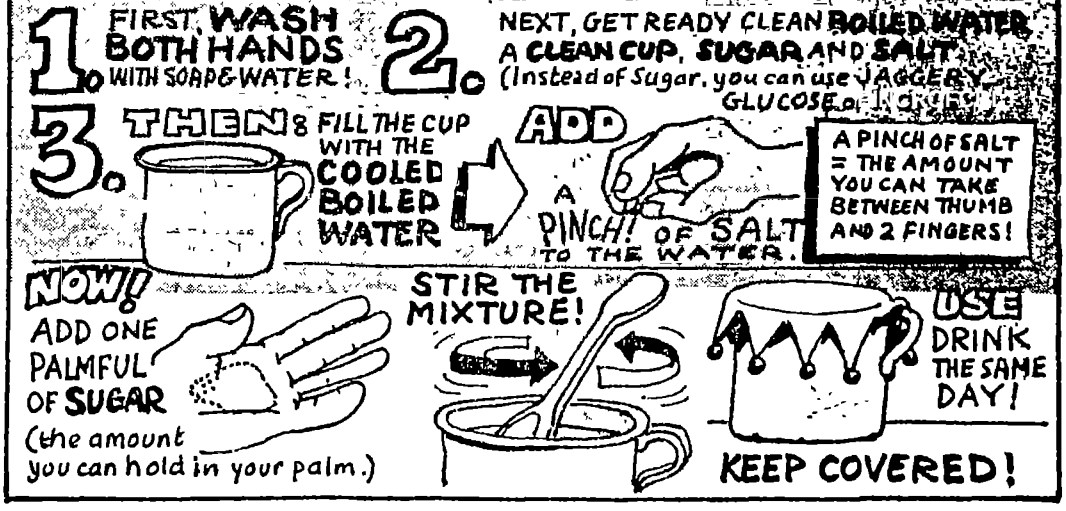
* He looks very weak and sick
* He has sunken eyes and cheeks
* He has a very dry mouth and is thirsty
* He passes very little urine
* If you pinch his skin, the skin stays up in the pinch when you let go — it does not go back normally
* His heart beats very fast (feel his pulse).

REHYDRATION:

It is very important to get a dehydrated person rehydrated. This means putting the lost liquid back into his body.

Rehydration Drink!

THIS IS A SPECIAL DRINK, MADE WITH SUGAR, SALT, AND WATER. HERE'S HOW TO:



GIVE THE DEHYDRATED PERSON LOTS TO DRINK...

1 2 3 4 5 6 AT LEAST SIX CUPS A DAY!

Other liquids can put back what has been lost from the body For instance, you can give the sick person soup, orange juice, or tea. A baby can be breastfed The sick person should drink at least 6 cups of rehydration drink, tea, soup, or juice a day. Start by giving small sips every five minutes

If the sick person does not get better with the rehydration drink take him or her to a doctor or clinic for help If a child has fever or vomiting as well as diarrhoea take the child to a hospital or clinic right away Be sure to take the rehydration drink with you and keep giving the person sips as you travel.

IF THERE IS NO IMPROVEMENT - BE SURE TO TAKE THE SICK PERSON TO A DOCTOR OR TO A CLINIC FOR HELP.

GOOD LATRINES

Building and using a good latrine for the family will keep everyone healthy We know that many of you think about health problems and like to find solutions. Once a student wrote to Rainbow and asked for help. He wanted to know how to prevent flies and bad odours around the latrine

These are some suggestions;

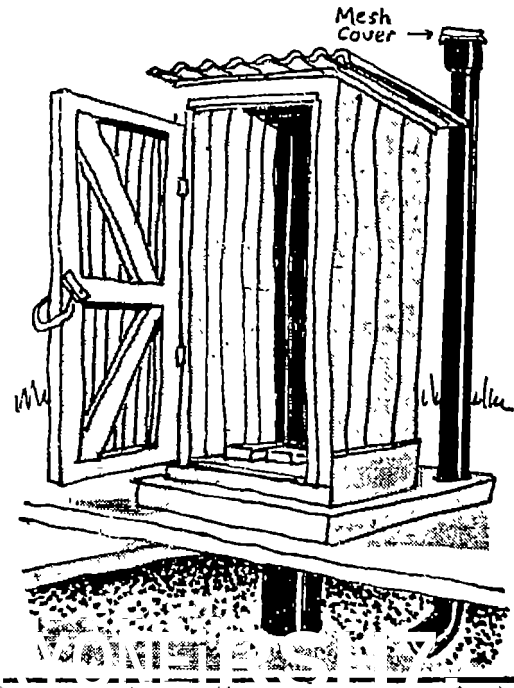
Sprinkle some ashes, husks, grass, dry leaves or dry earth into the latrine every day

Keep the hole of the latrine ALWAYS covered when it is not being used Use a wooden lid with a handle to cover the latrine hole.

Use your latrine for human wastes only Do not keep water there. Use another place for washing and bathing

Do not chase away lizards, toads and spiders as they eat flies

A metal pipe going from the latrine pit below ground to above the roof will help to keep away flies and odours. Build the pipe on the sunny side of the latrine The pipe should measure about 8 cm in diameter Paint the pipe black, and cover the top with wire mesh screening.



REMEMBER:

GOOD HEALTH IS EVERYONE'S RIGHT!

RAINBOW, June 1983

MAZINGIRA INSTITUTE

Rainbow

WATER AND SANITATION COMPETITION

We want you to tell us something about the water you and your family use. We would also like to know how you get rid of human wastes at your home. If you are in standards 4, 5, 6 or 7, you may enter the competition

THE RULES

* Write your name, age and standard.
* Write the name of your home district.
* Write the name, address and district of your school
* Then answer the ten questions. Ask for help from your family, friends and teachers. But write the answers in your own words.

In Kenya:

POST YOUR ANSWERS BEFORE SEPTEMBER 15th 1983 TO:

Water and Sanitation Competition
Mazingira Institute
P.O. Box 14550,
Nairobi, Kenya.

In Uganda, give your entry to your headmaster as soon as possible, and at least before September 15, 1983.

Q. No.	COMPETITION QUESTIONS
	Care of Teeth and Gums
1	1a. Explain how you clean your teeth. b How often and at what time of day do you clean them? c. What do you use to clean your teeth? d If you use a chewstick *(mswaki)*, what is the local name of the tree or bush it comes from? Please tell us the language in which this name is used. e Do you or your teacher know the scientific name for it?
2	2. Some people have brown stains (marks) on the front of their teeth which do not come off. **This is nothing to worry about.** But we would like to know about them. Do you or any of your brothers and sisters have brown stains on your teeth? If so, what do you think causes them?

The Care of

Plaque is what we call the natural germs which live in our mouths. Germs are tiny living things and there are good ones and bad ones. The bad germs in plaque sit on our teeth and gums and cause big problems if we do not clean it awa These are the problems it can cause:

Can you choose the RIGHT things to do for HEALTHY teeth and Gums?

EASY? Check the ANSWERS to this and the Health Food quiz, Page II.

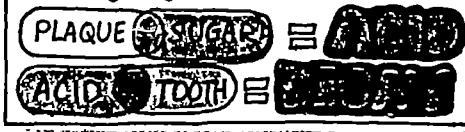
GUM DISEASE

Red swollen gums which bleed when you clean your teeth.

Healthy gums are not swollen.

TOOTH DECAY

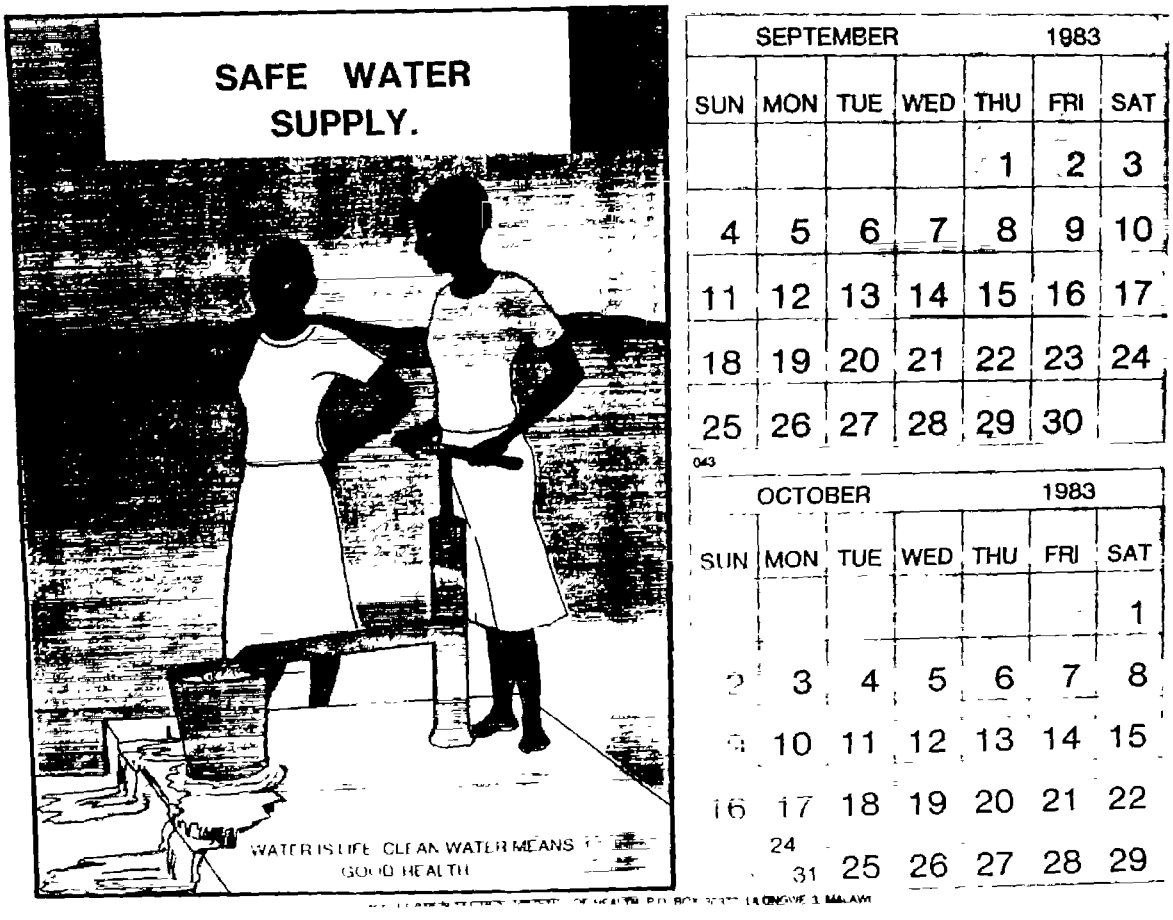
A cavity or hole in the tooth which may be painful. The hole will get bigger and bigger unless it is fixed by the dentist.



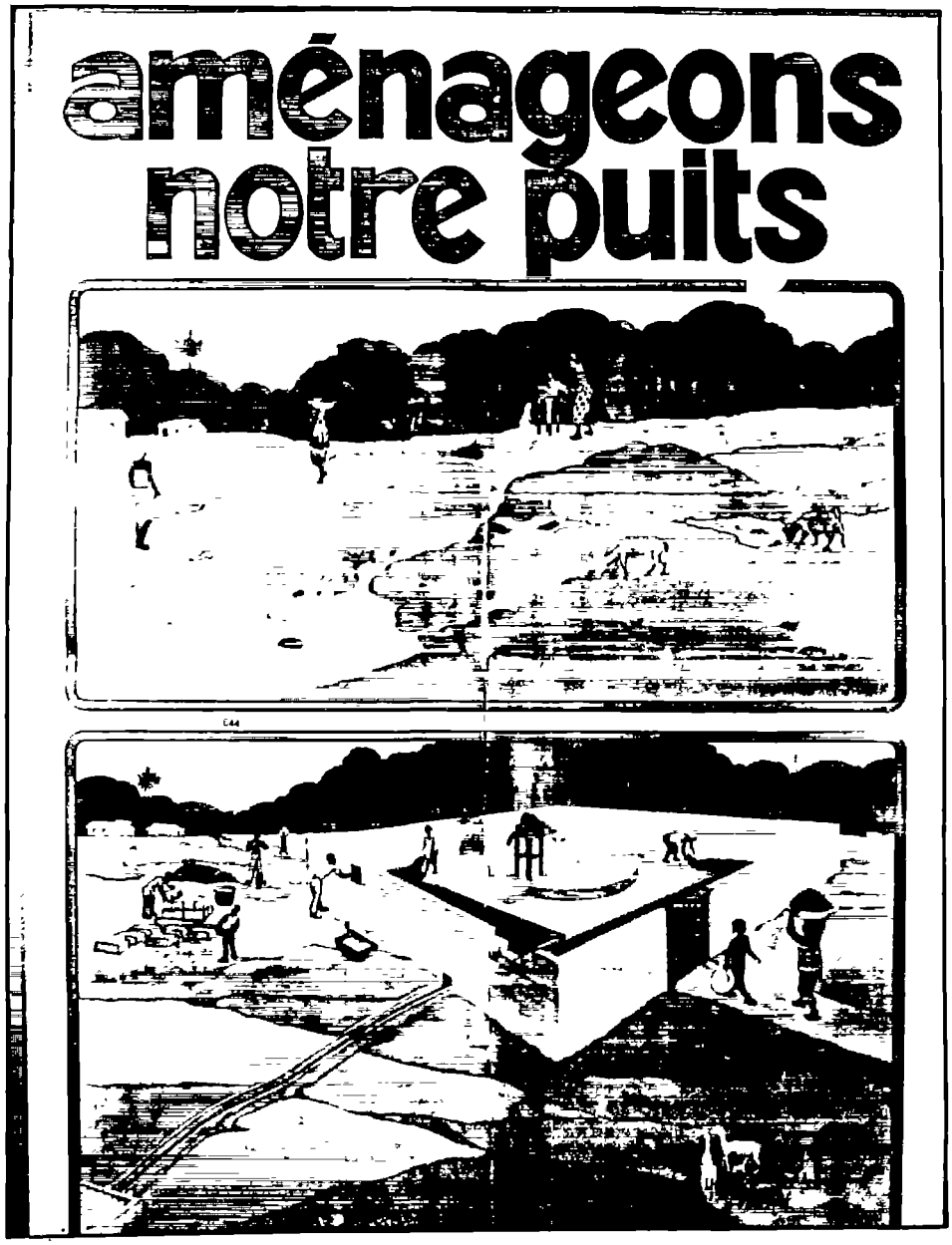
IF If you cannot clean your teeth (especially after eating sweets) you should rinse your mouth with water.

Illus. 40 and 41. Drawing and a photograph from an illustrated booklet on water and sanitation. (Courtesy of the Ministry of Public Health, Tunisia.)

Illus. 42. Drawings from a leaflet on clean water and latrines in which brother and sister, Adi and Ida, carry on a dialogue. (Courtesy of CARE/Indonesia.)

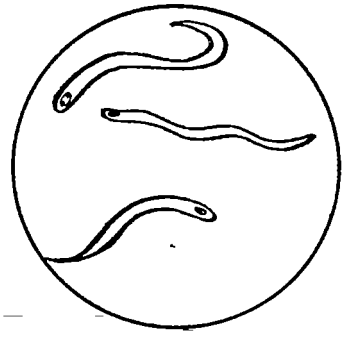


Illus. 43. Illustrated calendar devoted to water supply and sanitation. (Courtesy of the Health Education Section, Ministry of Health, Malawi.)

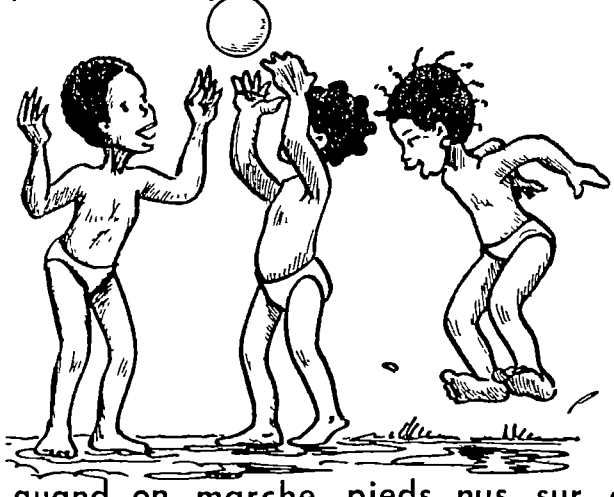


Illus. 44. Poster promoting well-area maintenance. (Courtesy of the National Institute of Public Health, Ivory Coast.)

COMMENT LA MALADIE ENTRE DANS LE CORPS



quand on dépose les selles sur la terre humide les petits du ver se développent



quand on marche pieds nus sur cette terre quand l'enfant joue sur la terre

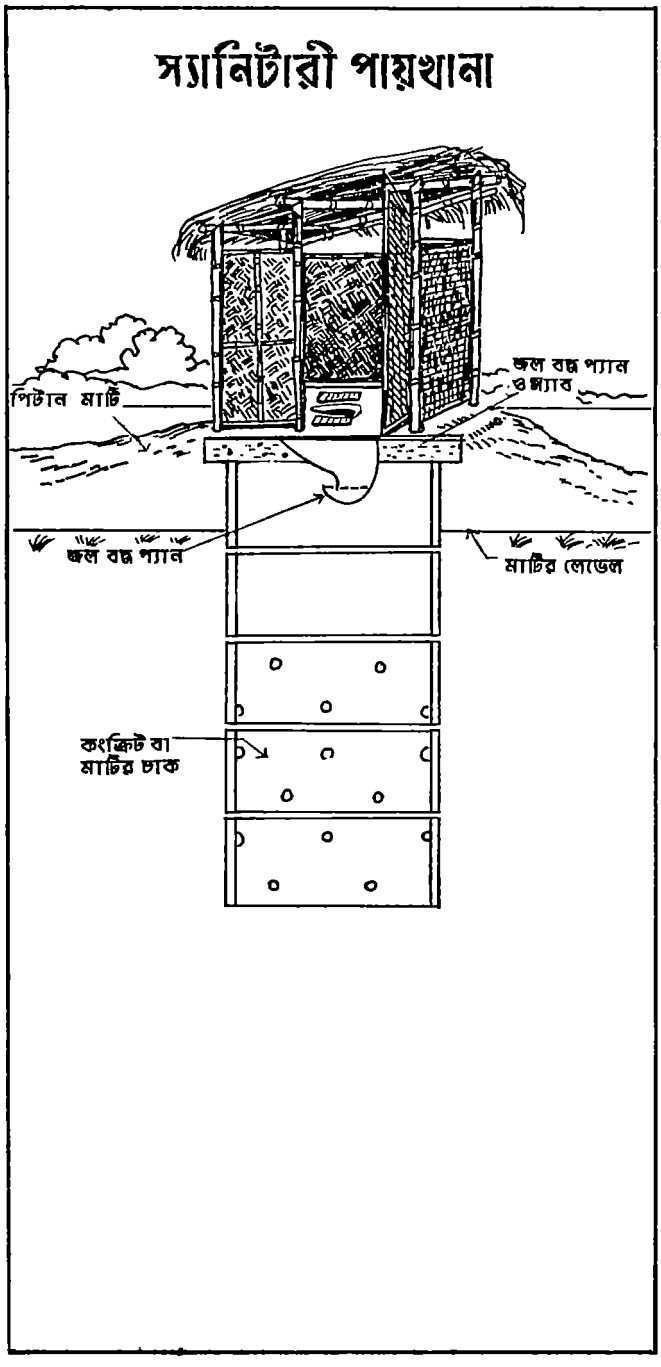
les petits du ver entrent à travers la peau

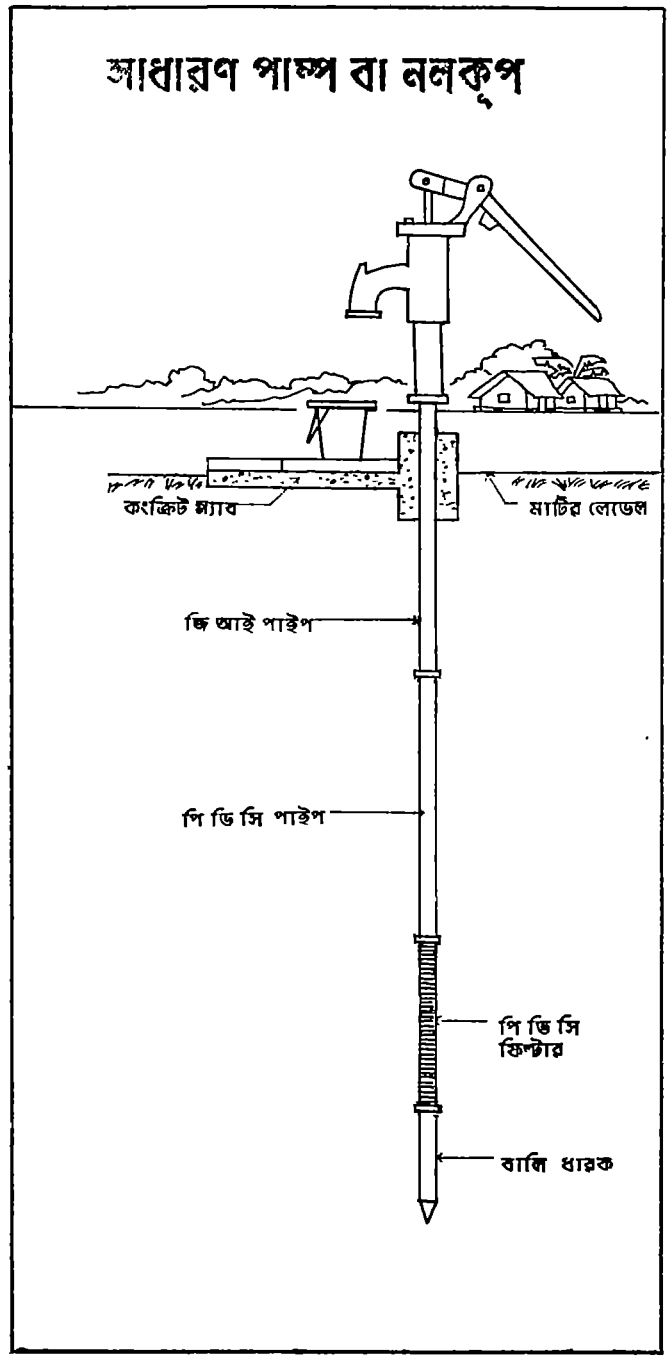
Illus. 45. Page from a booklet entitled "Five Water-Borne Diseases." This page illustrates ankylostomiasis. (Courtesy of INADES, Abidjan, Ivory Coast.)

স্যানিটারী পায়খানা ব্যবহার করলে অনেক রোগের বিস্তার বন্ধ করা যায়।

জনস্বাস্থ্য প্রকৌশল পরিদপ্তরের স্থানীয় অফিসে স্যানিটারী পায়খানা কিনতে পাওয়া যায়।

Illus. 46. Poster on latrine and food hygiene, produced in watercolor on inexpensive paper. (Courtesy of UNICEF/Bangladesh.)





Illus. 47. Instructional sheets on latrine construction and tube-well maintenance. (Courtesy of UNICEF/Bangladesh.)

Illus. 48. Silk-screened cloth poster on water use. (Courtesy of Panay Unified Services for Health, Philippines.)

Illus. 49. Samples of card and domino games on various health topics. (Courtesy of Yayasan Indonesia Sijahtera.)

An important source of health education materials for Francophone Africa is L'Atelier de Matériel pour l'Animation (AMA) in Yaoundé, Cameroon. Attractive artwork and low-cost materials are characteristic of AMA's products. Pretesting is informal but includes studying responses of rural people. Illustration 25 is taken from a 24-page booklet, "Cop/Santé", printed with blue and black ink, which discusses sources of schistosomiasis.

Illustration 26 shows another example of an AMA publication, "Hygiène de l'Eau," which contains drawings, typed information for more literate readers, and very simplified script for others. AMA also published a 52-page comic book entitled "A Votre Santé: Les Aventures d'Akono" (Illustration 27) which draws from local cultural traditions to describe how a community worked together to improve its water supply. Black and white is used exclusively. A final submission of AMA is a collection of multi-colored silk-screen posters on paper (Illustration 28).

In Ecuador, the Institute of Sanitation in the Ministry of Public Health has published a low-cost 28-page foto-novela all in black and white containing 53 captioned photographs plus other illustrations. An amusing and satirical story concerns an engaged couple and their effort to build a sanitary latrine (Illustration 29). The novela "Amor Correspondido," depicts rural couples in natural surroundings. Careful pretesting accompanied its development.

Ecuador, with support from the Academy for Educational Development has also produced a very attractive set of silk-screened cloth flipcharts. Illustration 30 shows one of the drawings.

The board game, Snakes and Ladders, has been modified to emphasize health issues and prepared in a variety of forms (Illustrations 31, 32, and 33). A community health project in Bombay, India, produces a very inexpensive photocopy on newsprint for schoolchildren to take home.

The Yayasan Indonesia Sejahtera Project, supported by Save the Children in Indonesia, uses a colorful and attractive, albeit more expensive, poster with printed paper glued to quality pressboard. That project also has developed a modified version of the Snakes and Ladders game and has silk-screened it in four colors onto cloth measuring two feet by three feet.

Reference was made in Chapter 4 to an imaginative comic book prepared by the Mazingira Institute in Kenya containing contests, lessons on hygiene, puzzles, and other materials of interest to children. This item is 16 pages in length and is printed in six colors. A number of pages from this publication are included here in Illustrations 34 to 39. A second comic book was later published containing competition results and additional educational information.

The government of Tunisia has printed a number of attractive yet inexpensive audio-visual materials about water supply and sanitation. The photographs shown here from one of these publications (Illustrations 40 and 41) are from a leaflet using four color illustrations on one side, and black and white photographs on the reverse side of the paper.

With the assistance of CARE, many low-cost audio-visual aids covering a wide range of themes have been prepared for Indonesian health workers and

school-aged children. Illustration 42 shows pages from two leaflets on clean water and latrines.

Several calendars based on water supply and sanitation themes were received. Illustration 43, an attractive example printed on quality paper in six colors comes from the Ministry of Health in Malawi, which also produces many other audio-visual materials on the same themes.

A multi-colored poster was developed in the Ivory Coast by the National Institute of Public Health to encourage improved well area maintenance. It was reported that the illustration was modified following comments and responses by villagers, but one could be concerned about the cost of the wall and other structures that the poster seems to be promoting (Illustration 44). The Institute has also produced other quite attractive audio-visual aids, such as a 24-page booklet, "Five Water-Borne Diseases," produced in black and white, which was designed and pretested with the assistance of a sociologist. Illustration 45 shows the transmission of hookworm.

The Peoples Republic of Bangladesh in collaboration with UNICEF has produced an important array of audio-visual materials on water supply and sanitation along with explanations for training in their use. Attractive multi-colored water colors are used in these materials (Illustrations 46 and 47).

In reviewing materials received during the course of this study we were surprised by the excellent and fairly frequent use of silk-screening of poster art onto cloth. Some examples have already been mentioned. Illustration 48 is taken from a series produced by the Panay Unified Services for Health (PUSH) Project in the Philippines. This technique offers durability and lightweight products at a relatively low cost.

Finally, mention should be made of a number of highly attractive card and domino games developed in Indonesia by the Yayasan Indonesia Sijahtera. These appear in Illustration 49.

Chapter 7

CONCLUSION

The purpose of this study was to examine the development and use of locally produced health education materials for water supply and sanitation programs. Even so partial a review as this clearly shows the feasibility of producing attractive, useful, and effective materials on a limited budget. Effectiveness, as was noted, is largely determined by use. Materials need to be designed to meet specific program needs. Among the materials received, there are some good examples of audio-visual aids that meet specific program needs: the pamphlets on VIP latrine construction from Lesotho, the training materials from Peru, the comic book posters from Honduras, the flash cards from Malawi, and others.

A second important determinant of effective materials was pretesting. Only 19 of the more-than-50 items received were pretested, but all 19 commented on how pretests had led to early and sometimes crucial modifications of the materials.

It is very important to do careful advance studies on attitudes, beliefs, practices, and past experiences of target audiences with regard to the water supply and sanitation program and its objectives. What are beliefs and attitudes concerning excreta? How has the population participated previously in local projects? These studies are useful in shaping the ideas behind materials before pen is put to paper. They are probably more important than pretesting. Only nine of the items received were developed from such preliminary studies.

Funds spent on studies by those who know the people the materials are intended for and on simple pretesting as described in Chapter 4 may result ultimately in cost savings because effort and money will not be wasted on ineffective materials.

Then there is the selection of media. Because of shortages of funds, most organizations have a limited range of media to choose from. Most materials reviewed combined printing and illustrations to produce booklets, pamphlets, or posters. Posters can be made into series for flipcharts. Themes from booklets can be illustrated in posters. Illustrated texts can be inexpensively produced in black and white or with the use of one additional color. Only a few of the materials received used several colors or photographs.

Finally, one should give a great deal of attention to training personnel to develop, make, and use simple visual aids. Without these skills they cannot use materials effectively.

The range of media available is great. Materials received included games (chiefly from Indonesia), flash cards for use in village meetings from Malawi, comic book series, and foto-novela from Ecuador. Only one set illustrated a variety of "people-centered" media, the hand puppets from Indonesia. There seems to be a general neglect of this inexpensive but effective group of media techniques: plays, pantomimes, and puppets, for which great success has been registered in Southern Africa and Nigeria, among other places.

The final message then is a challenge to the readers of this report to find ways of producing inexpensively made audio-visual materials that are appropriate to their water supply and sanitation programs using materials locally available and doing enough initial studies and pretesting to obtain a satisfactory product. Organizations contributing to this study have shown the way.

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Attachment A

Questionnaire

WASH PROJECT
Questionnaire on Educational
Materials on Water & Sanitation

Thank you for taking a few minutes to describe the development and use of a health education item or tool related to domestic water supply and sanitation. Please print or type your answers to the following questions.

		(Leave this Column Blank)
1.	What is the format of the item being described e.g., pamphlet, comic book, poster, flipchart, radio script, calendar, etc.?	
2.	Title (if any) with English translation	
3.	What aspects of water supply, sanitation or hygiene are covered in this item?	
4.	For what kinds of audience was this item developed, e.g., farmers, rural schoolchildren, poor urban housewives...?	
5.	What kind of worker was expected to use this item, i.e., community health worker, patient educator, rural teacher...?	
6.	In what languages was the item prepared? (If no words were used, write "none.")	
7.	If colleagues from other countries request a copy (or set), can they obtain a copy At no cost Yes___ No___ Don't Know___ At a cost for the item and/or postage Yes___ No___ Don't Know___	
8.	What were the programmatic objectives for this item? (Example: inducing people to build sanitary latrines...) If you don't know, write "Don't Know"	

(Leave this Column Blank)

9. What beliefs and attitudes was the item designed to modify? If you don't know, write "Don't Know"

10. Were any special studies conducted to learn about the beliefs and attitudes of the target audience which could be used in determining the content of the item to be developed? Yes ___, No___, Don't Know___.

11. If "yes," what kind of worker designed this study, e.g., nurse, health educator, sociologist, physician, etc.?

12. If such studies were conducted, in what ways did field health workers participate?

13. How were the item's contents and illustrations field tested, and what were the major findings of the field tests? (Please continue on page 4 if more space is needed.)

14. How was the final product evaluated, and to what extent was the item found to be useful in reaching programmatic objectives? (Please continue on page 4 if more space is needed.)

15. How was the item changed or aspects of the health education effort changed as a result of evaluation studies?

(Leave this Column Blank)

16. Please provide information about the person(s) who know(s) most about the development process for this item:

    Name and Title _____
    Agency Affiliation _____
    Full Mailing Address _____
    _____
    _____
    Full Telephone Number _____

17. What other agency(ies) was (were) involved in the development of this item?

18. We would like to know about the person who kindly completed this questionnaire.

    Name and Title _____
    Agency Affiliation _____
    Full Mailing Address _____
    _____
    _____

19. Would you like to receive a copy of the completed report?
    Yes No

Please use the remaining space to expand upon earlier answers or to add information which would make it easier for health workers elsewhere to develop effective educational audio-visual aids.

If at all possible, please provide a translation of the words when in the item unless they are already in English, Spanish, Portugese or French. We would also like copies of evaluation or research reports covering the item or the campaign in which it was used.

IMPORTANT: Mailing Instructions

Please promptly return information and copies of educational materials by airmail to Dr. R. Isely, c/o WASH, 1161 N. Kent Street, Room 1002, Arlington, Va. 22209, USA. You can also use USAID air pouch. Deliver your package addressed to V. Wehman, AID/S&T/H/WS to the USAID Mission in your country.

Attachment B

Planning Module from Ghana

WORK PLAN: GHANA

MARTIN TAY, JANET ADU-ABOAGYA, AND REUBEN ESTRI NYATEPE-COO

The Ghana National Family Planning Program proposes as its first priority the organization of six national campaigns.

Awareness Campaign

The objectives of the campaign are to make people aware of:

1. A stated concept of family planning.
2. The idea that family planning is good.
3. The relation of the "Red Triangle"—the symbol of the Ghana National Family Planning Program—to the concept of family planning.

STRATEGY TO ACCOMPLISH OBJECTIVES

1. Mounting awareness posters in all centers with family planning facilities and in centers where services are about to start. Displaying posters also in trains, city buses, entrances to departmental stores, offices and other public places.
2. Providing car labels for all state transport vehicles, mammy wagons, lorries, and private cars.
3. Converting existing census hoardings for use for family planning awareness materials.
4. Making and exhibiting slides in cinema houses, on TV, and in cinema vans.
5. Making permanent metal "Red Triangle" signs for centers have family planning facilities.
6. Conducting TV and radio spot announcements.
7. Showing short film trailers in cinema houses.
8. Providing "Red Triangle" badges for all family planning personnel and marking the "Red Triangle" on all family planning equipment and materials.
9. Launching regional programs with public ceremonies and ensuring the participation of regional leaders Providing badges and printed materials for all participants and arranging extensive press, radio, and TV coverage.

TARGET GROUPS

Awareness of family planning by the largest possible number of people in the country is the goal. The Awareness Campaign will start in areas where services are now available and will be extended to other sections prior to the provision of service facilities. The target groups are.

1. Elite and political
2. Health community
3. Communication media
4. Clients of health services
5. Local leaders
6. Religious community leaders
7. Special groups
8. Other members of general public

MEDIA

1. Printed material
2. Hoardings
3. Metal signs
4. Car stickers
5. Cinema
6. Badges
7. "Red Triangle" sign on all Family Planning Program letterheads, property, and on government pens and pencils.
8. Radio and TV
9. Personal contact
10. Mailings

Legitimation Campaign

The objectives of the legitimation campaign are to promote awareness that family planning.

1. has the support of the government,

2. is approved by respected and prestigious people, and
3. is both necessary and beneficial to the country.

STRATEGY TO ACCOMPLISH OBJECTIVES

1. Distributing pamphlet already printed, "Family Planning Why," through all post office boxes and pamphlet racks in public places and through field workers

2. Obtaining and using on TV, radio, and in print, endorsements and expressions of support from prominent and respected people.

3. Radio and TV use of tape recorded utterances from people from all walks of life.

4. Making and showing film interviews with local chiefs in cinema houses, cinema vans, and on TV

5. Providing information kits for speakers, religious and political leaders, local government officials, labor union leaders, teacher training faculty, Centre for Civic Education, social welfare, and youth and rural development workers.

6. Providing metal badges for acceptors, youth groups, market women, specialised groups, and other sections of the general public.

7. Personal approach to key ministers, government officials, opposition leaders, doctors, and women leaders.

TARGET GROUPS

It is essential that all sections of the population be informed and believe that family planning is approved by national and local prominent and respected people. The aim of the campaign will be to obtain evidence of support and approval from all groups and to bring this to the attention of the public.

1. Elite and political
   - Presidential commission and Cabinet members
   - Members of National Assembly
   - Senior civil servants
   - Business and industrial leaders
   - University professors and administrators
2. Regional elite
   - Regional Chief Executives
   - Chairmen of House of Chiefs
   - Paramount and divisional chiefs
   - Regional senior civil servants
   - Senior staff of business and industrial organizations
3. Health community
   - Physicians
   - Nurses
   - Family planning personnel
   - Medical and para-medical personnel
4. Communication media
   - Newspaper editors
   - Radio and TV program officers
5. Clients of health services
   - Women attending health clinics
   - Men attending health clinics
6. Religious community leaders
   - Christian leaders
   - Muslim leaders
   - Indigenous religious leaders
7. Special groups
   - National Service Corps
   - National Labour Unions
   - Military and police services
   - Workers Brigade
   - Women's groups
   - Voluntary agencies
   - Major employers
8. Educational institutions
   - Educational personnel
   - Students and pupils
9. General public
   - Urban men and women
   - Rural men and women

MEDIA

1. Press
2. Radio and TV
3. Personal contact
4. Publications
5. Cinema
6. Mailings

Population Problem Campaign

The objectives of this campaign are to promote knowledge about the population problem and show.

1. Population trends in Ghana and in the world as a whole.

2. Relation of population growth to development planning.

3. Activities and accomplishments of the national Family Planning Program.

STRATEGY TO ACCOMPLISH OBJECTIVES

1. Providing steady flow of newspaper articles on population problems at home and abroad.

2. Conducting radio and TV panel programs, showing NBC films, Walt Disney film, and others.

3. Providing newsletter for family planning workers as well as medical and para-medical personnel.

4. Reprinting "Ghana's Population Policy" for distribution to selected people. Printing the population policy in installments in newspapers will be considered.

5. Introducing population barometer in newspapers showing each week the increase over the previous weeks. Installation of barometer boards in public places will be considered.

6. Publishing of the pamphlet, "The People Problem," showing graphically Ghana's population problem.

7. Making documentary films showing the nature of the problem in Ghana.

8. Preparing a mailing list of 2,000 key Ghanaians.

9. Conducting a three-day seminar on "The Consequences of Population Growth."

TARGET GROUPS

1. Elite and political
   - Presidential Commission and Cabinet Members
   - Members of National Assembly
   - Senior civil servants
   - Business and industrial leaders
   - University professors and administrators
   - Teachers
2. Regional elite
   - Regional Chief Executives
   - Chairmen of Houses of Chiefs
   - Paramount and divisional Chiefs
   - Regional senior civil servants
   - Senior staff of business and industrial organizations
   - Teachers
3. Health community
   - Physicians
   - Nurses
   - Family planning personnel
   - Medical and para-medical personnel
4. Communications media
   - Newspaper editors
   - Radio and TV programmers
5. Local leaders
   - Chiefs
   - Chairmen of local councils
6. Religious community leaders
   - Christian leaders
   - Muslim leaders
   - Indigenous religious leaders
7. Special groups
   - National Service Corps
   - National Youth Clubs
   - Labor unions
   - Military and police services
   - Workers Brigade
   - Women's groups
   - Voluntary agencies
   - Major employers
8. Educational institutions
   - Educational personnel
   - Students and pupils

MEDIA

1. Personal contact
2. Radio and TV
3. Press
4. Direct mailings
5. Cinema

Contraceptive Campaign

The objectives of the contraceptive campaign are to provide knowledge on modern methods of contraceptives with emphasis on their: safety; acceptability, effectiveness; cost; availability, and methods of use.

STRATEGY TO ACCOMPLISH OBJECTIVES

1. Publishing and distributing the pamphlet, "Family Planning How." Translating and publishing the pamphlet in the national languages

2. Making a twenty-to-thirty-minute film, showing what contraceptive services are provided in Ghana and duplicating the film for use in cinema houses and on cinema vans.

3. Advertising clinic hours and locations in English and national languages newspapers

4. Publishing posters for each region listing time and location of services

5. Preparing wallet-size card showing clinic hours and location.

6. Providing advertisements for selected methods in support of commercial distribution program

7. Providing regular spot announcements of location and hours of service in each region.

8. Making arrangements for panel discussion of contraceptive methods by medical personnel on radio and TV

9. Developing a "Dear Abby" type weekly column for radio and newspapers for answering common questions about the various methods of contraception.

TARGET GROUPS

All potential users of contraceptives with emphasis on those likely to accept use.

1. Clients of health services
   - Women attending health clinics
   - Women attending family planning clinics
   - Men attending health clinics
   - Postpartum women
   - Dropout women
2. General public
   - Rural men and women
   - Urban men and women
3. Non-medical field personnel
   - Adult education officers
   - Youth and Rural Community Development workers
   - Social workers
   - Agricultural extension workers
   - Nutritionists
4. Special groups
   - National Service Corps
   - Labor unions
   - Military and police services
   - Workers Brigade
   - Women's groups
   - Voluntary agencies
5. Educational institutions
   - Educational personnel
   - Students and pupils
   - Unmarried girls and boys

MEDIA

1. Personal contact
2. Lectures
3. Publications
4. Radio and TV
5. Cinema
6. Press

Motivation Campaign

The objectives of the motivation campaign are to promote readiness to use contraceptives and to encourage the desire for smaller families through (1) appreciation of the advantages of spacing one's family. and (2) knowledge of the benefits of small families.

STRATEGY TO ACHIEVE OBJECTIVES

1. Publishing and distributing photo novels and comic books without words and other audiovisual aids.

2. Preparing "soap opera" cartoons and translating them into the national languages.

3. Recording messages for use on loudspeakers in clinics.

4. Preparing films of puppet shows.

5 Preparing and printing pamphlet entitled "Family Planning When," and translating it into the national languages.

6. Approaching local groups to arrange discussions on family planning.

7. Arranging panel discussions on radio and TV.

TARGET GROUPS

1. Married couples of child-bearing age.
2. Adolescent boys and girls

MEDIA

1. Press
2. Radio and TV
3. Personal contact
4. Publications
5. Cinema

Reassurance Campaign

The objectives of the reassurance campaign are to reassure and allay fears of contraceptive users about contraceptive safety, effectiveness, and appropriateness.

STRATEGY TO ACCOMPLISH OBJECTIVES

1. Introducing question-and-answer column in newspapers and on radio.

2. Recording and printing statements from satisfied users.

3. Arranging radio discussions between physicians and satisfied users.

4. Correcting promptly rumors about the use of contraceptives

5. Devising a system of feedback from local clinics and field workers

TARGET GROUP

Contraceptive users.

MEDIA

1. Press
2. Publications
3. Radio and TV
4. Personal contact

Annual Work Plan

AWARENESS CAMPAIGN

1. Mount awareness posters in trains, city buses, entrances of department stores, offices, and in all centers with clinic services and in centers where services are likely to be started.

2. Distribute car labels to all state transport organizations, to the Road Transport Unions, and private car owners.

3. Contact census organizers and acquire census hoardings.

4. Repair and repaint acquired census hoardings

5. Display awareness posters on hoardings and consider painting posters on plywood to be mounted on hoardings.

6. Design and produce slides for cinema

7. Make permanent metal "Red Triangle" sign for all family planning clinics

8. Develop slogans for thirteen-week radio and TV spot campaign to be run not less than twice daily. Message to support "slogans," "Family Planning–Better Life," "Family planning lets you have only the number of children you really want," "Red Triangle stands for family planning" (five or six different messages).

9. Explore possibility of short film trailers

10. Prepare for launching family planning program in regions.

11. Launch family planning program in regions at two-week intervals. Distribute family planning badges to all participants.

12. Instruct all manufacturers of family planning equipment and material to mark them with "Red Triangle" symbol.

13. Explore possibility of having government pens and pencils marked with the "Red Triangle."

14. Arrange shooting and editing of documentary film for TV.

15. Make copies for use in cinema van campaign.

16. Select appropriate documentary films for cinema vans

17. Distribute regularly to about 2,000 key Ghanaians on mailing list such items as population chronicle.

18. Contact lecturers for a two to three-day national seminar on "The Consequences of Population Growth."

19. Send invitations to national seminar participants.

20. Organize seminar.

21. Prepare flip charts for use in clinics and by health and family planning personnel

LEGITIMATION CAMPAIGN

1 Develop a mailing list of about 2,000 people in target audience.

2. Distribute the pamphlet, "Family Planning Why," through all post office boxes, pamphlet racks, and field workers.

3. Obtain, record, print, and make slides of endorsements and expressions of support from prominent and respected people and from people of all walks of life.

4. Contact and make arrangement for film interviews with local chiefs.

5. Prepare and assemble material for information kits for speakers.

6. Arrange appointments with individual members of the elite and political groups to obtain their support for the program

7. Feed radio and TV with tape recorded endorsements and expressions of support.

8 Make film interviews with local chiefs.

9 Discuss family planning program with as many members of the elite and political groups as possible.

10 Distribute metal badges to market women and specialized groups.

POPULATION PROBLEM CAMPAIGN

1 Write and supply on a regular basis one article a week on population problems at home and abroad.

2. Contact suitable people for regular, one-a-month panel discussions on radio and TV.

3 Make arrangements with radio and TV programmers for panel discussions.

4 Make arrangements with TV, cinema houses, and Ministry of Information for the use of NBC, Walt Disney, and other appropriate films as fillers.

5. Provide slogan for use as filler in newspapers

6. Collect material and print newsletters for audiences

7. Reprint "Population Policy."

8 Distribute newsletter and "Population Policy" to appropriate audiences on mailing list

9. Consider printing "Population Policy" in installments in newspapers.

10. Design for use in newspapers "Population Barometer" showing Ghana's population each week and the increase over the previous week

11. Make and install Barometer Boxes in public places

12. Prepare and test the pamphlet "The People Problem," showing graphically Ghana's population problem.

13. Print pamphlet, "The People Problem "

14. Distribute to appropriate audiences

15. Write scripts for twenty-to-thirty-minute TV documentary films showing nature of the population problem in Ghana.

16. Assemble information kits on the population problem in Ghana in particular and in the world at large

CONTRACEPTIVE CAMPAIGN

1 Prepare and test material for the pamphlet, "Family Planning How."

2 Translate script into national languages

3. Print and distribute pamphlet, "Family Planning How."

4. Write script for twenty-to-thirty-minute film showing how contraceptive services are provided in Ghana

5. Arrange shooting, editing, and duplicating of the film for use in cinema houses and on cinema vans.

6. Place advertisement of clinic locations and hours in English and national languages newspapers

7. Design and publish posters for each region listing location and time of services

8. Prepare wallet-size card showing clinic locations and hours.

9 Provide regular spot announcement of locations and hours of services in each region

10. Provide advertisement for selected methods in support of commercial distribution program.

11 Contact medical personnel and arrange discussion of contraceptive methods on radio and TV

12. Arrange talks for women's organizations on various methods of contraception.

13. Develop a weekly column for radio and newspapers for answering common questions about the various methods of contraception

14 Organize programs in main regional hospitals and clinics where family planning services are available for women who have just given birth. Postpartum women in all main regional hospitals and family planning clinics will be approached by a nurse or midwife sometime after the birth of their babies and before they leave the hospital, informed about the different methods of contraception, and offered contraceptive services immediately if they so desire

15. Write scripts for filmstrips on modern methods of contraception, prepare flip charts to be shown to groups of postpartum women while they are still in the hospitals, and distribute booklet, "Family Planning How," to the literate Before a postpartum woman leaves the hospital she will be offered an appointment at a family planning clinic at the same time that she returns for her postpartum checkup During 1970-71, this program will be organized in main regional maternity hospitals and clinics offering family planning services with plans to extend services to all urban and rural areas when feasible

16. Program will be organized for those women who have stopped receiving services at family planning clinics Field workers will contact each woman, inquire about her reasons for dropping out of the program, provide her with the appropriate booklets, and offer her another appointment at the clinic. This plan will be started at main regional maternity hospitals and clinics offering family planning services and later extended to all the urban and rural areas

17. During 1970-71, an effort will be made to encourage employers of large groups of people to incorporate contraceptive services in their health services to employees.

18. Assemble information kits on the safety, acceptability, effectiveness, cost, and availability of modern methods of contraception

MOTIVATION CAMPAIGN

1. Prepare photo novels and comic books without words for distribution to married couples and adolescent boys and girls.

2. Prepare flipcharts and other visual aids for use in clinics and at talks by health officers and family planning personnel.

3. Prepare cartoon stories on the "soap opera" model and translate them into the national languages

4 Record messages highlighting the advantages of spacing one's family and the benefits of small families for use in clinics and health centers and by women's and men's discussion groups

5. Write script and prepare films of puppet shows for use in cinema vans and on TV.

6. Prepare and print pamphlet entitled, "Family Planning When," and translate it into the national languages for distribution to audiences.

7. Approach local discussion groups to arrange discussions of family planning at their meetings.

8. Arrange panel discussions on radio and TV.

9. Assemble information kit on use of contraceptives and benefits of smaller families.

10. Contact and encourage local drama groups to organize plays on the benefits of smaller families.

REASSURANCE CAMPAIGN

1. Plan and introduce question-and-answer columns in newspapers and on radio. Message. safety, effectiveness, and appropriateness of contraceptives.

2 Obtain, record, and print statements from satisfied users of contraceptives.

3. Arrange radio discussions by physicians and satisfied users

4 Correct promptly in press, radio, and TV rumors about use of contraceptives

5. Assemble information kits on safety, effectiveness, and appropriateness of contraceptives

6. Devise a questionnaire to obtain feedback from local clinics and field workers

JULY 1970

1. Mount awareness posters in trains and city buses, entrances of department stores, offices, and at all centers with clinic services, and at centers where services are likely to be started (posters already printed)

Also distribute car labels to all state transport organizations, to the Road Transport Unions, and to private car owners (car labels already printed).

2 Place order for permanent metal "Red Triangle" signboards for family planning clinics.

3. Develop a mailing list of about 2,000 people in target audience.

4. Contact census organizers for the acquisition of census hoardings.

5. Contact, make arrangements for, and produce film interviews with local chiefs.

6. Discuss family planning program with as many members of the elite and the political group as possible.

7. Contact suitable people and make arrangements for regular, monthly panel discussions on radio and TV on awareness campaign.

8. Make arrangement with TV, cinema houses, and Ministry of Information for use of NBC, Walt Disney, and other appropriate films as fillers.

9. Place advertisements for clinic hours and locations in English and national languages newspapers and provide regular spot announcements on the radio of same for each region (revise when necessary).

10. Prepare and test material for the pamphlet, "Family Planning How."

11. Design and publish posters for each region listing time and location of family planning clinical services (revise when necessary).

12. Prepare and provide advertisements for selected methods in support of commercial distribution of contraceptives (revise when necessary)

AUGUST 1970

1 Continue to mount awareness posters in trains and city buses, entrances of department stores, offices, and at all

centers with clinic services, and at centers where services are likely to be started. Also, continue to distribute car labels to all state transport organizations, to the Road Transport Unions, and to private car owners

2. Complete mailing list.

3. Make preparation for launching family planning program in regions

4 Translate script of "Family Planning How" into the national languages. Print and distribute pamphlets

5 Repair and repaint acquired census hoardings and display awareness posters on them Also consider painting awareness posters on plywood to be mounted on the hoardings in each region.

6. Contact medical personnel and make arrangements for discussion of contraceptive methods on radio and TV.

7. Arrange panel discussion on radio and TV on the advantages of planning one's family and benefits of smaller families

8. Explore possibility of having government pens and pencils marked with the "Red Triangle" symbol, and place order.

9. Approach local discussion groups to arrange discussions on the legitimation of the family planning program.

10 Prepare cartoon stories, using a "soap opera" model, and translate them into the national languages.

11 Organize a program in main regional hospitals and clinics where family planning services are available for women who have just given birth. Postpartum women in all main regional hospitals and family planning clinics will be approached by a nurse or midwife sometime after the birth of their babies and before they leave the hospital, informed about different methods of contraception, and offered contraceptive services immediately if they so desire (action by Service Division).

SEPTEMBER 1970

1 Continue display of awareness posters on hoardings and painting others on plywood to be mounted on hoardings in the regions.

2. Instruct all manufacturers of family planning equipment and material to mark them with "Red Triangle" symbol.

3. Distribute "Family Planning Why" through all post office boxes, pamphlet racks, and field workers

4. Continue personal discussion of family planning program with members of the elite and political group.

5. Prepare and test pamphlet, "The People Problem," showing graphically Ghana's population problem.

6 Continue regular distribution of items such as population chronicle to about 2,000 key Ghanaians on mailing list.

7 Write script for twenty-to-thirty-minute film showing provision of contraceptive services in Ghana and arrange shooting, editing, and duplication of the film for use in cinema houses and on cinema vans.

8. Prepare wallet-size cards showing clinic locations and hours for distribution to target audience

9. Arrange regular spot announcements of locations and hours of family planning services in each region

10 Arrange talks for women's organizations on various methods of contraception.

11 Write script for filmstrips on modern methods of contraception and prepare flipcharts to be shown to groups of postpartum women while they are still in the hospitals, also distribute booklet, "Family Planning How," to the literates. Before a postpartum woman leaves the hospital, she will be offered an appointment at the family planning clinic at the same time that she returns for her postpartum checkup During 1970-71, this program will be organized in main regional maternity hospitals and clinics offering family planning services with plans to extend services to all urban and rural areas when feasible.

12. Prepare and print pamphlet entitled, "Family Planning When," and translate it into national languages for distribution to target audiences.

13. Contact and arrange for local drama groups to organize plays depicting the benefits of smaller families

14. Arrange radio discussions by physicians and satisfied users of contraceptives

OCTOBER 1970

1 Mounting of awareness posters at designated places will continue. Also continue distribution of car labels.

2. Launch family planning program in regions at two-week intervals Distribute family planning badges to all participants and arrange extensive press, radio, and TV coverage for the ceremonies

3. Design and produce slides for cinema on awareness campaign.

4 Develop slogans for thirteen-week radio and TV spot campaign to be run not less than twice daily with messages to support Family Planning: "Family Planning–Better Life," "Family planning lets you have only the number of children you

really want," " 'Red Triangle' stands for 'Family Planning ' " Develop five or six different messages

5. Continue distribution of the pamphlet "Family Planning Why "

6. Show film interviews with local chiefs

7 Continue discussions of family planning program with elite and political group.

8. Arrange panel discussions on radio and TV on the legitimation program

9. Provide slogans for use as fillers in newspapers.

10. Collect material and print newsletters for audiences

11. Reprint "Population Policy."

12. Print pamphlet, "The People Problem," and distribute regularly.

13. Continue regular spot announcements of clinic locations and hours of service in each region.

14. Contact medical personnel and arrange discussion of contraceptive methods on radio and TV.

15. Write script and prepare film of puppet shows for use in cinema vans and on TV.

NOVEMBER 1970

1. Inspect awareness posters, replace where necessary, and continue distribution of car labels.

2. Start thirteen-week radio and TV campaign of messages supporting family planning.

3. Continue launching family planning program in regions

4. Distribute metal badges to market women and specialized groups on appropriate occasions.

5. Arrange panel discussions of population problem on radio and TV.

6. Continue provision of slogans for use as fillers in newspapers.

7. Distribute newsletter and "Population Policy" to appropriate audience on mailing list

8. Continue regular spot announcement of clinic locations and hours of service in each region

9 Develop a weekly column for radio and newspapers answering common questions about various methods of contraception.

10 Prepare photo novels and comic books without words for distribution to married couples and adolescent boys and girls.

11 Plan and introduce question-and-answer columns in newspapers and on the radio on the safety, effectiveness, and appropriateness of contraceptives

12 Obtain, record, and print statements from satisfied users of contraceptives.

13 Assemble information kits to aid speakers on use of contraceptives and the benefits of smaller families

DECEMBER 1970

1 Continue inspection and replacement of awareness posters Also continue distribution of car labels.

2. Ensure continuation of thirteen-week radio and TV spot campaign of slogans in support of family planning.

3 Continue regional launching of family planning program.

4. Plan national seminar on consequences of population growth Contact suitable lecturers, issue invitations to participants, and organize seminar.

5. Continue discussion on family planning program with elite and political groups

6. Continue distribution of metal badges to market women and specialized groups on appropriate occasions

7. Assemble information kits on the population problem in Ghana in particular and in the world at large.

8. Regularly write and supply one newspaper article a week on population problem at home and abroad.

9 Continue panel discussions on population problem on radio and TV

10. Write scripts for twenty-to-thirty-minute documentary films showing the nature of the population problem in Ghana for TV and cinema

11. Continue radio spot announcements of locations and hours of service of family planning clinic services in each region.

12. Continue discussion of contraceptive methods by medical personnel on radio and TV

13 Prepare flipcharts and other visual aids for use in clinics and at talks by health officers and family planning personnel.

14 Approach local groups to arrange discussions on use of contraceptives and the need for smaller families.

15 Assemble information kits on the safety, effectiveness, and appropriateness of contraceptives

16. Start planning for 1971-72

JANUARY 1971

1 Explore possibility of short film trailers

2. Launchings of regional family planning program continue.

3 Arrange shooting and editing of documentary film on awareness campaign for TV and make copies for use in cinema vans

4. Obtain, record, print, and make slides of endorsements and expressions of support from prominent and respected people and from people from all walks of life

5 Assemble information kits on the population problem in Ghana in particular and in the world at large

6. During this month, effort will be made to encourage employers of large groups of people to incorporate contraceptive services into their employees' health services

7. Radio spot announcements of locations and hours of regional clinic services continue

8. Discussions of methods of contraception by women's organizations continue.

9 Print "soap opera" cartoon stories.

10. Radio and TV discussions by physicians and satisfied users continue

11. Continue with plans for 1971-72 annual estimates

FEBRUARY 1971

1. Ensure change of awareness posters at designated spots and continue distribution of car labels

2 Arrange shooting of short film trailers if possible.

3 Continue supply of newspaper articles on population problem at home and abroad

4 Radio and TV panel discussions on population problem continue

5. Consider printing "Population Policy" in installments in newspaper.

6 Announcements of locations and hours of family planning services in each region continue to be made on the radio.

7 Local discussion groups continue their discussions on the motivation campaign

8. Devise a questionnaire to obtain feedback from local clinics and field workers on the reassurance campaign.

9 Show on TV, slides of endorsements and expressions of support obtained from prominent and respected people Also publish statements in newspapers.

10. Finalize plans for 1971-72 annual estimates

MARCH 1971

1 Replacement of awareness posters and distribution of car labels continue

2 Arrange to show short film trailers on awareness campaign.

3 Arrange another seminar on population growth problem.

4 Newspaper articles on population problems at home and abroad continue

5 Panel discussions on radio and TV on population problem continue

6. Print "Population Policy" in installments in newspapers

7. Design for use in newspapers "Population Barometer" showing Ghana's population each week and the increase over the previous week.

8 Make and install barometer showing increases in Ghana population in public places.

9. Radio announcements of locations and hours of family planning services in each region continue.

10. Arrange another talk on the various methods of contraception for women's organizations. Also repeat radio discussions by physicians and satisfied users.

APRIL 1971

1 Awareness campaign with posters and car labels continues.

2 Explore possibility of having government pens and pencils marked with the "Red Triangle" symbol

3. Continue discussions of family planning program with elite and political groups

4 Arrange appointments and contact individual members of elite and political groups to obtain their support for the program

5. Repeat newspaper articles on population problem

6. Continue panel discussions on population problem on radio and TV.

7 Repeat use of NBC, Walt Disney, and other appropriate films as fillers

8 Newspaper installments on "Population Policy" will continue.

9 Ensure change of population figures on barometer in public places

10. Radio spot announcements of locations and hours of family planning services in each region continue.

11. Repeat medical personnel discussion of contraceptive methods on radio and TV

12. Local discussion groups continue discussion of motivation campaign.

MAY 1971

1. Awareness campaign with posters and car labels continues.

2. Continue TV showing of slides of endorsements and expressions of support. Also repeat for newspapers

3. Continue face-to-face talks with individual members of elite and political groups to obtain their support for the program.

4. Newspaper articles on population problem will continue and should be effective at this period when National Assembly will soon discuss the country's annual estimates.

5. Point 4 also applies to radio and TV panel discussions.

6. Ensure that "Population Policy" pamphlet is distributed to target groups.

7. Change population figures on barometer in public places.

8. Supply information kits on population problem to target groups.

9. Announcements of locations and hours of services in each region continue.

10. Arrange another discussion by physicians and satisfied users on radio and TV.

JUNE 1971

1. Complete awareness campaign activities.

2. Complete legitimation campaign activities.

3. Continue postpartum program and make plans in annual estimates for expansion during 1971-72.

4. Continue dropout program and make plans in annual estimates for expansion during 1971-72.

5. Hold a conference on population problem for key people in government.

Source: Final Report, International Workshop on Communications in Family Planning Programs (June 6-18, 1970, Teheran, Iran), Robert R. Blake, Ed., University of North Carolina, Chapel Hill, NC.

Attachment C

Mass Media for Health Education (Jenkins)

Country	Project	Date	Style	Media used	Nos. reached	Effects
Colombia	ACPO 'progressive course'	1947 — present	radio study groups	radio, print, group study, newspapers, books, educational support workers	100 000 each year	(1971) Between 11% and 88% of sample had made specific improvements to do with health; between 8% and 90% did so because of ACPO.
Costa Rica	'Dialogo'	1970 — present	open access radio	radio, answer service (letter, 'phone, personal callers), collaboration with health service	(1979) 36% of adults listen regularly; 53% listen sometimes	Population growth rate declined from 3% (1970) to 2.5% (1975).
Guatemala	Pila project	1975 (3 weeks)	experiment with cassette listening	audio-cassettes	1 village	90% women could answer 6 or 7 out of 10 questions correctly; over 50% had prepared high protein food for infants.
Haiti	'Radio Docteur'	1967 — present	open access radio	radio, audio-cassettes and visual aids in clinics	(1973) all radio owners in one area knew of 'Radio Docteur'	Regular listeners had high recall of 20 basic messages.
India	SITE	1975-6	open access television	television	2 330 villages	Effects on knowledge noted, but effects on practice questionable.
India	*'Better Child Care'*	1976 — present	support material for health workers	print (text and illustrations)	160 000 distributed (1976)	(Distribution figures only indicator.)
Kenya	'Zaa na Uwatunze'	1975 — present	open access radio	radio, consultations with health service	(1975-6) 90% of sample knew of programme	Regular listeners had high recall of topics.
Kenya	AMREF correspondence course	1980 — present	correspondence course for health workers	correspondence lessons and postal tuition	(Feb.-Aug. 1980) 110	10% finished by Dec. 1980; about 50% still working. Correspondence students' knowledge compared well with those on refresher courses.
Mexico	PIATA booklets	?	support materials for health workers	booklets without words	?	3 months after getting booklet, group with booklet explained to them better informed than control.
Micronesia, Yap islands	Breast-feeding campaign	1975	campaign	video, filmstrips, radio, booklets	?	1975 less than 25% breast feeding; 1977 over 50% breast feeding.
Nicaragua	Polio immunisation campaign	1981	campaign	newspapers, television, radio, wall posters, 40 000 volunteers, 2 400 health workers	?	75% of all under-fives vaccinated on one day.
Philippines	Radio nutrition advertising campaign	1975 (1 year)	campaign	radio	?	Pre-campaign 0% added oil; after 12 months 24% added.
Sierra Leone	'Small Talks'	1978 — present	supporting materials for health workers	flipcharts	?	1977 0% pregnant women ate good diet; 1979 8% ate well; 1977 41% children fed with cup and spoon; 1979 50% fed with cup and spoon.

Country	*Project*	*Date*	*Style*	*Media used*	*Nos. reached*	*Effects*
Tanzania	'Mtu ni Afya'	1973 (3 months)	campaign	radio, booklets, groups	2 million group members	Pre-campaign 20% had latrines; 1973 45% had latrines; 1979 59% had latrines.
(UK-based)	TALC	late 1960s — present	training for health workers	transparencies, other low cost materials	about 1 250 000 slides distributed in 10 years	Most sets of slides used 3 or 4 times a year.
(US/ Mexico-based)	*Where there is no Doctor*	1973 — present	training and support for health workers	book	nearly 1 million sold	(Distribution figures only indicator.)
(Zaire-based)	Institute of Study and Research for Health Promotion	1962 — present	support for health workers	posters, pictures, book, broadcasts	Distributed to 15 countries	(Distribution figures only indicator.)

Source: Jane Jenkins, "Mass Media for Health Education," Monograph 18, International Extension College, Cambridge, U.K., 1983.

Attachment D

Mass Media for Health and Nutrition Education (Leslie)

Table 1. DESCRIPTION AND EVALUATION OF PROJECTS FROM LOW INCOME COUNTRIES USING MASS MEDIA FOR NUTRITION EDUCATION

Description						Evaluation[a]				
Name	Country	Major Media	Duration	Target Audience	Major Message	Outreach	Educational Objectives	Health Objectives	Cost	References
Manoff Intntl. Advertising Technique Nutrition Education Campaign	Philippines	Radio	A one-year campaign, October 1975 to October 1976	Mothers of children under 12 months	Enrich weaning food with oil, fish and vegetables	50% to 75% (approx. 30,000 mothers) heard and remembered the message	10% to 25% of mothers began enrichment of weaning food	No significant effects on the weight gain of children	$1.50 to $2.50 per mother reached	33, 35
Manoff Intntl. Advertising Technique Nutrition Education Campaign	Nicaragua	Radio	A 10-month campaign, July 1976 to May 1977	Mothers of children 5 years old and under	Recipe given for Super Limonada for home rehydration of children with diarrhea	Approximately 65% (70,000 mothers) heard and remembered the message	Approximately 25% of mothers gave Super Limonada for diarrhea	--	$0.65 to $1.75 per mother reached	35
Trinidad and Tobago Breast-feeding Campaign	Trinidad and Tobago	Radio, TV, news-paper	A six-week campaign in June and July, 1974	Mothers and pregnant women	Breastfeeding is preferable to bottle feeding	75% to 99% of women recognized the messages from one or more media	Mothers with more awareness of the campaign introduced bottle feeding later	--	--	36
Food is Life Campaign	Tanzania	Radio and book-lets	A 3-month campaign, June to September 1975	Rural adults	Produce and consume a variety of foods for better health	1.5 to 3 million participants in radio listening groups	Some new vegetable gardens and poultry units were begun	--	--	37, 38
CARE Mass Media Nutrition Education Campaign	Korea	Radio and comic book	A one-year campaign, January to December 1970	All Korean adults	For good health eat foods from each of the five food groups	70% to 80% heard or read the messages	20% could name nutrients supplied by the five food groups	--	--	39
CARE Mass Media Nutrition Education Campaign	India	Films, posters, bill-boards and radio	A ten-week campaign, April to June 1972	Mothers and pregnant women	The diet of a six-month old child should include solid foods	250,000 people lived in the catchment area of the eight experimental sites	Awareness of recommended weaning behavior increased from 50% to 93%	--	--	40, 41

[a] Comparison of evaluation results between projects could be made with extreme caution because different evaluation methods were used; in particular, costs were often calculated quite differently.

Table 1 (continued)

Description						Evaluation				
Name	Country	Major Media	Duration	Target Audience	Major Message	Outreach	Educational Objectives	Health Objectives	Cost	References
Maharashtra State Mass Media Nutrition Education Campaign	India	Newspapers and films	A one-year campaign in the early 1970's	People with an income of at least Rs. 250 per month living in towns with at least 25,000 population	Good quality protein should be part of the diet, especially for children	Approximately 5% (2.7 million adults) were aware of the campaign	20% to 30 % reported changing their diet due to the campaign	--	$0.04 per contact	42
Lesotho Distance Teaching Centre Nutrition Campaign	Lesotho	Radio and comic book	A two-week campaign in Nov. 1975	Rural women	Beans, green vegetables, and potatoes make a balanced diet for good health	10% to 30% of women in lowlands area (20,000 women) heard and remembered the radio spots	50% to 70% knew why each of the foods is good for health	--	--	43
Yap District Nutrition Education Program	Micronesia	film-strips and radio spots	Project began in 1975	Mothers and pregnant women	Breastfeeding is more economical and better for infants than bottle feeding	500 to 1,000 women	Breastfeeding in clinic waiting room increased from 25% to 50% in two years	--	$0.02 to $0.05 per target woman	44

Table 2. DESCRIPTION AND EVALUATION OF PROJECTS FROM LOW INCOME COUNTRIES USING MASS MEDIA FOR HEALTH EDUCATION

Description						Evaluation[a]				
Name	Country	Media	Duration	Target Audience	Major Message	Outreach	Educational Objectives	Health Objectives	Cost	References
Giving Birth and Caring for Your Children	Kenya	Radio	Weekly broadcasts began in February, 1975	Rural adults	A variety of modern child care practices are promoted in a dialogue comedy format	3 million listeners	--	--	$350.00 per show/ $0.0001 per listener	45, 46
Man is Health Campaign	Tanzania	Radio and booklets	Campaign during 1973	Rural adults	Recognition and prevention of malaria, hookworm, dysentery, bilharizia and tuberculosis	1 to 2 million participants in radio listening groups	20% of groups built latrines (750,000 latrines)	--	$0.50 per villager reached	47, 38
Social Education of Women	Senegal	TV	Broadcasts began in March, 1965	Illiterate working class women in TV clubs in Dakar	Information about the cause and treatment of malaria, dysentery and tuberculosis and promotion of less use of oil for cooking	500 women regularly attended TV club meetings twice a week	Recognition of mosquito as cause of malaria increased from 41% to 76% and use of more than 7 liters of oil per week decreased from 61% to 15%	--	--	48
Class d'Hygiene	Haiti	Radio	A 12-week campaign repeated yearly, since 1970	5th and 6th grade school children and their teachers	Information on physiology, vaccination and population growth	In 1974, there were approximately 3,500 participants from 194 different localities	--	--	--	49
The Pila[b] Communication Project	Guatemala	Audio Cassettes	3-week campaign during 1975	Women on a coffee and rubber plantation	Promotion of vaccinations and consumption of Incaparina	Most women on the plantation heard the tapes	Experimental plantation had 92% rate for 2nd vaccinations against polio and diphtheria compared with a 60% rate in a control plantation	--	$0.02 per household reached	50, 51
Satellite Instructional Television Experiment (SITE)	India	TV	August 1975 to August 1976	Rural adults	Preventive medicine through improved nutrition and Ayurvedic herbal home remedies	400 villages in six states	Pretest to posttest gains of 20% to 40% on all health questions	--	--	52, 53

[a] Comparison of evaluation results between projects should be made with extreme caution because different evaluation methods were used; in particular, costs were often calculated quite differently.

[b] The pila is an outdoor laundering place, a frequent gathering place for women in Guatemala.

Source: Joanne Leslie, "Evaluation of Mass Media for Health and Nutrition Education: A Review of the Literature" (Paper prepared for joint meetings of the World Federation of Public Health Associations and the Canadian Public Health Association, Halifax, Nova Scotia, May 23-26, 1978)

Attachment E

A Strategy for Improved Health Education in Honduras

A STRATEGY FOR IMPROVED HEALTH EDUCATION IN HONDURAS

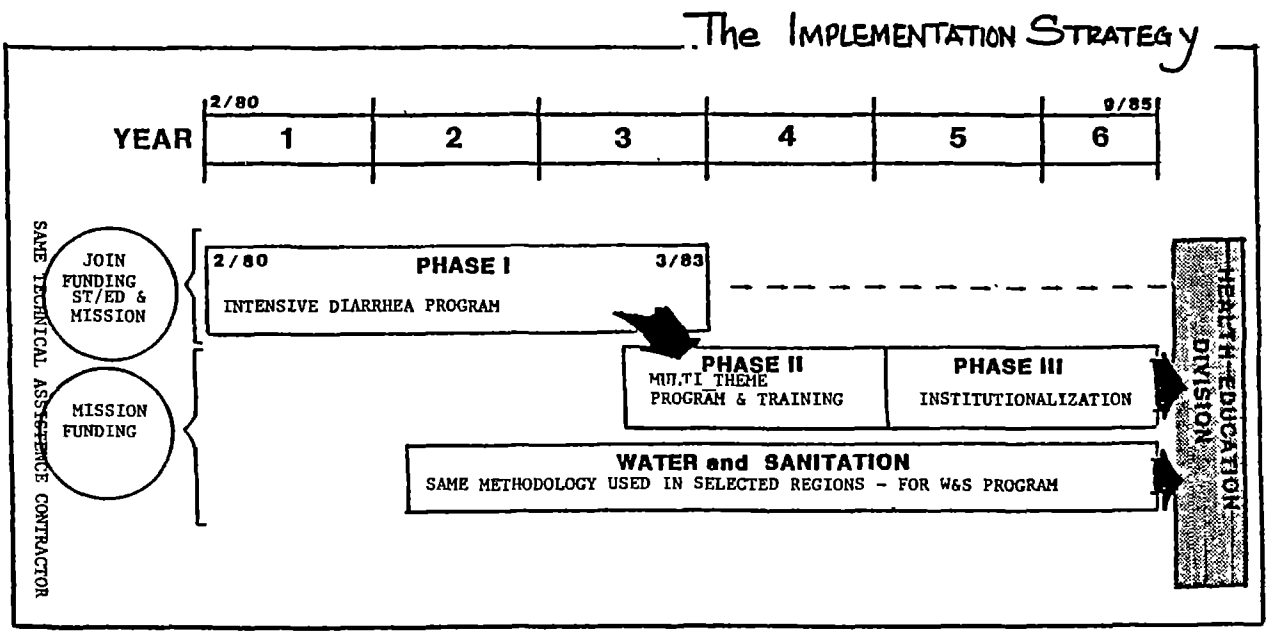
The Implementation Strategy:

To develop a coherent and effective health education methodology within the Ministry of Health, USAID is providing long-term technical assistance and loan funds over a five-six year period. Special attention is focused on strengthening the Ministry of Health's health education unit, permitting it to serve the education and promotion needs of many MOH departments. The goal is to develop a cadre of professionals within the MOH capable of conducting audience research, defining appropriate health messages in behavioral terms, and executing an integrated media strategy over time which maximizes the impact of broadcast, print, and face-to-face channels.

The first phase of the development strategy was to create a health education methodology appropriate to Honduras' needs and resources. A three year program, focusing on acute infant diarrhea, jointly financed by ST/ED and the AID mission, provided the opportunity to test a range of options under actual field conditions. An approach to health education was developed which builds upon Honduras' extensive system of broadcast radio, its relatively literate rural population, and its expanding system of health care providers, both traditional and non-traditional.

Year four of the program, financed almost exclusively by the AID Mission, expanded the health education divison's focus from diarrhea to include three new priorities: malaria, immunizations, tuberculosis and introduced the concept of comprehensive multi-theme health education. At the same time, formal training of health education personnel began, adding to the in-service training which had characterized the previous three years of assistance. This period is also marked by a considerable growth in the size of the health education unit, necessitating particular attention being given to program management and administration.

Year five-six of the program is designed to consolidate and institutionalize the methodology, continue the formal training, and develop long-range health education planning within the Ministry. Coincidental with this investment, the mission is supporting a large-scale infrastructural project in water and sanitation. Health education personnel being trained under this activity are using the same health education methodology as the Phase III program, and will join the health education division in 1985.

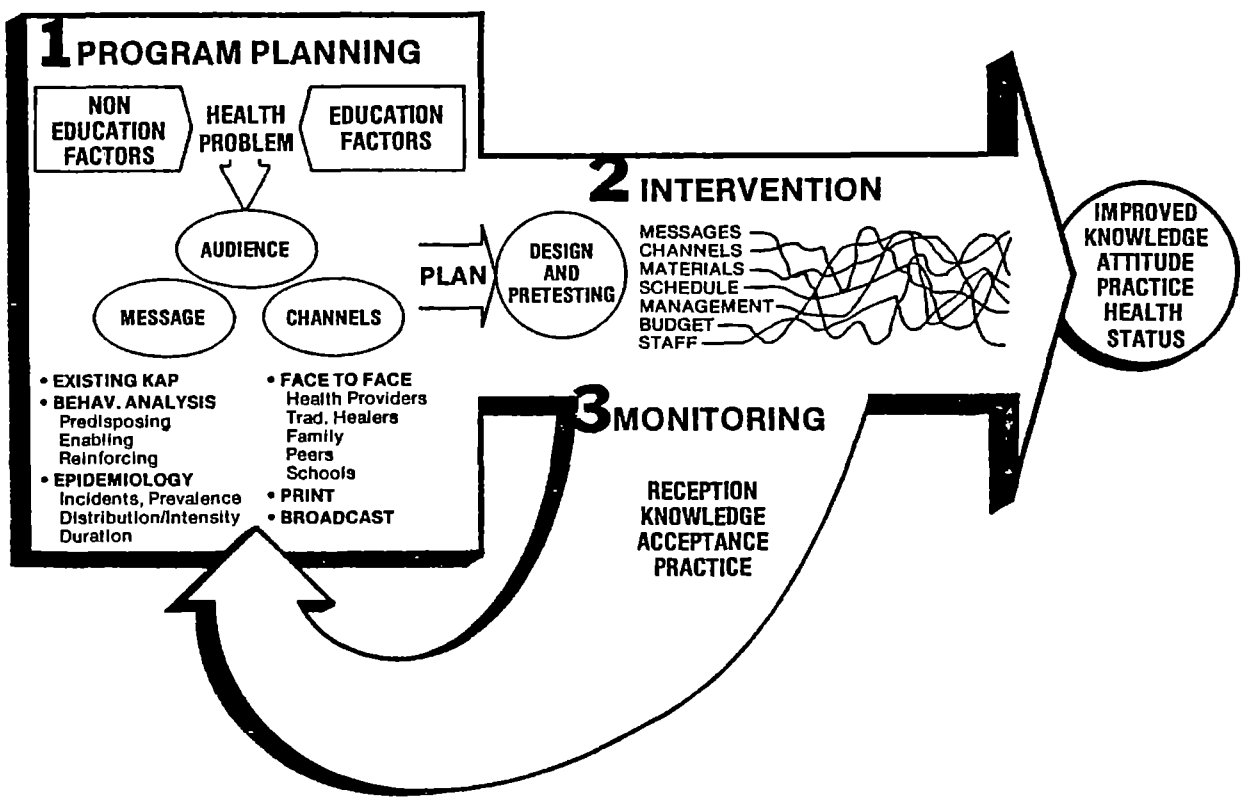


The Health Education Approach:

The particular health education strategy adopted by the Ministry of Health is part of a growing genre of health education activities referred to generally as the public education or the public communication approach. This approach attempts, in a predefined period of time, to change a particular set of behaviors in a large-scale target audience with regard to a specific problem. During the past two decades, dozens of campaigns on topics as varied as forest fires, mental retardation, energy conservation, smoking, alcoholism, littering, seat belts, venereal disease, malaria, breastfeeding, latrine construction, population control, and infant diarrhea have attempted to inform, motivate, and often to change the behavior of a wide audience in a short time. Experience has shown that the short-term campaign alone has not produced long-term effects. The Honduras program is using many of the lessons learned from short intensive campaigns, but integrating them as part of a long-term and continuous health education strategy. The goals of long-range planning are to ensure that episodic crisis campaigns are avoided in favor of a long-term, consistent health education strategy designed to promote key health priorities such as diarrheal disease control, immunization, malaria control, and family planning.

The approach is illustrated in the following diagram which shows the relationship between three key stages in the strategy; preprogram planning and development, the instructional intervention, and an ongoing monitoring and evaluation system with clear results in knowledge, attitudes, and behavior.

PUBLIC COMMUNICATIONS MODEL



The success of a public communication approach depends upon its ability to provide a sufficiently large number of people with practical and important new information. It must make an impact on the consciousness of the intended audience by rising above the everyday clutter of advice and suggestions to become an important new priority in their lives. It must change what people do as well as what they think and believe. This cannot be achieved by the mere repetition of simple slogans, the mass exhortation to do the right thing, or the indiscriminate use of mass media alone. It requires a sensitive understanding of how people are affected by specific health problems, articulate crafting of useful and practical educational messages, and a coordinated distribution network that reaches each individual through various channels simultaneously.

The planning and development stage emphasize the collection of critical information needed to prepare an effective program design. This information answers important questions such as: (a) Who in the total population should be selected as the principal audience? (b) What communication channels are most appropriate for these people? (c) What behaviors should be advocated? (d) What resources are needed to conduct the program? The final program plan, including budget and resource requirements, is based upon the results of this investigation.

The **intervention** is divided into discrete cycles. Each cycle covers the same basic information with a slightly different approach. These cyclical changes reduce audience fatigue and permit a continued renewal of audience involvement. From an administrative perspective, the cycle approach is important because it permits program planners to design segments of the program sequentially. This means they can work with fewer production facilities over a longer period of time; more importantly, they can incorporate results of the earlier phases into the planning of later phases.

In order to reach large numbers of people, mass media, particularly broadcast media like television and radio, play a central role. But it is the integration of broadcast, print, and face-to-face support which is essential to the campaign success. Woman hearing health messages on the radio also hear the same advice from a health worker, receive printed information from her child's school, participate in a community health fair, and see related posters.

Monitoring and evaluation permits the planner to detect problems and make important iterative changes in educational strategy. These changes must be made in response to information on the acceptance and efficacy of project activities. It is the purpose of the monitoring and evaluation component to ensure that this information be available at relevant and timely intervals. A monitoring system which permits the random sampling of select segments of the audience is developed. Planners know: (a) how a microcosm of their intended audience feels about the advice they are receiving; (b) whether they are taking that advice; and (c) what obstacles they are encountering. These monitoring devices can also point out important logistics problems such as a breakdown in delivery of printed matter or use of inappropriate broadcast times to meet audience needs. This type of ongoing evaluation is essential in making corrective changes in future cycles, as well as for providing program administrators with a clear idea of their overall potential success.

Public communication has typically been operated as a campaign--a single intensive effort, focused on a critical problem and limited in time. The cyclical nature of many public health themes--argues for comprehensive annual programming of multiple themes, carefully integrating and varying the intensity of different messages. Secondly, the fact that public communication addresses different audience segments permits

multiple programs to be managed simultaneously. Finally, the changing characterics of audiences overtime, the increasing sophistication of messages and constantly changing constraints argue for a consistent programming strategy like public communication which incorporates regular audience assessment and feedback as part of the overall health education program. In this way public communication can rise above the tradition of the national mobilization campaigns of the '60s and '70s and become a regular operational tool which maximizes the use of mass media by focusing on selected themes integrated with equally powerful print and face-to-face delivery systems. Public communication represents an important new tool in the challenge to reach thousands of rural people with practical and effective health advice.

The following document describes the overall approach of the public communication strategy in greater detail.

Source: Mass Media and Health Practices (A Health Education Strategy for Honduras, Academy for Educational Development, Washington, DC, 1980.)

Attachment F

Behavioral Analysis Applied to Health Training

USING BEHAVIORAL ANALYSIS IN PLANNING A PROGRAM TO ALTER HEALTH PRACTICES IN RURAL HONDURAS

This paper concerns the application of behavior analysis to the selection of intervention targets in a campaign designed to alter maternal response to diarrhea and subsequent dehydration in rural Honduras. The goal of this project was to reduce the negative consequences of infant diarrhea by altering the way in which rural mothers behave. We were not primarily concerned with "opinions," "attitudes," statements or feelings. Our objective was dramatic change in what rural mothers did to treat and prevent diarrhea. Our behavior change vehicle was the economical and ubiquitous communication medium of radio. The strategy was to develop a series of health care messages which would alter the way in which rural people behave, without investing in large scale clinic construction, latrine building or water system development.

In recent years, the experimental analysis of behavior has come to be regarded as a potential resource in altering patterns of behavior related to health. A young science, empirical research into basic principles of human and animal learning, has provided innovative and sometimes controversial methods of provoking and maintaining new practices (Wheeler, 1973). Behavior modification is the term most often used to describe "blatant" efforts to alter the behavior of groups of people. It is not immediately obvious how one might apply the behavior modification techniques of positive reinforcement, gradual approximations, discrimination, and generalization (Skinner, 1978) to name but a few, to achieve improved infant and child health in a developing country. One thing is clear. The health of the child is dependent on the behavior of the parents, primarily the mother. Behavioral intervention to improve child health is intervention to alter maternal behavior. This was the task which we accepted with some reservation. To make effective use of behavioral principles in planning and executing a project to produce amternal awareness, acceptance and competent use of oral rehydration therapy in a Central American health region, with a population of about 400,000 people.

Planning the mass media campaign involved five steps:

1) we identified the behavioral parameters of the health problem.
2) we conducted field investigations and reviewed existing data to determine current patterns of behavior, and their environmental context.
3) we developed a list of treatment and prevention behaviors.
4) we measured each behavior against criteria which emphasized its consequences, performance costs, compatibility with existing

behavior patterns, and observability.

5) we constructed a program designed to instruct and motivate the target audience.

We are concerned, here, with steps 2, 3 and 4 of the process of identifying, specifying, selecting campaign targets based on behavior modification criteria. The purpose of this exercise was to identify beforehand, which behaviors would be easy to change, which would be difficult, what would be necessary to effect changes and make permanent adoption likely. Given an understanding of the magnitude of resitance to change which we confronted, we were able to allocate the limited resources available for this campaign in a manner likely to produce the greatest impact on infant health. This project expended approximately $100,000 each year, during its three year duration. About 25 cents for each person in the target population. The first 9 months of the project were taken up by planning, data collection, field trials, message and material preparation. In retrospect, the time, money and effort were well invested.

IDENTIFYING THE PROBLEM

Childhood diarrhea in a rural farming community provokes a complex set of responses. These behavior patterns and the stimuli which provoke them can be variously conceptualized from medical, instructional and anthropologic perspectives. Conflicting opinions emerge from the medical community concerning how best to prevent and treat diarrhea; from educators on how best to instruct and motivate rural people, and from anthropologists on the impact of current beliefs and social structure. To reach a consensus and assure that issues were fully considered a series of three response clusters were developed. Each cluster spoke to one of the major concerns of the project.

Cluster A:	Maternal Response to Infant Diarrhea/Dehydration Enabling Knowledge Diagnosis Home intervention Seeking Medical Assistance
Cluster B:	In Home Oral Rehydration Acceptance Procurement Mixing (preparation) Administration Recovery Nutrition
Cluster C:	Diarrheal Prevention Enabling Knowledge Food Preparation Food Storage

Feeding Practices
Personal Hygiene
Household Hygiene

The formative team evaluating each of these areas included: a physician specializing in diarrheal disease control, a behavioral psychologist familiar with behavior modification technology, an anthropologist experienced with rural behavior in Central America, and communication experts trained in mass media campaign development, and evaluation.

The response clusters served as the basis for assembling behavioral inventories which took weeks, in some cases, months to compile. They were essential inestablishing a shared conceptual framework among the design team, and more importantly in clearly defining the behavior change issues which we would face in the campaign. These issues are summarized below:

1) Initiating and maintaining theuse of oral rehydration therapy, a remedy associated with diarrhea which does not in fact stop diarrhea.
2) Timely determination that oral rehydration therapy is needed, and obtaining packets.
3) Proper mixing of rehydration solution in rural homes, i.e., locating a liter measure, proper proportions and storage.
4) Proper administration of the solution: slowly, over 24 to 72 hours, in spite of vomiting.
5) Eliminating administration of purges, irrelevant antibiotics and other pharmaceuticals or folk medicines.
6) Continued feeding, especially breast feeding, during episodes of diarrhea.
7) Engaging in prevention behaviors which may have no readily observed impact on diarrheal morbidity.

FIELD INVESTIGATIONS

Some of our questions were answered by prior research studies conducted in Central America. These were medical and public health issues concerning the impact of various treatment regimens, seasonal variations in morbidity, nutrition during and after diarrheal episodes, and contamination of food and water.

Issues concerning parenting practices, food preparation and storage, available skills, resources, materials and existing beliefs had to be asked within the specific context of rural Honduras. Fortunately, it became immediately obvious as data were analyzed that there is substantial uniformity of language, cultural practices, configuration and contents of households throughout Honduras. This is certainly not true in many other countries, whic have several non-overlapping languages and cultural traditions.

The field investigation included 62 discussion groups made up of 402 rural mothers, direct observation in 24 rural homes of children suffering from diarrhea, 175 structured interviews of rural mothers, fathers, siblings and grandparents. Twenty village-based mixing trials, and a survey of physicians and health workers, were also carried out. The content of the investigation included identification, treatment and prevention of diarrhea in village settings. We were specifically interested in establishing the vocabulary used by rural mothers to describe sick children and symptoms, their beliefs concerning causes and cures, their current practices, and reactions to elements which might be included in an instructional campaign. Details of the design and results of this preliminary field survey are available in Smith, Pareja and Booth (1980). In all, collecting, analyzing, and summarizing data took approximately six months time for 2.5 staff to carry out.

A major concern was that we accurately identify how rural mothers were motivated during diarrheal episodes. We saw this as central to organizing an effective campaign. Survey results revealed that mothers wanted the following things.

> The child's watery stool to return to normal.
>
> To avoid vomiting, which was seen as themost serious and unpleasant consequence of any medication.
>
> A simple remedy which could be administered easily, at home.
>
> A readily available remedy which they did not have to travel to town or to the capital city to acquire.
>
> A respected remedy, the same as that being used in hospitals.

The last two of these concerns are related to distribution and current practice in hospitals. The Ministry of Health had commited itself ot providing broad and reliable distribution of "Litrosol" a locally prepared version of the W.H.O. oral rehydration formulation, in moisture proof packets. Oral rehydration had already been adopted in hospitals for all but the most acute cases. This left us with the first three items as the unaddressed primary concerns. These presented serious problems for our campaign. Oral rehydration therapy does not stop diarrhea or firm up watery stools. Oral rehydration can induce vomiting in a sick child if given too rapidly. Finally, oral rehydration therapy can hardly be considered "easy" since it requires slow administration of a liter of fluid over a 24 hour period.

A further result of the field survey was a list of 38 treatment and 70 prevention behaviors. Each of these behaviors held some potential for improving infant and child

health. The full list of 108 behaviors is presented below. The are NOT 108 unique classes of behavior. Some items are unique while others are variants within a functional class, each of which appeared to hold some promise of health benefit. The headings on Chart I identify major response classes.

SELECTING THE BEST MESSAGES

No campaign of reasonable dimensions could deal with 108 different behavior change objectives successfully. Which of the message were most likely to provoke treatment and prevention behaviors in our target audience?

The experimental analysis of behavior suggests six circumstances which may contribute to the absence of desireable behavior, singly or in combination. First, necessary skills or knowledge may be absent. For example, rural mothers in our group often knew that boiling water is good, but they did not understand that it actually kills the parasites they fear. Second, discriminations which identify when to emit the behavior may be unformed. Mothers knew that some foods made their children ill. They did not know that the longer the food sat around after preparation the more likely it was to cause illness. Third, necessary materials or implements like the ORT packets may be unavailable. Fourth, there may be no positive consequences for engaging in the behavior. Most of the behaviors which we advocated produced no immediate results but were beneficial in the long run. Fifth, there may be positive consequences for engaging in incompatible behavior, like not feeding during diarrhea. This behavior has a major impact on the primary symptom of the disease. Oral rehydration does not. And sixth, there may be punishing consequences which discourage the desired behavior pattern. During rehydration, a child may vomit, for example, and his diarrhea appear to increase.

Behavioral analysis is the study of environmental events which maintain and change behavior patterns. Changing behavior can involve modifying an existing pattern or creating a whole new one. Behaviorists stress the importance of understanding the full context in which a new behavior will occur. Most importantly they seek to identify positive consequences which will follow the behavior and to avoid punishing results. While there are many means of provoking a new behavior pattern, positive consequences are essential to maintain it. Ignoring the element of positive or negative consequences for the mothers who actually engage in the behavior, leaves the likelihood of long term continuation to chance.

Our strategy was to try to identify existing behaviors which were compatible with the new ones. To look for approximations to the new behaviors, already available in existing

TREATMENT BEHAVIORS CONSIDERED

Diagnosis

1. Recognize that the child's stool is abnormal.
2. Confirm that the following pre-acute symptoms are present.
   - watery stool
   - Listlessness
   - Loss of appetite
   - more than three stools in a day
3. Confirm that the following acute symptoms are present:
   - Sunken eyes
   - Dry skin / mouth
   - Diarrhea and vomiting
4. Confirm the following decision pattern:
   - If 2 is no and 3 is no take no action
   - If 2 is yes and 3 is no use home based ORT
   - If 2 is yes and 3 is yes go to hospital / clinic

Acceptance

5. Identify ORT packet as medicine for dehydration not diarrhea.
6. Identify packet as able to restore appetite and activity.
7. Identify packet as unable to reduce the number of watery stools.
8. Identify packet as able to replace essential liquids.
9. Identify rehydration medicine as better than purge, starvation, and folk remedies.
10. Identify the cost of the ORT packet in local currency.
11. State why expenditure and effort are worth it.

Procurement

12. Name packet.
13. Identify packet visually.
14. Identify location(s) where packet can be obtained.
15. State that two packets should be purchased each time.
16. State how they will obtain packet.

Mixing

17. Identify a one liter vessel.
18. State that the vessel must be washed and free from foreign matter.
19. Fill one liter container to the top with cleanest available water.
20. Open the packet without spilling.
21. Add the contents of one packet with minimal spillage.
22. Add nothing else to solution.
23. Stir or shake.
24. Identify dissolved solution.
25. State that mixture should NOT be boiled.

Administration

26. Use a small spoon to give the entire liter in small amounts.
27. Administer small amounts continuously through waking hours.
28. Continue to breast feed while rehydrating.
29. If child vomits allow him to rest for a few minutes and start to give her small amounts again SLOWLY.
30. Feed child weaning food (agua de arroz, ploedas, atoles) as soon as his appetite returns.
31. Never withhold food.
32. If diarrhea continues after first day, mix and give new solution for one more day, or until diarrhea stops.

Seeking Medical Help

33. If diarrhea continues for more than two days, seek medical help.
34. If vomiting occurs 5 or more times a day, seek medical help.
35. Give child ORT solution during trip to clinic if possible.

Recovery Nutrition

36. Feed soft-boiled eggs every day for ten days after appetite returns.
37. After appetite returns, offer more food than usual.
38. Offer supplementary food for as many days as she had diarrhea.

PREVENTION BEHAVIORS CONSIDERED

Enabling Knowledge

1. Diarrhea is dangerous, it dries out the child and can kill.
2. Child/infant is different from adult and must receive special treatment.
3. Food can contain germs which are dangerous.
4. Water can contain germs which are dangerous.
5. Fecal matter contains germs which are dangerous.
6. Older food is more likely to contain germs.
7. Leaving food uncovered makes it easier for germs to get in.
8. Heat kills germs (animalitos, bichos, lombrices . . .).

Breast, Bottle and Weaning Foods

9. Do not use infant formula.
10. Prepare infant formula correctly (series of behaviors)
11. Bottle feeding is dangerous to infants if formula is mixed with incorrect amount of water.
12. Bottle feeding is dangerous unless all of the water used is boiled.
13. Bottle feeding is dangerous unless bottle and nipple are boiled before each use.
14. Breast feed the infant as much as possible.
15. Breast milk is BEST and makes child stronger.
16. Breast milk is SAFEST and reduces chance of illness.
17. Good mother will nurse her child at least 4 times a day.
18. Good mother will nurse her infant at least 6 times a day.
19. Infants should get only breast milk until they are 6 months old, then breast milk + other foods until they are 18 months old.
20. Colostrum is like a vaccination for the infant (la primera vacuna).
21. Mothers need to eat well when they are breast feeding.
22. Increased amount of food, particularly eggs, are good for breastfeeding mothers.

23. Do not feed cujada (soft cheese) to children if it has been stored for more than one day.
24. Do not feed beans to infants because they are hard to digest.

Food Preparation

25. Reheat tortillas before feeding them to infant/child.
26. Reheat frijoles before feeding them to infant/child.
27. Reheat soup and give to infant/child warm.
28. Reheat rice and give to child warm.
29. Heat cow's milk before giving it to infant/child, if it has stood for more than 4 hours.
30. Wash fruit before giving it to infant/child.
31. Peel fruit before giving it to infant/child.

Food Storage

32. Boiled water should be kept in a covered jar.
33. Discard any tea which is left over after child finishes.
34. Keep tortillas covered with a cloth when not eating.
35. Keep cooked frijoles covered when stored.
36. Keep soup covered when not eating.
37. Keep cooked rice covered when not eating.
38. Store cow's milk in a jar with a cover.
39. Store cujada (cheese) in a tightly covered container.
40. Keep drinking water covered.
41. Do not store infant food, make it fresh.

Personal Hygiene (mother)

42. Mother should wash her hands with soap before preparing food for infant/child.
43. Mother should wash her hands with clean water before preparing food for infant/child.
44. Mother should wash her hands before feeding infant/child.
45. Mother should wash her hands before serving food.
46. Mother should cut her fingernails once each week.
47. Mother should take the above precautions with older siblgins if they feed the infant/child.
48. Mother should wash her breasts before feeding.
49. Increase volume of water used to wash hands.
50. Increase the frequency with which mothers wash hands.
51. Always use soap to wash hands, it removes germs.
52. Wash hands after defecating.
53. Wash hands before doing anything with food.
54. Keep a separate bowl of chlorinated water to wash hands in.
55. Wash infant/child's hands before feeding.

Household Hygiene

56. Wash container in which water is kept (with chlorine).
57. Wash container in which water is kept (with soap).
58. Wash spoon used to cook beans with soap.
59. Wash pot used to cook beans with soap.
60. Keep infant's spoon separate from family utensils.
61. Store diapers in a covered spot out of children's reach.
62. Store diapers as soon as they are removed.
63. Build a coral for child as soon as he begins crawling and leave child there when not with mother.
64. Put a gate in the kitchen doorway to keep animals out.
65. Washing bedpan each morning with chlorinated or soapy water.
66. Mothers should have a special towel to use.
67. Bury excrement away from house and water.
68. Do not defecate near water source.
69. Encourage children to tell mother about defecating.
70. Encourage children to wash hands after defecating.

practices. To evaluate the real costs and benefits, social and economic, of adopting the new behavior. And to judge whether the frequency and persistence with which the new behavior must be practiced were realistic in the rural context. All of these elements were weighted against the anticipated impact of adoption of infant health. Some behavior, clearly, would have much greater impact than others.

These variables were structured into a nine item behavior evaluation scale described in Chart II. Each item was assigned a value ranging from a negative value of 0 to a positive of 5. Individual messages considered for the treatment and prevention campaigns were measured against each item. The raters consisted of Ministry of Health (MOH) representatives, consultants in evaluation, behavior modification, campaign design, and anthropology.

The results of our rating session might disappoint a scientist. Raters found that they lacked sufficient information in some areas. Worse, much of the information available to the group was contradictory and unreliable. The ratings were clearly a compromise which represented the group's best judgement at that moment, no more, no less. Results were too complex (108 items x 9 scale items x the number of raters) to reduce to purely mathematical terms. The scale did, however, provide a coherent guide permitting all of theprincipal concerns to be discussed systematically. The consensus which emerged included the following messages or themes:

TREATMENT: Litrosol (the locally produced rehydration salts) is a remedy for dehydration, not for diarrhea.

Dehydration is a loss of liquid during diarrhea which can cause a child to die.

Go to any medical facility or local health worker to get Litrosol.

Mix one packet of Litrosol in one liter of water.

Give Litrosol to your sick child gradually over 24 hours.

Continue to give Litrosol even if the child vomits.

Give a full liter of Litrosol in the first 24 hours.

After missing one meal give the child soft foods, breastmilk, and juice.

If any one of several signs (identified specifically) are present seek medical assistance.

BEHAVIORAL EVALUATION CRITERIA

Health Impact of the Behavior:

0. No impact on Health Problem
1. Little impact
2. Some impact
3. Significant impact
4. Very significant impact
5. Eliminates the health problem

Positive Consequences of the Behavior:

0. None which mother could perceive
1. Little perceptible consequence
2. Some consequences
3. Significant consequences
4. Very significant consequences
5. Major perceptible consequences

Cost of Engaging in the Behavior:

0. Requires unavailable resource or demands unrealistic effort
1. Requires very significant resources or effort expenditure
2. Significant resources or effort
3. Some resources or effort
4. Few resources or little effort
5. Requires only existing resources

Compatibility with Existing Practices:

0. Totally incompatible
1. Very significatn incompatibility
2. Significant incompatibility
3. Some incompatibility
4. Little incompatibility
5. Already widely practiced

Approximations Available:

0. Nothing like this is now done
1. An existing practice is slightly similar
2. An exisitng practice is somewhat similar
3. An exisitng practice is similar
4. Several exisitng practices are similar
5. Several exisitng practice are very similar

Complexity of the Behavior:

0. Unrealistically complex
1. Involves a great many elements
2. Involves many elements
3. Involves several elements
4. Involves few elements
5. Involves one element

Frequency of Behavior:

0. Must be done at unrealistically high rate to achieve any benefit
1. Must be done hourly
2. Must be done several times each day
3. Must be done daily
4. May be done every few days
5. May be done occasionally and still have significant value

Persistence:

0. Requires compliance over an unrealistically long period of time
1. Requires compliance over a very substantial period of time
2. Requires compliance for a week or more
3. Requires compliance for several days
4. Requires compliance for a day.
5. Can be accomplished in a brief time

Observability:

0. Cannot be observed by an outsider
1. Is very difficult to observe
2. Is difficult to observe
3. Is observable
4. Is readily observed
5. Cannot be missed

PREVENTION: Young children are especially susceptible to diarrhea and dehydration.

Give only breastmilk through the fourth month and continue breast-feeding along with soft food through the 14th month.

Reheat and do not store foods given to young children.

Wash hands with soap before preparing food for young children.

Boil and cool all water before giving it to an infant.

CAMPAIGN THEME AND TARGETS

Treatment of infant and child dehydration consists of a series of behaviors, no one of which is of much value without all of the others. Thus, our campaign HAD to include all of the treatment elements: diagnosis, acceptance, procurement, mixing, administration and recovery behavior. It di no good to have mothers who were expert diagnosticians but who did not know where to obtain the Litrosol packets, or who could not mix the solution properly.

Given this constraint, campaign planning emphasized elements of home based oral rehydration therapy which were expected to present the greatest resistance to acceptance. Special attention was given to the behaviors least likely to be initiated, or least likely to persist. Recall tha oral rehydration therapy does not firm up loose stools, can induce vomiting, and requires slow, patient administration over 24 or more hours. These elements were in direct contradiction to the motivation of mothers, found in our field survey.

The proposed solution was to construct the treatment theme around one simple concept "children with diarrhea need liquids." Motivational elements in the campaign told mothers that dehydration (loss of liquids) is a life threatening problem for children with diarrhea. Specific treatment advice was appended to thetheme, but "give liquids during diarrhea" was thecentral message, presented repeatedly and in various contexts. LITROSOL was presented as the special remedy for dehydration. In essence, we had to create a new disease. Mothers were told to be wary of, and respond quickly to dehydration, the killing threat that accompanied diarrhea.

Prevention behaviors proved extremely difficult to select and address. The sources of contamination in a rural home were so numerous that no reasonable shift in behavior patterns seem likely to have a significant impact. The balance between impact on health

and performance cost was in every case unequal. The most useful changes such as frequent hand washing were unreasonably demanding; while simple changes such as covering food were unlikely to produce tangible results. Few of the prevention behaviors provided mothers with an immediate positive consequence. Often changes were very costly. The price of a bar of hand soap in rural Honduras was the equivalent ot several months disposable income. Other prevention behaviors had unpleasant consequences. Reheating tortillas hardened them. Boiled water was difficult to handle until it cooled after a long wait, furthermore it did not taste good.

To guarantee an impact on child health, boiling water, washing hands and reheating foods would have to be executed with high frequency and persistent compliance. A small mistake (forgetting just once a day) could produce a sick child.

An anti-bottle feeding campaign was considered and rejected because of the natural rewards for bottle feeding which we had observed in our rural visits. The immediate benefit of allowing mother independence from the child, to pursue other chores, was likely to overpower messages stressing the long-term dangers of contamination and malnutrition. We were also sensitive to the possibility that a campaign against bottle feeding might promote its use by making it a salient public issue.

Ultimately, we decided to reinforce the universal, but not exclusive practices of breastfeeding, handwashing and feeding freshly made weaning foods. Our strategy would be to provide a compelling rationale and verbal support for engaging in these behaviors. Our objective was to accelerate beneficial existing practices without demanding compliance with regimens so unrealistic as to produce failure and abandonment. Mothers would be told tha infants required special care, because they are more vulnerable. This approach built on existing beliefs that young children are "weak." Breastfeeding strengthened the weak child. The cleanest water, the freshest weaning food and cleanest hands provided the best protection for the small and vulnerable child. The BEST mothers engaged in these practices and their children showed the benefits. These were our campaign elements.

The central themes identified, they would be transformed into appealing language, structured into a sequenced dissemination plan and segmented by media (radio, print and face to face instruction).

Message selection took more than seven months from start to finish. It absorbed an unexpected share of the total energy invested in this project. If the outcomes appear obvious, they definitely were not so during the seven months of specifying, researching,

testing and planning. In retrospect the three key elements were identifying the response clusters, the field survey, and the behavioral evaluation scale applied to the list of potential messages. The behavior modification model was a constant reminder of our ultimate goal to alter mothers' behavior and forced us to attend to the realities of rural life. Our first effort was admittedly inefficient. We believe, however, that the applied behavior analysis carefully and seriously carried out, greatly strengthened the program.

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Attachment G

Beyond Campaigns: A New Approach to the Media and Education

BEYOND CAMPAIGNS:
A New Approach to the Media and Education

A. DEFINITIONS AND ORIGIN

The public education or public communication campaign is an approach to large-scale popular education that attempts, in a predefined period of time, to change a particular set of behaviors in a large-scale target audience with regard to a specified problem. During the past two decades, dozens of campaigns on topics as varied as forest fires, mental retardation, energy conservation, smoking, alcoholism, littering, seat belts, venereal disease, malaria, breastfeeding, latrine construction, population control and infant diarrhea have attempted to inform, motivate, and often to change the behavior of a wide audience in a short time.

Not all of these experiences have been positive, indeed much has been disappointing. In a recent review of public education, entitled Public Communication Campaigns, Dr. Ronald Rice concludes:

> After the early belief in the power of the media to persuade any audience faded, communication researchers were generally pessimistic about the probable success of such campaigns. But the mood of communication researchers has, for the most part, changed, as indicated by the title of the journal article, "Some Reasons Why Information Campaigns Can Succeed. (Mendelsohn, 1979).*

This change in mood is a result of two factors. First, we now have several documented successes. Secondly, we have a growing realization that public education is no "quickfix," but rather a useful, if complex and not well understood, new tool of popular education. Gradually the concept of a campaign is giving way to the idea of regular, operational programming built upon the concepts of careful message definition, integrated delivery systems and mid-course monitoring and correction.

This paper attempts to outline the salient features of the public education approach as applied to health problems in developing countries around the world. These countries, while quiet different in social, cultural, and linguistic systems, are characterized by large, often illiterate and isolated rural populations. These populations typically lack regular access to adequate health care facilities or providers. Traditional belief systems often contradict recommended medical practice and fragile family economies permit only the most modest innovation in life style patterns. The public education approach is also considered applicable to many other development sectors and to the social and behavioral problems of industrial as well as Third World countries. Health issues in developing countries have been selected for discussion here because they represent areas in which public education experience has been documented and at the same time include some of the most difficult development problems being addressed.

Experience with public education for health is extensive. In the population control area, for example, at least half a dozen projects with three years' experience or more have improved contraceptive availability, increased sales of contraceptive products, spread knowledge and stimulated wider use of the methods promoted, at a cost below that of most traditional programs.

Mendelsohn, H. (1973) "Some reasons why information campaigns can succeed." Public Opinion Quarterly 37:50-61.

The following list of selected programs, in the U.S. and internationally, have contributed to our understanding of public education, and have demonstrated both the inherent problems and real potential of the approach. These experiences form the basis for the model recommended in this paper.

In the U.S.

- Stanford Heart Disease Prevention Program
- National High Blood Pressure Education Program
- Breast Self-Examination Program
- National Cancer Institute's Asbestos Awareness Alert
- Drug Abuse Prevention Campaign
- Driver Safety Education Campaign

Internationally

- Man Is Health Campaign - Tanzania
- Masagana 99 - Philippines
- Have a Heart Campaign - Jamaica
- Model Family Planning Program - Iran
- Jamu Project - Indonesia
- Preethi Marketing Program - Sri Lanka
- Aprofam Family Planning - Guatemala
- Mass Media vs Direct Education Program - Mexico
- Dr. Hakim Program - Tunisia
- Mass Media Nutrition Education Campaign - Phillippines
- Nutrition Mass Communication Project - India
- Breastfeeding Campaign - Trinidad and Tobago
- Soybean Utilization Program - Bolivia
- Mass Media and Health Practices Project - Honduras and The Gambia

B. OVERALL CAMPAIGN STRUCTURE

The success of a public education approach depends upon its ability to provide a sufficiently large number of people with practical and important new information. It must make an impact upon the consciousness of the intended audience by rising above the everyday clutter of advice and suggestions and become an important new priority in their lives. It must change what people do as well as what they think and believe. This cannot be achieved by the repetition of simple slogans, the mass exhortation to do the right thing, or the indiscriminate use of mass media alone. It requires a sensitive understanding of how people are affected by specific health problems, articulate crafting of educational messages which are both useful and practical, and a coordinated distribution network which reaches each individual through various channels simultaneously. In essence, the planners of such an approach will need answers to the following questions:

1. Which of the many behaviors that we could advocate changing are important enough to make a difference and are also susceptible to change? Susceptible to change means people must:

   - Have ready access to any new resources required to adopt the behavior.

- o See positive benefits from adopting the behavior.
- o See no serious negative effects from adopting the behavior.

2. What must we do to ensure that people:
   - o Believe that the behavior we are advocating is the best alternative to solving a problem which they perceive as important?
   - o Understand how to perform accurately the behaviors so that the positive rewards we are predicting come about?
3. How will enough people become exposed to the advocated behaviors to make a difference in the problem?
4. How will we provide long-term reinforcement of the behaviors to ensure continued adoption?
5. How do wo know what level of success we have achieved?
6. How can all this be done at a cost we can afford?

The program structure being proposed here (See Graph 5.) reflects the importance of these elements as applied to a health problem. It includes a preprogram planning and development phase, an instructional intervention, and an ongoing monitoring and evaluation system with clear results in knowledge, attitude, and behavior.

The planning and development stage emphasizes the collection of critical information needed to prepare an effective program design. This information answers important questions such as: (a) Who in the total population should be selected as the principal audience? (b) What communication channels are most critical for these people? (c) What behaviors should be advocated? (d) What resources are needed to conduct the program? The final program planning, including budget and resource requirements, is based upon the results of this investigation.

While it is impossible to predict the results of the preprogram research, it is possible to suggest certain basic features that might be included in any effective public education program. In order to reach large numbers of people, mass media, particularly broadcast media like television and radio, will play a central role. Three components—broadcast media, print materials, and face to face community outreach activities—are structured in a coordinated whole so that one reinforces the information provided by another. Woman hearing health messages on the radio should also hear the same advice from a health worker, receive printed information from her child's school, participate in a community health fair, and see related posters.

The intervention is divided into discrete cycles. Each cycle covers the same basic information but with slightly different approaches. These cyclical changes reduce audience fatigue and permit a continued renewal of audience involvement. From an administrative perspective, the cycle approach is important because it permits program planners to design segments of the program sequentially. They do not need to design the entire program at once. This means they can work with fewer production facilities over a longer period of time; more importantly, they can incorporate results of the earlier phases into the planning of later phases. In essence, it permits the planner to make important iterative changes in educational strategy.

These changes must be made in response to information on the acceptance and efficacy of project activities. It is the purpose of the monitoring and evaluation component to ensure that this information be available at relevant and timely intervals. A monitoring system which permits the random sampling of selected segments of the audience will be developed. Planners will know: (a) how a microcosm of their intended audience feels about the advice they are receiving; (b) whether they are taking that advice; and (c) what obstacles they are encountering. These monitoring devices can also point up important logistics problems such as a breakdown in delivery of printed matter or use of inappropriate broadcast times to meet audience needs. This type of ongoing evaluation is essential in making corrective changes in future cycles, as well as providing program administrators with a clear idea of their overall potential success.

C. DEVELOPMENTAL INVESTIGATION

The success of the proposed intervention will depend significantly on the project implementors' adequate knowledge and assessment of:

- The target population's correct health and nutrition knowledge, attitudes, and practices, especially as they relate to the specific health problem.
- The constraints—whether social, economic, physical, or political—which limit the opportunity for the populations to change their knowledge, attitudes, and practices in response to project intervention.

This approach requires a significant investment in pre-program research. Development communications experts, drawing heavily on a variety of social science survey techniques, and more recently, from social advertising and marketing strategies, have made significant advances in such developmental investigations.

1. Investigation Topics

For a health problem, project designers conduct investigations and surveys that provide both broad and specific information in the following areas. For example:

a. Problem Definition

- What are the measurable effects of the present health conditions on people's lives?
- What are the perceived effects of the present state of these conditions?
- What are the principal causes for the problem?
- What are the major solutions being proposed?
- Who in the total community is best equipped to solve the problem?
- What are the major constraints limiting the solution of the problem?
- Which of the alternative solutions being discussed is most susceptible to educational influence?
- What has been the history of efforts in this area?

b. **Audience Characteristics**

- o Who is affected by the present conditions?
- o How can these individuals be grouped into audiences which share significant common characteristics such as language, socioeconomic level, family structure, decision-making patterns, family mobility, etc.
- o What is the expectation of each group in relation to the solution of the chosen health problem?
- o What are the detailed characteristics of each group's present health topic behaviors?
- o What characteristics of the cultural reward system can be associated with the selected behaviors?
- o What examples exist of each audience group's ability to make significant adaptation with simple behaviors?

c. **Distribution Channels**

- o Opinion leadership

  Who represents convincing sources of information on the topic for each target audience?

- o Mediated Communications

  What forms of mediated communication are particularly acceptable to the target audience?

- o Institutional Delivery

  What institutions would be accepted by the target audiences as viable sources of information on the health topic?

  How can these organizations be coordinated most effectively?

d. **Outcome Expectations**

- o What type and magnitude of change would be considered successful and would be practical, given defined resource levels?
- o How could these changes best be measured?

2. Instruments To Be Used

In order to collect this information, a range of instruments is proposed. Each instrument is tailored to the type of information being sought, and is designed to combine both reliability and efficiency. The first source of information should be existing anthropological and ethnographic studies. A thorough review of existing literature should be undertaken.

Focused group interviews bring together selected members of the target population in groups of five to eight. Each group will be led by a trained interviewer who will use a prepared list of probing questions. The principal objective of this activity is to collect broad information on vocabulary, attitudes, and concepts related to the intended health problem.

Individual interview questions build upon the information collected during the group sessions. A new set of respondents are selected who have characteristics similar to those of the previous group. The objective of the individual interviews is to probe deeper into individual attitudes of selected individuals.

A series of home observation visits are planned to identify the existence of commodities, conditions, or behaviors which might inhibit or reinforce the behaviors being advocated. Trained observers visit some 1,000 homes in conjunction with the individual interviews.

Finally, a **short survey questionnaire** is developed, based upon the results of the previous four activities. These will help quantify critical areas of concern identified in the previous stages.

An effective public education program must include the important step of testing the recommended action or instruction by actually observing the behavior of the audience to determine what occurs as the product is acted upon. This systematic observation procedure results in a behavioral profile. The behavior or "product" testing stage provides the program implementor with the opportunity to test the appropriateness and acceptability of the behaviors before additional and significant investment is made in the media design.

Each instructional package is be prepared by establishing discrete and sequenced behavioral objectives for which the implementor anticipates particular actions in that sequence by the target population. It is important to observe behaviors that precede and follow the target behavior, identifying critical reinforcers that surround and support the specific behavior. As the sample group or individuals are observed, intermediate behaviors and unanticipated behaviors can be identified and, as appropriate, included in the instructional package.

D. PROGRAM IMPLEMENTATION

Information collected and analyzed during the feasibility study is then transformed into a specific workplan. This plan defines who is to be identified as the target audience, what instructional advice will be advocated, how the audience will be reached, who will be involved in and responsible for specific activities, how the program will be monitored, and how much the enterprise will cost.

It is essential to segment, or divide, the audience into clusters sharing similar characteristics. On an a priority basis, seven variables appear particularly important as segmentation devices in most developing countries. They are: (1) language, (2) socioeconomic level, (3) family structure, (4) decision-making structure, (5) specific health attitudes and behaviors, (6) access to health facilities, and (7) family mobility. Others may be added as more is learned about specific conditions in each country.

Once the audience has been segmented and critical characteristics have been identified, it is possible to define the specific instructional content of the program. The most important consideration here is that the advocated behavior be actionable--that is,

that it be something the audience can indeed perform. If new resources are needed, if some major change in traditional behavior is proposed, if investment is required, then each of these factors must be dealt with in the program.

From a behavioralist point of view, there are five circumstances which singly or in combination, account for absent behavior. If one takes the example of a large-scale program promoting the use of oral rehydration therapy, the necessary materials or implements, such as ORT packets, may be unavailable. Second, prerequisite skills, discriminations, or knowledge may be lacking. For example, rural mothers may know that boiling water is good but not understand that it actually kills the parasites they fear. Third, there may be no incentives, such as immediate improvement in their child's health, to engage them in the behavior. Fourth, there may be incentives to engage in incompatible behavior, such as giving kaolin or purges. And fifth, there may be punishing consequences which discourage the desired pattern. A child may vomit, for example, or his diarrhea may actually appear to increase. An understanding of these factors is absolutely critical in the development of an effective instructional intervention.

Behavioral analysis also makes an important contribution to our understanding of how to change behavior patterns, whether it be altering an existing pattern, or creating a new one. Many health messages, for example, carry an implicit or explicit threat. This approach has been shown to be less effective than providing rewards to approximations of the desired behavior. Use of approximations require that we identify a relevant existing behavior to reinforce and may mean including a few behaviors in the instructional program which we know rural mothers are now performing correctly. Rather than telling mothers to stop bottle-feeding, for example, we may want to reward mothers when they do breastfeed.

These concepts are critical to selecting messages which are salient, appropriate, and actionable. Once the content has been selected, general messages are transformed into specific materials, radio and TV scripts, draft print materials, etc. This is essentially a creative function, but not an isolated creative function. The artist must assimilate the insight gained in the previous stages into simple messages which communicate powerfully.

Most experts continue to believe that some form materials pretesting is useful, particularly when a totally new approach is being tried. This belief is supported by experience in many development settings. The recently created Health Message Testing Service (HMTS), sponsored by the U.S. Department of Health Education and Welfare, is an example of how systematic pretesting is becoming a regular part of public education programs in the United States. The key to pretesting seems to be (1) get it done quickly so that the producers have time to make needed changes, (2) do it well so that the results are helpful, and (3) test draft rather than final materials that costs can be kept reasonably low.

Once pilot materials have been tested and changes made, production facilities, either commercial or government-operated, are contracted to produce the large number of needed materials.

The ultimate success of the program depends on the complementarity of the three major program elements: broadcast media, print materials, and community outreach. The total information program should be greater than the sum of its parts. Each component should energrog every other.

I. Community Outreach

Broadcast media and print materials will ensure that a large percentage of the target population will be exposed to some aspect of the program's information. But important groups of individuals may be excluded from effective contact with the project if only these two systems are used. The community outreach aspect of the program is designed to reach those individuals otherwise excluded, and to create community support groups which contribute additional energy to the total program. Community outreach includes the following activities:

a. Health Extension Workers: Special Considerations

The programming of effective interpersonal contact under any circumstances is difficult in the rural areas of the Third World. The lack of a physical infrastructure from which to operate, often impossible terrain and inaccessible villages, difficult climate and resultant deterioration of physical communications infrastructure, lack of adequate funds, small professional pool from which to select personnel, lack of appropriate supervision, class, caste, and racial differences between agent and client...all of these factors and more impede the functioning of an effective rural extension system. When such a system is asked to function within yet another framework—that of a highly-organized, complex communications scheme—the need for practical planning is even more important.

As much as extension workers in theory are the key elements in the behavioral change process, in practice they seldom are. As much as in theory they provide the interpersonal, credible link between external information sources and community receivers, they frequently cannot. And as much as many communication programs have been criticized for not using rural extension workers, an equal number have failed by expecting too much from those workers they have used.

There is no easy solution or recommendation for the effective programming of health extension workers in a multi-intervention communications program. Amounts of budgeted money vary, as does political commitment to health, existence of severe and resistant disease, external, international pressures—all from country to country and region to region. Yet, there seem to be certain actions the communications planner can take to insure at least a modicum of effective health worker participation and impact:

- Establish a clear line of administrative authority for project-related activities within the Health Ministry.
- Involve Ministry personnel at all levels of extension-worker participation in the program.
- Do not become financially committed to the payment of extension personnel for services rendered during the program.
- Do not attempt to change existing health extension patterns.
- Allow inter-Ministerial extenstion worker contact to develop gradually, and at the pace of the various Ministries involved.
- Focus on training as the key element in the use of health extension workers in the program.

b. **The Public Schools : A Powerful Vehicle**

The public schools offer one of the few widespread organized and structured environments through which a large percentage of the total urban population can be reached. Students attending schools represent all economic levels and cultural backgrounds. They are not only potential targets of a public education program, but they are also a logical and powerful distribution vehicle for project information. Materials distributed in school can be shared with their families and friends, multiplying the impact of investment in school-based programs.

Schools represent a challenge for the public educator. Usually their curriculum requirements are rigid and their teachers resistant to the introduction of new ideas. Each teacher is already overburdened with tasks and often resents being asked to carry an even greater instructional load. It must also be recognized that many students perceive what they learn in schools as irrelevant to real life. It is important to convince them that schools can teach them immediately practical and useful things.

Three principles, age-specific content, colorful materials which students can use and take home, and simple, flexible teachers' guides can be adapted to many settings. The precise adaptation should be a topic for the feasibility study, but it appears clear that schools, and perhaps other institutions, can be asked to make an important contribution to the public education approach.

c. **Other Community Activities**

- Opinion leaders, including health workers, are identified in selected villages. These individuals are given specially prepared materials which will help them to inform other community members.

- Promotional activities are selected, based upon their local feasibility. Examples include a traveling health fair with puppet shows, music acts, printed materials to be distributed, and involvement of local celebrities. These fairs travel from village to village, making presentations and stimulating interest in the programs. In urban settings, a telephone hotline might be established to provide specialized information and answer specific questions. Random telephone calling might be used to reinforce some behaviors so that every week a certain percentage of a given area would receive phone calls, reminding them of some selected behavior. In villages without telephone service, this information might be handled by wall posters or handbills, printed frequently on inexpensive paper and distributed regularly through some local commercial channels. Resource centers could be set up temporarily in stores and become distribution points for information and advice, as well as places where people could go to get questions answered.

- Buttons, bumper stickers, and even cash awards can be distributed to early adopters. These would function as motivation for more reluctant members of the communtiy. Each research will help determine which of these and other ideas are most appropriate in a given setting.

While all of these "gimmicks" can add color and impact to a program, it must be remembered that they are no substitute for sound selection of practical behaviors and a clear understanding of what constraints are faced by people being asked to adopt new health behaviors. The best promotional ideas will not compensate for unrealistic advice or poorly constructed messages.

2. Broadcast Media: Radio and Televison

Broadcast media can be conceived as a central element in the pubic education approach. Because of its reach and acceptability, it is the point from which less-universal and less-familiar communications interventions begin. It is the matrix of the program, for its messages will continue throughout, received regularly in every village while contact with schools and community facilities will be less frequent and less intense. It is the unifying element in the program which will relate community, school, and print material to the information it broadcasts. There are a number of possible media formats which can be used to reach various audiences and to strengthen the understanding and acceptance of new information.

Radio is generally preferred to television in most developing countries simply because radio reaches a much larger percent of the total population, particularly when the specific target population is primarily the nation's needest and poorest segments. Television, however, should not be overlooked. In many countries, particularly in the Middle East for example, television coverage is extensive. Even in countries where the vast majority of people do not have access to television, TV programming can be an important element to ensure urban decision-makers understand and support a large-scale national program. Given these exceptions, however, radio remains the primary vehicle to reliably reach large numbers of isolated people with regular audio messages.

Radio programming varies greatly from one country to another. Latin America and many parts of Asia have broadcast systems dominated by multiple commercial channels. Most African broadcasting, however, is controlled by government operated stations on which programming is considered primarily a instrument of national development and education. In Latin America and Asia, radio remains largely an entertainment media, heavily influencing popular opinions through news and commercial broadcasting. However, radio is used-whether short spots, news formats, interviews, radio novels or didactic "talks," its effectiveness depends upon basic credibility and acceptabilty to a given audience. Public education is not dependent on a single broadcast format, indeed it is best when a variety of formats are tailored to local needs.

Irrespective of format, radio can play several unique roles in any program of public education.

Open broadcast radio can:

- Reach everyone who has a receiver. Radio does not discriminate by race, ethnicity or sex. Radio receivers are widely available in even the poorest regions of the world, and while individual radio ownership may vary significantly from one area to another, the cumulative impact of radio on the traditional rural information system is extraordinary high.

- Teach specific cognitive skills such as basic numeracy, as demonstrated in programs lke Nicaragua's Radio Math Project, postulating radio's potential to teach other cognitive skills such as improved farm management and new health behaviors.

- Reinforce and remind people of key information which they learned from extension agents and thus provide realtively low-cost follow-up.

- Inform large numbers of people of seasonal and even daily variations in critical aspects of project success, such as prices, materials availability, and weather conditions.

- Stimulate popular support by creating an environment of enthusiasm and excitement, allowing people to feel part of large and important new programs.

- Link rural people from distant areas and permit direct exchange of experience building upon their basic trust of others like themselves.

- Transmit people's concerns directly and persuasively to decision-makers increasing the relevance of national and regional policy making.

- Increase the acceptance of extension workers within rural communities by serving as a message center and voice of encouragement and praise.

- Motivate, and provide on-going support to isolated extension workers.

Public education goes beyond simple mass media programs by integrating these roles with print and face-to-face channels. Public education relies on media to reach out and remind, but these are insufficient in themselves to promote significant and stable changes over time. There are at least two ways in which existing village and group structures can be added to open broadcast radio programming and compound the effectiveness of both.

- **In-school programming.** If it is found that health is discussed in a particular primary or secondary school curriculum, and that teachers are familiar with the use of radio in a classroom situation; specially designed programs for students and teachers can be included at low costs.

- **Ad hoc listening groups using cassettes.** Selected extension workers can be provided with inexpensive tape recorders and a series of taped radio programs to help motivate village learning groups.

3. Graphic/Print Media

Classically, graphic/print media are supportive communications tools, adding depth, range, and texture to an idea, informative message, or concept. They allow the viewer/reader to assimilate slowly, to reflect, to consider the information at greater length, to place that information more clearly within his/her own personal psycho-social environment, and act as a reminder of detail instructions.

Particularly interesting materials include posters, handbills, flyers, instructional labels, and displays at local pharmacies and rural stores. Different kinds of print material, if well designed, can perform different roles.

Health worker study guides can:

- o Repeat the message of the program in prose form.
- o Provide a short body of written material (400-500 words a unit) to be read aloud, normally by the leader.
- o Provide a copy of the discussion questions for each member.
- o Provide something for each member to take away and read (or have read to them) between meetings and after the program--a reference book and symbol of membership of a massive study programe.

Village flipcharts or simple flyers and handbills can:

- o Reinforce aspects of the message contained in the radio program and study guide unit.
- o Serve as regular reminder of specific detailed information.
- o Illustrate the theme of the program through three or four large photos, maps, or drawings for each unit.
- o Help provide a focus for discussion.
- o Show aspects of the program subject that people may have heard about but have never actually seen.

4. Integration of Radio, Graphic/Print Media, and Extension Agents

In practice, graphic/print material should supplement radio, providing well-timed range, depth, and texture to audio messages. Extension agents should take the sum of those two external interventions and personalize them, make them locally relevant; add a credible cast to otherwise disinterestedly produced information. The most essential element in the success of a public education program is the coherent promotion of a limited set of clean, relevant, and actionable message through all reasonable channels, in such a way that one channel supports and supplements another.

E. EVALUATION

The evaluation component of the public education program is designed to fulfill two basic functions. First, it should monitor project success at each of the stages described above, and provide project planners with ongoing information needed to make corrections in program effectiveness. This function is called monitoring. Second, the evaluation should assume that the program's central task is behavior modification and should focus on behavior change in the target audience as the ultimate measure of project success. This is suggested for two basic reasons. First, collecting reliable health-status information is very expensive and intrusive on the population being tested. Second, the measurable health benefits from the intervention may be long-term and highly influenced by other environmental and social conditions. A negative health status result might suggest to planners that the public education program failed, when, in fact, people did learn new behaviors, and applied these behaviors properly, but few measurable immediate benefits resulted.

It is proposed that program evaluation use two basic approaches. First, a broad survey of attitude and knowledge related to advocated behaviors with the target population should be prepared and applied at yearly intervals during the life of the project. Second, it is proposed that a panel design be developed for frequent sampling of selected behaviors over time during the life of the project. The panel provides detailed information from a limited but representative sample of the target audience. Combined, the broad survey and panel designs will provide a mix of detail and breadth sufficient to demonstrate impact and identify critical deficiencies. These two evaluation approaches will be reinforced by regular interviews and materials-testing procedures.

F. MULTIPLE THEMES AND CONTINUNITY

Public education has traditionally been operated as a program - a single intensive effort, focused on a critical problem and limited in time. This is less a fundamental characteristic than a coincidence of historical precedent. Indeed the cyclical nature of many public education themes - the seasonal nature of disease, agricultural topics, and nutritional cycles, argues for comprehensive annual programming of mutiple themes; carefully integrating, and varying the intensity of different messages. Secondly, the fact that public education addresses different audience segments permit multiple programs to be managed simultaneously. Finally, the changing characterisics of audiences over time, the increasing sophistication and constantly changing constraints argue for a consistent programming strategy like public education which incorporate regular audience reviews and feedback as part of the fundamental instructional structure. In these ways, public education can rise above the tradtion of national mobilization programs of the 60's and 70's and become a regular operational tool which maximizes the use of mass media by systematically focusing on selected themes integrated with equally powerful print and face-to-face delivery systems. Public education represents an important new tool in a growing array of effective education alternatives.

Source: Mass Media and Health Practices (A Health Education Strategy for Honduras, Academy for Educational Development, Washington, DC, 1980.)

Attachment H

Sanitary Survey Form

(Used for training community
health workers in Senegal)

Sanitary Survey Form

Name of interviewer:_____

Date of interview:_____

Name of village:_____

District:_____

Location of house:_____

Part B. HOUSEHOLD INTERVIEW FORM

A. Introduction and Explanation

Greet householders appropriately.

Ask proper social questions, i.e., "How are you, your family, crops...?"

Explain the purposes of your visit:

1. Community leaders wan to make the community a better healthier place to live.
2. Government or agency sent me here to help.
3. I am going to ask some questions about community life and health problems.
4. The discussion should take less than an hour.
5. You will find it interesting. Others can remain in room (area) if they wish.
6. Is itallright to begin?

B. Questions about the Respondent and Household

1. What is your name? _____
2. How old are you? (Approximate age if unknown) _____
3. Are you now married? Yes _____ No _____
4. How many infants and children live in your house _____ or compound? _____
5. How many adults live in this household _____ or compound? _____

6. What kinds of work are done by the people who live in this house or compound?

_____

_____

C. Questions about Health

7. Have any of the children in this house or compound been sick in the last week? (Optional)

Yes _____ No _____ (If "No", skip to Question 9)

8. Please tell me what these illnesses are or were: (Optional)

	Local Term	Medical Term	Other Terms
Child a)			
Child b)			
Child c)			

(Add other information on back of this page.
Probe questions for other terms: "What other terms are used to describe the kind of illness the first child has or had?" "Does this term have any other meaning?)

9. Are people in this community troubled with:

			Local Term
a) Malaria:	Yes _____	No _____	_____
b) Infant diarrhea:	Yes _____	No _____	_____
c) Intestinal worms:	Yes _____	No _____	_____
d) Cholera:	Yes _____	No _____	_____
e) Schistosomiasis:	Yes _____	No _____	_____

f) Guinea worm: Yes _____ No _____ _____

g) Tuberculosis: Yes _____ No _____ _____

h) Trachoma: Yes _____ No _____ _____

(Fill in before interview)

i)_____ Yes _____ No _____ _____

j)_____ Yes _____ No _____ _____

k)_____ Yes _____ No _____ _____

Other Local Term

l)_____ Yes _____ No _____ _____

m)_____ Yes _____ No _____ _____

n)_____ Yes _____ No _____ _____

(Ask about local terms before proceeding)

10. Let's talk a little about diarrhea.

What do you think might cause this disease?

_____

How could someone prevent this disease?

_____

11. What about worms?

What might cause this disease? _____

_____

How could someone prevent it? _____

_____

12. And what about _____? (Other common diseases related to sanitation.)

What might cause it? _____

_____

How could it be prevented? _____

_____

D. Questions about Sources of Health Care

13. If someone in your household got diarrhea, who in the community would you turn to for advice or help? (Optional)

Name _____ Title or Relationship _____

Who else might you turn to who knows about these things?

Name _____ Title or Relationship _____

Anyone else?

Name _____ Title or Relationship _____

14. If someone got worms (second disease), is there anyone else who you might turn to for help? (Optional)

Name _____ Title or Relationship _____

15. If none of these people could help, what would you do? (Optional)

_____

_____

E. Questions about Community Organizations

16. What men in this community are respected for their wisdom and concern about this community?

	Name	Title if Any
a)	_____	
b)	_____	
c)	_____	

17. What women in this community are respected for their wisdom and concern?

a) _____

b) _____

c) _____

18. Are there any organizations of men, of women or even young people which are working to make this community a better place to live? If so, please describe them.

_____

_____

_____

(Probe question: Ask about religious groups, committees, informal traditions of sharing work.)

19. a) (If respondent described any existing community organizations, ask:)

Please tell me about the things which these organizations have tried to do. Have they been successful? Why?

_____

_____

_____

b) (If no organizations described in Question 18, ask:)

Do you think the people of this community would organize themselves to deal with health problems?

_____

_____

_____

(Probe: How so? Why? Please tell me more about your feelings.)

F. Questions about Water

20. Where do you get drinking water for your household?

_____

21. Where else do you sometimes get drinking water?

_____

(Probe: Any other sources?)

22. Are these good sources of drinking water? Why? (Optional)

_____

_____

_____

23. How could the drinking water sources be improved? (Optional)

_____

_____

G. Questions about Solid Waste Disposal

24. What do people in this community do with trash such as broken glass, dead animals, and other worthless things?

_____

_____

_____

25. Are there any problems caused by such trash in the community?

_____

_____

(Probe: Accidents, unsightliness, other...)

26. Do you think that something should be done about this? What?

_____

_____

27. If this community decides upon a special place to throw away useless things, do you think that people in the community would use that place? Why?

_____

_____

_____

H. Questions about Human Wastes

Now I want to ask you a few questions about human waste disposal. You may be surprised that a person would ask about this but I will explain why soon.

28. What is the polite or proper term for defecation?

_____

29. Where do men traditionally go to defecate?

_____

30. Where do women traditionally go?

_____

31. Where do children (age 5-14) go to defecate?

_____

32. What is done with the feces of small children?

_____

_____

33. Do you think that disposing of wastes in such ways poses a problem? Why?

_____

34. How could such wastes be disposed of in a better way?

_____

_____

35. Does anyone in this community have a latrine, i.e., a special small building with a pit under it where defecation takes place?
(If "No", ask: Have you ever seen or heard of such a devise?)

_____

_____

A few minutes ago I said that I would tell you why I am asking questions about such things as defecation. Doctors believe that many diseases can be caused by very small amounts of feces, which can be carried to our food by flies or from soiled hands, or which get into our drinking water when it rains.

36. Have you ever heard such things said? (Probe: "Tell me what you heard, from whom?) (If "No", ask: Do you think that this might be possible?)

_____

_____

_____

37. Do you think that the people of this community might agree to do something to try to prevent these diseases? Why or why not?

_____

_____

_____

_____

38. Do you feel that people in this community would be willing to pay a modest amount of money to install a latrine in or near their compound? That is, a very small hut where human wastes can be safely and conveniently disposed. Why or why not?

_____

_____

_____

39. How do you get information about health? (Probe: Do people in community have a radio, read newspapers or get information from outside?)

_____

_____

_____

40. Do you have any quest ons that you want to ask me?

_____

_____

_____

_____

Thank you very much for your cooperation (kindness, hospitality...)

Attachment I

Assessing Community Energy Needs:

Data Gathering and Dialogue

Assessing Community Energy Needs: Data Gathering and Dialogue

by Mary Elmendorf

In any given society there are unknown or poorly understood sociocultural factors that have a direct bearing on the ways in which planning and policy determinations can be designed and implemented. Horror stories abound with respect to large and small development projects that have failed because some apparently insignificant cultural factor was either unrecognized or ignored. It is, in fact, rarely possible to design projects or to arrive at useful policy guidelines affecting the daily lives of people in traditional societies without having detailed information regarding the perceptions such people have of themselves: their value systems and priorities, their fears and aspirations, and their customs, traditions, and taboos. The purpose of this discussion is to highlight some techniques that might be useful to planners in gathering baseline data for the assessment of community energy needs, taking into consideration the importance of sociocultural concerns.

Background

Existing inventories of community energy needs and resources are woefully inadequate for the requirements of planners and program designers in the developing countries, particularly in rural areas. In his excellent review of traditional and nonconventional energy sources in the developing world, David Hughart notes that there is evidence of

> widespread shortages of the traditional and nonconventional fuels on which an estimated one-half of the world's population relies for cooking and other energy needs Collection of these fuels, which include firewood, charcoal, dung, and the inedible portion of agricultural crops, has become in some areas an important demand on the labor and cash resources on which agricultural development depends Estimates of traditional fuel supply and demand are presented, but the data base in this field is too weak to allow much confidence to be placed in them.[1]

Lack of adequate information may well result, in part, from the lack of recognition by villagers of what constitutes an "energy" factor in their daily lives. While most of them are aware of the need for fuel, for example, few would recognize the "energy" factor involved in the time and *human* effort required to gather or cut wood. Nor would similar efforts required for drawing and hauling water be singled out as energy until, perhaps, the advent of electricity, pumped water, and home distribution suddenly dramatizes the amount of time and energy freed for use by the women and children who had previously provided the water.

Similarly, the connection between electricity and increased productivity of craft items for cash income may not be noted immediately, but the extended time available for such work ultimately will result in observable change, and in so doing will bring up the question of the tradeoff between electricity costs and increased income.

The changing relative costs and degrees of availability of energy sources and usage systems in less developed communities are difficult to quantify, but their effects are readily apparent. There is, for example, a tendency for traditional sources of energy for agricultural work—draft animals and beasts of burden—to be replaced by more modern technologies when forage becomes limited or when the change is made to seem attractive. Often, however, the apparent benefits of the modern technologies prove to have more hidden costs and fewer corollary benefits than the traditional source—benefits such as fertilizer, hides, and milk. As the costs of obtaining energy from the new systems escalate, the benefits of the more traditional systems may be reconsidered.

Community energy needs, resources, and uses thus constitute a special form of interactive dynamic, difficult to quantify, and almost always responsive to community value systems that are themselves not always easy to determine. Our aim here is to explore some of the techniques for determining what these factors are and how they can be interpreted and used for planning purposes.

Social Science and Energy

The social science methodologies needed to obtain data on behaviors, attitudes, and social organization related to energy are in some ways less difficult to implement than the "software" components for projects involving, for example, water supply and excreta disposal or contraceptive usage, as the latter often involve taboos or matters of a highly personal nature. Energy needs and resources, on the other hand, are more complex and interrelated, and therefore must be viewed in a holistic way within the environmental setting, the sociocultural context, and the changing economic systems.

> Energy production in a village ecosystem is highly dependent on agriculture. The village energy system tends to be a tight subsistence economy, in which little material output is wasted and most energy is produced and used locally. A change in the number of livestock or the ratio of grain to straw (as in the introduction of high-yielding varieties) could upset the balanced subsistence village energy economy, which uses dung and straw. Labor availability for peak agricultural seasons will be affected by time needed to collect fuelwood. Draft animals provide pulling energy and dung, and consume straw Dung used as fuel rather than fertilizer affects soil fertility; and housing and cattle fodder compete for crop residues used as fuel Conventional surveying does not take into account the complexity of these relationships.[2]

The social science techniques that have been found most useful in determining existing attitudes and practices, as well as in designing more acceptable and effective projects, are those in which the local people have been most involved in the identification of the community's felt needs and priorities. When problem-solving approaches involving extensive community participation are substituted for or used in addition to standard social science techniques such as structured questionnaires, the result is dialogue between the community users and the agency facilitators or social scientists involved in project promotion and research. Much more data is generated than simply answers to preconceived questions.

Face-to-face communication raises awareness of present practices and alternative opportunities and defines problems and priorities. Ultimately, joint analysis by the community and the social scientists or development agency leads to a greater understanding of needs, resources, and alternatives.

The field methods used to achieve this dialogue must be flexible enough to relate to local populations, agencies, and research personnel and to the overall situation and research data needed. A holistic approach that takes into account the perceptions of the environment by the people (as individuals and as a part of a cultural group), along with those of experts and officials, is suggested as suitable.

In her excellent study, *Guidelines for Field Studies in Environmental Perception,*[3] Anne Whyte has listed 24 field methods, most of which are potentially useful in analyzing energy needs, uses, and resources in developing countries. Along with full discussion of the techniques, she has indicated time and training requirements, including indications of methods that can be carried out by assistants trained in the field. System variables are indicated, along with notations as to whether these techniques are applicable to literate or nonliterate populations and tolerant to local variations in format and procedure. References to survey literature on the different methods make it possible to evaluate more thoroughly the most appropriate technique for a given situation.

Basic Approaches to Field Research

As we evaluate various field techniques designed to promote an understanding of energy use and supply in the daily lives of people, it is important to be mindful of the fact that there is no ideal or best method. The various techniques have disciplinary over-

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continued

tones and complexities that tend to confuse the picture in transdisciplinary, international research. Nearly all data-gathering techniques, however, are based on a combination of three main approaches—observing, asking questions, and listening—that are or should be mutually enriching and complementary.

Observing

The first approach to gathering data is observation. Observation can be direct or indirect, structured or unstructured, and there are various specialized observation techniques. Observing actual behavior is a basic tool for understanding energy needs and uses, especially within the context of household economies. Public behavior is, of course, much easier to observe and analyze than are practices within the private sphere.

Along with community knowledge, practices, and beliefs, which questionnaires may reveal, there is a need for detailed information on individual behaviors, attitudes, and hopes. Ethnographic data highlighting some of the more intimate household routines and energy uses can be obtained through indirect observation, indirect questioning, and participant observation. The key informants here would be the women, who make the decisions regarding the household economy.

Participant observation, which encompasses observing, listening, and asking questions, used to be considered primarily an anthropological method for understanding foreign cultures, but it is being used more and more as a tool for obtaining valid data and can serve as an adaptable method for field investigation of energy uses. In participant observation, the researcher lives with and participates in the daily life and activities of the people being studied. As a specialized technique, participant observation is less concerned with tools for handling data after they are collected than with obtaining valid data.

Understandably, the researcher's own perceptions and experiences condition the collection and interpretation of data. Nonetheless, foreign expatriate researchers have some advantages over social scientists working in their own cultures, because, as Whyte suggests, "they can reasonably maintain an attitude of ignorance and naivete which enables them to ask simple questions and to repeat them in the manner of a child seeking information." Expatriates working alone without local counterparts can get false or partial information. Sharing information with colleagues and participants is thus essential from the point of view of improving individual research results, as well as from a code of professional ethics.

Behavioral mapping is a simple and reliable technique of observing and recording specific behaviors in relation to specific locations. This technique was used in one project to determine relationships between water use and defecation patterns in order to identify possible reuses of grey water and culturally acceptable locations for bathing, laundry, and latrine facilities to maximize health and sanitation. Similar observation could be a useful device for analyzing daily energy needs, resources, and available options.

Map-making, the actual preperation of a wall map, noting households, streets, and community resources, is an extremely useful tool. In Chan Kom, a remote Maya village of 650 people, the students in the sixth grade social science class, together with their teacher and the researcher, conducted a household survey and prepared a village map showing existing electricity and water services and house types. The map is still used by the mayor and the teacher, as well as by outside agencies, as a basis for planning. In fact, villagers used the research data and map to develop a proposal for improved housing, for which they received a government grant.

The techniques of *pictorial analysis* and *sorting* were used by the director of a successful integrated rural development project in Colombia to resolve difficulties between the villagers and an interdisciplinary research team. Selected villagers were requested to sort photographs of the community into categories of needs or priorities, and then to arrange them in order of priority. Although the villagers categorized the needs and problems somewhat differently from one another, parallels could be drawn with respect to their priority listings. When this same task was assigned to the professionals, they sorted things in very different categories, according to their disciplines. Most significant, however, was the fact that their understanding of the priority needs of the village were very different from those of the villagers. The comparison of the two interpretations provided an excellent tool for self-analysis on the part of the staff and a new understanding of the need to give a high status to village priorities.

Asking Questions

Another important data-gathering approach is *asking questions*—conducting interviews and surveys. In a series of World Bank case studies on appropriate technology for water supply and waste disposal, structured interviews with local leaders, adapted to the local situation, were used successfully in one village in Guatemala.[4] In another village, a more open-ended, unstructured schedule was administered to obtain information from leaders and innovators. The dialogue of the interviews in both villages gave the leaders an opportunity to explain local needs and resources as they viewed them and to discuss possible alternatives, including past projects that had been unsuccessful.

The interview becomes an exchange of information and not just an extractive process. In interviews with knowledgeable people such as midwives, healers, and storekeepers, new clues to problems, needs, and resources often surface, sometimes more basic to reality than the information of the formal community leaders. Interviews of selected families or categories of people, such as mothers, can be extremely useful if conducted over a period of time, so that specific subjects of interest can be explored in depth.

The important thing to remember in all interviewing is to record the interview in full, using the language of the respondent when possible. Taping is a useful tool, but is not always appropriate during the interview session. If sociological surveys are needed, they should be based on the results of the preliminary interviews and on prior observation, and should be designed in local terminology and categories meaningful to the people.

Listening

An important listening technique is *oral history,* a method of recording answers to open-ended questions concerning a single topic or specific topics. With good rapport and sufficient time, material collected in this manner has high validity and is less researcher-dominated than most. Historical material on past programs can be secured in this way, including political implications and agency fiascos as remembered by the villagers. This technique is particularly useful with the elderly.

In fact, talking with the elderly often taps the wisdom that formal science has been unable to unlock.

> In Kenya, foresters and other authorities . . have stated that it is impossible to propagate the valuable indigenous tree, *mugaa* . . . which is a prized local hardwood tree . . . We asked an old man, who looked at us pityingly and said, "Why, every uncircumcised herd-boy knows how to grow a *mugaa.* The seed must be chewed by a goat and after it has passed through the goat's intestines, you pick up the seed from the goat droppings, and plant it And then it will grow "[5]

He was correct.

Informal listening, particularly listening to schoolchildren, can add new insights to research efforts. A more structured approach to recording children's perceptions can also be useful. According to Whyte, the periodic reports of over 15,000 selected schoolchildren on their observations regarding the presence of certain lichens added depth to an environmental study in Britain at very little cost. Listening to statements that are not answers to structured questions can be vital to the data-gathering process; often we do not know the questions to ask.

Conclusion

As noted previously, there is no single best method for gathering data, nor are the more sophisticated research instruments designed primarily in the language and categories of

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continued

the industrialized world necessarily more valid than more simple techniques.

> As a rule, simplicity, honesty, and diversity should be stressed. . . . Diversity in method has been a little-used means of increasing the amount and quality of information. Wherever and whenever possible, a combination of the three approaches (asking questions, observing, and listening) should be used.[6]

The purpose of sociocultural data gathering, particularly at the local village level, is to get people to talk—not simply to answer arbitrary questions about predefined specific categories of information. The gathering of data about sociocultural factors and materials required by engineers and planners is an important part of the educational process for everyone involved. Not only do community members learn data-gathering techniques, but they also learn a great deal about their own community, its problems, and possible solutions. Through this process, engineers and other outsiders can get data on perceived and actual situations and on possible reactions to alternatives. This data gathering is probably the single most important phase for establishing a dialogue between community residents and development agency personnel and for stimulating community involvement, as researchers and researched seek to understand the human dimensions of their problems.

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Source: Development Communication Report No.33, March, 1981, AED, 1414 22nd. St., N.W., Wash. D.C. 20037.

Attachment J

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Attachment K

Five Pretesting Methodologies

Readability Testing

Summary

Purpose	To determine reading grade level of draft manuscripts
Materials to be Pretested	Leaflets, booklets, articles, or other draft manuscripts
Ideal Number of Respondents	No respondents required
Time Required	15 minutes
Resources Needed	• Readability formula • Staff trained in readability testing
Advantages	• Inexpensive • Quick
Disadvantages	• Does not provide target audience reactions

Source: See reference for previous Attachment

Focus Group Interviews

Summary

Purpose	To obtain insights into target audience perceptions, beliefs, and language in the early stages of health communication development
Materials to be Pretested	• TV, radio, or print message concepts, theme lines • Logos and rough artwork
Ideal Number of Respondents	• 8 to 12 per group • Minimum of 4 groups
Time Required	• About 2 weeks for arranging groups and recruiting respondents • 90 minutes per group • 2 days to conduct groups • 5 days to analyze interviews and write report • Total time, from planning to completion of report, up to 3-4 weeks
Resources Needed	• Discussion outline • Trained moderator • Respondents typical of the target audience • Comfortable meeting room for conducting interviews • Tape recorder and blank audiotape • One-way mirror for observing sessions (optional)
Advantages	• Group atmosphere provides greater stimulation than individual interviews • Excellent technique for obtaining qualitative information from several respondents at once • Direction for message development stage can be gathered relatively quickly
Disadvantages	• Should not be used when quantitative data are needed for decision making, as in message execution stage • Qualitative nature of the research and small sample sizes do not allow for developing norms against which to compare results

Individual In-Depth Interviews

Summary

Purpose	In depth probing of target audience attitudes, beliefs, and emotions
Materials to be Pretested	• Message concepts • Draft manuscripts, including those on sensitive or emotional subjects
Ideal Number of Respondents	Minimum of 10 to 25
Time Required	• 3 weeks to design questionnaire and arrange interviews • 30 to 90 minutes per interview • Number of days required to conduct interviews varies depending upon availability of respondents • 5 to 10 days to analyze interviews and write report • Total time, from planning to completion of report, up to 4-6 weeks
Resources Needed	• Discussion outline or questionnaire • Trained interviewer • Quiet room • Tape recorder and blank audiotape
Advantages	• Provides opportunity to probe individual respondents in depth • Can obtain pretest information on sensitive or emotional subjects • Good for interviewing hard-to-reach audiences
Disadvantages	• Time-consuming to arrange, conduct, and analyze results • The qualitative information obtained should not be used to make broad generalizations

Central Location Intercept Interviews

Summary

Purpose	To obtain target audience reactions to concepts and messages from fairly large numbers of respondents in a short period of time
Materials to be Pretested	• Message concepts • Print materials such as booklets, leaflets, posters, ads • Broadcast messages such as radio and television PSAs
Ideal Number of Respondents	100 to 200
Time Required	• 3 weeks to design questionnaire and arrange interviews • Length of interview depends on pretest design; average is about 20 to 30 minutes per interview • Number of days required for field work varies depending upon length of interview, number of interviewers, and traffic in central location; average is about 4 days • 10 days to tabulate results and write report • Total time, from planning to completion of report, is up to 4-6 weeks
Resources Needed	• Structured questionnaire • Trained interviewers • Access to central location frequented by individuals typical of target audience • Interviewing station
Advantages	• Quick method for obtaining large numbers of interviews • Flexible for pretesting many types of materials • Technique can be adapted for pretesting in a variety of locations • Use of many closed ended questions allows for quick analysis of results
Disadvantages	• Inappropriate for probing on sensitive or emotional subjects • Interviews cannot be long

Self-Administered Questionnaires

Summary

Purpose	To obtain target audience reactions to draft materials
Materials to be Pretested	Print materials such as booklets or leaflets
Ideal Number of Respondents	Minimum of 20
Time Required	• 2 to 3 weeks for designing questionnaire and recruiting respondents • 3 to 4 weeks for obtaining responses • 5 to 10 days for analyzing results and writing report • Total time required from planning to completion of final report is up to 6 to 8 weeks
Resources Needed	• List of potential respondents • Structured questionnaire
Advantages	• Inexpensive • Does not require time for interviewing • Respondents maintain anonymity • Can reach target audiences inaccessible through central location intercepts or those unlikely to cooperate with personal interviews
Disadvantages	• Response rate may be low and cause delays • Respondents are self-selected, introducing a certain degree of bias • Respondents' exposure to pretest materials cannot be controlled

Attachment L

Making Print Materials Easier to Read

Making Print Materials Easier to Read

Tips for Clear Writing

Health writing will generally test at a higher reading level than some other subjects because health-related words characteristically have more syllables. Often the writer cannot avoid using technical language but the effects which these words have on readability can be minimized by writing short, concise sentences and by defining difficult words or terms for the reader.

1. Organizing the material

- Use titles and subtitles to clearly define the organization and flow of ideas.
- Use bold face, italics, or underlining to emphasize important words and ideas.
- Begin the material with an introduction to state the purpose and to orient the reader.
- Use a summary paragraph to end a section and to recap major points.
- Locate appropriate visuals (charts, photos, graphics) next to the related ideas in the text.

2. Within a paragraph

- Use one idea per paragraph to emphasize each important concept.
- Start each paragraph with a strong topic sentence.
- Vary the length of sentences.
- Use examples to clarify ideas with which the reader may not have had experience.

Source: See reference for previous Attachment.

3. Within a sentence

- Keep sentences short (approximately 9 to 10 sentences per 100 words).
- Vary the length of sentences.
- Avoid complex sentence structure and long, fact-laden sentences.
- Use the active rather than the passive voice.

4. Choice of words

- Avoid polysyllabic words when possible.
- Avoid specialized vocabulary and complicated expressions. When specialized vocabulary is essential, a parenthetical definition or a glossary should be included as part of the text.
- Avoid abbreviations except when commonly understood.
- Use shorter words.

Guides for Good Graphics*

Good graphics can help readers to overcome resistance to a text or even help them to understand the material more easily.

1. Use highlighting techniques, but don't overuse them

- Highlighting techniques are a way of emphasizing important aspects of your document by calling attention to them visually.
- Some highlighting techniques include boldface, italics, and white space.**
- Use highlighting techniques to provide visual relief, emphasize important points, set off examples, or set off sections of text.
- Do not overuse highlighting techniques, and try to be consistent throughout the text.

2. Use 8- to 10-point type for text

- For most documents, 8- to 10-point type is the most readable size. If type is too small—readers may skip over material or develop eyestrain. If type is too large—it may take up too much space.

8 point type:

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890

10 point type:

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890

3. Avoid making lines of type too long or too short

- The best line length is thought to be 50-70 characters. This length is less tiring to the eye. Short lines tend to make the eye jump back and forth; long lines may strain the eye as it tries to stay on course.

4. Use white space in margins and between sections

- If you use white space well you can make the document look better and easier to read.
- A text with too little white space can look cramped.
- White space surrounding a title or example can isolate and emphasize its importance.

5. Use "ragged" right margins***

- "Ragged" right margins are less formal than "justified" text and create a more relaxed contemporary look.

Ragged:

Excellence in typography is the result of nothing more than an attitude. Its appeal comes from the understanding used in its planning.

Justified:

Excellence in typography is the result of nothing more than an attitude Its appeal comes from the understanding used in its planning; the designer

- "Ragged" right margins reduce production costs (easier to make corrections on unjustified type).
- Some readers find "ragged" right margins make a text easier to read because:

  —it is easier for readers to keep their place in the text because the right profile distinguishes one line from another; and

  — the eye does not have to adjust to different spacing between letters, as it does with justified type.

6. Avoid using all capital letters

- All capitals interfere with the legibility of the text.
- All capitals make a text harder to read because the shapes of the letters do not vary very much.
- All capitals take up more space and take longer to read.

* Reprinted with permission from Simply Stated 30, October 1982. The monthly newsletter for the Document Design Center, American Institutes for Research, 1055 Thomas Jefferson Street, NW, Washington, DC 20007. 202/342-5000.

** "white space"—Any of the blank space on a document such as the margins and the spaces between sections, or the space that sets off an example.

*** "ragged" (unjustified) right margin—When lines of a text end at different points on the right hand margin (whereas "justified" text will have an even right margin).

Attachment M

Lessons Learned in Developing and Pretesting Health Messages

OVERVIEW Packet 1

Excerpts from:
PRINT MATERIALS FOR NONREADERS: EXPERIENCES IN FAMILY PLANNING AND HEALTH
(PIACT Paper Eight)
and
COMMUNICATING WITH PICTURES

This overview is excerpted and synthesized primarily from two sources:

1. National Development Service and UNICEF. Communicating with pictures. Kathmandu: UNICEF, 1975.
2. Zimmerman, M.L., Perkin, G.W. Print materials for nonreaders: experiences in family planning and health. Seattle, Washington, Program for Introduction and Adaptation of Contraceptive Technology, 1982. (PIACT Paper Eight) 38 p.

WHAT SHOULD YOU DO?

Some guidelines for developing instructional material for nonreaders can be drawn from the various studies and projects which have been discussed:

DEVELOPMENT OF VISUAL MESSAGES REQUIRES SKILL

- The design and testing of nonverbal materials are more complicated and require much more time than the development of comparable verbal materials. Simple does not mean easy.

KEEP PICTURES SIMPLE

- Keep pictures as simple as possible. It is better to show a family planning clinic set against a plain background than against a city street. A crowded street will only detract from the message being conveyed.

- Though excessive, unnecessary detail interferes with understanding the message, the comprehension may also be reduced by deletion of all detail.

- Each picture and each page should have a single, sharp meaning. Putting multiple messages on one page will be confusing.

- A single page of a booklet should not include too many objects. It is better to have many drawings with one or two objects in them than to try to put many things in one drawing.

- Comprehension of the picture is higher when a person's whole body, rather than just some part of it, is portrayed.

THE MORE REALISTIC, THE BETTER

- For maximum comprehension, pictorial symbols should be as realistic as possible.

- Pictures of objects, people, and actions should look like the objects, people and actions in the specific area where the pictures will be used. Such things as different styles of dress easily lead villagers to assume that a picture does not refer to their own village or their own life.

- Material produced for national distribution may not be equally appropriate for all regions of the country, since there are usually variations in styles and customs from one part of the country to another.

PICTURES WILL BE "READ" LITERALLY

- Remember that villagers will be likely to interpret your drawings very literally. For example, if you draw something larger than it is in real life (such as drawing a fly six inches high) people may assume you really mean it to be an impossibly enormous fly, or they may think it is a strange kind of bird.

COLOR

- If the material being prepared will use more than one color ink, the color choices should be pretested in the same way the illustrations are tested. Keep in mind that certain colors have different meanings in different societies. Choose colors whose meaning in the culture corresponds to the ideas you wish to convey. Using color will also add to the production cost. Tests have shown that color does not, by itself, improve comprehension.

PEOPLE MAY NOT FOLLOW INTENDED SEQUENCE

- People who have not learned to read or write do not necessarily look at pictures in the order intended. It often proves helpful, as messages are being tested, to ask several groups of people to arrange the individual messages into a sequence that seems most logical to them.

- If a poster, wallchart, packet instruction or booklet consists of a series of pictures, numbering the pictures may indicate to the villagers the order in which the pictures should be "read." However, the Honduran tests of the visual instructions for mixing oral rehydration salts showed that this technique does not always work. The placing of the numbers inside the box with the drawings led some mothers to assume that the numbers referred to the number of packets to mix, rather than the sequence of instructions to follow

KEEP BOOKLETS SHORT

- The ideal pamphlet length is usually 16 pages. This corresponds to a manageable number of points and the attention span of most readers. It is also usually the most economical format for high-speed presses.

- Content must be limited to the most important points. Only 8 to 12 major steps or points on a single topic can be effectively covered in one pamphlet. For example, the booklets on oral contraceptives included in this packet focus on the single message "how to use the pill." Each booklet then makes 8 to 12 points about that topic, such as when to take the pill and what to do if one or two pills are missed. No unrelated information is included.

PICTURES ALONE ARE NOT ENOUGH

- Do not expect villagers to learn a lot from the drawings alone. Use drawings to capture the villagers' attention, to reinforce what you say, and to give them an image to remember, but always give a clear and full oral explanation of your subject in addition to showing the drawings.

- Rural people need to be told explicitly that "pictures will show you how to mix the salts", or to "look at the pictures and follow the directions."

- People helping villagers to understand the message of pictures and posters should explain the meaning of conventional signs and symbols used by the artist. It is likely that if this is consistently done over a period in any given village, the villagers will learn to "read" the messages the pictures are trying to convey. Longitudinal tests in Honduras showed that rural women did not easily forget a symbol once learned.

- Not all kinds of technical information can be transferred primarily through illustrations. Pictures can probably be used to teach someone how to change a tractor tire, but it is doubtful they can be used to teach a person to drive that tractor.

PRODUCTION

- Once a team has acquired experience in developing instructional materials for nonreaders, the production process can be accelerated considerably. Several pamphlets, in different stages, can be under development at the same time.

- Initial runs of each booklet should be small, even if the cost per copy is higher, so that changes can be made before mass distribution.

THE AUDIENCE DECIDES WHAT PICTURES WORK BEST

- The intended audiences should have the final say about the content, illustrations and sequences that are used. Administrators and others indirectly connected with the project usually will have an abundance of suggestions for revisions, or state that they do not understand the message. But, the materials were not designed for this group!

WHAT RESOURCES ARE USUALLY NEEDED?

It has been PIACT's experience that within the implementing organization the following staff need to be involved in materials development:

The only fulltime person generally needed is a

- Materials developer/trainer.

This person handles the many details of the project, coordinates the technicians' work, analyzes test data, and trains and directs the fieldworkers in interviewing and fieldtesting. The materials developer/trainer reports to the

- Program coordinator.

Others needed at particular points and for shorter periods include:

- Secretary
- Photographer
- Artist
- Fieldworkers/interviewers for conducting focus groups and fieldtests.

Attachment N

Publications Catalogue, Zaire

Bureau d'Etudes et de Recherches
pour la Promotion de la Santé
B.P. 1977 KANGU - MAYOMBE
République du Zaïre

CATALOGUE

Bureau of Study and Research
for the Promotion of Health
P. O. Box 1977 KANGU - MAYOMBE

Gabinete de Estudos
e de Investigaçao para a Promoçao da Saude
Cx. P. 1977 - Kangu - Mayombe

N° 7

1. Manuels pour infirmiers et enseignants

☐	**Nourriture saine, Santé meilleure** (Cours de diététique)	Z	16,00
☐	**Cours de statistique sanitaire**	Z	16,00
☐	**Cours de formation en santé scolaire** (Tome I II III)	Z	36,00
☐	**Santé personnelle et communautaire** (Cours de recyclage pour enseignants)	Z.	16,00
☐	**Notions de pharmacologie**	Z.	18,00
☐	**Santé meilleure, Source de progrès** (Cours d'éducation sanitaire)	Z.	18,00
☐	**Maternité et Santé** (Notions d'obstétrique)	Z	36,00
☐	**L'enfant et la Santé** (Notions de pédiatrie)	Z.	36,00
☐	**Infirmier, comment bâtir la santé** (Manuel de santé communautaire)	en prép.	
☐	**Aide-Mémoire pour le dispensaire** (Les médicaments courants)	Z.	5,00
☐	**Lexique médical** (Le vocabulaire médical à la portée de tous)	en prép	
☐	**Dictionnaire médical**	en prép.	
☐	**Problème de pharmacologie et d'éducation sanitaire**	Z.	4,00
☐	**Laboratoire et Santé** (Techniques usuelles de laboratoire)	Z.	7,00
☐	**Les vers intestinaux** (Brochure)	Z.	12.00
☐	**La malaria — Le paludisme** (Brochure)	Z.	12,00
☐	**La nutrition** (Brochure)	Z.	16,00
☐	**La tuberculose** (Brochure)	Z.	12,00
☐	**L'alcoolisme** (Brochure)	Z.	10,00
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Attachment O

PRASAR Efforts

Schools

Source: "Development Communication Report," AED, Wash. D.C. #41, March, 1983.

Comic Books Carry Health Messages to Rural Children in Honduras

by Oscar Viganó

Innovation is using something old in a different way.
Dewey

A new project in rural western Honduras is using children as message-carriers to teach villagers important health lessons about clean water and sanitation. Working with a specially created comic book, the children learn the health concepts in school and then share them with their families. This Honduran Water and Sanitation Project represents a cooperative effort on the part of two institutions which usually work independently the Water and Sanitation Department of the Ministry of Health, and the National Autonomous Water and Sewer System The Project is the first in Honduras to have a specific health education component written into the project design from the beginning.

Organizationally, the Ministry of Education is directly responsible for the health education component, and for the construction of wells, latrines, and windmill systems, while the National Autonomous Water and Sewer System is responsible for the construction of aqueducts and sewer systems. The Project will benefit 100,000 people living in small rural communities of up to 50 families each. Most of the communities in the Project area have nearby schools and health units where children can easily be reached.

The objective of the health education component of the Project is to change attitudes and behavior of community members with regard to water consumption and use, and maintenance of latrines, wells, and aqueducts. Investigators found, during the survey conducted to help design the Health Education Implementation Plan, that in Honduras, as in most rural areas, children play an important role in providing and handling drinking water, as well as in caring for younger members of the family. The children are, in turn, most affected by health problems related to water and sanitation.

When Project designers considered how best to reach the children with the health education messages in coordination with Project activities and objectives, rural primary schools surfaced as one of the most important channels of communication. However, to tap the children's potential, it was necessary to design a system simple enough to be used in the schools without much training, economical to produce, effective and attractive to children, and above all, in line with the Project's philosophy that dialogue and participation are an essential part of health education. Any materials used should contain basic information about the subject, ideas and exercises to conduct in a classroom situation, and information for children designed to encourage classroom participation.

Analyzing the different possible combinations of materials, the team came up with the idea of using a teaching module consisting of a class manual for the teacher with information about the learning objectives, water-related health problems, industrial and in-home techniques to purify drinking water, exercises for each particular class, evaluation, suggestions, *and* an accompanying comic book for each child.

Comic books were selected because their format has many advantages. Comic books are obviously entertaining, are fairly easy to produce, can relay information visually and step-by-step, combining action and a written technical vocabulary, and can be consulted again and again. In addition, children can take comic books home and pass them on to members of their family or to other children, multiplying the educational message.

It is interesting to note that despite all their advantages, comic books are seldom, if ever, applied in education for development as an integrated aid to classes. Efforts to use them have been mostly informational, such as pamphlets given away for people to read without any follow-up content discussion.

The main concern in developing the comic book centered on the style of illustration to be used. The designers chose a humorous style, something children relate to very well. Suggestions for characters were narrowed down to two children, a girl and a boy who would discuss health and sanitation matters. Then the problem became how these children knew or learned about the subject, and which one would be the expert. Finally an "expert" was born; nobody knows more about water than water itself, therefore a talking Drop of Water became the second character, and the comic books were called "Juanita y la Gotita" (Little Jane and the Drop of Water).

Content Description

The subjects of the comic books follow the Project objectives and are related to health education in water and sanitation. Each comic book contains single-concept messages; such topics, for example, as one cause of water contamination, or one way to purify water. Special care was taken to ensure that the illustrated sequences were not confusing and would be easily understood by children.

In the scripts the story develops sequentially, the events follow one another in the present time, without showing past or future actions. The script writers drew technical information for the different subjects from books and validated the data through area experts working with the Project or the Ministry of Health.

In order to correct any content or language errors, once technical changes are made, a rough copy is illustrated, photocopied, and distributed among area experts and personnel familiar with the subject and with rural audiences. It should be noted that the comic book has been designed for the formal schools, so although very simplified, the language used does not contain any slang.

Subject and Learning Objectives

The first comic book (see illustration)

(continued on next page)

In this sequence, greatly reduced here, the Water Drop is explaining to Juanita that, before he is boiled, he can make people sick when they drink him But if she will boil him for 15 minutes The comic books have an average of 8 pages, and contain a glossary to define new words and a questionnaire for the children to complete

(continued from previous page)

dramatized the causes of water contamination and how to decontaminate water by boiling it. Learning objectives were: 1. identify in writing one cause of water contamination, 2. identify in writing one way to decontaminate drinking water within the reach of the rural family, 3. describe in writing what bacteria is and describe its effect on drinking water, and 4. describe in writing the dangers of drinking contaminated water.

Pretest Results

Once the design of the first module was completed, drafts of the teaching guide and photocopies of the comic book were pretested in three rural schools with three teachers and 54 third to sixth grade children. During the pretest of the comic book, each child was given a questionnaire with five questions related to the content of the health education class to be answered before they saw the comic book. Afterwards, children took the comic book home to read; the following day the teacher conducted a health education class using the teaching guide content and asking questions related to the comic book story, expanding each answer with information taken from the guide. Once the class was over, questionnaires with eleven questions (five from the earlier questionnaire, plus six about comic book content) were given to children.

Correct answers for the first five questions went up from 59 percent to 80 percent. During the test, the correct answers about boiling water to purify it rose as much as 90 percent. Ninety-five percent of the children indicated that they liked the characters, and teachers expressed their satisfaction with the materials and welcomed the opportunity to use them.

Production plans include 12 modules containing educational materials about such topics as the prevention of water-related sickness, and personal hygiene. Five thousand copies of the first comic book have been printed, and the Project expects to reach 100 rural community schools, distributing an average of 40 copies per school. To date, 1,200 copies have been distributed among school children in 30 rural schools, and teachers are sending back information which will be used in the design of future modules.

The relatively low production cost, US $0.30 per copy, the comic books' acceptance by teachers and school children, their potential for carrying sequential visual and written communication, and their effectiveness in relaying the educational message all make the comic book a perfect medium to introduce health education in the rural schools. ■

Oscar Viganó, the comic book's artist, is the Field Project Director of the Joint Ministry of Health and SANA Water and Sanitation Project being funded by USAID/Honduras under a contract to the Academy for Educational Development.

For further information, contact Oscar Viganó, Field Director, AED/PRASAR, A.P. 140, Tegucigalpa, D.C., Honduras.


JUANITA
Y
LAGOTITA
Nº4

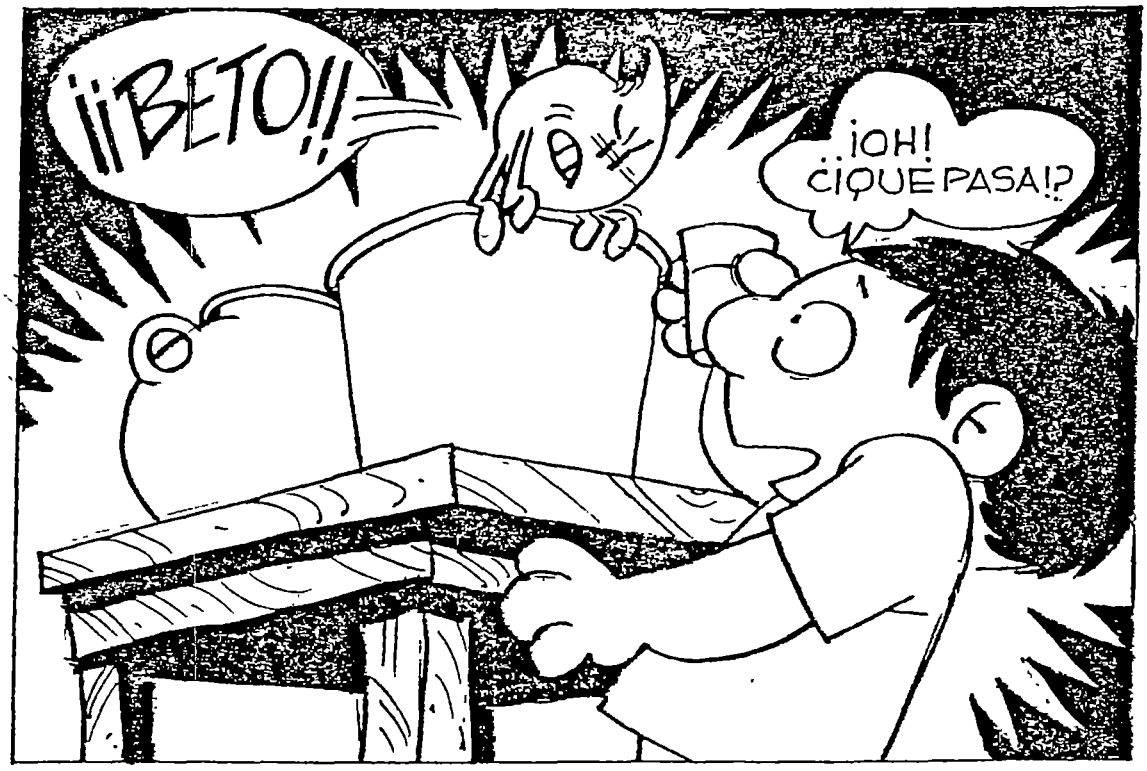

¡HOLA JUANITA!
¡HOLA BETO!


CON ESTE POZO DE BOMBA YA NO TENEMOS QUE IR HASTA LA QUEBRADA A TRAER AGUA...


¡QUE SALVADA!... AHORA ES MAS FACIL HALAR AGUA... ¿TE AYUDO CON EL BALDE?
BUENO GRACIAS...


CON ESTA BOMBA NOS SALVAMOS TAMBIEN DE MUCHAS ENFERMEDADES PORQUE EL AGUA NO ESTA CONTAMINADA ¿VERDAD?
¡QUIEN SABE! MI HERMANITA SIGUE TENIENDO DIARREAS Y LE DAMOS SIEMPRE AGUA DE LA BOMBA


¡QUE RARO! EL AGUA DE LA BOMBA ES PURA...
ASI DICEN...
¡TANTO HABLAR DE AGUA QUE YA ME DIO SED!..


¡¡BETO!!
¡OH! ¿¿QUÉ PASA!?


¿PORQUE CONTAMINAS EL AGUA DE JUANITA?
¿YO?


¡SI TU!... METISTE LA MANO DENTRO DEL AGUA...
SOLO ESTABA SACANDO AGUA PARA BEBER
¡PERO ASI NO SE SACA EL AGUA!...
¿Y COMO SE SACA PUES?
DEBES USAR UN CUCHARON PARA NO ENSUCIARLA CON LAS MANOS...
¡PERO MIS MANOS ESTAN LIMPIAS!...
LAS MANOS SE VEN LIMPIAS PERO ESTAN LLENAS DE MICROBIOS...


¿COMO SACAS EL AGUA EN TU CASA?
PUES METIENDO EL VASO EN LA OLLA...
¡YA VES! A LO MEJOR POR ESO TU HERMANITA TIENE DIARREA...


PERO EN MI CASA NO TENEMOS CUCHARON PARA SACARLA... ¿QUE PODEMOS HACER?
¡PUEDEN VACIAR EL AGUA EN EL VASO INCLINANDO LA OLLA!...


¡MUY BIEN JUANITA! LO IMPORTANTE ES QUE LAS MANOS NO TOQUEN EL AGUA...
EN LAS MANOS SE LLEVAN MUCHOS MICROBIOS QUE PRODUCEN ENFERMEDADES Y QUEDAN EN EL AGUA CUANDO LAS METES CON EL VASO...
DEJA ESA AGUA... LA USAREMOS PARA REGAR LAS PLANTAS BEBE DE ESTE VASO...
¡GRACIAS JUANITA!


¡AH!...¡QUE AGUA TAN BUENA!...
EL AGUA DEL POZO ES MUY BUENA Y NO ESTA CONTAMINADA PORQUE VIENE DE UNA CORRIENTE SUBTERRANEA MUY PROFUNDA...
¿QUIERES DECIR ¿QUE NO TIENE MICROBIOS NI SUCIEDADES...


¡CORRECTO! PERO... ¿SABEN USTEDES QUE EL LUGAR DONDE MAS SE CONTAMINA EL AGUA ES EN LA CASA?...
¡NO! ¡NO LO SABIAMOS ¿COMO ES ESO?


¡AH!... ES QUE DEBEN APRENDER ALGUNAS COSAS IMPORTANTES PARA USAR Y CONSERVAR EL AGUA EN LA CASA...
ENSEÑANOS PUES... ¿QUE DEBEMOS HACER?...


¡BUENO, ESCUCHEN!...HAY QUE COLOCAR EL AGUA A UN METRO DE ALTURA DEL SUELO PARA QUE NO LA ENSUCIEN LOS ANIMALES NI LE CAIGA POLVO


TAMBIEN HAY QUE TAPAR SIEMPRE EL RECIPIENTE CON UNA MANTA LIMPIA O CON UNA TABLA...


¡AHI Y NO OLVIDEN QUE LO MAS RECOMENDABLE ES USAR UN CUCHARON PARA SACAR EL AGUA DE BEBER...


CON RAZON... EN EL RADIO SALEN UNAS CANCIONES QUE DICEN QUE HAY QUE SACAR EL AGUA DE BEBER CON CUCHARON...


¡SI ES CIERTO!... ASI CANTAN...
DOÑA PURA LE DECIA A SU HIJA LA MENOR...
SI ME VAS A DAR UN VASO DE AGUA...
DAMELO CON CUCHARON...


SENCILLAMENTE...TAPE BIEN EL RECIPIENTE
¡OI, OI BETO!...


YA VEN PUES...SI NO SE CUMPLEN ESTAS COSAS EL AGUA SE CONTAMINA FACILMENTE...


DIAS DESPUES...
VEN A MI CASA JUANITA, QUIERO MOSTRARTE ALGO...


¡MIRA! MI MAMA TIENE TAPADA EL AGUA COMO DIJO LA GOTITA, Y MI PAPA COMPRO UN CUCHARON
¡QUE BIEN BETO! LOS FELICITO...
FIN

WATER AND SANITATION PROJECT / HONDURAS

SUMMARY OF THE PRODUCTION PROCESS AND APPLICATION METHODOLOGY

FOR HEALTH EDUCATION MATERIALS

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AED/PRASAR

Tegucigalpa, D. C.
April, 1984

CONTENTS

Contents have been selected for the whole educational campaign and later given the necessary treatment for each material addressing the four behavioral objectives set for the Project's efforts. Therefore, although we do investigate audience acceptance and listernership, our material have not been designed to be evaluated individually except when such materials represent an educational model by themselves as in the case of the Rural School Teaching Module.

It should be noted that although the Project's Educational Campaign is directed fo fulfill four behavioral objectives it also refers to a wider range of peripherical objectives in materials such as radio soap operas or the person to person approach.

BEHAVIORAL OBJECTIVES

As indicated before, our project has four main behavioral objectives to be reached. These were selected because they could be easily assessed without having to relay only on the beneficiaries answers.

These objectives are:

By the end of the Project the audience will:

1) Cover drinking water vessels
2) Use a laddle or pour drinking water from containers into glasses or cooking utensils,
3) Keep the latrine and surroundings clean and free of vegetation and animals.
4) Pay the necessary contribution to mantain the aqueducts

MATERIALS

Materials were developed to work synchronized, repeating, complementing and reinforcing each others message and supporting the person to person approach.

As an example for Objective #2 related to the use of a laddle or pouring water into the cooking utensils, materials were used as follows:

Radio

- Soap opera: The main character through a message dramatization talk about the problems and consequences of introducing the hands with a glass or other containers into potable water.

- Radio Spots: Gingles and dramatizations stress the dangers of not using a laddle or not pouring water from the container.

- Adult and Rural School Wallcharts: Walcharts explain through a sequence of three or four frames the problems of introducing the hands in water containers.

- Calendar: A visual and written message tells readers to use a laddle or pour drinking water from the container.

- Teaching Module: Teacher: Rural School children about the danger of introducing the hands into the drinking water container.

Promoters

- Person to person: By using the calendar and wallcharts as message decodification aids, promoters create a dialogue were groups explore the dangers of introducing the hands into drinking water containers.

Basically, six variables dominated the materials selection process and these briefly were:

1) Audience

- Understanding of the written graphic or audio messages.
- Acceptance of styles (colors, realistic illustrations for adults, humorous children illustrations for elementary school, tragicomic situations for soap operas, etc.)
- Visual perception problems in the interpretation of graphics concepts and codifications.
- Age and interests.

2) Purpose

- What message it should relay?
- Permits an effective treatment of the message?
- Reaches the programmatic objective?
- Will be easy to distribute?

3) Cost

- Is it cost effective?
- Could the message be relayed using a less expensive alternative?
- Is the production cost within budgetary means?

4) Field Applicability

- Could it be used in any field situation?
- Are spare parts available for any equipment used?
- Need especial rooms darkened or with electricity?
- Is easy to transport in the field?
- Could be distributed fast?
- Needs especialized and time consumming training for personnel to use it?

5) Effectiveness

. Is it the best channel to relay the educational message?
. Will it be useful to support the rest of the Educational Campaign effort?

6) Production Possibilities without Project funding

This perhaps was one of the most important factors considered in the materials selection, to find materials that could be produced within institutional means. Many very effective materials or models can not be replicated due to exhorbitant production costs or necessary technical knowledge.

Methodology

Educational materials used in our Project and in general the whole educational system might be considered traditional and perhaps unsophisticated. The main difference is the methodology used in message proparation and teaching dynamics.

All materials weredesigned to create awareness among learners, about problems within the community and their influence on the family's health promoting and analitic rationalization of the real situation through dialogue and active participation.

Psychosocial dynamics for community education were adapted and sucessfully applied to health education for the person to person approach. Flip charts with illustration codifying the water and sanitation realities of rural communities are used by health education promoters to stimulate a dialogue with group members through which participants themselves recreate their community's living conditions analysing their problems and proposing solutions. Health promoters are moderators of the resulting interaction reassuring and supporting the ideas being generated by the method's dynamics.

Other organizations in the field demonstrated great interest in this

particular educational model. World Relief, CEDEN and Plan de Honduras have sent their promoters to be trained in our Project and are using the same approach and materials. The Water and Sanitation Project of the Ministry of Health/AID in Dominican Republic has adapted the flip Chart and Education Approach and it is used by the Project's Promoters on Health Education meetings.

RESULTS OF THE PROJECT'S CAMPAIGN

At the end of the second year of the Project and first year of the campaign's implementation, an investigation was conducted to gather information about the effect of the Educational effort in the field.

A random sample of 520 people from communities in the five Honduran Departments where the Water and Sanitation Project is being implemented indicated that an average of 75% of the people interviewed were observing the four practices recommended by the educational campaign.

Evaluation plans schedule a similar investigation at the end of 1984 and another for July 1985 to assess the final results of the Project.

Attachment P

Flexiflans and Community Mapping

Flexi-flans

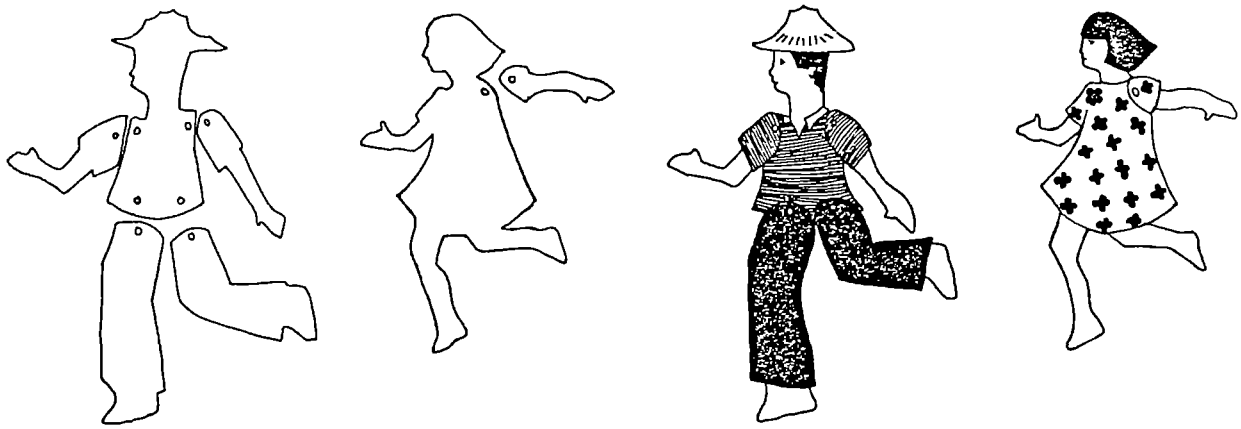
SETTING: A community meeting to explore problems.

TIME: 1 hour

PURPOSE: To provide villagers with a visual means of expressing their ideas and to facilitate discussion of their needs, problems and aspirations.

PREPARATION: Flexi-flans are cut-out figures (12 cm.-16 cm.). They have moveable joints, and are able to take on a variety of attitudes and postures. They are used on a large board that is covered with flannel or burlap, and to which the flexi-flans can be affixed easily.

1. Sketch the figures' individual parts on sheets of thick paper or cardboard, then cut them out. Color the parts with marking pens or paint before assembling them. Details of features can be drawn with a fine point marking pen after assembly.
2. Fasten joints with eyelets or sew them so that they are flexible but stiff enough to hold position.
3. Glue one or two squares of sandpaper or other coarse material on the back of each figure.



Types of flexi-flans needed: The greater the variety of figures and objects represented, the easier it is for participants to convey their ideas fully and clearly. Many types of people are needed: young and old, boys and girls, healthy and sick. Cut-outs of figures such as livestock, tools, vehicles, trees and crops, gardens, rivers and pools, houses, schools, health centers and other buildings, and other objects common to the community should also be made for composing realistic stories and scenes.

PROCEDURE:

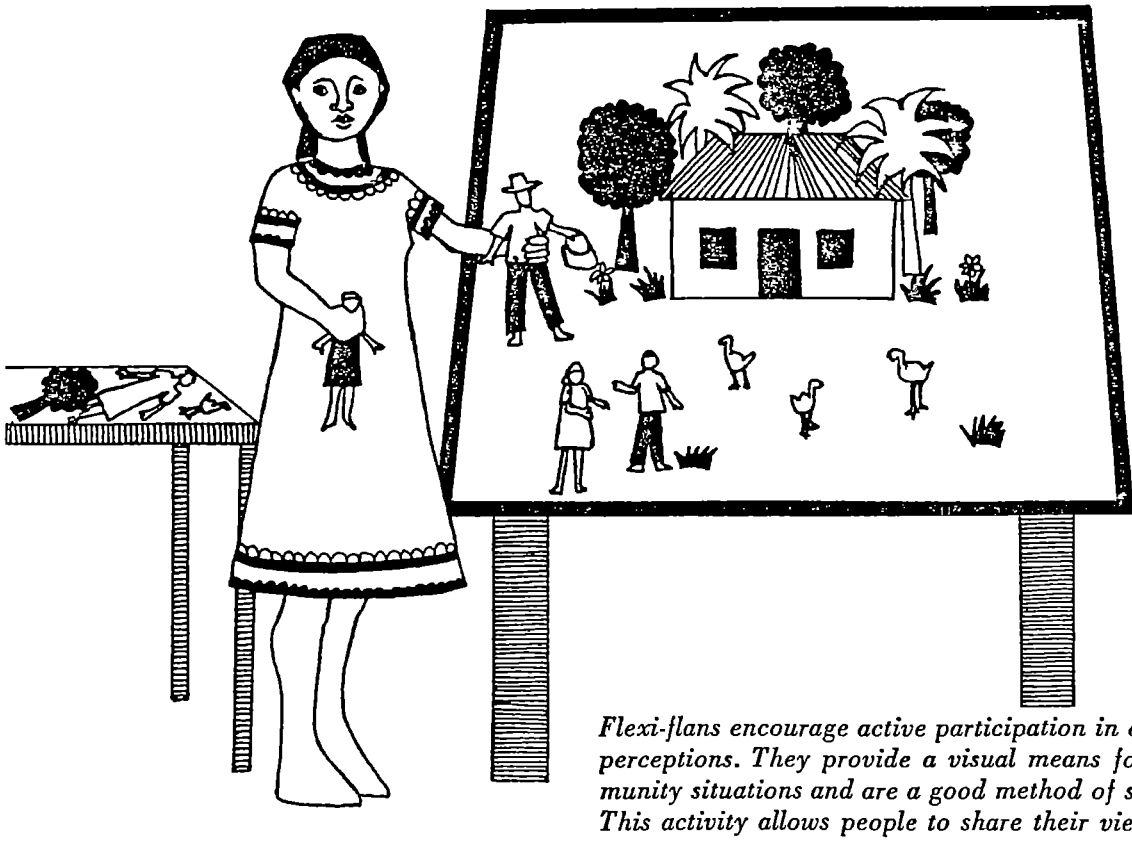
1. Introduce flexi-flans as a way to depict community life. Explain that the figures can be flexed to take on different positions and to represent action.
2. Invite a few volunteers from the meeting to come forward and choose flexi-flans and place them on the flannel board to depict a situation in their community. They can also focus on certain problems or needs in the community.

3. The participants placing the flexi-flans can explain the situation they have depicted. Others can be asked for their observations on the situation or problems, and what they would do to resolve problems that arose during the discussion.

OTHER USES: Flexi-flans can also be used to help resolve a conflict between two participants with opposing views. If each composes a scene to illustrate his or her views of the situation, the differences can be discussed more easily.

When a community problem has been depicted with the flexi-flans, the participants can rearrange the figures to represent their aspirations for the community.

Cut-outs: If it is too difficult to make the figures flexible, you can make cut-outs of people in varying postures and with different attitudes. These are easier to make but you may need to make a greater number to have the various positions that a flexible figure can take on.



Flexi-flans encourage active participation in expressing ideas and perceptions. They provide a visual means for representing community situations and are a good method of starting a discussion. This activity allows people to share their views instead of focussing upon the views of the community worker. The worker's role is to create a relaxed atmosphere, to encourage people to speak, to be receptive to their views, and to start a discussion incorporating the ideas expressed.

Designed by Lyra Srinivasan and used in the workshops and villages in the Dominican Republic and in Indonesia.

Community Map

SETTING: A community meeting.

TIME: 1–2 hours

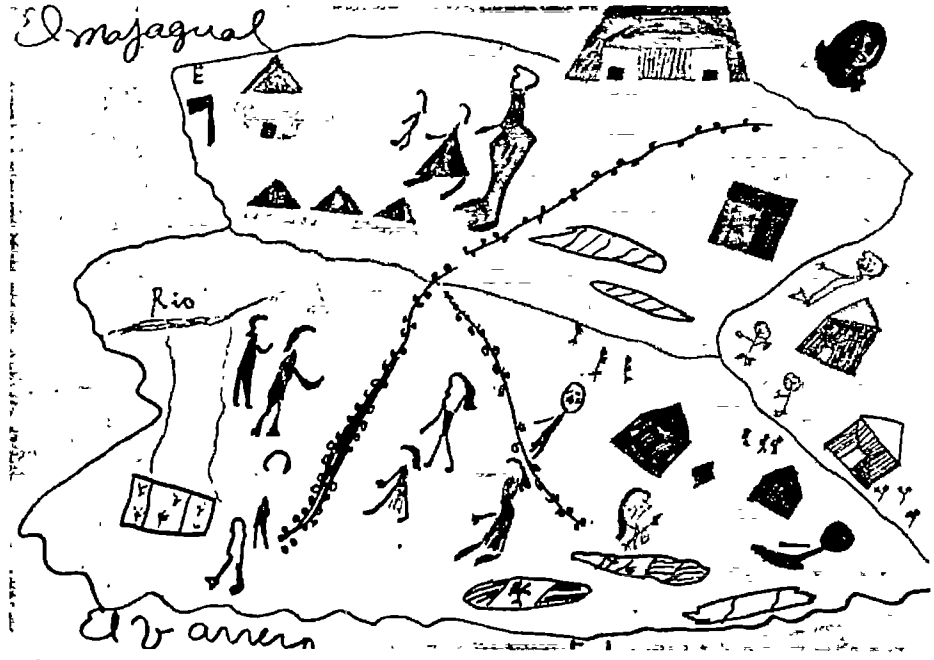
PURPOSE: To portray with community members the physical characteristics, the resources, and the health and nutrition problems in their community.

PREPARATION: For making the map you will need a large piece of thick paper, a pencil, ruler and marking pens.

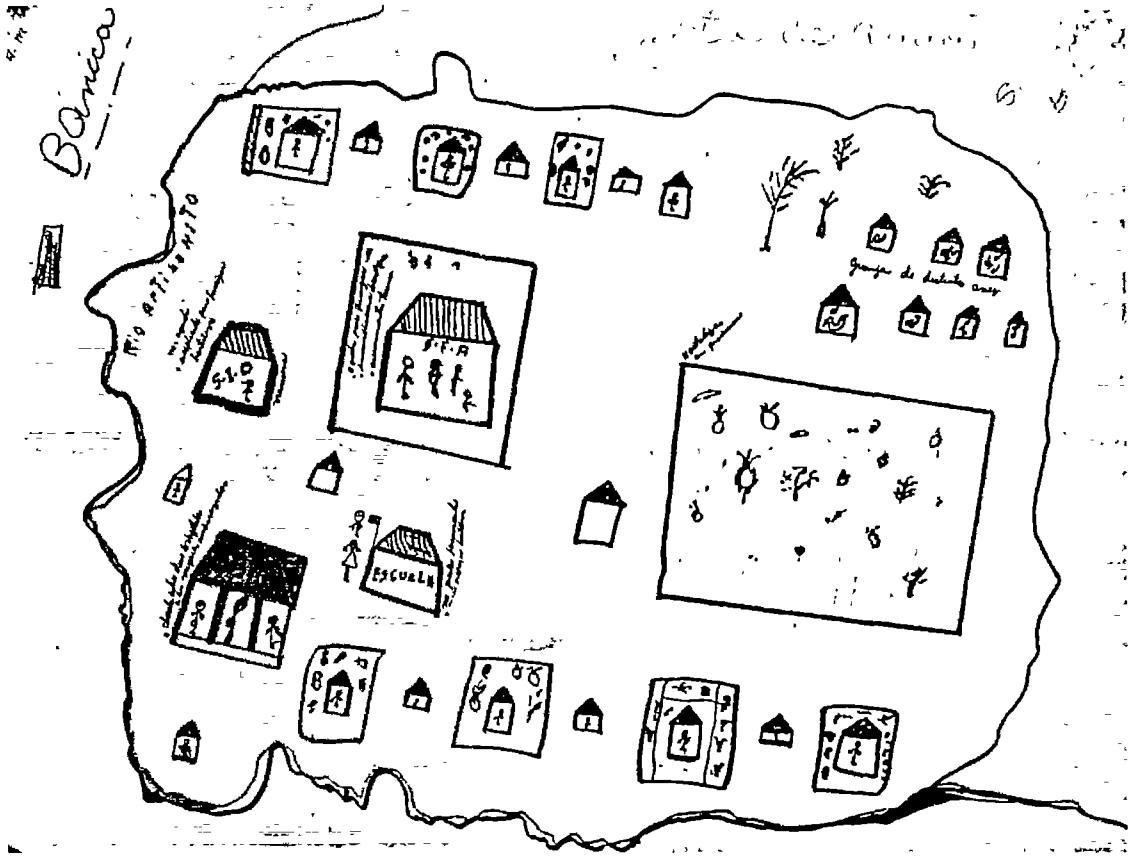
PROCEDURE: Prepare a basic map with the roads and some houses in the community, enough so that the people can orient themselves.

1. Ask the community members to think about what *resources* they have in their community that could be drawn on the map. These might include schools, clinic, gardens, rivers, etc. Draw these with different colored markers. If there are people who like to draw, ask them to help draw the map.
2. Ask the community members to think about the *problems* that exist and draw them on the map. Problems might include contaminated water, disease, dry land, etc.
3. Discuss what has been depicted in the map and what are the *causes* of the problems mentioned by the community members—causes such as people defecating near the water source, no water for irrigating the dry land, etc.

Note: Instead of drawing the resources, one could have cut-outs to represent resources found in the communities and tape them onto the map. As the community members get involved in projects, one could continue adding new resources to show improvements.



Community map, Dominican Republic.



Community map, Dominican Republic.

OTHER USES: This activity can be adapted and used with health workers to portray the conditions in the community where they work and the type of work they do. Or it could be used to depict a more detailed exploration of specific problems, such as children's health and nutrition problems.

1. Ask the health workers to prepare a map of the community in which they work including services, houses, resources, and health and nutrition conditions. Ask them also to depict community problems that they perceive are important.
2. When the maps are completed, have the participants compare and discuss their maps, working in groups according to regions. In the large group, a representative of each small group can present the conclusions of the discussion.

Drawing a map involves people in the creation of a visual picture of their community. This map could be put up in a community center for people to look at and learn about the community.

Source: Bridging the Gap: A Participatory Approach to Health and Nutrition, Save the Children, 1982

Adapted by Solange Muller and used in workshops in the Dominican Republic and in Mexico.

WATER AND SANITATION FOR HEALTH PROJECT

Operated by
CDM and Associates

Sponsored by the U.S. Agency for International Development

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March 8, 1985

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The Netherlands

Dear Colleague:

I am pleased to send you the enclosed report entitled Developing and Using Audiovisual Materials in Water Supply and Sanitation Programs (WASH Technical Report No. 30), prepared by Barry Karlin and Raymond B. Isely. The purpose of the report is to promote the production of locally made audiovisual materials specific to the content and needs of water supply and sanitation programs. The contributions of 35 organizations in 26 countries provide a basis for believing that it is possible for an organization in a developing country with limited resources to produce materials that are attractive, useful, and culturally appropriate.

We are sending you only one copy at first, but if you wish to order more copies, you may do so by writing to:

WASH Information Center
1611 N. Kent Street, Room 1002
Arlington, Virginia 22209
USA

It is our hope that this report will be useful and stimulating to those engaged in educational efforts in water supply and sanitation programs the world over.

Sincerely,

for Craig Hafner

Craig R. Hafner
Acting Director

CRH:kk


WASH