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FIELD TESTING

PRELIMINARY VERSION OF

PRIMARY HEALTH CARE

MANAGEMENT ADVANCEMENT PROGRAM

GILGIT - PAKISTAN

WASH FIELD REPORT NO. 275

OCTOBER 1989

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WASH Activity No. 527

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Prepared for the Office of Private and Voluntary Cooperation
Bureau for Food for Peace and Voluntary Assistance
U.S. Agency for International Development
under WASH Activity No. 527

by

Janice Jaeger Burns

October 1989

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ACRONYMS

AID	Agency for International Development
AKES	Aga Khan Education Services
AKF	Aga Khan Foundation
AKHIB	Aga Khan Housing Board
AKHS	Aga Khan Health Services
AKRSP	Aga Khan Rural Support Program
AKU	Aga Khan University
ARI	Acute Respiratory Infections
CHD	Community Health Division
CHN	Community Health Nurse
CHS	Community Health Services
CHS/URC	Center for Human Services, not-for-profit affiliate of University Research Corporation
CHW	Community Health Worker
EPI	Expanded Programs of Immunization
FD	Field Director
GM	General Manager
GOP	Government of Pakistan
LHV	Lady Health Visitor
MAP	Management Advancement Program
MIS	Management Information System
MOH	Ministry of Health
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PRICOR	Primary Health Care Operations Research
SO	Social Organizer
TBA	Traditional Birth Attendant
UNICEF	United Nations Children's Fund
URC	University Research Corporation
VO	Village Organization
WASH	Water and Sanitation for Health
WO	Women's Organization

DEFINITIONS

<i>Maulana</i>	Sunni or Shia Community Religious Leader
<i>Mukhi</i>	Ismaili Community Religious Leader

EXECUTIVE SUMMARY

At the request of the Aga Khan Health Services (AKHS) and USAID/Pakistan, the Water and Sanitation for Health (WASH) Project sent Janice Jaeger Burns to Pakistan for three weeks in July 1989 to field test a preliminary version of primary health care (PHC) management tools in water supply and sanitation. The field test was carried out in the Puniyal valley of the Gilgit district, which is located in the Northern Areas of Pakistan.

The following is a summary of findings and recommendations:

Findings

1. The objective of the Management Advancement Program (MAP) "to advance the state of the art, science, and practices of PHC program management by providing PHC managers with tools to assess program management, identify areas that need strengthening, and develop and implement management improvement plans" was understood by program managers according to their need and role in implementation.
2. The methodology—which includes household surveys, key informant interviews, observations of health worker performance, record review, management self-assessment, and monitoring of key indicators—was understood and effectively applied at the local level.
3. The MAP modules represent a flexible array of information-gathering tools. The step-by-step program is designed so that the user can select modules and indicators according to need. How often the full MAP or partial MAP is applied depends on program need.
4. Levels of personnel required for application of the methodology include physician field supervisors, community health nurses (CHNs), lady health visitors (LHVs), and literate community health workers (CHWs). Each category was trained and functioned at expected levels and above.
5. The modules were generally appropriate; there were some content additions and modifications.
6. Microcomputers are commonly used in Gilgit by the Aga Khan Rural Support Program and in peri-urban Karachi by the Aga Khan Health Services. The ongoing monitoring program of the MAP could justify the purchase of microcomputers and the training of staff.

7. The field test was implemented effectively with local health services personnel and literate community health workers.
8. The costs for implementation of the full MAP are estimated by category of personnel and the number of hours each.

Personnel	No. Hours Each
Physicians (2)	100
CHN (1)	100
LHVs (6)	56
CHWs (30)	30
Computer systems analyst (1)	16
Data entry clerks (2)	24

9. The specifications for the MAP were met.
 - Materials are short, simple, and easy to use.
 - Implementation requires only limited initial technical assistance.
 - Tools are appropriate for use in a decentralized system below the district level.
 - The methodology is appropriate for a rural environment.
 - The tools with modifications for the local situation adequately reflect the needs and capabilities of primary health care managers.

The following are some specific observations about the current WS&S practices in the test area in Gilgit, based on the field testing of the household survey instrument.

- Glacier-fed open channels are accessible from family compounds.
- Traditional water sources are reliable, except periodically during the winter when ice must be melted.
- 50 percent of water coolers observed were not clean.
- 10 percent of households train children 4-6 years to use the latrine.
- None of the families have a training potty for children ages 1-3.
- 75 percent of families throw garbage into the field.

- 7-8 categories of personnel were identified by the community as resources for health education. Physicians were included in the list, which is unusual and demonstrates the community orientation of physician preparation and supervision.
- There is a problem with changing filters often enough and with quality control.
- There is need for a better understanding of the concept of contamination.

Key indicators were identified through the MAP field test and through application of Modules 2, 3, and 4. Targets suggested by staff include:

- Percentage of homes having an improved water source: 75% target
- Percentage of schools having an improved water source: 100% target
- Percentage of homes having clean, whitewashed latrines which are in use: 75% target
- Percentage of schools having clean, whitewashed latrines which are in use: 100% target
- Percentage of families with children 1-3 have a baby training potty: 50% target
- Percentage of homes having soap for personal hygiene: 100% target
- Percentage of schools having soap for handwashing located near water source: 100% target
- Percentage of village organizations, women's organizations, schools, Jamat Khana/mosque receiving training, and cooperating in planning, implementation, and monitoring of water, sanitation, and hygiene education programs: 90% target
- Percentage of CHWs inspecting and advising in water use and storage, latrines, and baby training potties and recording indicators of mothers' hygiene education: 50% target
- Percentage of LHVs inspecting and advising in water use and storage, latrines and baby training potties and recording indicators of mothers' hygiene education: 90% target
- Percentage of CHWs selling baby training potties and fly swatters: 75% target

Recommendations

1. Field testing demonstrated that the MAP is appropriate and feasible. MAP development should move forward quickly because inadequate information for the managerial process was reported by practically all countries globally in the 1987 "Evaluation of the Strategy of Health for All by the Year 2000."
2. PHC components of the MAP currently under development should be completed and field tested.
3. Guidelines and training materials currently under development for self-instruction, formal, and in-service training, and as an on-the-job reference should be completed rapidly and field tested.
4. When indicated, the MAP should be introduced at the local level by a primary health care manager who has in-depth familiarity with the MAP and with the local language.
5. The MAP is most effectively introduced through an orientation program linked to a team planning meeting.
6. Water and sanitation tools should be linked or integrated with other PHC elements as defined in the PRICOR/Aga Khan Foundation management program.
7. The MAP should be considered for inclusion in WASH programming in:
 - community management—where the MAP can provide a link to the health services;
 - institution building—where the MAP can strengthen the managerial structure of the health services below the district level; and
 - linking water supply to child survival—where the MAP can be an important resource for designing integrated projects at the local level.

Chapter 1

BACKGROUND TO THE ASSIGNMENT AND SCOPE OF WORK

The Aga Khan Health Services (AKHS) has become one of the largest private sector, non-profit health care networks in the Third World, serving more than two million people in five Asian and African countries¹. The Aga Khan Foundation (AKF) places considerable emphasis on improved management in primary health care (PHC) through the development of skills and technologies appropriate to the local setting. A small steering committee² which includes Dr. David Nicholas, Director, PRICOR Project, managed by the Center for Human Services³/University Research Corporation (CHS/URC), and Dr. Jack Reynolds, consultant to the Aga Khan Foundation, also of CHS/URC, has begun to conceptualize a PHC Management Advancement Program (MAP).

CHS/URC's Primary Health Care Operations Research (PRICOR) Project has conducted a systematic analysis of the management aspects of primary health care programs in twelve countries. These analyses describe the delivery of child survival services, and how training, supervision, logistics, and management information systems support these activities in the field. The result is intended to give managers tools for more routine active monitoring and program adjustment.

AKF and PRICOR have agreed to collaborate in the development of the proposed MAP, intended to be widely applicable to both private and public PHC systems in developing countries. It aims to provide PHC managers with tools to assess the management of their PHC programs, identify areas that need strengthening, and develop and implement management improvement plans; and to develop and field test practical, prepackaged management information modules for use by PHC program managers.

The management tools to be developed and tested are to be short, simple, and easy to use. They should not require prior training or technical assistance, and are to be designed for use within a decentralized system, at or below the district level in rural or peri-urban areas.

The ultimate goal of PHC MAP is to enable PHC managers to strengthen program management and, thereby, improve the coverage, effectiveness, equity, and, of critical importance, the efficiency (cost-effectiveness) of PHC programs.⁴

¹ Bangladesh, India, Kenya, Pakistan, Tanzania

² Aga Khan Foundation (Wilson, Smith), Aga Khan University (Bryant), Aga Khan Health Services (Steeles), Duke University Medical Center (Echols), CHS/URC (Reynolds, Nicholas)

³ Not-for-profit affiliate of University Research Corporation

⁴ Primary Health Care Management Advancement Program 1989-1991. Aga Khan Health Network Program in collaboration with Primary Health Care Operations Research (PRICOR) Draft Proposal, July 1989

The full MAP will address the management of eight PHC services: oral rehydration therapy (ORT); expanded programs of immunization (EPI); growth monitoring and nutrition improvement; antenatal, delivery, and postnatal care of women and infants; acute respiratory infections (ARI); child spacing; water supply, sanitation, and hygiene education; and risk factor management in family health.

The Water and Sanitation for Health (WASH) Project of AID has accumulated a great deal of knowledge and experience over its eight-year history in more than 60 countries on how to design and implement sustainable water and sanitation systems. WASH's emphasis has been on the social and institutional aspects of water and sanitation projects as well as on technical issues.

WASH, therefore, is collaborating with AKF and PRICOR in the development and field testing of prototype instruments for the water supply, sanitation, and hygiene education component of the proposed MAP.

The data collection instruments were drawn from the draft water and sanitation chapter of the PRICOR Thesaurus⁵ with input from WASH technical staff. Local managers in Gilgit collected, processed, and utilized the management information and assessed the appropriateness of the instruments and the MAP methodology.

The full MAP consists of seven modules. In cooperation with PRICOR and AKHS, WASH has developed and field tested the first five for the water supply and sanitation component. This report documents the field-testing experience and suggests ways to improve the MAP methodology and its implementation.

⁵ Primary Health Care Thesaurus (also referred to as the PRICOR Thesaurus). Bethesda, MD: Center for Human Services. Primary Health Care Operations Research (PRICOR) Project. May 1988.

Chapter 2

INTRODUCTION

2.1 Aga Khan History and Tradition

The lineage of the Aga Khan, head of the Ismaili sect, goes back 49 generations and more than 1,400 years to Ali, the cousin and son-in-law of the prophet Mohammed. The Aga Khan is the Imam, or social and religious leader, of more than 15 million Ismailis in 25 countries but predominantly in Pakistan, Syria, India, Kenya, Tanzania, and Bangladesh. They support the works of the Aga Khan through cash donations, and have made major contributions to the growth of Islamic civilization through cultural, religious, and intellectual activities. Institution building began with the founding of al-Azhar university, mosque, and hospital in Cairo in the year 950. Also founded in Egypt was the Dar-al Ilm academy of science. More recently, the Aga Khan university (AKU), hospital, and medical and nursing schools were established in Karachi, Pakistan, in 1983.

The imperative of philanthropy is a central tenet of Islam, which teaches that people should not only provide for themselves but also support those in need. The Aga Khan Network, an institution which deals with the social, economic, and cultural aspects of development, goes back to the 1890s. Its purpose is to provide an institutional structure for what have been essentially uncoordinated and localized social welfare programs. Historically, programs were run mainly for the benefit of the Ismaili communities, which were then limited to the Indian subcontinent and East Africa. Today, the guiding principles of the Aga Khan Network are:

- self-sufficiency, self-help, volunteerism;
- sound management;
- knowledge of local conditions;
- use of best appropriate technology;
- noncommunal, nondenominational assistance; and
- cooperation and collaboration with government and development agencies.

The network stretches from America and Europe to Africa and Asia, and spans a broad range of activities from the support of isolated communities in Pakistan and India to efforts to influence the development policy climate in the Third World.

The Aga Khan Network has three major thrusts⁶:

- The Aga Khan Foundation, set up in 1967, seeks a fresh approach to the basic problems of health, education, and rural development in developing countries.

In health, it emphasizes the roles of the family, nutrition, and the community. In education, it focuses on early childhood, the school curriculum, teacher training, and education for girls. The Aga Khan Education Services (AKES) has sponsored 124 primary schools for girls in the Northern Area of Pakistan. The boys attend government schools. Rural development efforts concentrate on generating income and employment and the management of renewable resources. The foundation has programs in 12 countries and has developed close working relations with approximately 30 international development agencies.

- The Aga Khan Fund for Economic Development was founded in 1984. Like the social development programs, the fund serves not just the Ismaili community but the broader public. Its interests include manufacturing, industry, agriculture, tourism, and financial institutions. It encourages expansion of the private sector and has played a key role in setting up more than 60 new enterprises employing over 10,000 people in 10 countries.
- The Aga Khan Trust for Culture, incorporated in 1988, aims to foster a better understanding of Islamic civilization through an appreciation of its architecture, arts, and other cultural accomplishments. The fund strives to counter the negative image of Islam in the West by stressing the broad, humanist Islamic vision which seems to have been lost in recent years. The Aga Khan Award for Architecture was set up in 1976 to encourage an architecture for Muslims appropriate to the twentieth century. The \$500,000 award is made every three years by an international jury.

The Aga Khan's interest is not just to reward architectural achievement but also to promote the education of architects. In 1979, the Aga Khan Program for Islamic Architecture was established at Harvard University and MIT. Plans are now underway to establish parallel centers at Dawood College of Engineering and Technology in Karachi and the University of Jordan in Amman.

To spread an appreciation of Islamic culture, the fund has set up a publishing company and a public gallery. Concept Media based in Singapore produces a quarterly journal as well

⁶Development Network. Aga Khan Development Institutions, 1988, 1989

as monographs on Islamic architects and architecture. The Zamana Gallery in London organizes exhibitions intended to promote a dialogue between the Western and Islamic worlds.

These programs, institutions, and ideas provide a framework for what the Aga Khan describes as the "great duty of this generation—the unshackling of the Third World."

2.2 The Aga Khan Foundation in Primary Health Care

The AKF has sponsored considerable social and economic development activity in Asia and Africa, placing constant emphasis on improved health care management through the collaborative efforts of the foundation, the AKU, and the AKHS. It has sponsored workshops and conferences on the following topics:

- The Role of Hospitals in Primary Health Care, 1981;
- Monitoring and Evaluating Health Care Programs, 1983;
- Planning and Managing Primary Health Care Programs, 1984;
- Primary Health Care Technologies at the Family and Community Level, 1985; and
- Management Information Systems and Microcomputers in Primary Health Care, 1987.

Since 1984, when the AKHS confirmed a commitment to primary health care in the "Declaration of Nairobi," nine PHC programs have been initiated in five Asian and African countries—Bangladesh, India, Kenya, Pakistan, and Tanzania. The commitment is particularly significant in view of the fact that the AKHS serves more than two million people annually.

The Aga Khan Network has been active in Pakistan for more than 75 years and in the last 25 years has emerged as a professionally administered, highly effective organization. It has been active in the Northern Areas of Pakistan since 1964, beginning with a health center in Gilgit. The population of the area is 800,000—approximately one-third belonging to the Ismaili sect. In 1985, the AKHS in collaboration with the community health services (CHS) department at the AKU made a long-range plan for the provision of more effective community-based health services through its network of health facilities in Pakistan. The plan involves a three-phased strategy:

- Phase I: Reorient health manpower through training programs to community-based health care.
- Phase II: Establish sequential, pilot community-based PHC programs in two high priority areas—the Punial valley of Gilgit district and the Gram Chashma area of Chitral district.

Phase III: Establish and extend community-based PHC programs in areas surrounding AKHS health and medical centers, and in other remote areas in Pakistan.

2.3 The Punial Valley, Gilgit, Site for Field Testing

The Punial valley is one of four in Ghizzer tehsil of Gilgit district, the other three being Ishkoman, Yasin, and Gupis. The villages in the valley are situated on the banks of the Punial river. Singal is the central village about 50 km (2 hours) west of the town of Gilgit. The remaining 28 villages are within a radius of 20 km from Singal.

2.3.1 The Geography and People

Gilgit district is in the Himalayas in the northernmost part of Pakistan and is bordered by China, India, and Afghanistan. The Punial valley serves as the gateway to the other valleys of the region. Singal is surrounded by 42 villages and subvillages which are accessible through unimproved roads. Landslides are frequent but communities respond quickly in a spirit of self-help to clear them. The altitude of the area ranges from 1,300 to 3,000 meters. Accessibility is hampered by snow about three months of the year. Helicopter pads are spotted along the Punial river.

The people of the Punial valley are proud, hardy, and resilient, surviving in the harsh natural conditions and isolation of the Northern Areas. The population of the valley is 24,000, with an average household of nine members. The people are of Aryan, Mongolian, Tibetan, Turko-Iranian, and Caucasian heritage, and are adherents of three major Islamic groups—Sunni, Ismaili, and other Shias.

In 1973, the Government of Pakistan (GOP) abolished the princely kingdom of Gilgit and the area became one of the districts of Pakistan. The practice of slavery was abolished at the same time. The economic and strategic situation of the area has changed dramatically since the opening in the late seventies of the Karakoram Highway which links China and Pakistan. Tourism entering Gilgit through China has been severely reduced this year by the events in Beijing. The area remains isolated and is 14 hours by road (if there are no landslides) from Islamabad, the Pakistani capital, which lies to the south. Pakistan International Airlines operates daily flights except when cloud cover makes navigation between the Himalayan peaks hazardous.

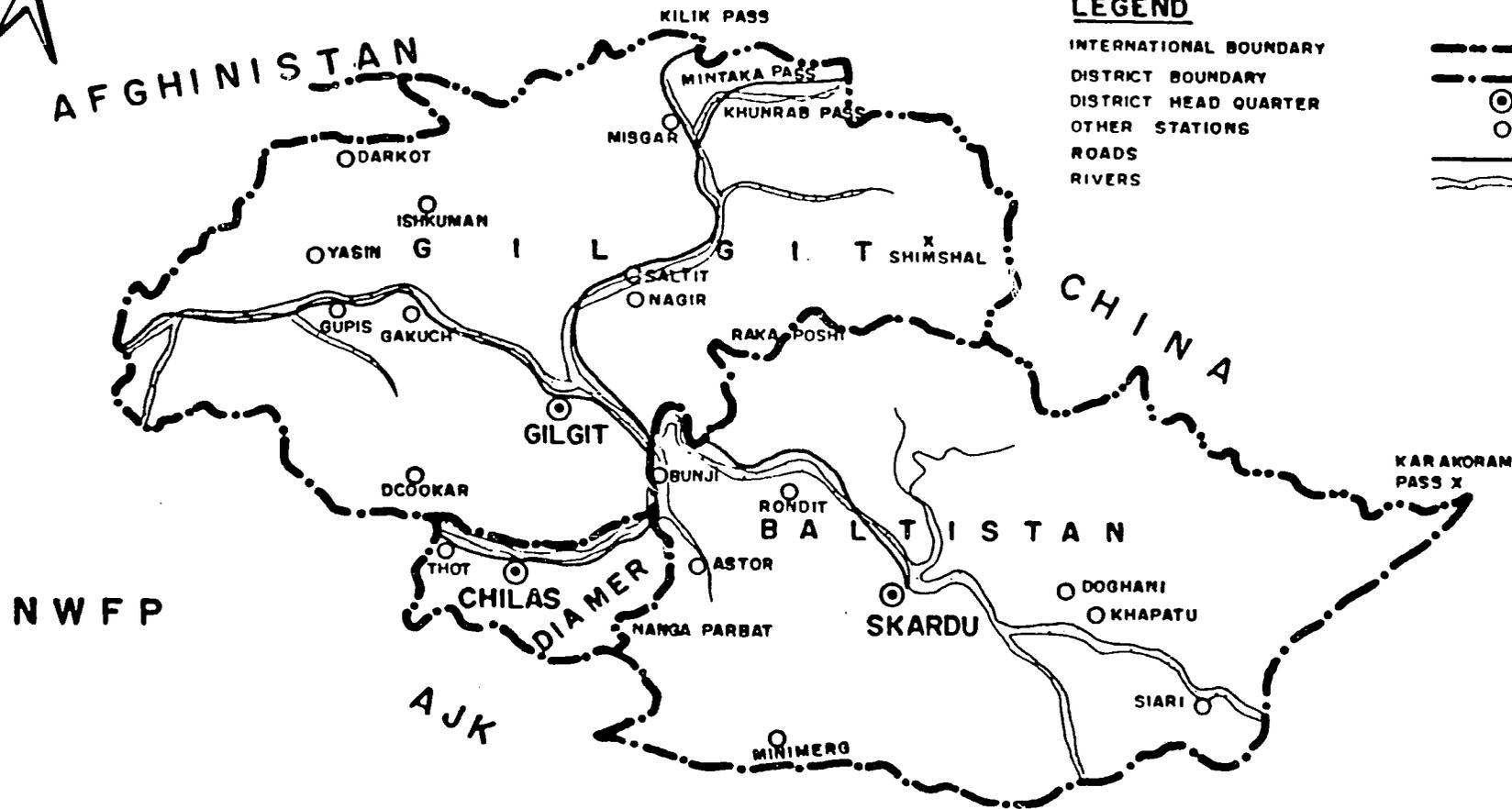
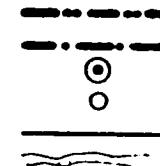
NORTHERN AREAS

SCALE 1 2,400,000



LEGEND

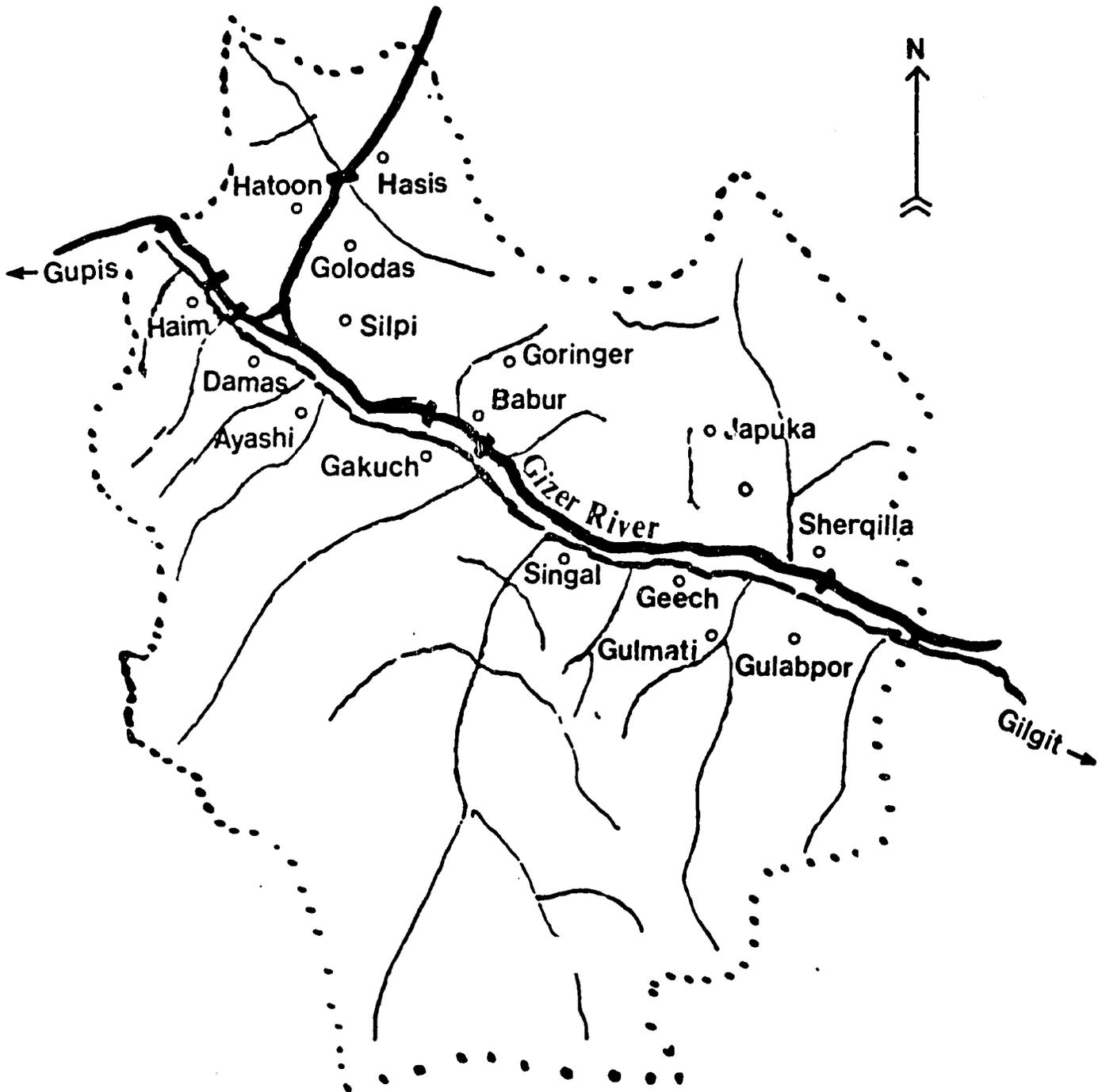
INTERNATIONAL BOUNDARY
DISTRICT BOUNDARY
DISTRICT HEAD QUARTER
OTHER STATIONS
ROADS
RIVERS



JAMMU & KASHMIR

FIG. 2-1

MAP OF PUNIAL VALLEY AND
LOCATION OF VILLAGES



2.3.2 Aga Khan Health Services

The AKHS project has headquarters in Gilgit, and a field office, two health centers, and a medical center in the Punial valley. The health centers, located at Sherqilla and Gakuch, are modest dwellings converted for clinical services, deliveries, and living quarters, each staffed by a lady health visitor (LHV). The medical center, at Singal, was designed by a French architect and built in 1984. It draws on local materials and the traditional architecture of the area, can house 10 inpatients, and provides backup care for the two health centers. It is staffed by a community health nurse (CHN), two LHVs, a trained midwife, two physicians (field director and deputy), and an administrative coordinator who is responsible for office documentation and accounts.

Three Tiers of Primary Health Care Support⁷ (population approximately 30,000)

<u>Personnel</u>	<u>Services</u>
1. Field director and deputy (physicians), community health nurse (CHN), trained midwife	Direct care, management of referrals, field supervision
2. Lady health visitors (LHVs)	Outreach, home visits, direct care, referrals
3. Community health workers (CHWs) (40 male and 50 female on the basis of 2 for every 750 of the population; 50 percent literate), traditional birth attendants (TBAs)	Home visits, care from home or workplace (example: shop, religious center), use of first aid kit which includes drugs for treating the most common health problems.

Major support for the mobilization and management of primary health care interventions comes from the volunteer CHWs, of whom 40 are male and 50 female and who work with the TBAs. Approximately 50 percent of the group are literate. The average age for males is the late thirties and for females the mid-twenties, while for TBAs it is the early forties. CHWs come from various backgrounds including retired military, shopkeepers, religious leaders, presidents of village or women's organizations, housewives, and traditional birth attendants.

The nomination of persons for training as CHW/TBA is left entirely to the village and women's organizations. The few individuals who approached the health services directly were referred back to the village organization (VO). All CHWs are members of the VO, and quite a few are officers as well. The CHW training objectives and curriculum were developed in cooperation with the community health

⁷ A Program of Primary Health Care in the Punial Valley of Gilgit: A Progress Report. Aga Khan Health Services, December 1988

services (CHS) and community health division (CHD) of the AKU in Karachi. The mainstay of the training, however, is the CHW manual developed by the GOP's Ministry of Health (MOH). The duration of training is two weeks, five hours per day, for a total of 70 hours. After the completion of training, CHWs are given a kit containing medications for treatment of the most common health problems including eye infections, upper respiratory infections, and malaria. TBAs are given kits through the courtesy of UNICEF along with an illustrated booklet titled Dai Nama. Both are given health education posters on breastfeeding, nutrition, ORT and immunization. The posters are meant for display at their residences or places of work. Besides disseminating information, the posters serve to identify the locations of the CHWs. Drugs are sold to the CHWs at a discount and are resold to the community at market prices. Iron, ORS, and multivitamins are distributed free. The AKHS is manufacturing salt enriched with iodine which is available in local shops.

The CHW is not paid by the program. Incentives are left to the VOs and include the following:

- Voluntary service,
- Fee for services (cash or in-kind),
- Salary from the VOs,
- Proceeds from the sale of medications, and
- Combinations of the above.

Some simple indicators currently being used for monitoring CHW performance are:

- Number of health talks given,
- Immunization completion rate,
- Number of ORS packets distributed,
- Number of growth charts up to date,
- Number of patients attended,
- Number of pregnant women with three or more prenatal visits,
and
- Percentage of at-risk patients appropriately referred.

Chapter 3

THE MANAGEMENT ADVANCEMENT PROGRAM

In 1988, the AKF set up a committee to develop a PHC MAP to strengthen the effectiveness, efficiency, and equity of programs within and outside the Aga Khan Network. This activity, to be carried out by the network in collaboration with CHS/URC, Duke University Medical Center, and Water and Sanitation for Health, is partly funded by AID.

A MAP steering committee, composed of representatives of the aforementioned collaborators, is to provide guidance to the program in policy, planning, implementation, monitoring, and evaluation. This includes the development of the PHC management information modules, field testing, revision, and distribution of products.

3.1 Definition of PHC Management

The MAP steering committee defined the term "PHC Management" within the context of developing countries as: *"an activity or set of related activities which encompass the systematic assessment of primary health care needs and health-related resources of a clearly delineated population, and the best use of these resources to meet the priority needs of the population in an effective, efficient, and socially sensitive manner."*

PHC management is seen by the steering committee as having the following attributes:

- "Efficiency in assessing health needs and resources on an ongoing basis to enable the PHC program to allocate existing resources effectively so as to improve the health, environment, and health practices through health education resulting in improved health status of the defined population;
- "Leadership, such that the nature and style of decision making and relations with personnel, communities, and other organizations are sensitive to the local development context;
- "Resource mobilization under conditions of resource scarcity relative to need;
- "Capacity for maximizing the productivity of health personnel and voluntary workers by instilling a sense of participation, belonging, responsibility, and accountability in relation to the various roles of health personnel and voluntary workers."

3.2 Program Objective

The central purpose of the MAP is the development of tools to help PHC managers collect, process, and utilize management information, while the principal objective is:

"To advance the state of the art, science, and practices of PHC program management by providing PHC managers with tools to assess the management of program, identify areas that need strengthening, develop and implement management improvement plans. The materials are to be designed to be useful for a) self-instruction, b) formal training and coursework, c) in-service training and as an on-the-job reference."

The management tools to be developed and tested are to be short, simple, and easy to use, and should not require highly specialized training or technical assistance. Tools are to be designed for use within a decentralized system, at a level below the district level in rural or peri-urban areas.

A full MAP is to address the management of eight PHC services: oral rehydration therapy (ORT); expanded programs of immunization (EPI); growth monitoring and nutrition improvement; antenatal, delivery, and postnatal care of women and infants; acute respiratory infections (ARI); child spacing; water supply, sanitation, and hygiene education; and risk factor management in family health.

In this instance module development and field trials will focus on water supply, sanitation, and health. This is the first field test in the MAP development process. Specifically, as the process takes place, the conceptual framework tools, modules, personnel requirements, costs, and computer needs will be reviewed.

3.3 Implementation Approach and Process

Implementation requires an interdisciplinary approach and close collaboration between the developers of the materials and the end users, the PHC managers. For this reason, the planning phase will combine the development of a detailed long-term proposal (1989-1992) and the first interactions between the developers and field program staff to ensure that: (1) PHC managers have significant input into the program from the beginning; (2) the PHC management methodology adequately reflects the needs of PHC managers and will be used by them. PHC MAP planning discussions and consultations are to be held periodically and will be coordinated by the MAP steering committee. A meeting was convened in Bombay to review the prototype assessment modules and the MAP summary proposal. The review is to end with agreement on module revision and a full draft proposal for the PHC MAP, which will consist of seven modules.

3.4 Development of the Prototype Instruments

As an initial field test of the MAP concept, the data collection instruments for the WS&S module were drawn from the draft water and sanitation content of the PRICOR Thesaurus.⁸ WASH and PRICOR staff collaborated with Jack Reynolds, consultant to the AKF from CHS/URC, in order to refine content and finalize the formatting. The forms for modules 2, 3, and 4 were printed in English and reviewed in Pakistan by Dr. Anwer Aqil (PRICOR) who had conducted the Gilgit baseline study for AKU in 1986. The questionnaires were translated into Urdu. The surveyors who asked questions in Shina reported no difficulty reading from the Urdu script. The English versions of all the forms are found in the text. Suggestions for modifications can be found in Section 4.6.

3.5 Prototype Instruments and Field Testing

When completed, the full MAP will consist of seven modules:

- Module 1: Conceptual Framework
- Module 2: Management Self-Assessment Methodology
- Module 3: Community Surveys of Need and PHC Impact
- Module 4: PHC Services Assessment
- Module 5: PHC Delivery Monitoring
- Module 6: PHC Health Worker Planning and Performance Assessment
- Module 7: PHC Cost Accounting, Analysis, and Projections

For this test only WS&S prototypes of modules 2-5 were field tested. See Figure 1 for the MAP Implementation Flow Chart which was used in this field testing.

3.5.1 Module 1: Conceptual Framework⁹

Description: Module 1 consists of a checklist of strategic and operational components of a primary health care program and instructions for using the materials to describe the manager's PHC program and identify priority areas for inclusion in further analysis.

Objective: To describe the priority PHC service and support components to analyze and describe the boundaries of the PHC system that will be examined.

⁸ Primary Health Care Thesaurus (also referred to as the PRICOR Thesaurus). Bethesda, MD: Center for Human Services. Primary Health Care Operations Research (PRICOR) Project. May 1988.

⁹ Primary Health Care Management Advancement Programs 1989-1991. Aga Khan Network Programs in Collaboration with Primary Health Care Operations Research (PRICOR), Draft Proposal, July 25, 1989, pp 27.

MAP IMPLEMENTATION

MODULE 1

PHC CONCEPTUAL FRAME WORK

MODULE 2

**MANAGEMENT SELF ASSESSMENT
(INTRODUCTION ONLY)**

MODULE 3

**PHC COMMUNITY SURVEY OF NEED AND PHC IMPACT
(HOUSEHOLD NEEDS ASSESSMENT)**

MODULE 4

**PHC SERVICE ASSESMENTS
(OBSERVATION OF HEALTH WORKER
PERFORMANCE, KEY INFORMANT
INTERVIEWS, RECORD REVIEW)**

DATA ANALYSIS

IDENTIFY STRENGTHS AND PRIORITY PROBLEMS

**IDENTIFY PRIORITY INDICATORS RELATED TO PROBLEMS
DEVELOP ACTION PLANS AND MONITORING SYSTEM**

**OUTCOME
MODULE 2**

**PHC MANAGEMENT SELF-ASSESSMENT
(IMPLEMENTATION)**

MODULE 5

**PHC ACTIVITY MONITORING
(MONITORS KEY INDICATORS IDENTIFIED
IN MODULES 2,3, AND 5)**

Tools: Framework (Figure 2); the draft Water and Sanitation Thesaurus (Exhibit 1); the Oral Rehydration Therapy Thesaurus (Appendix E); and User's Guide and Tutorial, including a glossary of terms used in PHC MAP modules, an index, and selected references (not yet available).

Procedures: The managers (or management teams) use the checklist to identify key elements for subsequent analyses. For example, the framework identifies such PHC goals as coverage, equity, quality, effectiveness, and efficiency. The managers would select those that apply to their PHC programs. By going through the checklist, each manager would be able to produce a shorthand description of his program that would also be a list of key variables to examine.

A glossary of terms describes key concepts and terminology to assist the manager in clarifying the meaning of the variables and elements selected.

An important task of module 1 is to define the boundaries of the PHC program. Some managers may be tempted to include elements beyond their control such as food shortages, lack of firewood, illiteracy, sexism, and poverty. A clearly defined framework helps the managers to disregard these and to focus their attention on the controllable components.

The manager may also want to emphasize only a portion of the PHC program, as, in this case, water supply and sanitation. The PRICOR Thesaurus¹⁰ permits selection of those water and sanitation activities and inputs that are of principal importance (Exhibit 1).

¹⁰ Primary Health Care Thesaurus (also referred to as the PRICOR Thesaurus). Bethesda, MD: Center for Human Services. Primary Health Care Operations Research (PRICOR) Project. May 1988.

Figure 2*

CONCEPTUAL FRAMEWORK OF A PHC SYSTEM

STRATEGIC VIEW

Strategic Goals

Coverage of population
Equity
Quality of service
Effectiveness
Efficiency
Sustainability
Affordability

Strategic Approaches

Community involvement
Intersectoral action
Appropriate technology

Organizational Issues

Comprehensiveness
Decentralization
Coordination/integration

MANAGEMENT VIEW

Program planning*
Information management*
Human resource development
Personnel management*
Supervision*
Training*
Financial management*
Materials and facilities management
Logistics management*
Community organization*
Leadership, communication, and organization
Technical support
Research

OTHER SECTORS

Education
Housing
Employment
Agriculture/food supply
Environment
Security
Communications
General district hospital

HEALTH PROGRAM VIEW

Immunizations*
Growth monitoring/nutrition*
Maternal and child health
Under-five care*
Antenatal care and Tetanus Toxin*
Childbirth/postnatal care*
Child spacing*
Health education
School health
Health promotion
Environmental health
Water supply, sanitation, and hygiene*
Endemic disease control
Oral rehydration, diarrheal disease control*
Acute respiratory infection*
Malaria*
Tuberculosis*
Other communicable diseases
Iodine deficiency disease
Other
Non-communicable diseases
Cardiovascular diseases
Diabetes
Dental health
Mental health
Other
Treatment of common illness*
Essential drugs

INSTITUTIONAL VIEW

Community Level

Family
Community organizations
Community health workers
Traditional health providers

Health Sector: Primary Level

Clinic/dispensary, etc.
Health center
Maternity home

Health Sector: Secondary

Community hospital

Health Sector: Tertiary

Regional/specialist hospital
University/hospital

* Primary Health Care Management Advancement Programs 1989-1991. Aga Khan Network Programs in Collaboration with Primary Health Care Operations Research, Draft Proposal (PRICOR), July 25, 1989

* Core Components

EXHIBIT 1

PRICJR
Water & Sanitation Thesaurus
Activities, Tasks and Subtasks
(For Health Services Personnel)

I COUNSEL INDIVIDUALS AND FAMILIES -- CLINICS, HOME VISITS

1. Provide essential messages in water supply and sanitation to families with water and sanitation-related health problems

II IMPLEMENT A HEALTH EDUCATION/SOCIAL MARKETING STRATEGY FOR CLINIC, HOME VISITS, COMMUNITY GROUPS, SCHOOLS

1. Identify and orient key staff: executive, managerial staff, service providers, and health promoters
2. Define community needs for education in water and sanitation
3. Set goals for health education/social marketing
4. Develop and test materials according to appropriate criteria (technical, sociocultural, literacy, etc.)
 - 4.1 Are pamphlets for homes and public relations appropriate and distributed to health workers?
 - 4.2 Are WS&S flip charts appropriate and located in the schools?
 - 4.3 Are WS&S soap operas and radio spots appropriate and do they air routinely on prime time for mothers and caretakers?
 - 4.4 Are WS&S posters for hygiene education appropriate and used in the health services?
 - 4.5 Are WS&S didactic guidelines appropriate and used by health workers, school teachers, religious and development group leaders?
 - 4.6 Do appropriate manuals on WS&S guide the activities of promoters, supervisors, water and sanitation committees?
 - 4.7 Are appropriate forms for evaluating and reporting in WS&S completed on time?
 - 4.8 Other

5. Promote products to improve hygiene and sanitation
 - 5.1 Identify appropriate products
 - 5.1.1 Do health workers sell mild soaps?
 - 5.1.2 Do health workers sell brushes, brooms?
 - 5.1.3 Do health workers sell toddler training potties?
 - 5.1.4 Do health workers sell fly swatters?
 - 5.1.5 Do health workers sell ceramic toilets?
 - 5.1.6 Are rewards—(scholarships, certificates) available to give to successful consumers?
 - 5.1.7 Other
 - 5.2 Do managers supervise the development of promotional materials?
 - 5.3 Do managers develop distribution systems?
 - 5.4 Do managers establish pricing systems?
 - 5.5 Do managers establish a system for maintaining inventory, accounting, arranging for resupply?

III ORGANIZE COMMUNITY FOR WATER AND SANITATION ACTIVITIES

1. Initiate contact with community
 - 1.1 Do health workers meet with elders?
 - 1.2 Do health workers meet with community leaders?
 - 1.3 Do health workers secure community's initial commitment to improved water and sanitation?
2. Assess community needs
 - 2.1 Do health workers and managers organize existing information?
 - 2.1.1 Distance to source
 - 2.1.2 Size of community
 - 2.1.3 Incidence of disease
 - 2.1.4 Hydrology
 - 2.1.5 Accessibility
 - 2.1.6 Community interest
 - 2.1.7 Socioeconomic patterns
 - 2.2 Do managers and health workers conduct research on needs, health behavior, health worker performance, etc.?
 - 2.2.1 KAP study #1 - household interviews
 - 2.2.2 KAP study #2 - key informant interviews
 - 2.2.3 KAP study #3 - record review
 - 2.2.4 Focus groups

- 2.2.5 Household observations
- 2.2.6 Observation of health worker performance
- 2.2.7 Operations research
- 2.2.8 Other

3. Formalize arrangements with community

- 3.1 Do health workers prepare the community to select a water committee?
- 3.2 Do health workers prepare the community to sign an agreement?
- 3.3 Do health workers select a community water committee?
- 3.4 Do health workers sign an agreement and install community water committee?

IV MANAGE ON-GOING WATER AND SANITATION ACTIVITIES

1. Plan on-going water and sanitation activities of PHC staff and community

1.1 Develop plans, policies and procedures

- 1.1.1 Do policy makers develop framework for sustainability?
- 1.1.2 Do policy makers establish government policy?
- 1.1.3 Do supervisors establish management systems?
- 1.1.4 Do health workers and supervisors develop strategies for community organization and community participation?
- 1.1.5 Do health workers, supervisors, and educators develop strategies for health education for behavior change?
- 1.1.6 Do managers arrange for financing?

1.2 Communicate plans, policies and procedures to PHC staff and community

1.3 Plan for local level implementation

- 1.3.1 Do managers establish coordination committees?
- 1.3.2 Do managers identify constraints?
 - 1.3.2.1 Technological
 - 1.3.2.2 Social/cultural
 - 1.3.2.3 Environmental and ecological
 - 1.3.2.4 External political and economic circumstances
- 1.3.3 Do managers develop programs?
- 1.3.4 Do managers allocate budgets?
- 1.3.5 Do managers identify training needs?
- 1.3.6 Do managers establish local systems for training, supervision, monitoring and evaluation?

2. Maintain facilities
 - 2.1 Train community water committee to maintain facilities
 - 2.1.1 Do water committee members develop guidelines for using water and sanitation?
 - 2.1.2 Do water committee members arrange for maintenance?
 - 2.1.3 Do water committee members establish environmental hygiene oversight mechanism?
 - 2.1.4 Do water committee members manage operations and maintenance fund?
 - 2.2 Inspect facilities:

Do committee members inspect water pumps, standpipes, household connections, wells, latrines, environmental sanitation, water filters, drainage, spare parts?
3. Train for water and sanitation promotion
 - 3.1 Identify and select trainees
 - 3.1.1 Do managers identify and select ministry of Health, Ministry of Education executive and managerial staff?
 - 3.1.2 Do managers identify and select local supervisors, promoters?
 - 3.1.3 Do health workers identify and select primary school teachers?
 - 3.1.4 Do health workers identify and select health services personnel?
 - 3.1.5 Do health workers identify and select water and sanitation committee leaders?
 - 3.1.6 Do health workers identify and select water and sanitation committee members?
 - 3.1.7 Do health workers identify and select community hygiene education teams?
 - 3.1.8 Do health workers identify and select systems operators?
 - 3.1.9 Do health workers identify and select leaders of women's groups?
 - 3.1.10 Do health workers identify and select religious leaders?
 - 3.1.11 Other
 - 3.2 Do managers supervise the develop training materials?
 - 3.3 Do managers arrange for logistical support?
 - 3.4 Do managers train trainers?
 - 3.5 Do managers conduct training?

- 3.6 Do managers evaluate training
- 4. Supervise promoters of water and sanitation
 - 4.1 Do health workers supervise health personnel?
 - 4.2 Do health workers supervise community leaders?
 - 4.3 Do health workers supervise community water supply and sanitation committees?
 - 4.4 Do health workers collaborate with primary school teachers?
 - 4.5 Do health managers supervise program supervisors and promoters?
 - 4.6 Do health workers supervise women's groups?
 - 4.7 Do health workers supervise religious leaders?
 - 4.8 Other
- 5. Monitor water and sanitation services in PHC programs
 - 5.1 Do managers monitor essential message delivery by PHC staff?
 - 5.2 Do managers monitor behavioral change by individuals, families, communities?
 - 5.3 Do managers monitor water quantity?
 - 5.4 Do managers monitor water quality?
 - 5.5 Do managers monitor operations and maintenance fund management?
 - 5.6 Do managers monitor maintenance and repairs?
 - 5.7 Do managers monitor community committee activities?
 - 5.8 Do managers monitor health education/social marketing activities?
 - 5.9 Do managers monitor primary school water supply and sanitation activities?
- 6. Evaluate water and sanitation activities
 - 6.1 Do managers evaluate behavior change?
 - 6.2 Do managers evaluate health impact?

- 6.3 Do managers evaluate water quality?
- 6.4 Do managers evaluate water quantity?
- 6.5 Do managers evaluate systems operations and maintenance?
- 6.6 Do managers evaluate community participation?
- 6.7 Do managers evaluate health education/social marketing?
- 6.8 Do managers evaluate sustainability?

3.5.2 Module 2: PHC Management Self-Assessment Methodology

Description: Module 2 consists of a series of one- or two-page checklists for identifying management strengths and problems in each of the PHC health and support service components, a procedure for setting priorities among problems identified, a procedure for developing a management improvement plan, and a User's Guide (to be developed).

Objective: To assess the management strengths and weaknesses of the PHC program and set priorities for resolving selected problems.

Tools: Self-assessment checklists for each PHC component (see Exhibit 2); computer program for setting priorities among identified problems; format for developing a management improvement plan; User's Guide and Tutorial (to be developed).

Procedures: The manager (or management team) selects the PHC components to be examined (based on module 1) and uses hardcopy or computerized checklists to identify probable management problems. When fully implemented, the methodology will include "help" and "analysis" screens, as well as a User's Guide to make the module as "user-friendly" as possible. The checklists will be designed to be completed quickly (10-20 minutes each) based on the manager's or team's existing knowledge of the program. That is, no special data collection would be required.

The items marked "Yes" on each checklist would indicate a program strength. Those marked "No" would signal a potential problem, the reason for which would be explained in the analysis screens. Those marked "Don't know" would indicate areas where the manager needs further information. The strengths, problems, and information needs are summarized after completing each checklist. An overall summary usually identifies a number of strengths but may also identify more potential problems than can be addressed immediately. A procedure for ranking the problems will be included in the User's Guide. This will include recommended criteria for ranking. Managers will usually be able to select only a few problems for attention and include these in a management improvement plan. The management improvement plan will identify: the problem to be addressed; the schedule or deadline for dealing with the problem; and the person responsible. This information will then be incorporated in the normal PHC program planning process.¹¹

Field Testing Applications: A draft self-assessment checklist was developed for WS&S by WASH staff with assistance from PRICOR, and reviewed by two AKHS managers, two physician field directors, and a community health nurse in the field. The PHC Management Self-Assessment Methodology was introduced immediately after module 1. The Self-Assessment was implemented after the Community Surveys of Need (module 3) and the PHC Services Assessment (module 4) were conducted and analyzed. Based on the results of these suggestions were made for additions to the methodology. They can be found in Section 4.6.

¹¹Primary Health Care Management Advancement Programs 1989-1991. Aga Khan Network Programs in Collaboration with Primary Health Care Operations Research (PRICOR), Draft Proposal, July 25, 1989, p. 28

EXHIBIT 2

MANAGEMENT SELF-ASSESSMENT

PHC PROGRAM NAME: WS&S

| DATE:

| ANALYST

1. CONCEPTS: Arc the following concepts defined in writing?

	Defined			Can they be explained by:								
	Y	N	DK	Management			Staff			Community		
Water/sanitation-related diseases	Y	N	DK	Y	N	DK	Y	N	DK	Y	N	DK
Water system standards	Y	N	DK	Y	N	DK	Y	N	DK	Y	N	DK
Community management	Y	N	DK	Y	N	DK	Y	N	DK	Y	N	DK

2. PERFORMANCE: % of households within service area:

	Target	Actual		Target	Actual
Within 15 min of improved water source	___%	___%	With access to latrines	___%	___%
Served by improved source operational at least 90% of time	___%	___%	Visited by health worker for WS&S education	___%	___%
			Participate in WS&S community Activities	___%	___%
			Pay WS&S Fees	___%	___%

Health workers know how to:

Assess/monitor community WS&S through KAP?	Y	N	DK
Organize community for education/WS&S activities	Y	N	DK
Provide client counselling	Y	N	DK

Maintain records	Y	N	DK
Train community leaders to train community members	Y	N	DK

3. WS&S PLANNING: Do you have a:

WS&S needs assessment?	Y	N	DK
Community strategy for WS&S?	Y	N	DK
WS&S workplan/time schedule?	Y	N	DK
WS&S policies and procedures?	Y	N	DK
WS&S budget?	Y	N	DK
Plan for WS&S education in primary schools?	Y	N	DK

4. WS&S TRAINING:

Are all staff trained in WS&S?	Y	N	DK
Are staff trained to train community?	Y	N	DK
Do you have a formal training plan?	Y	N	DK
Do you assess staff ability regularly?	Y	N	DK
Do you maintain records of training?	Y	N	DK

5. WS&S SUPERVISION

Are supervisors trained in supervision?	Y	N	DK
Are staff supervised regularly?	Y	N	DK
Do you have a workplan for WS&S supervision?	Y	N	DK
Do you use a checklist?	Y	N	DK
Do you maintain supervision records?	Y	N	DK

6. WS&S COMMUNITY PARTICIPATION

Is community management of WS&S adequate?	Y	N	DK
Do you have a plan for community role in WS&S operation and maintenance?	Y	N	DK
Do you have a plan for community health education?	Y	N	DK
Do you monitor community participation regularly?	Y	N	DK

EXHIBIT 2 (continued)

FHC PROGRAM NAME: WS&S

DATE: ANALYST

7. WS&S LOGISTICS:

Is/are there enough:

Spare parts for WS&S?	Y	N	DK
Fuel for pumps if needed?	Y	N	DK
Chlorine?	Y	N	DK
Filters?	Y	N	DK
Trained maintenance personnel?	Y	N	DK
Hygiene/health education materials?	Y	N	DK
Record-keeping information?	Y	N	DK

Is logistics system effective in?

Procurement?	Y	N	DK
Storage?	Y	N	DK
Distribution?	Y	N	DK
Do you regularly assess logistics?	Y	N	DK

8. WS&S INFORMATION

Do you collect data regularly on:

Water consumption?	Y	N	DK
Time system not working?	Y	N	DK
Chlorination schedules?	Y	N	DK
Filter replacement schedule?	Y	N	DK
Latrine construction?	Y	N	DK
Health worker performance in WS&S?	Y	N	DK
Community participation?	Y	N	DK
Hygiene education?	Y	N	DK
Are reports timely?	Y	N	DK
Is information utilized?	Y	N	DK

9. WS&S FINANCES

Are funds/materials for latrine construction adequate?	Y	N	DK
Are funds for water system operation and maintenance adequate?	Y	N	DK
Are community contributions adequate? (willingness to pay)	Y	N	DK
Are funds available for filter distribution/replacement?	Y	N	DK
Do you monitor WS&S income and expenditures?	Y	N	DK

10. OVERALL ASSESSMENT: On a scale of 10, how would the following groups rate the WS&S program?

	Weak			Average				Strong		
Board	1	2	3	4	5	6	7	8	9	10
Management	1	2	3	4	5	6	7	8	9	10
Staff	1	2	3	4	5	6	7	8	9	10
Community	1	2	3	4	5	6	7	8	9	10

11. MANAGEMENT IMPROVEMENT PLAN: Identify priority areas for improvement.

3.5.3 Module 3: Community Surveys of Need and PHC Impact

Description: Module 3 consists of a series of "rapid" or "mini" surveys covering each of the PHC health components; computer programs for drawing samples, entering, and processing data; and a User's Guide and Tutorial (to be developed).

Objective: This module has two main uses: to assess community PHC needs; and to evaluate subsequently the impact of the PHC program on those needs.

Tools: Twelve rapid survey packages (ten for individual components and two summary surveys; a sample questionnaire is shown as Exhibit 3); computer programs, and a User's Guide and Tutorial (to be developed).

Procedures: Two versions of this module are under consideration. The first, called a "rapid survey", is technically more demanding and precise than the second, called a "mini-survey." PHC managers will probably not be able to conduct their first rapid survey without technical assistance. They should be able to carry out the mini-survey by themselves.

Briefly, the rapid survey involves drawing a random sample of 30 clusters from the target area. Within each cluster, seven or more respondents are interviewed, following a simple standard sampling procedure. The questionnaire is short, pre-coded, and the items should be close-ended, "yes/no" type responses (no open-ended items, scales, or multiple choice questions). Data are entered into a pre-programmed computer for rapid processing and production of tables and graphs. These surveys can be completed and analyzed in seven to ten days.

The mini-survey is a census of all eligible respondents in a sample of villages. Data are collected on a simple registration form by health workers or midwives, processed by hand in the village, and collated on a computer program at headquarters. These surveys can take three to four weeks to complete.¹²

Field Testing: In this case a modified rapid survey (see Exhibit 3) was conducted of 28 households in 4 communities. (The purpose was to field test instruments, not necessarily to collect reliable and representative data.) The focus was on a needs assessment of the household water supply, sanitation, and health practices in the target population. The household survey addressed water supply, water use, water storage, personal and environmental hygiene, latrines, sanitation practices, hygiene education, and community financing.

Two CHWs and two LHVs field tested the instrument in seven households each after being familiarized with the instrument, reviewing the Urdu questions, and approving the translation into Shina, the local dialect. They were also trained in interviewing techniques and practiced by reading the questionnaire

¹²Primary Health Care Management Advancement Programs 1989-1991. Aga Khan Network Programs in Collaboration with Primary Health Care Operations Research (PRICOR), Draft Proposal, July 25, 1989.

out loud, role playing, and interviewing each other. The results of the field test and the observations and the experiences of the CHWs and LHVs were used to revise the instrument as appropriate.

The full rapid survey sampling procedure has been used by the World Health Organization for some time and has been shown by Lemeshow et al.¹³ to be reliable and to yield estimates having confidence limits of ± 10 percentage points. This EPI simplified clustered sampling method involves the selection of 210 households—seven families in each of 30 communities. The EPI methodology was followed, but because this was a field test, only four rural communities (with seven households from each) were selected for interviews.

To select households at random, each LHV and CHW went to the center of the village, divided the community mentally into four quadrants, pulled one of four folded papers numbered 1-4 from her/his pocket, and began the survey with the first household within sight in the quadrant indicated on the paper and continued by interviewing the mothers or caretakers of children under five in the next six households.

¹³ Lemeshow, S. and Robinson, D. Surveys to Measure Program Coverage and Impact: a Review of the Methodology Used by the Expanded Program in Immunization. WHO statistics quarterly 17:65-75, 1985.

EXHIBIT 3

HOUSEHOLD NEEDS ASSESSMENT

DRAFT

(7/12/89)

Interviewer's Name _____

Time _____ Date _____

1. Household Number _____

2. Location _____

Instruction: Questions are to be posed to mother or caretaker of children < 5 in the household.

3. What is your name? _____
(person being interviewed)

SECTION ONE: HOUSEHOLD WATER SUPPLY

The first set of questions are about your household water.

4. Do you usually collect water from a:

- | | <i>indicate number</i> |
|--------------------------|--------------------------|
| 1. faucet | |
| 2. handpump | <input type="checkbox"/> |
| 3. well, open or capped | |
| 4. stream | |
| 5. homemade channel | |
| 6. dam/lake | |
| 7. pond | |
| 8. multiple | |
| 9. other (specify) _____ | |

5. Is the water supply located

- | | |
|---|--------------------------|
| 1. within the family compound? | |
| 2. within 15 minutes of the family compound? | <input type="checkbox"/> |
| 3. more than 15 minutes from the family compound? | |

6. Are there times in the year when there is not enough water for daily use? *Y or N*

EXHIBIT 3 (continued)

SECTION TWO: WATER USE PRACTICES ASSESSMENT

The next questions have to do with the use of water.

7. Do you use water from (the source mentioned above) for:
- | | |
|--------------------|--------------------------|
| 1. drinking | Y or N |
| 2. handwashing | <input type="checkbox"/> |
| 3. washing clothes | <input type="checkbox"/> |
| 4. cooking | <input type="checkbox"/> |
| 5. washing dishes | <input type="checkbox"/> |
8. Do you think that water from the (primary source) is safe to drink? Y or N

9. Tell me all the times when you wash your hands:
(do not prompt at first)
- (circle correct response for each use)

	<i>Unprompted</i>	<i>Prompted</i>	
1. After latrine use/relieving yourself	U	Yes	No
2. After changing baby's dirty shorts	U	Yes	No
3. Before cooking	U	Yes	No
4. Before eating			
5. Before breastfeeding	U	Yes	No
6. Before feeding small children	U	Yes	No
7. Before prayers	U	Yes	No
8. Other (specify) _____			

EXHIBIT 3 (continued)

(Of questions 10-27, questions for interviewer to answer from observation are italicized; direct questions to the respondents are not.)

- | | Y or N |
|--|--------------------------|
| 10. <i>Was the mother performing any of the above activities during the interview?</i> | <input type="checkbox"/> |
| 11. <i>Were her hands clean when she was performing the activity?</i> | <input type="checkbox"/> |
| 12. Do you keep water for drinking? | <input type="checkbox"/> |
| 13. <i>Is the container clean?</i> | <input type="checkbox"/> |
| 14. <i>Is the container covered?</i> | <input type="checkbox"/> |
| 15. <i>Is there a long-handled dipper or spout?</i> | <input type="checkbox"/> |
| 16. <i>Is there a water filter in place?</i> | <input type="checkbox"/> |
| 17. (If filter is present) When was the filter changed last?
(cooking area) | <input type="checkbox"/> |
| 18. <i>Do pots, pans and plates appear to be clean?</i> | <input type="checkbox"/> |
| 19. <i>Are pots and plates stored?</i> | <input type="checkbox"/> |
| 20. <i>Is cooked food kept covered?</i>
(household animals) | <input type="checkbox"/> |
| 21. <i>Are animals tied or fenced away from the living area?</i> | <input type="checkbox"/> |

SECTION THREE: SANITATION PRACTICES ASSESSMENT

- | | |
|---|--------------------------|
| 22. Does your family have a latrine? | <input type="checkbox"/> |
| 23. Do children 4-5 years of age use the latrine at home daily? | <input type="checkbox"/> |
| 24. Do children 1-3 years of age use the training potty daily?
(latrine) | <input type="checkbox"/> |
| 25. <i>Is the latrine used?</i> | <input type="checkbox"/> |
| 26. <i>Is the latrine clean?</i> | <input type="checkbox"/> |
| 27. <i>Is there a training potty for use of children 1-3 years?</i> | <input type="checkbox"/> |

EXHIBIT 3 (continued)

The next questions ask about how your household handles wastewater and garbage.

28. What do you usually do with the sweepings and other garbage from the house? Do you:
- indicate number*
- 1. bury it?
 - 2. burn it?
 - 3. throw it in the lane/field?

29. What do you do with your wastewater? Do you:
- indicate number*
- 1. channel it?
 - 2. pour it in a ditch?

SECTION FOUR: COMMUNITY HEALTH AND HYGIENE EDUCATION ASSESSMENT

The following questions will now focus on information you may have received about water and sanitation.

30. Where have you received information about safe water, sanitation, and health?

- 1. Home
- 2. Primary school teacher
- 3. Mosque/Jamat Khana
- 4. Basic Health Unit
- 5. Clinic
- 6. Community
- 7. Other (specify) _____

31. Who in the community teaches about water, sanitation, and health?
(do not prompt at first)

(circle correct response for each use)

	<i>Unprompted</i>	<i>Prompted</i>	
1. The village organization president	U	Yes	No
2. Primary school teacher	U	Yes	No
3. Religious teacher	U	Yes	No
4. Community health worker	U	Yes	No
5. Lady health visitor	U	Yes	No
6. Doctor	U	Yes	No
7. Nurse	U	Yes	No
8. Other (specify) _____			

EXHIBIT 3 (continued)

SECTION FIVE: ASSESSMENT OF AMOUNT PAID FOR WATER

Lastly, the next few questions are about the amount of money you pay for water.

32. Do you pay for water? Y or N
33. Do you pay daily by the bucket?
34. If yes, how much do you pay per day? _____
35. Do you pay a monthly water tax?
36. If yes, how much do you pay per month? _____
37. How does the mother explain the word contamination?

3.5.4 Module 4: PHC Services Assessment

Description: Module 4 consists of a set of checklists for each of the PHC health and support system components. These checklists identify essential resources that should be in place and tasks that should be conducted to ensure that quality services are provided. A User's Guide and Tutorial are also to be included (to be developed).

Objective: To assess the delivery of PHC services by health workers. This module would be used to identify service delivery problems that need attention, and to determine if interventions designed to correct those problems have been effective. Although these checklists could be used to assess the performance of individual health workers, their primary utility would be to assess a sample of services at appropriate intervals to get an idea of how the overall service delivery system is performing. Module 6, which is beyond the scope of this field test, addresses individual health worker performance.

Tools: Service checklists (see sample, Exhibits 4-10); User's Guide and Tutorial (to be developed). The computerized version would include procedures for analyzing the data and producing tables and graphs.

Check Lists

Observation:

- Clinic visit
- Home visit

Interviews:

- Primary school teacher
- President village organization
- President women's organization
- Religious leader
- Record review

Procedures: The checklists can be used by supervisors, managers, or field investigators to identify service delivery and resource problems and to determine if improvements occur over time.

The manager selects the checklist(s) of interest (or constructs one based on items of interest taken from the standard checklists or the more detailed items listed in the PRICOR Thesaurus). A sample of five to ten observations is made in the community or health center where the service is provided. In some cases health workers are asked to role-play activities that are not regularly scheduled (e.g., counseling mothers on providing ORT).

The checklist is constructed as a series of "Yes/No" items, which makes them easy for supervisors to use and interpret. Tabulation of the observations usually identifies resource and task deficiencies that need attention. Observations from different sites and over time can be plotted easily by simply counting the frequency of "Yes" and "No" responses for each variable. The

computer version will include routines for making these computations automatically and for displaying graphs of the results.

Since the checklists are prescriptive (they describe what health workers should do), supervisors can take immediate action to correct certain problems. However, some problems will require management action (e.g., to reallocate resources, or provide staff training).¹⁴

Field Testing: In testing the WS&S draft module 4, two LHVs used the instrument to observe CHW case management of diarrheal disease in children <3 in the home. Two field directors (physicians) observed LHV case management of diarrheal disease in children <3 in the clinic. Key informant interviews took place in each of the four communities where household surveys were conducted. In each case, a primary school teacher, religious leader, and the presidents of the village organization and women's organization were interviewed. Fourteen random record reviews were conducted by a physician field supervisor and the author in one clinic only. Particular attention was paid to the messages given to clients about prevention and case management of diarrhea at home. Questions related to the management of diarrhea were drawn from the PHC Thesaurus on Oral Rehydration Therapy (see Appendix E). Community health workers were observed in the home for counseling in the prevention of diarrhea related to water storage, handwashing practices, household hygiene, solid waste disposal, and latrine use and maintenance. In the case management observation, it was possible to collect information on history taking, examination of the child, treatment, referral, and education. The interview with the primary school teacher addressed access to water and latrines, latrine use and maintenance, handwashing practices, curriculum and text book content, and teacher guides for the use of hygiene education materials. Primary school teachers were also asked about collaboration with the community health worker and faculty-student community outreach in health education. Interviews with the presidents of the village and women's organizations focused on collaboration with the community health worker and cooperation with other community organizations. Questions and observations addressed work plans and monitoring systems in health education and behavior change. The interview with the mukhi/maulana sought information on the use of the Koran for education in health, water and sanitation, as well as collaboration with the community health worker and the use of work plans.

(Text continues on page 51)

¹⁴Primary Health Care Management Advancement Programs 1989-1991. Aga Khan Network Programs in Collaboration with Primary Health Care Operations Research (PRICOR), Draft Proposal, July 25, 1989

EXHIBIT 4

Observation of a Clinic Visit and Diarrhea Prevention

DRAFT

I. Observation of a clinic visit

Observe Lady Health Visitor management of a case of childhood diarrhea according to service delivery protocol (see attached).

II. Observation of counseling for prevention of diarrhea

A. Did the health worker ask about:

1.	Drinking water supply	yes	no
2.	Water storage	yes	no
3.	Handwashing	yes	no
4.	Soap	yes	no
5.	Hygiene in the kitchen	yes	no
6.	Household animals	yes	no
7.	Latrine use and maintenance	yes	no
8.	Training (baby) potty	yes	no
9.	Disposal of feces	yes	no
10.	Garbage disposal	yes	no
11.	Other hygiene practice	yes	no
	Specify _____		

B. Did the health worker counsel on:

Drinking water storage?

12.	Using clean container for water storage	yes	no
13.	Covering water storage container	yes	no
14.	Using long-handled dipper	yes	no
15.	Changing filter when due	yes	no

Handwashing AFTER

16.	Latrine use	yes	no
17.	Relieving oneself	yes	no
18.	Changing baby's dirty shorts	yes	no

Handwashing BEFORE

19.	Cooking	yes	no
20.	Eating	yes	no
21.	Breastfeeding	yes	no
22.	Feeding small children	yes	no

EXHIBIT 4 (continued)

Other Hygiene Practices

23.	Covering cooked food	yes	no
24.	Cleaning pots and dishes before storage	yes	no
25.	Penning or tying compound animals away from living area	yes	no
26.	Always using latrines	yes	no
27.	Disposing of feces safely	yes	no
28.	Using training (baby) potty	yes	no
29.	Burning or burying garbage	yes	no
30.	Channeling wastewater	yes	no
31.	Other (specify) _____	yes	no

C. Did health worker reinforce counseling with:

32.	Written materials	yes	no
33.	Pictures, diagrams	yes	no
33.	Demonstrations	yes	no
35.	Training (baby) potty	yes	no
36.	Other (specify) _____	yes	no

D. Did health worker reinforce counseling by asking mother:

37.	To repeat instructions	yes	no
38.	If she had any questions	yes	no

E. Did health worker sell:

39.	Training (baby) potty	yes	no
40.	Brush/broom for cleaning latrine	yes	no
41.	Disinfectant	yes	no

ORAL REHYDRATION: OBSERVATION OF SERVICE DELIVERY

PRICOR SYSTEMS ANALYSIS

Health Personnel (specify) _____ Date: _____ Interviewer's Name _____

Patient's name: _____ S/D/O _____ Age: _____

Sex M F S M O

Address: _____

Did HW ask:

1. How long child has had diarrhea?
2. How frequently child is passing stools?
3. If there is blood or mucous in stools?
4. If vomiting is also occurring?
5. If child has fever?
6. If child has been very thirsty?
7. If urine output is greatly reduced?
8. What has been done at home so far?

Y	N
<input type="checkbox"/>	<input type="checkbox"/>

Comments

Did the HW

9. Take Temperature?
10. Examine mucous membranes of mouth?
11. Check skin reliance?
12. Examine fontanelle
13. Weigh child?

Y	N
<input type="checkbox"/>	<input type="checkbox"/>

Comments

Child was:

14. Treated at facility and sent home immediately
15. Not treated sent home
16. Given medicine to take home
17. Referred to

Y	N
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Comments

 where? _____

Did the HW:

18. Tell mother to use ORS at home?
19. Give instructions for mixing ORS?
20. Give instructions for administering ORS?
21. Tell mother how long to give ORS?
22. Tell mother about signs of dehydration?
23. Tell mother when to come back?

Y	N
<input type="checkbox"/>	<input type="checkbox"/>

Comments

24. Did the HW tell mother about the need for continuing feeding?
25. Did the HW request the mother to do a return demonstration of ORS preparation?

Y	N
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Comments

EXHIBIT 5

Observation of a Home Visit

DRAFT

(7/13/89)

I. Observation of a home visit

Observe Community Health Worker performance in checking household water and sanitation practices and providing hygiene education in the home¹⁵

NOTE: If family has a child with case of diarrhea, also observe health worker management of the case according to service delivery protocol (see attached)

A. Did the health worker inspect:

- | | | | |
|----|---|-----|----|
| 1. | Water storage tank | yes | no |
| 2. | Water filter | yes | no |
| 3. | Latrine | yes | no |
| 4. | Training (baby) potty | yes | no |
| 5. | Kitchen | | |
| 6. | Presence of soap | yes | no |
| 7. | Health education materials kept at home | yes | no |

B. Did the health worker advise the family on water storage:

- | | | | |
|-----|--|-----|----|
| 8. | To use clean container for water storage | yes | no |
| 9. | To cover the water storage container | yes | no |
| 10. | To use long-handled dipper | yes | no |
| 11. | To change water filter when due | yes | no |

C. Did the health worker advise family to:

- | | | | |
|-----|-------------------------------|-----|----|
| 12. | Scrub latrine daily | yes | no |
| 13. | See that children use latrine | yes | no |
| 14. | Use training (baby) potty | yes | no |

D. Did the health worker advise family on handwashing practices:

To Wash AFTER

- | | | | |
|-----|------------------------------|-----|----|
| 15. | Latrine use | yes | no |
| 16. | Relieving oneself | yes | no |
| 17. | Changing baby's dirty shorts | yes | no |

¹⁵Observation by Lady Health Visitor

EXHIBIT 5 (continued)

To Wash BEFORE:

18.	Cooking	yes	no
19.	Eating	yes	no
20.	Breastfeeding	yes	no
21.	Feeding small children	yes	no

E. Did the health worker advise the family:

22.	To cover cooked food	yes	no
23.	To clean pots and dishes before storing them	yes	no
24.	To always use latrines	yes	no
25.	To dispose of feces properly	yes	no
26.	To channel wastewater	yes	no
27.	To tie or pen animals away from family living area	yes	no
28.	To burn or bury garbage	yes	no
29.	To use baby training potty	yes	no
30.	Did the health worker use health education materials to reinforce hygiene and sanitation messages?	yes	no

F. Did the health worker sell:

30.	Training (baby) potty	yes	no
31.	Brush/broom for cleaning latrine	yes	no
32.	Disinfectant	yes	no

ORAL REHYDRATION: OBSERVATION OF SERVICE DELIVERY
PRICOR SYSTEMS ANALYSIS

Health Personnel (specify) _____ Date: _____ Interviewer's Name _____

Patient's name: _____ S/D/O _____ Age: _____

Sex M F

S M O

Address: _____

Did HW ask:

1. How long child has had diarrhea?
2. How frequently child is passing stools?
3. If there is blood or mucous in stools?
4. If vomiting is also occurring?
5. If child has fever?
6. If child has been very thirsty?
7. If urine output is greatly reduced?
8. What has been done at home so far?

Y	N
<input type="checkbox"/>	<input type="checkbox"/>

Comments

Did the HW

9. Take Temperature?
10. Examine mucous membranes of mouth?
11. Check skin reliance?
12. Examine fontanelle
13. Weigh child?

Y	N
<input type="checkbox"/>	<input type="checkbox"/>

Comments

Child was:

14. Treated at facility and sent home immediately
15. Not treated sent home
16. Given medicine to take home
17. Referred to

Y	N
<input type="checkbox"/>	<input type="checkbox"/>

Comments

where? _____

Did the HW:

18. Tell mother to use ORS at home?
19. Give instructions for mixing ORS?
20. Give instructions for administering ORS?
21. Tell mother how long to give ORS?
22. Tell mother about signs of dehydration?
23. Tell mother when to come back?

Y	N
<input type="checkbox"/>	<input type="checkbox"/>

Comments

24. Did the HW tell mother about the need for continuing feeding?
25. Did the HW request the mother to do a return demonstration of ORS preparation?

Y	N
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Comments

EXHIBIT 6

PRIMARY SCHOOL KEY INFORMANT INTERVIEW
PRIMARY SCHOOL TEACHER

1. What water and sanitation facilities exist at the school? (*observation*) _____
2. Who is responsible for keeping latrines clean? _____
3. Have children been trained to use latrines? _____
4. Is it the custom for children between the ages of seven and twelve to use the latrine? _____
5. Are water and soap available and convenient for children to use for handwashing? (*observation*) _____
6. What is the curriculum in hygiene education? (what are the components?) _____
7. Do text books address WS&S health education? (*observation*) _____
8. What activities in health education are carried out in the school? _____
9. What health activities does the school carry out in the communities? _____
10. Does the health worker use a work plan for collaboration with primary school in health education? (*observation*) _____
11. Do you have WS&S health education materials? (*observation*) _____
12. Is there a teacher guide for using the health education materials? (*observation*) _____

EXHIBIT 7

VILLAGE COUNCIL KEY INFORMANT INTERVIEW
PRESIDENT OR OTHER OFFICER

1. How many households in the village? _____
2. How many households have access to a latrine? _____
3. How many households have a standpipe (tap?)
Well _____
Water storage tank with filter _____
Other (specify) _____
4. Does the village organization assist the health worker by training community members to educate others in water supply, sanitation, and health? _____
5. Do you have a work plan for education of the community in WS&S and health? (observation) _____
6. Is there a system for monitoring who has received education in WS&S? (observation) _____
7. Is there a system for monitoring behavior change in WS&S and health? (observation) _____
8. Is the monitoring system up to date? (observation) _____
9. Do you have WS&S/health education materials on hand? (observation) _____
10. Is there a fund and are records kept for maintaining the water system? (observation) _____
11. How many households contribute to the fund? _____
12. Has someone in the community been trained to maintain the water system? Who? _____

EXHIBIT 8

RELIGIOUS GROUP KEY INFORMANT INTERVIEW
MUKHI/MAULANA

1. Do you use the Koran for teaching the community about health?
2. Do you use the Koran to teach the people about the proper use of water and sanitation?
3. Do you collaborate with the community health worker in health education?
4. Do you have a work plan for health education in water and sanitation?

EXHIBIT 9

WOMEN'S GROUP KEY INFORMANT INTERVIEW
PRESIDENT OR OTHER OFFICER

1. Does the women's group assist the health worker by training members of the community to educate others in water supply, sanitation, and health?
2. Do you collaborate with the village council on programs to educate in WS&S and healths?
3. Do you have a work plan for education of the community in WS&S and health? (*observation*)
4. Is there a system for monitoring who has received education in WS&S and health? (*observation*)
5. Is there a monitoring system for monitoring behavior change in WS&S and health? (*observation*)
6. Is the monitoring system up to date? (*observation*)
7. Do you have WS&S education materials on hand? (*observation*)

EXHIBIT 10

RECORD REVIEW, CLINIC
COMMUNITY HEALTH NURSE

1. Can the mother demonstrate ORS preparation?
2. Can the mother explain when to wash her hands?
3. Can the mother explain the word contamination?
4. Can the mother explain clean water?
5. Can the mother explain disease related to fecal contact?
6. Is environmental sanitation information complete?

3.5.5 Module 5: PHC Delivery Monitoring

Description: Module 5 consists of a set of indicators for monitoring PHC activities together with sample data collection instruments and procedures, a User's Guide and Tutorial (to be developed).

Objective: To monitor the achievement of intermediate PHC outputs and outcomes over a short period of time. For those managers who do not yet have an MIS that reports on PHC activities, the indicators could be used to construct one. The "core" indicators would be those that most PHC managers find most useful in monitoring program health and support services.

Field Testing: One of the objectives of the field test in Gilgit was to identify a set of key indicators to be used to monitor health system performance in WS&S on an on-going basis. Based on the findings of the household and community needs assessment (module 3) and the PHC services assessment (module 4), a preliminary set of indicators for PHC monitoring has been identified. These are listed in Section 4.6.

Chapter 4

RESULTS OF THE PROTOTYPE INSTRUMENTS AND METHODOLOGY ASSESSMENT

4.1 Who Should Introduce the Process?

Despite a design for self-implementation, some orientation of senior managers may be needed initially but later considerably reduced when the full system of computerized interactive instruction has been developed. As of the time the WS&S prototype was tested, these aids were not yet available and on-site orientation was essential.

Until the User's Guide and Tutorial are ready, the process should be introduced by a primary health care services manager who fully understands the MAP methodology. It is important that the process be explained in basic terms at the implementation level, with the help of attractive generic materials to be kept as a guide by local personnel. These materials can be developed at different levels to meet the implementation responsibilities of the user.

User participation should be maximized and a team planning approach taken.

4.2 How Should the MAP be Introduced?

The MAP should be introduced to program managers at a well-designed team planning meeting which covers the following elements:

Phase I Introduction to MAP

- Definition of PHC management within the local context
- MAP history
- MAP objective

Scope of Work

- Conceptual model
- The five modules
- Strategic framework

Arranging for Implementation

- Selection of communities
- End product of the MAP
- Teamwork
- Development of a work plan
- Administrative briefing

Phase II MAP Field Implementation

Phase III Utilization of Findings

- Feedback to staff
- Planning for the future

4.3 Is the Objective of the Management Advancement Program Clear?

The MAP field testing was carried out by two physicians, one CHN, three LHVs, and two CHWs, who fully understand the MAP objective. They demonstrated knowledge of the MAP methodology through return explanation, training exercises, and the administrative briefing, where management played a key role. The physicians, the CHN, and one of the LHVs reviewed the tools, the conceptual model, and the strategic framework and made comments at the outset. Further adjustments were made after the field testing experience.

4.4 Is the Methodology Easy to Apply at the Local Level?

In addition to the team planning meeting for program managers which focused on module 1, training sessions were conducted prior to the use and implementation of the following modules:

Module 2 PHC Management Self-Assessment Methodology

<u>Personnel</u>	<u>Primary Role</u>	<u>Activity</u>
Physician, Community Health Nurse	Manager	■ Identification of program strengths and weaknesses using management self-assessment form and key indicators.

Module 3 Community Surveys of Need and PHC Impact (Household Survey)

<u>Personnel</u>	<u>Primary Role</u>	<u>Activity</u>
Physician (2)	Field Supervisor	■ Household needs assessment 7 households in 30 communities for a total of 210 households.
Community Health Nurse (1)	Field Supervisor	
Lady Health Visitor (3)	H o u s e h o l d interviewer	
Literate Community Health Worker (30)	H o u s e h o l d interviewer	

Module 4 PHC Services Assessment (Key informant interviews, service delivery observation, record review)

<u>Personnel</u>	<u>Primary Role</u>	<u>Activity</u>
Physician Health Nurse Community	Observer	Lady Health Visitor performance in clinic setting (10 observations)
Lady Health Visitor Community Health Nurse	Observer	Community Health Worker performance, home visit (10 observations)
Physician, Community Health Nurse	Interviewer/Field Supervisor	Key Informant Interviews, 30 communities, 4 each, total 120
Lady Health Visitor	Interviewer	<ul style="list-style-type: none"> - Primary school teacher - Religious leader - President VO - President WO
Physician, Health Nurse Community	Reviewer	Record Review (30 at random)

Module 5 PHC Delivery Monitoring

Physician, Health Nurse Community	Manager	Development of forms and monitoring of key performance indicators for <ul style="list-style-type: none"> - Lady Health Visitor - Community Health Worker - President VO - President WO - Primary school teacher
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4.5 What Levels of Personnel Are Necessary for Implementation?

The physicians, as field directors, are the primary managers but the CHN also proved to be very capable with the MAP.

It was agreed, after discussion, that literate CHWs could conduct the household surveys. As it happened, they were two short and two LHVs filled in, making it possible to compare the work of the two groups. The CHWs did a commendable job—both were intelligent, highly literate, and motivated. One is a retired military enlisted man who owns a shop, the other a Shia religious leader. They had no difficulty gaining access to homes. The LHVs were highly effective in the household surveys, the key informant interviews, and the observation of CHW service delivery in the home. They are generally accompanied in the field by a male driver and a second LHV, which makes them feel more comfortable.

4.6 Were the Modules Generally Appropriate?

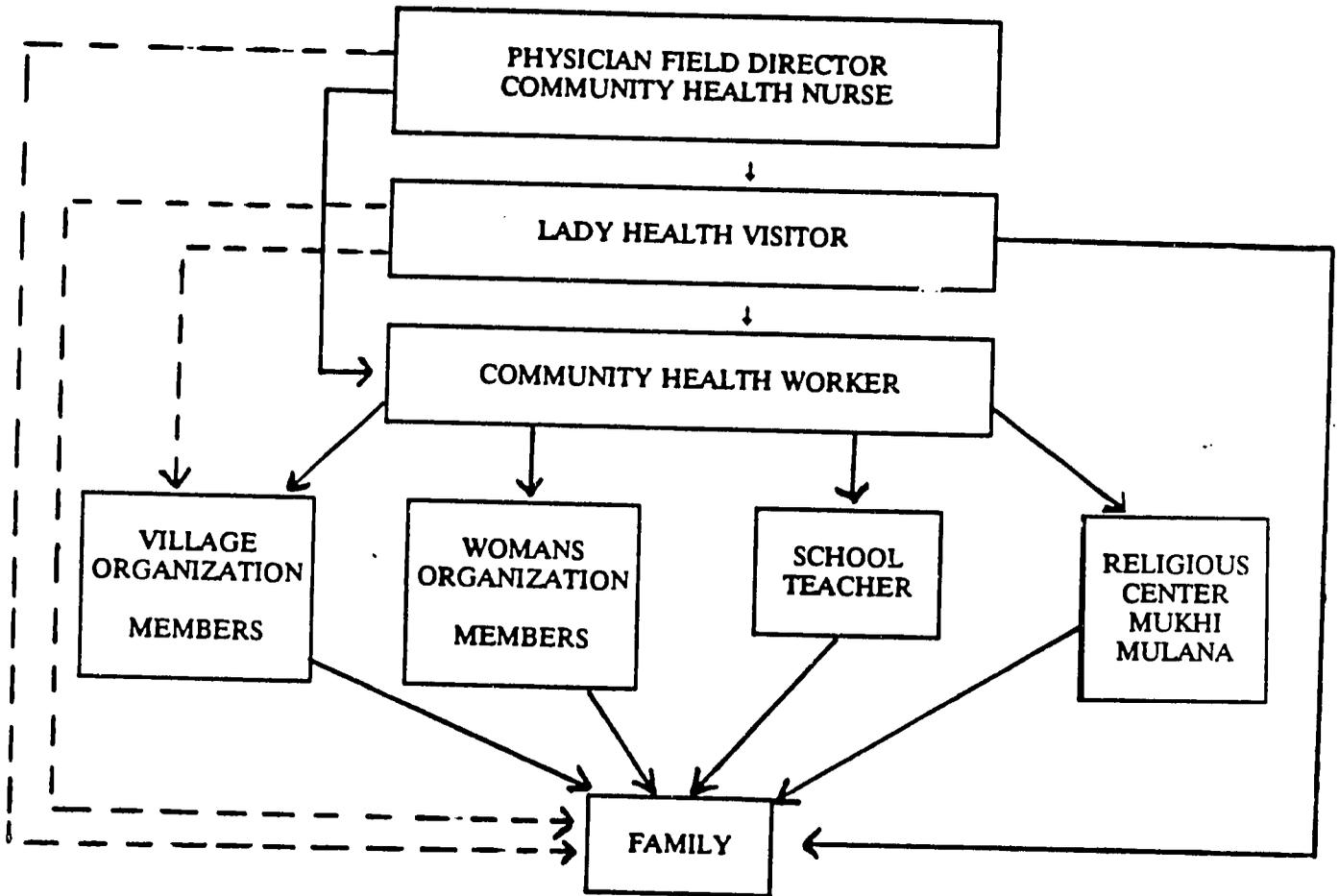
This selection lists the changes necessary in each module to meet the Gilgit situation.

Module 1, Conceptual Framework, was expanded to specifically include the roles of school teachers, religious leaders, and the presidents of villages and women's organizations. (See Figure 3.) For the Gilgit region the content also includes water coolers and filters.

Module 2 PHC Management Self-Assessment Methodology

1. "Contamination" was added to the concepts to be defined and explained by staff.
2. Performance. The following additions were agreed upon.
 - Percentage of households with children 1-3 which have a baby training potty.
 - Percentage of CHWs and LHVs who inspect and advise on WS&S and record health education knowledge indicators.
 - Percentage of households and schools with improved water source and latrines and soap.
 - Percentage of CHWs who sell baby training potties and fly swatters.

Figure 3
PHC PROGRAM SERVICES MODEL



Developed together with Aga Khan Health Services personnel prior to field testing of prototypes.

3. WS&S Planning. The following addition was agreed upon:

Do you have a plan for WS&S education through

- village organization?
- women's organization?
- Jamat Khana/mosque?

4. WS&S Training—no change

5. WS&S Supervision—no change

6. WS&S Community Participation—no change

7. WS&S Logistics—~~delete~~: fuel for pumps, add: filters, water coolers

8. WS&S information—~~delete~~: water consumption, add: knowledge indicators for mothers and caretakers of children < 5.

Module 3, Community Surveys of Need and PHC Impact (Household Needs Assessment):

Field testing demonstrated the need to include questions in the instrument on:

- Bathing practices. Mothers and children do not appear to bathe frequently enough and there seems to be no private bathing area in the compound.
- Dust control. There is plenty of water available in summer through glacier-fed open channels, and dusty compounds could be made much more pleasant with a spray of water.
- Women's organizations. Question #31 should include them as a resource for health education.
- Fly control. Flies are a big problem and their control should be addressed in the questionnaire.
- Clean play area for toddlers. Children are often found playing in the dust. One household had cleared off a three-sided wood bottom double bed as a play area for toddlers, an idea that should be encouraged. These beds are inexpensive and easily available.
- Water filters. An inspection question needs to be included on observation of filters in water coolers and information on the last time they were changed.

Field testing also yielded the following observations:

- 50 percent of water coolers are not clean.
- 10 percent of households train children 4-6 years to use the latrine.

- None of the families have a training potty for children ages 1-3.
- 75 percent of families throw garbage into the field.
- 7-8 categories of personnel were identified as resources for health education. Physicians were included in the list, which is unusual and demonstrates the strong community orientation of physician preparation and supervision.
- There is a problem with the infrequent changing of filters and quality control.
- There is need for a better understanding of the concept of contamination.

Module 4 PHC Services Assessment (Observation of Health Worker Performance, Key Informant Interviews, Record Review)

Observation of CHW performance in the home and LHV performance in the clinic identified the following program needs:

- When counseling for diarrhea, more emphasis should be placed on prevention, water storage, water use, latrine use, and baby potty training.
- Health education materials—stickers, comic books, fliers in support of messages—are needed.
- In addition to drugs, CHWs could sell baby training potties, fly swatters, and possibly rubber sandals for young children.
- Mothers should be requested to demonstrate ORS preparation to ensure they have properly understood the procedure.

There were no suggestions for instrument change.

Key informant interviews and observations in the community identified the following program needs:

- The training, planning, and monitoring of health education in WS&S should be formalized with the president of VO, WO, primary school teacher, CHW, and religious leaders.
- All schools should have latrines and safe water for drinking.
- All schools should have curriculum, textbooks, teacher's guides, and education aids which address health, hygiene, and water and sanitation.

There were no suggestions for instrument change.

Record review of children under five identified the following program needs:

- Indicator of mother's observed ability to prepare ORS;
- Indicator of mother's level of hygiene education. Mother can explain—
 - critical timing for handwashing
 - appropriate water storage
 - the concept of contamination
 - proper latrine use and maintenance
 - the importance of personal and environmental hygiene
 - most common causes of diarrhea.

Comment: The existing clinic record already reflects environmental concerns including access to safe water supply and latrines.

Module 5 PHC Delivery Monitoring (Monitoring Key Indicators)

Key indicators identified through the field test and application of modules 2, 3, and 4, and suggested targets are:

- Percentage of homes having an improved water source: target 75%
- Percentage of schools having an improved water source: target 100%
- Percentage of homes having clean, whitewashed latrines in use: target 75%
- Percentage of schools having clean, whitewashed latrines which are in use: target 100%
- Percentage of families with children 1-3 having a baby training potty: target 50%
- Percentage of homes having soap for personal hygiene: target 100%
- Percentage of schools having soap for handwashing located near water source: target 100%
- Percentage of VOs, WOs, schools, Jamat Khana/mosque receiving training and cooperating in planning, implementation, and monitoring of water, sanitation, and hygiene education programs: target 90%
- Percentage of CHWs inspecting and advising in water use and storage, latrines, and baby training potties and recording mothers' hygiene education: target 50%

- Percentage of LHVs inspecting and advising in water use and storage, latrines, and baby training potties and recording indicators of mothers' hygiene education: target 90%
- Percentage of CHWs selling baby training potties and fly swatters: target 75%

Module 6, PHC Health Worker Planning and Performance Assessment, and Module 7, PHC Cost Accounting, Analysis, and Projections, were not addressed in this field test.

In summary, the field testing of draft modules provided a solid base for adaptation and modification to suit the Gilgit situation. The early drafts were prepared by WASH and PRICOR/URC with on-site input from AKHS. Recommendations for further improvements after field testing were developed by AKHS field managers and WASH. The draft generic modules should be useful in other rural water and sanitation MAPs, and provide some guidance for peri-urban surveys.

4.7 Are Microcomputers Appropriate for Field Tabulation?

At present there are one or two microcomputers in the AKHS office in Gilgit. Although several staff have computer capability, the physician field supervisors, CHN, and LHVs who are largely responsible for the MAP field implementation, are not among these. There are a number of computers at the AKRSP office in Gilgit and a large number of staff seem to have computer, word processing, and analytical skills. The AKHS in peri-urban Karachi routinely uses laptops for field work.

"The International Workshop on Management Information Systems and Microcomputers in PHC" sponsored by the Aga Khan Network in 1987 concluded that microcomputers and decision-support software are valuable managerial tools in the PHC development, implementation, and evaluation process. Additionally, the document goes on to state that the microcomputer can facilitate improved management through timely and informed decision making, given that the MIS data base contains information most relevant to decision making and that users have an appreciation of its significance and utility. But since not all situations lend themselves to microcomputer utilization, the MAP methodology will also include printed materials for manual data analysis.

In the Gilgit situation for the first full application of the MAP (210 households, 120 key informant interviews, etc.), it would be worthwhile to bring in skilled personnel, including medical and nursing students, and the necessary number of laptops from Karachi to demonstrate the advantages of the computer. It would be difficult to support the purchase of more than three laptops for intensive utilization just once a year. But the ongoing monitoring system of the MAP could justify this purchase as well as the training of existing staff members for data entry and analysis.

4.8 How Often Should the MAP Process Be Applied for Effective Management?

The MAP modules represent a flexible array of information gathering tools. The step-by-step program is designed so that the user can select modules and indicators according to need. How often the full MAP or partial MAP is applied depends on program need.

4.9 Can the Process Be Implemented with Local Resources?

The local professional staff, and the CHWs with proper initial training and guidance are quite capable of carrying on the MAP after the first full field application. The computer analysis aspects will have to be thought out and planned according to local need.

4.10 What Are the Costs of Implementing the Full MAP at the Local Level?

Costs are estimated here on the basis of the number of hours required to implement a specific module for program startup only.

Personnel	Activity	Number of Personnel	Number of Hours Each	Total Hours
<u>Module 1: Conceptual Framework</u>				
Physician	Team Planning Meeting (2 days)	2	24	48
CHN	Review of Modules (1 day)	1	24	24
<u>Module 2: PHC Management Self-Assessment Methodology</u>				
Physician	Management Self-Assessment	2	8	16
CHN		1	8	8

Personnel	Activity	Number of Personnel	Number of Hours Each	Total Hours
Module 3: Community Surveys of Need and PHC Impact (Household Survey)				
Physician	Instrument Adaptation, Field Supervision	2	24	48
CHN	Household Survey (210)	1	24	24
LHV		3	24	74
CHW	Training (1 day) Implementation (2 days)	30	24	720
Physician	Data Analysis and Writeup	2	24	73
CHN		1	24	48
Computer Systems Analyst		1	16	16
Data Entry Clerk		2	24	48

Personnel	Activity	Number of Personnel	Number of Hours Each	Total Hours
Module 4: PHC Services Assessment (Key Informant Interviews, Service Observation, Record Review)				
Physician		Factored into Module 3		
CHN	Key Informant Interviews (120) (same day as Household Survey)	Factored into Module 3		
LHV		8	16	128
Computer Systems Analyst		Factored into Module 3		
Data Entry Clerk		Factored into Module 3		
Physician	Observation of LHV in Clinic Setting (30)	2	8	16
CHN		1	8	8
LHV		3	5	15
CHW	Observation of CHW Home Visit (30)	15	2	30
LHV		6	8	48
CHN		1	8	8
	Record Review 3 Centers (30)			

Personnel	Activity	Number of Personnel	Number of Hours Each	Total Hours
<u>Module 5: PHC Delivery Monitoring</u>				
Physician	Development of Key	2	12	24
CHN	Indicators and Forms for	1	12	12
LHV	Monitoring	6	12	72
CHW		30	6	180

The startup costs in number of local staff hours for the MAP are as follows:

	Total Hours	Number of Personnel	Number of Hours Each
Physician Field Director	200	2	100
CHN	100	1	100
LHV	335	6	56
CHW	900	30	30
Computer Systems Analyst	16	1	16
Data Entry Clerk	48	2	24

The Gilgit field test suggests that startup will place significant demands on the two physician field directors and the CHN at 100 hours each. This time can be reduced if personnel or medical/nursing students from the AKU in Karachi are brought in for field supervision and training for the household survey. The time demands for the LHVs are reasonable. Funds will have to be made available to pay for the time of the CHW, the computer systems analyst, and the data entry clerk. Training and preparation time is included in the calculations.

Travel time and travel costs have not been taken into consideration. Implementation of the MAP will require additional vehicles—as many as five for the household survey, and key informant interview training and implementation. Other modules will require one or two vehicles daily.

4.11 Were the Specifications of the MAP Met?

The specifications of the MAP stated that materials and tools are to be short, simple, and easy to use, and that implementation should require only initial technical assistance. Formulation of the tools drew on the full knowledge of WASH in the sector and on the experience of URC/PRICOR in designing such tools and structuring questions. The Gilgit health services staff are receptive and responsive to the MAP. Initial technical assistance, together with guidelines, will be necessary when the broader PHC MAP is fully implemented.

The MAP tools proved to be appropriate for a decentralized system below the district level in a rural environment. The methodology should be appropriate for peri-urban areas, but content would need modification.

Appropriate guidelines need to be developed for self-instruction, formal and in-service training, and as an on-the-job reference.

In general, the methodology adequately reflects the needs and capabilities of PHC managers and can be used by them.

Chapter 5

FUTURE PLANS

5.1 PHC Management Advancement Program

The modules developed in water, sanitation, and hygiene education can be linked of integrated with other PHC interventions or implemented separately. The full PHC MAP will include up to seven additional components such as immunizations, ORT, growth monitoring, and antenatal care. The water, sanitation, and hygiene education modules were written so as to be readily adapted for the rural or peri-urban situations of the AKHS in India, Bangladesh, Tanzania, Pakistan, and Kenya.

5.2 Integration into WASH Programming

Community Management

The most successful of recent WS&S projects have relied heavily on the support and volunteer labor of village organizations. Too often, water programs develop independently of health service providers and CHWs. The MAP gives local WS&S committees the opportunity to link up with PHC through the health service and CHWs, and reinforce hygiene education and monitoring for behavioral change. The MAP specifically addresses health services and CHW management for behavior change in water and sanitation—household survey, key informant interviews, health worker performance, record reviews, and the monitoring of key indicators.

Institution Building

A major thrust of WASH programming has been institution building through public works departments at the national and regional levels, particularly in Ecuador and Sri Lanka. Village level participation, ownership, and management of water projects is now often in place.

The MAP provides a framework for reinforcing management below the district level within the health services. Strengthening the department of public works and the health services to complement each other enhances the health benefits that WS&S efforts deliver.

Linking Water and Sanitation to Child Survival

Recent studies have documented the weaknesses of vertical child survival programming which AID has pursued for the last seven years. The considerable health impact of clean drinking water, combined with sanitation and hygiene education, has also begun to be documented. WASH recently sponsored a workshop to explore issues linking WS&S and child survival efforts. Among those factors

considered most important to linkage are a strong government commitment to PHC and donor strategies oriented to achieving linkage. Other key elements include flexible management systems, phased introduction of program elements, and active community participation, particularly by women. The next step, which WASH is prepared to take, is the development of a preliminary guide for designing integrated WS&S/CS projects. The tools developed through the MAP will be an important resource for this.

APPENDIX A

Additional Background Material

DEMOGRAPHIC AND HEALTH SITUATION IN THE PUNIAL VALLEY
FROM 1986 BASELINE STUDY¹⁶

In 1986, a baseline socioeconomic, demographic, and health status survey was conducted in the Punial valley of Gilgit district to provide data and direction for future health service efforts. Major findings of the survey were:

- 26 percent of children under five are fully immunized and 11 percent partly immunized.¹⁷ (Data are not available for completion rates in children under one.)
- 19 percent of expectant mothers are immunized for tetanus¹³
- 42 percent of currently pregnant women make antenatal visits
- Younger women are better educated. (26 percent are literate as compared with 11 percent nationwide.)
- Younger women aged 15-29 have knowledge of the benefits of using clean water (72 percent), drinking boiled water (60 percent), having sanitary latrines. (35 percent)
- Infant mortality is 158 per 1000 live births as compared with 189 in a similar area in nearby Afghanistan.¹³
- 5 percent of households have improved water supply.
- 5 percent or less have access to latrines.
- Families reported spending \$3.75 on a recent illness.
- Substantial change in health behavior is underway. This is revealed by data derived from a sequential study of the last three births which provide a historical view covering five to ten years. Such parameters as seeking antenatal care, using health facilities, and children fully immunized show communities in the midst of change.

¹⁶Karim, Mehtab B.; Aqil, Anwer, Demographic and Health Situation in the Punial Valley. Aga Khan University, Karachi, 1986

¹⁷1989 informal health services information suggests considerable improvement in the last two-and-a-half years (EPI coverage at 50 percent, TT 47 percent)

A Program of Primary Health Care in the Punial Valley of Gilgit¹⁸

Objectives of the Primary Health Care program are to:

- Institute sustainable measures which improve the health and nutritional status of children under 5 years and women between the ages of 15 and 49 years
- Work in partnership with VOs, the local government, and Aga Khan Network organizations¹⁹ to establish a permanent PHC delivery system at an affordable cost

In addition, AKHS is assisting GOP efforts to provide tetanus toxoid, immunizations, and iron supplements through mass campaigns aimed at high-risk individuals in the area. An MIS is to be instituted in order to track program interventions on the following indicators:

- Reduced infant mortality rates
- Reduced maternal mortality rates
- Reduced mortality rates in children 1-4 years of age
- Increased immunization coverage and use of ORT
- Reduced incidence of malnutrition and iodine deficiency disease

The population of the Punial valley in 1987 was estimated at 24,000. Target populations are as follows:

children 0-1	1,050
children 1-2	900
children 2-5	2,500
women 15-49	5,500

¹⁸A Program of Primary Health Care in the Punial Valley of Gilgit: A Progress Report. Aga Khan Health Services, December 1988

¹⁹ Aga Khan Rural Support Program, Aga Khan Housing Board, Aga Khan Foundation, Aga Khan University

The 1986 Punial valley survey, mentioned earlier, serves as a benchmark against which program interventions will be measured. The health status indicators as per the PVS are as follows:

Infant mortality rate	158
Maternal mortality rate	5.5
Childhood death rate	14.5

In the same survey, only 19 percent of women currently pregnant reported receiving one dose of tetanus toxoid during that pregnancy though local health authorities estimated overall coverage to be as high as 45 percent for eligible women. Forty-eight percent of women know about the benefits of ORT, while 28 percent can describe the proper preparation and use of ORS. It is estimated that children under five experience four episodes of diarrhea per child per year lasting approximately four days, with a noted increase during the summer months. Diarrhea accounts for 20 percent of all deaths in the Punial area.

Ninety percent of the villages in Gilgit are part of the VO program. Participation of 75 percent of the village households is a requirement before a village organization can be formed. Since there seems to be no evidence of important problems within the VOs and they appear to truly represent the consensus in villages where they exist, they are accepted as the point of entry into a community for programming in health. This implies a partnership with the VOs. Meetings of the PHC project staff with the VOs are a regular phenomenon and informal contacts with VO officials are quite frequent. During initial meetings with the VOs, the health problems of the village are discussed, the program is explained in its entirety, and the roles and responsibilities of the AKHS, VOs, CHWs, and TBAs are clearly defined.

Aga Khan Rural Support Program²⁰

The Aga Khan Rural Support Program (AKRSP) was initiated in December 1982 in Gilgit district and three years later in Chitral and Baltistan. Within the general policy framework of improving the economic conditions of the rural population and developing a replicable model of rural development, the management group of the AKRSP formulated a strategy with the following essential elements of smallholder development:

- Organization and collective management, including cooperative decision making
- Generation of capital through savings
- Upgrading of human skills—productive, managerial, and cooperative

The AKRSP experience needs to be understood as a process of social organization, in which AKRSP and the villagers explore the alternatives to social anarchy and a diminishing resource base. The key element is the organization of rural communities into broad-based, multi-purpose development institutions. The second element is the identification and support of community activists who can manage local development organizations. The third element is the articulation of alternative values, i.e., cooperation and equity in the management of common resources and problems. The fourth element is the incremental grafting of modern scientific techniques onto traditional knowledge. The fifth element is the mobilization and investment of local capital on a sustainable basis. In a general sense, then, AKRSP's response to social fragmentation and a declining resource base can be described as a process of community organization, sustained by community activists, cooperative values, incremental technological innovation, and capital accumulation.

The Northern Areas are fortunate in having an active tradition of cooperation. Isolation and feudal authority helped preserve this tradition well after it had ceased to be the dominant characteristic of economic life in most parts of Pakistan. Traditionally, labor-sharing and common management of natural resources (often under the control of feudal authority until 1978) have been the norm rather than the exception in this region. Thus, when AKRSP first started working in Gilgit, its message of "private land ownership and collective management" was received sympathetically by the villagers, who understood that the functions performed by feudal chiefs in the past had to be incorporated into the VO's mandate. They also understood the importance of the other elements needed to sustain and extend the capacity of the VO to manage village development.

²⁰Aga Khan Rural Support Program, Fifth Annual Review Gilgit Northern Areas, 1987

Some of the activities introduced by the AKRSP through village organizations include:²¹

- savings
- field-based specialist training
- link roads
- irrigation channels
- pipe lines
- water storage reservoir
- foot bridges
- tractor rentals
- boundary walls
- cooperative marketing, credit, training
- women's organizations
- fertilizer credit
- seed credit
- training in raising livestock, immunizations, improved root stock, heifer projects
- training in poultry production, immunizations
- nut-cracking machines
- sulphur tents to dry apricots
- vegetable seeds, demonstration gardens
- improved stoves
- agriculture machine credit, tractors, threshers, etc.
- improved food varieties, orchards
- demonstration plots—wheat, maize
- tree plantations, improved forest trees, poplars
- transport credit for cluster marketing
- spinning wheels
- butter churns

As of December 1987, VOs in Gilgit district numbered 376, with a total membership of 26,500. Deposits are Rs. 20,567,000,²² an average of Rs. 54,699 per VO or about Rs. 776 (US \$39) per household. Total savings for all VOs (1,000) in the Northern Areas currently are estimated to be US \$2.5-3 million.

²¹ Village organizations are at various levels of maturity and they participate in AKRSP according to perceived need and capability.

²² Rs. 20 = US \$1

The Aga Khan Housing Board²³

The primary objectives of the Aga Khan Housing Board are to improve the living conditions and habits of rural populations. More specifically, the aim is to:

- Improve the quality of drinking water and minimize the spread of water-borne diseases
- Improve sanitary conditions and minimize the spread of excreta-borne diseases
- Improve the internal atmosphere of traditional houses and minimize the effects of smoke on health

Keeping in mind the basic requirements of a hygienic environment, the Aga Khan Housing Board has identified four basic lines of action under a Living Conditions Improvement Program.

1. Toilet facilities - Toilets are a flush Turkish-style called LOTA. The trend is toward fiber glass, which is durable and travels well. Ceramic fixtures tend to crack or chip during transport through the mountains to local sites and also because of ice in the winter months. Latrines can be purchased for Rs. 270. Approximately 1497 toilet units have been installed in all of the Northern Areas.
2. Water Coolers and Filters. A five-gallon insulated water container consisting of a plastic bottle and a filter has been developed by the Pakistan Council for Scientific and Industrial Research. The system costs Rs. 270. Filters cost Rs. 30 and must be changed every three months for effective filtration to take place. The drawbacks are that the water coolers are not always kept clean and filters are often not replaced on schedule. This is considered a short-term solution. Although 1370 water coolers and filters have been purchased in the Northern Areas, coverage for the Puniyal valley is not known. Coverage for household taps is 4.8 and for community taps or wells is 12.2 percent. The Northern Areas will most likely participate in a proposed World Bank water and sanitation project. The local implementing agency has yet to be decided.
3. Ventilation and Light. Traditional houses in the Northern Areas do not have windows or ventilation except for one

²³Living Conditions Improvement Program, Aga Khan Housing Board Presentation to 43rd Village Organizations' Presidents' Conference, May 1989.

opening in the roof just above the cooking space. The Aga Khan Housing Board is promoting double glazed window/ventilation for placement on ceilings. This allows for natural light, fresh air, and conservation of heat throughout the year. The cost depends on the size of the window. Four hundred fifty-six ventilation units are now in place.

4. Metal Stoves. Because wood is used as the cooking fuel in the Punial valley, it is important to have proper smoke exhaust systems. Only one-third of households have chimneys or pipes; the rest have a roof opening. As a result, heavy smoke within the house is a constant factor, leading to respiratory diseases and chronic irritation of the eyes. Women and young children, who remain within the house much of the time, especially during winter, are affected most. Metal stoves have proved to be fuel-efficient and very effective. They are being produced together with GTZ. In the Northern Areas, 6798 stoves have been purchased.
5. Money for home improvements and agricultural and livestock development can be borrowed at 12-1/2 percent interest through the VOs and the Habib Bank.

APPENDIX B

Persons Contacted

PERSONS CONTACTED

Islamabad

Steven Allen	Sr. Program Officer, UNICEF
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Raja Sher Afzal	Program Officer, Water, UNICEF
Peter Wurzel	Chief, Water and Sanitation, UNICEF (on leave)
Dr. M. Zafar Ahmed	Deputy Director General, Health GOP
Abid M. Hussain	Senior Economist (PL480), AID
S. Zahid Noor	Chief Engineering Advisor, AID
Barbara Spaid	Population Officer, AID
Laurrie Mailloux	Acting Chief, Program Development, A.I.D.
Dr. M. Altaur Rahman	Consultant (formerly Program Manager WHO, SEARO)
Mahila Hussain	Director, Development Research and Management Services (a private consulting firm)
Dr. Anwer Aqil	Consultant, PRICOR (formerly AKU, Karachi)

Gilgit

Steve Rasmussen	General Manager, AKHS
Dr. Inam Kazmi	Deputy General Manager, AKHS
Dr. Zeba Rasmussen	Research, CDD, AKHS
Shoaib Sultan Khan	General Manager, AKRSP
Shalmin Sadauji	Yale University Fellow
Kamala Jain	Haverford College Intern
Gul Mohamed	Administrator
Laila Tul Badar	Lady Health Visitor
Noor Begum	Lady Health Visitor
Gul Zaidi	Lady Health Visitor
Yasmin Amar Ali	Community Health Nurse
Barkat Ali Khan	Social Organizer
Dr. Inam Yar Beg	Field Director, Punial
Dr. M. Nazir Khan	Deputy Field Director, Yasin
Dr. Khair-ul Hayat	Deputy Field Director, Punial
Ramat Ali	Program Manager, Housing Board
Karimullah Beg	Program Officer, Housing Board
Abdullah	Community Health Worker
Zirat Shah	Community Health Worker
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APPENDIX C

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APPENDIX D

Scope of Work

SCOPE OF WORK

Primary Health Care Management Advancement Programs (PHC MAP):

The Water Supply/Sanitation and Hygiene Component

I. Background

The Aga Khan Health Services has become one of the largest private sector, non-profit health care networks in the Third World with over two million people being served in five²⁴ Asian and African countries. Considerable emphasis is placed by His Highness, the Aga Khan, on the improvement of management in primary health care through the development of skills and technologies appropriate to the local setting. A small steering committee²⁵ which includes Drs. David Nicholas and Jack Reynolds of the Center for Human Services/University Research Corporation (CHS/URC) has begun to conceptualize a PHC Management Advancement Program (MAP).

The Center for Human Service's PRICOR (Primary Health Care Operations Research) Project has conducted a systematic analysis of the management aspects of primary health care programs in twelve countries. These analyses describe in some detail how service delivery personnel carry out the specific tasks that comprise child survival services, and how training, supervision, logistics, and management information systems support these activities in the field. The result is intended to give managers tools for more routine active monitoring and program adjustment. The Aga Khan Foundation and PRICOR have agreed to collaborate in the development of the proposed MAP system, which is intended to be widely applicable to PHC systems, both private and public, in developing countries.

From the outset, it was envisioned that Water Supply/Sanitation and Hygiene Education should be included as the part of the primary health care focus of the MAP. The Water and Sanitation for Health (WASH) Project of AID has accumulated a great deal of knowledge and experience over its eight year history in more than sixty countries on how to design and implement sustainable water and sanitation systems. WASH's emphasis has been on the social and institutional aspects of water and sanitation projects as well as on technical issues.

The WASH Project, therefore, will collaborate with AKF and PRICOR in the development of Water Supply, Sanitation, and Hygiene Education Components for potential inclusion in the proposed Management Advancement Program.

²⁴ Bangladesh, India, Kenya, Pakistan, Tanzania

²⁵ Aga Khan Foundation (Wilson, Smith), Aga Khan University (Bryant), Aga Khan Health Services (Steeles), Duke University Medical Center (Echols), CHS/URC (Reynolds, Nicholas)

The full MAP will address the management of eight PHC services: Oral Rehydration Therapy (ORT); Expanded Programs of Immunization (EPI); Growth Monitoring and Nutrition Improvement; Antenatal, Delivery, and Postnatal Care of Women/Infants; Acute Respiratory Infections (ARI); Child Spacing; Water Supply, Sanitation, and Hygiene Education; Risk Factor Management in Family Health.

The management tools to be developed and tested are to be short, simple, and easy to use; they should not require training or technical assistance prior to use. Tools are to be designed for use within a decentralized system, at or below the District level in rural or peri-urban areas.

II. Purpose

The specified purpose of this WASH activity is to develop and test tools in Water Supply/Sanitation and Hygiene to help health program managers collect, process, and utilize management information.

III. Objective

The objective of this WASH activity is to provide PHC managers having responsibility for Water Supply and Sanitation with tools to assess the management of their program, identify areas that need strengthening, and develop and implement management improvement plans.

IV. End Products

The full Management Assessment Program will consist of the six modules briefly described below. WASH will participate in the development and testing of the Water Supply, Sanitation, and Hygiene Education components of the first five modules. The WASH role in each is highlighted in the description.

1. PHC Program Management Conceptual Framework

This module would provide the Water Supply/Sanitation manager with an overview of PHC program management concepts and information requirements, and the PHC program manager with WS&S concepts and information needs.

(AKF, with input from WASH, PRICOR)

2. PHC Management Self-Assessment Methodology and Management Improvement Plans

This module would enable PHC managers of WS&S activities to assess the strengths and weaknesses of their programs and to develop action plans to deal with the problems identified.

(WASH/AKF, using AKF prototype)

3. PHC Needs Assessment and Program Impact Assessment

This module would help PHC managers conduct an assessment of the WS&S needs of their target populations. By applying the module periodically, managers could also measure the impact of their programs and reassess needs. The EPI Rapid Survey Methodology is to be used. (This was used by WASH in Guatemala). WASH will identify and test appropriate WS&S indicators and questions to be included in the needs and impact assessment module.
(WASH/AKF)

4. PHC Program Service Monitoring

This module would enable PHC managers of WS&S activities to select key activities and tasks that they wish to monitor on a regular basis so that they can determine the extent to which these tasks are being carried out as planned. The development of this module will follow that of the Systems Analysis module (module 5) and incorporate key items from modules 2, 3, and 5. PRICOR will take the lead in distilling the WASH insights and experience reflected in modules 2 and 3, and the WASH/PRICOR/AKF experience in developing the Systems Analysis module (Nr. 5); the final version of the module will be developed in an interactive process, involving all three institutions.
(WASH/PRICOR/AKF)

5. PHC Program Systems Analyses

This module would enable PHC managers to conduct occasional assessment of the quality of WS&S services and support activities, to determine how health staff are providing the necessary information, education, and services to the selected target populations. PRICOR will take the lead in developing this module, again based on the WASH experience reflected in Modules 2 and 3, and PRICOR experience in conducting Systems Analyses including WS&S activities. The final version will be developed in an iterative process involving all three institutions.
(PRICOR/AKF/WASH).

6. PHC Cost Analysis

This module would assist PHC managers to set up simple cost accounting procedures so they can monitor unit costs of PHC services.

V. Tasks (WASH)

1. Identify WS&S indicators and develop a tool for management self-assessment, following AKF prototypes for service delivery and support activities. If appropriate, develop different versions for use with different types of water and sanitation systems.

2. Identify WS&S indicators and develop questions for needs/impact assessments.
3. Work with PRICOR to develop the instruments for WS&S Systems Analysis, drawing upon and adapting the existing draft PRICOR WS&S Thesaurus and questions drafted for existing PRICOR Systems Analyses.
4. Work with PRICOR to distill that key set of WS&S indicators for on-going monitoring and management information systems.
5. Arrange for and conduct a field test of the WS&S components of the MAP system.
6. Revise and finalize the WS&S components of the MAP system.
7. Prepare a brief trip report.

VI. Schedule

- May 10 Module Nr. 2
 WS&S PHC Management Self-Assessment and Improvement indicators (WS&S component (WS&S component for Module Nr. 2) submitted to PRICOR and AKF in format of AKF prototype, modified as necessary for different WS&S modalities.
- May 15 Module Nr. 3
 WS&S indicators and questions for needs and impact assessment tools (WS&S component for Module Nr. 3) submitted to PRICOR and AKF.
- May 20 Module Nr. 5
 WS&S Systems Analysis framework established by PRICOR, based on existing PRICOR materials and WS&S indicators developed by WASH for WS&S components for Module Nrs. 2 and 3.
- May 20 Module Nrs. 2, 3, and 5
 Periodic module review begins and is held every two weeks throughout the project as revisions are made to WS&S components of Module Nrs. 2 and 3, and as development of the WS&S component of Module Nr. 5 goes forward.
- June 7 Module Nrs. 4 and 5
 Draft WS&S Systems Analysis tools (WS&S component of Module Nr. 5) completed. Work begins on WS&S component of Module Nr. 4, using input from WS&S components developed for Module Nrs. 2, 3, and 5.
- June 14 Module Nr. 4
 Draft WS&S component of Module Nr. 4 completed.

- June 14 Modules Nrs. 2, 3, 4, and 5
Revised drafts of WS&S components of Module Nrs. 2, 3, 4, and 5 submitted to AKF Steering Committee.
- June 17 Review of PHC Management Self-Assessment methodology and WS&S components of Module Nrs. 2, 3, 4, and 5 at meeting of AKF Steering Committee in Washington, D.C., at the time of the NCIH meetings.
- June 18- Arrange for field testing of WS&S components of 30 the MAP, probably at an AKHS project in Pakistan (Gilgit).
- July 1 Begin field testing and revisions.
- July 12- Review of MAP at AKF Steering Committee meeting, Bombay.
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- July 31 Submit revised tools.

VII. Personnel

1. Behavioral Scientist/Health Educator WASH
To suggest managerial functions and technical content in health education and community participation (1/2 day)
2. Engineer (WASH)
To suggest managerial functions and technical content related to construction, operation, and maintenance of wells, pumps, standpipes, latrines, etc. (1 day)
3. Public Health Specialist (WASH)
To consolidate and prioritize content; finalize indicators, questions, and module components; and plan and arrange for the field test (23 days)
4. Public Health/Systems Analysis Specialist (WASH/CHS)
To consolidate content and finalize module formats (2 days)
5. Senior Public Health/Systems Analysis Specialist (WASH/CHS)
To collaborate in establishing content priorities and in the development of the protocol for field testing (5 days)

APPENDIX E

**PRICOR Thesaurus
Oral Rehydration Therapy**

2.2.1 TAKE MEDICAL HISTORY

- *Do health workers take adequate medical histories from diarrhea cases?*
- a. Mean % of medical history items asked about for diarrhea cases^{****} (11 items = 100%)
Diarrhea Encounter Observation or Role-Play Exercise

2.2.1.1 Ask about duration of diarrhea

- *Do health workers ask about the duration of children's diarrhea?*
- a. % of diarrhea cases for whom health workers ask about the duration of diarrhea Diarrhea Encounter Observation or Role-Play Exercise

2.2.1.2 Ask about frequency of stools

- *Do health workers ask about the frequency of children's stools?*
- a. % of diarrhea cases for whom health workers ask about the number of stools in the last 24 hours Diarrhea Encounter Observation or Role-Play Exercise

2.2.1.3 Ask about consistency of stools

2.2.1.4 Ask about presence of blood and/or mucus in stools

- *Do health workers ask about the presence of blood or mucus in children's stools?*
- a. % of diarrhea cases for whom health workers ask about the presence of blood or mucus in the stools Diarrhea Encounter Observation or Role-Play Exercise

2.2.1.5 Ask about presence of vomiting

- *Do health workers ask about the presence of vomiting?*
- a. % of diarrhea cases for whom health workers ask about the presence of vomiting Diarrhea Encounter Observation or Role-Play Exercise

2.2.1.6 Ask about frequency of vomiting

^{****}The term "diarrhea cases" refers to children under 5 identified by health workers as diarrhea cases.

- *Do health workers ask about the frequency of vomiting?*
- a. % of diarrhea cases for whom health workers ask about the frequency of vomiting **Diarrhea Encounter Observation or Role-Play Exercise**

2.2.1.7 Ask about fever

2.2.1.8 Ask about urine output

2.2.1.9 Ask about thirst

2.2.1.10 Ask about treatment administered at home

2.2.1.11 Ask about other illnesses

CONDUCT PHYSICAL EXAMINATION

- *Do health workers conduct adequate physical examinations of diarrhea cases?*
- a. Mean % of physical examination items obtained for diarrhea cases (9 items = 100%) **Diarrhea Encounter Observation or Role-Play Exercise**

2.2.2.1 Assess general status (alertness, muscle tone)

2.2.2.2 Examine mucus membranes of mouth

- *Do health workers examine the mucus membranes of children's mouths?*
- a. % of diarrhea cases for whom the mucus membranes of the mouth are examined **Diarrhea Encounter Observation or Role-Play Exercise**

2.2.2.3 Pinch skin

- *Do health workers pinch children's skin?*
- a. % of diarrhea cases for whom the skin is pinched **Diarrhea Encounter Observation or Role-Play Exercise**

2.2.2.4 Examine if eyes are sunken or if tears are present

2.2.2.5 Touch fontanelle

2.2.2.6 Feel radial pulse

2.2.2.7 Weigh child

- *Do health workers weigh children?*
- a. % of diarrhea cases weighed **Diarrhea Encounter Observation or Role-Play Exercise**

2.2.8 Determine nutritional status/degree of malnutrition using growth card

2.2.9 Take temperature

2.23 CLASSIFY CHILD BY DEGREE OF DEHYDRATION (SEE APPENDIX A: "HOW TO ASSESS YOUR PATIENT FOR DEHYDRATION AND OTHER PROBLEMS" (WHO))

- *Do health workers correctly classify children by degree of dehydration?*
- a. % of diarrhea cases classified by degree of dehydration Diarrhea Encounter Observation or Role-Play Exercise
- b. % of diarrhea cases correctly classified by degree of dehydration Diarrhea Encounter Observation or Role-Play Exercise

2.3 ADMINISTER OR PRESCRIBE APPROPRIATE TREATMENT PER CHILDREN'S CLASSIFICATIONS AND PER LOCAL POLICY (SEE APPENDIX B: "TREATMENT PLANS A, B AND C" (WHO))

- *Do health workers administer appropriate treatments to diarrhea cases according to children's classifications and local policy?*
- a. % of diarrhea cases administered or prescribed appropriate treatments according to their classifications and local policy Diarrhea Encounter Observation or Role-Play Exercise

- *Do health workers administer inappropriate treatments to diarrhea cases according to their classifications and local policy?*
- b. % of diarrhea cases administered or prescribed antibiotics in the absence of high fever, cholera or dysentery Diarrhea Encounter Observation or Role-Play Exercise
- c. % of diarrhea cases administered or prescribed antidiarrheals Diarrhea Encounter Observation or Role-Play Exercise

2.3.1 RECOMMEND HOME ADMINISTRATION OF ORS OR OTHER RECOMMENDED SOLUTION (PER LOCAL POLICY)

- *Do health workers appropriately recommend home administration of ORS or other recommended solutions (per local policy)?*
- a. % of diarrhea cases for whom health workers recommend home administration of ORS or other recommended solution by classification Diarrhea Encounter Observation or Role-Play Exercise

2.3.2 ADMINISTER ORS OR OTHER RECOMMENDED SOLUTION (PER LOCAL POLICY) IN APPROPRIATE AMOUNTS

- *Do health workers appropriately administer (or supervise mothers in administering) ORS or other recommended solutions (per local policy)?*
- a. % of diarrhea cases to whom health workers administer (or supervise mothers in administering) ORS or other recommended solutions (per local policy) by classification **Diarrhea Encounter Observation or Role-Play Exercise**

- *Do health workers (or mothers) administer appropriate amounts of ORS or other recommended solutions (per local policy)?*
- b. % of diarrhea cases (who receive ORS or other recommended solutions) administered appropriate amounts of solution during therapy **Diarrhea Encounter Observation or Role-Play Exercise**
- c. Average quantity (in ml/kg) of ORS or other recommended solution administered during therapy to diarrhea cases (who receive ORS or other recommended solutions) **Diarrhea Observation Encounter or Role-Play Exercise**

2.3.3 ADMINISTER IV THERAPY OR NASOGASTRIC TUBE THERAPY

- *Do health workers appropriately administer IV therapy or nasogastric tube therapy?*
- a. % of diarrhea cases administered IV therapy or nasogastric tube therapy by classification **Diarrhea Encounter Observation or Role-Play Exercise**

2.4 MONITOR CHILDREN TREATED AT SERVICE DELIVERY FACILITY

2.4.1 REASSESS CHILD'S HYDRATION STATUS DURING TREATMENT

- *Do health workers reassess children's hydration during treatment?*
- a. % of diarrhea cases (to whom health workers administer ORS or other recommended solutions) for whom hydration status is assessed after 4-6 hours **Diarrhea Encounter Observation or Role-Play Exercise**
- b. % of diarrhea cases (to whom health workers administer IV or nasogastric tube therapy) for whom hydration status is assessed hourly during treatment **Diarrhea Encounter Observation or Role-Play Exercise**

2.4.2 DISCHARGE REHYDRATED CHILD WITH INSTRUCTIONS FOR CONTINUING HOME TREATMENT (PER LOCAL POLICY)

2.5 COUNSEL MOTHER (SEE ORT: SERVICE DELIVERY -- 3.1 PROVIDE INDIVIDUAL COUNSELLING TO MOTHERS OF DIARRHEA CASES)

2.6 REFER CHILDREN WHO ARE UNABLE TO DRINK IF NEITHER IV THERAPY NOR NASOGASTRIC TUBE THERAPY IS POSSIBLE

- *Do health workers refer dehydration cases who are unable to drink if neither IV therapy nor nasogastric tube therapy is possible?*
- a. % of dehydration cases referred by reason for referral **Diarrhea Encounter Observation or Role-Play Exercise**

2.7 FOLLOW UP SELECTED DIARRHEA CASES TO ASCERTAIN STATUS AND CONFIRM IMPROVEMENT

- *Do health workers schedule home or service delivery facility visits for selected diarrhea cases to ascertain status and confirm improvements?*
- a. % of diarrhea cases for whom home or service delivery facility visits are scheduled **Diarrhea Observation Encounter or Role-Play Exercise**

3. MOTIVATE/EDUCATE MOTHERS AND OTHER COMMUNITY MEMBERS REGARDING DIARRHEA AND ORT

- *Do mothers manage diarrhea appropriately?*
- a. % of mothers (with children under 5 with recent diarrhea episodes) who report administering additional fluids at the onset of diarrhea and throughout diarrhea episodes **Mothers' Interview (Household)**
- b. % of mothers (with children under 5 with recent diarrhea episodes) who report administering ORS or other recommended solutions by type of solution **Mothers' Interview (Household)**
- c. % of mothers (with children under 5 with recent diarrhea episodes given ORS or other recommended solutions at home) who correctly demonstrate or explain how to prepare the solutions they gave **Mothers' Observation (Household)**
- d. % of mothers (with children under 5 with recent diarrhea episodes given ORS or other recommended solutions at home) who report following the recommended administration schedule (quantity and frequency) **Mothers' Interview (Household)**
- e. % of mothers (with children under 5 with recent diarrhea episodes) who report following appropriate feeding practices during and after the diarrhea episodes according to their children's weaning statuses [See 3.1.1.5 for Feeding Practices] **Mothers Interview (Household)**

- *Do mothers have adequate knowledge about diarrhea and ORT?*
- f. % of mothers (with children under 5 without recent diarrhea episodes) who know to administer extra fluids at the onset of diarrhea and throughout diarrhea episodes **Mothers' Interview (Household)**
- g. % of mothers (with children under 5 without recent diarrhea episodes) who know the recipe for ORS or other recommended solutions **Mothers' Interview (Household)**
- h. % of mothers (with children under 5 without recent diarrhea episodes) who know the correct schedule for administering ORS or other recommended solutions **Mothers' Interview (Household)**
- i. % of mothers (with children under 5 without recent diarrhea episodes) who know the appropriate feeding practices during and after diarrhea for their children's weaning statuses [See 3.1.1.5 for Feeding Practices] **Mothers' Interview (Household)**
- j. % of mothers (with children under 5) who know the (locally determined) indications for seeking medical care for diarrhea **Mothers' Interview (Household)**

3.1 PROVIDE INDIVIDUAL COUNSELLING TO MOTHERS OF DIARRHEA CASES

- *Do counselled mothers of diarrhea cases correctly manage diarrhea in the home?*
- a. % of mothers (of diarrhea cases) who give extra fluids at home during the 4 hours after discharge from the service delivery facility **Mothers' Observation (Household)¹**
- b. % of mothers (of diarrhea cases given ORS or other recommended solutions at home during the 4 hours following discharge from the service delivery facility) who correctly prepare the solutions they give **Mothers' Observation (Household)¹**
- c. % of mothers (of diarrhea cases given ORS or other recommended solutions at home during the 4 hours following discharge from the service delivery facility) who follow the recommended administration schedule (quantity and frequency) **Mothers' Observation (Household)¹**
- d. % of mothers (of diarrhea cases) who correctly feed their children at home during the 4 hours following discharge from the service delivery facility [See 3.1.1.5 for Feeding Practices] **Mothers' Observation (Household)¹**

- *Do counselled mothers of diarrhea cases have adequate knowledge for managing diarrhea in the home?*
- e. % of mothers (of diarrhea cases) who know that they should give extra fluids during diarrhea **Mothers' Interview (Exit)²**
- f. % of mothers (of diarrhea cases to whom health workers recommended giving ORS or other recommended solutions at home) who know how to prepare solutions correctly **Mothers' Interview (Exit)²**
- g. % of mothers (of diarrhea cases to whom health workers recommended giving ORS or other recommended solutions at home) who know the recommended administration schedule (quantity and frequency) **Mothers' Interview (Exit)²**
- h. % of mothers (of diarrhea cases) who know the appropriate feeding practices during and after diarrhea for their children's weaning status [See 3.1.1.5 for Feeding Practices] **Mothers' Interview (Exit)²**
- i. % of mothers (of diarrhea cases) who know that they should bring their children for return consultation if their children's conditions worsen or do not improve **Mothers' Interview (Exit)²**

3.1.1 TRANSMIT KEY MESSAGES AND REQUIRED SKILLS

3.1.1.1 Tell mother to give extra fluids during diarrhea

- *Do health workers tell mothers to give extra fluids during diarrhea ?*
- a. % of mothers (of diarrhea cases) told to give extra fluids during diarrhea **Diarrhea Encounter Observation or Role-Play Exercise**

3.1.1.2 Tell mother how to prepare ORS or other recommended solution (per local policy)

- *Do health workers tell mothers how to prepare ORS or other recommended solutions (per local policy)?*
- a. % of mothers (of diarrhea cases to whom health workers recommend giving ORS or other recommended solutions at home) told how to prepare ORS or other recommended solutions **Diarrhea Encounter Observation or Role-Play Exercise**

3.1.1.3 Tell mother how to administer ORS or other recommended solution

- *Do health workers tell mothers how to administer ORS or other recommended solutions?*
- a. % of mothers (of diarrhea cases to whom health workers recommend giving ORS or other recommended solutions at home) told the recommended administration schedule (quantity and frequency) **Diarrhea Encounter Observation or Role-Play Exercise**

3.1.1.4 Tell mother how ORT works (i.e. that ORS or other recommended solution replaces water and salt lost in diarrhea rather than stopping diarrhea)

3.1.1.5 Tell mother about appropriate feeding practices during and after diarrhea

- *Do health workers tell mothers about appropriate feeding practices during and after diarrhea?*
- a. % of mothers (of diarrhea cases) told the appropriate feeding practices for their children's weaning statuses Diarrhea Encounter Observation or Role-Play Exercise

3.1.1.5.1 Tell mother to continue breastfeeding

3.1.1.5.2 Tell mother to continue feeding

3.1.1.5.3 Tell mother to give appropriate foods (locally determined)

3.1.1.5.4 Tell mother to give extra foods after diarrhea episode

3.1.1.6 Tell mother about the signs and symptoms of dehydration

- *Do health workers tell mothers about the signs and symptoms of dehydration?*
- a. % of mothers (of diarrhea cases) told at least 3 signs and symptoms of dehydration Diarrhea Encounter Observation or Role-Play Exercise

3.1.1.6.1 Tell mother about lethargy

3.1.1.6.2 Tell mother about absence of tears while crying

3.1.1.6.3 Tell mother about pinched skin retracting slowly

3.1.1.6.4 Tell mother about cessation of urination

3.1.1.6.5 Tell mother about dry mouth

3.1.1.6.6 Tell mother about sunken eyes

3.1.1.6.7 Tell mother about sunken fontanelle

3.1.1.7 Tell mother to bring child for return consultation if child's condition worsens or does not improve

- *Do health workers tell mothers to bring their children for return consultation if children's conditions worsen or do not improve?*
- a. % of mothers (of diarrhea cases) told to bring their children for return consultation if their children's conditions worsen or do not improve Diarrhea Encounter Observation or Role-Play Exercise

3.1.2 USE APPROPRIATE COUNSELLING TECHNIQUES

3.1.2.1 Demonstrate preparation and administration of ORS or other recommended solution

- *Do health workers demonstrate preparation of ORS or other recommended solutions to mothers?*
- a. % of mothers (of diarrhea cases to whom health workers recommend giving ORS or other recommended solutions at home) to whom health workers demonstrate solution preparation **Diarrhea Encounter Observation or Role-Play Exercise**

3.1.2.2 Ask mother to repeat key messages and/or demonstrate required skills

- *Do health workers ask mothers to repeat key messages and/or to demonstrate required skills?*
- a. Mean % of key messages repeated or demonstrated by mothers (of diarrhea cases to whom health workers recommend giving ORS or other recommended solutions at home) (4 messages and skills = 100%) **Diarrhea Encounter Observation or Role-Play Exercise**

3.1.2.2.1 Ask mother to repeat the recipe for ORS or other recommended solution (per local policy) and the procedures for administration

3.1.2.2.2 Ask mother to demonstrate the preparation and administration of ORS or other recommended solution (per local policy)

3.1.2.3 Give mother written, including pictorial, instructions for preparing and administering ORS or other recommended solution (per local policy)

3.1.2.4 Ask mother if she has any questions

3.2 PROVIDE OUTREACH ORT EDUCATION

- *Does the service delivery facility hold group ORT education sessions?******
- a. % of clinic sessions which include group ORT education **Session Observation**
- b. Number of group ORT education sessions held in the last 3 months by site of sessions (service delivery facility; outreach locations) **Service Delivery Facility Key Informant Interview**

***** A "group ORT education session" is a group health education session with ORT/diarrhea messages transmitted.

- *Do health workers provide ORT education during home visits?*
- c. Number of home visits made in the last 6 months per 100 households in the service delivery facility catchment area **Service Delivery Facility Document Review**
- d. % of home visits (to households with children under 5) which include ORT education **Home Visit Observation**

3.2.1 TRANSMIT KEY MESSAGES AND REQUIRED SKILLS

- *Do health workers transmit key ORT/diarrhea messages?*
- a. Mean % of key ORT/diarrhea messages transmitted during group ORT education sessions (10 messages = 100%) **ORT Education Sessions Observation or Role-Play Exercise**
- b. Mean % of key ORT/diarrhea messages transmitted during home visits (10 messages = 100%) **Home Visit Observation or Role-Play Exercise**

3.2.1.1 Explain that additional fluids should be given at the onset of diarrhea and throughout diarrhea episodes

- *Do health workers explain that additional fluids should be given at the onset of diarrhea and throughout diarrhea episodes?*
- a. % of group ORT education sessions in which health workers explain that additional fluids should be administered at the onset of diarrhea and throughout diarrhea episodes **ORT Education Session Observation or Role-Play Exercise**
- b. % of home visits (to households with children under 5) in which health workers explain that additional fluids should be administered at the onset of diarrhea and throughout diarrhea episodes **Home Visit Observation or Role-Play Exercise**

3.2.1.2 Explain recommended treatment for diarrhea in the home (per local policy)

- *Do health workers correctly explain the recommended treatment for diarrhea in the home (per local policy)?*
- a. % of group ORT education sessions in which the recommended home treatment for diarrhea in the home is correctly explained **ORT Education Session Observation or Role-Play Exercise**
- b. % of home visits (to households with children under 5) in which the recommended treatment for diarrhea in the home is correctly explained **Home Visit Observation or Role-Play Exercise**

3.2.1.3 Explain how to prepare ORS or other recommended solution (per local policy)

- *Do health workers correctly explain how to prepare ORS or other recommended solutions?*
- a. % of group ORT education sessions in which health workers explain how to prepare ORS or other recommended solutions **ORT Education Session Observation or Role-Play Exercise**
- b. % of home visits (to households with children under 5) in which health workers correctly explain how to prepare ORS or other recommended solutions **Home Visit Observation or Role-Play Exercise**

3.2.1.4 Explain how to administer ORS or other recommended solution

- *Do health workers correctly explain the administration schedule for ORS or other recommended solutions?*
- a. % of group ORT education sessions in which health workers correctly explain the administration schedule for ORS or other recommended solutions **ORT Education Session Observation or Role-Play Exercise**
- b. % of home visits (to households with children under 5) in which health workers correctly explain the administration schedule for ORS or other recommended solutions **Home Visit Observation or Role-Play Exercise**

3.2.1.5 Explain appropriate feeding practices during and after diarrhea

- *Do health workers explain appropriate feeding practices during and after diarrhea?*
- a. Mean % of appropriate feeding practices during and after diarrhea explained during group ORT education sessions (4 practices = 100%) **ORT Education Session Observation or Role-Play Exercise**
- b. Mean % of appropriate feeding practices during and after diarrhea explained during home visits (to households with children under 5) (4 practices = 100%) **Home Visit Observation or Role-Play Exercise**

3.2.1.5.1 Explain that breastfeeding should be continued if children are breastfeeding

3.2.1.5.2 Explain that feeding should be continued if children are being/have been weaned

3.2.1.5.3 Explain that appropriate foods (locally determined) should be given if children are being/have been weaned

3.2.1.5.4 Explain that extra foods should be given after diarrhea episodes if children are being/have been weaned

3.2.1.6 Explain the signs and symptoms of dehydration

- *Do health workers explain the signs and symptoms of dehydration?*
- a. % of group ORT education sessions in which 3 or more of the signs and symptoms of dehydration are explained **ORT Education Session Observation or Role-Play Exercise**
- b. % of home visits (to households with children under 5) in which 3 or more of the signs and symptoms of dehydration are explained **Home Visit Observation or Role-Play Exercise**

3.2.1.6.1 Explain about lethargy

3.2.1.6.2 Explain about absence of tears while crying

3.2.1.6.3 Explain about pinched skin retracting slowly

3.2.1.6.4 Explain about cessation of urination

3.2.1.6.5 Explain about dry mouth

3.2.1.6.6 Explain about sunken eyes

3.2.1.6.7 Explain about sunken fontanelle

3.2.1.7 Explain indications for seeking medical care (locally determined)

- *Do health workers correctly explain the (locally determined) indications for seeking medical care?*
- a. % of group ORT education sessions in which the (locally determined) indications for seeking medical care are correctly explained **ORT Education Session Observation or Role-Play Exercise**
- b. % of home visits (to households with children under 5) in which the (locally determined) indications for seeking medical care are explained **Home Visit Observation or Role-Play Exercise**

3.2.2 USE APPROPRIATE HEALTH EDUCATION TECHNIQUES AND MATERIALS

3.2.2.1 Demonstrate preparation of ORS or other recommended solution

- *Do health workers correctly demonstrate preparation of ORS or other recommended solutions?*
- a. % of group ORT education sessions in which health workers correctly demonstrate the preparation of ORS or other recommended solutions
ORT Education Session Observation or Role-Play Exercise
- b. % of home visits (to households with children under 5) in which health workers correctly demonstrate the preparation of ORS or other recommended solutions
Home Visit Observation or Role-Play Exercise

3.2.2.2 Ask questions of and respond to questions from attendees

¹Preferred indicator/data source.

²Alternative indicator/data source; obtain for each observed diarrhea case only if it is not possible to observe mothers at home following discharge from the service delivery facility.