

END OF PROJECT
EVALUATION

PRIMARY HEALTH CARE I
(482-0002)
AID/BURMA

by
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February 1985

Acknowledgements

The Evaluation Team expresses its gratitude to all of the people associated with the PHC I project who helped us in our assignment, our special thanks go to:

Dr. U Ba Tun, Project Director

Dr. U Mya Win, Project Deputy Director

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and

Mr. Richard Nelson, AID/Burma Program Officer

Dr. John Naponick, AID/Burma Health Officer

The genuine hospitality and kindness we received in Burma are sincerely appreciated.

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EXECUTIVE SUMMARY

End-of-Project Evaluation: Primary Health Care I (482-0002)
1980-1984 Grant total: \$5,000,000 plus \$1,459,000 local Kyats

Background

In 1980 AID agreed to support an ongoing Burmese project in primary health care with commodities (primarily health worker kits), a small amount of overseas training and technical assistance, and local (kyat) currency funds for expanded pre-service and in-service training of three kinds of volunteer health workers: community health workers (CHWs), auxiliary midwives (AMWs), and traditional health birth attendants (Let-thes). The objective of the project was to reduce maternal and infant mortality and morbidity through the expansion of Burma's primary health care program in 147 of the country's 287 townships. The principal means for accomplishing this objective was the training and equipping of 9,418 CHWs, 1,787 AMWs, and 4,000 Let-thes. Additional institutional support was also programmed to build up the Department of Health's (DOH) training and information system capabilities, in particular.

A mid-term evaluation in 1982 concluded that the project was progressing well in terms of its quantitative objectives, but that improvements were needed in the quality of project activities, particularly in training, supervision, and the information system. The end-of-project evaluation team spent three weeks in Burma between January 20 and February 13 to examine the accomplishments of the project, and to make recommendations that would lead to improvements in the follow-on PHC II project and that would also contribute to the health sector strategy assessment.

Conclusion

The overall conclusion of the Evaluation Team is that PHC I was an effective project. Although it was not possible to measure project impact on health, it was clear that the project did achieve its purpose of increasing coverage. VHW performance was impressive, particularly given the voluntary nature of the program and the limited resources made available to the volunteers. The AMW's and trained Let-thes appear to be working particularly well, the CHW's performance is less effective, but still impressive.

Many of the problems raised in the mid-term evaluation remain, however. Services are still more curative in nature than preventive; some CHWs are providing services they were not trained for (injections, for example); training and supervision still need strengthening; and the monitoring and evaluation systems are weak. The DOH has taken steps in PHC II to deal with these problems and deserves AID's full support.

AID inputs to PHC I made a significant contribution to the project, and most of the expected outputs were achieved. The commodities were essential, particularly the kits for the VHWs. The principal problem encountered was the late arrival of the kits. This is being dealt with in PHC II. Local currency contributions for travel and per diem of trainers and trainees was especially important. Technical assistance was limited but appears to have been productive. More had been programmed and would appear to have been needed to deal with some of the qualitative problems. Participant training was completed, albeit much later than originally planned. This component seems to have been uneven and should be examined more closely in PHC II.

	Selected Project Data	
	Planned	Actual
Expenditures (\$US)	5,000,000	4,602,869
(Kyats)	9,498,000	9,498,000
	(\$1,459,000)	
Pre-service Training		
CHWs (3 weeks)	9,418	9,383
AMWs (6 months)	1,787	1,654
Let-thes (30 days)	4,000	5,710
In-service Training		
CHWs (12 days)	21,812	21,748
AMWs (12 days)	6,300	6,300
Coverage of 147 townships		
Villages(CHWs)	55%	54.7% (1984)
Village tracts (AMWs)	100	76.5% (1984)

Highlights of Findings

Project Impact on Health could not be assessed for two reasons:
 1) reliable data on morbidity and mortality are not available; and
 2) no controlled studies were conducted. The impression from available statistics, studies and observations is that the project did have an impact on health, particularly maternal and infant mortality and morbidity.

VHW Performance has been studied somewhat and all indications are that AMWs and trained Let-thes are performing well, particularly in antenatal care, deliveries and postnatal and infant care. CHWs are less effective and continue to provide more curative than preventive services. There are also some indications from recent studies that their performance may be declining over time. The overall objective of expanding coverage to 147 townships was not met by the original target date but is expected to be met by 1986.

Project Inputs and Outputs were largely met. \$4.6 million of the \$5 million grant was expended and all of the 9.5 million Kyats were spent. Delays were experienced in all categories, so that the project was extended for two years. The project achieved its training targets in most categories and exceeded them in several, most notably, the training of Let-thes.

Commodities arrived, albeit later than expected, and were generally adequate except that more medicines, training materials and supplies were needed. The commodity ordering, storage and accounting systems work efficiently, however, the distribution of commodities is not frequent enough.

Training is improving but still needs strengthening. The AMW and Let-the training is particularly good. The CHW training was increased to 4 weeks but the time is still insufficient for the amount of material to be covered. Training teams were established at the State/Division levels and appear to be well-prepared and functioning. The current need is to develop a problem-oriented curriculum and to train the trainers of the VHWs in its use and in modern training methods. Training materials are greatly needed at that level, as well. In-service training also needs to be developed, with a structured curriculum and materials.

The Supervision system is generally acknowledged to be the weakest link in the project. Supervision is infrequent and directive, rather than analytical and educational. Limited management information is available for making informed decisions.

The Delivery of Services by AMWs and Let-thes appears to be particularly effective, especially in providing care to pregnant women and infants. CHWs still tend to provide more curative care (first aid, medicines) than preventive, although many do engage in health education and environmental sanitation activities. Referrals are being made appropriately and the VHWs are appreciated by health center staff as community health organizers as well as service providers.

The Monitoring and Evaluation Systems are not functioning as had been expected. The information system is an elaborate, bottom-up, time-consuming reporting system with virtually no feedback to the field. However, the data that are gathered at the local level are being used by local staff to identify health problems, spot trends, set priorities and develop plans. Evaluation studies are not comprehensive, but reasonably well-designed and the findings are absorbed by Department of Health planners. The principal gaps are in studies of the impact of the program on health and a comprehensive analysis of VHW training and performance.

General Recommendation

The overall recommendation of the Evaluation Team is that AID continue its assistance to the DOH in support of this primary health care effort. Commodities are essential to the success of the project, and are greatly needed. Technical assistance and participant training are also needed and should be provided. Funds to offset local currency costs of VHW training should also be continued.

Recommendations for PHC II

The priority areas for AID assistance in PHC II appear to the Team to be the following:

1. provide the VHW kits at the beginning of training, increase the supply of medicines to last one year, and help the VHWs find ways to resupply their kits;
2. continue to upgrade the training system with improved curriculum, modern training methods, continued training of township and RHC staff in training and supervision, more structured in-service training, and increased quantities of training materials and aids for RHCs and townships. Technical assistance and participant training in this area should be encouraged with the aim of helping the Burmese become technically self-sufficient over the next decade:
3. the supervision system should be studied, upgraded, and a viable system implemented. Training is needed in supervisory techniques and problem analysis, particularly at the RHC and VHW level. Short-term participant training and technical assistance in supervision are strongly recommended;
4. the information system needs to be developed from the bottom up. The best use of data for problem analysis will be at the RHC level, and training and technical assistance in information gathering, processing and analysis should be provided to townships and RHCs to develop a decentralized monitoring capability;

5. the evaluation system needs to be carefully structured, beginning with a comprehensive framework to set priorities among study possibilities. Priorities recommended by the Team are: periodic sample surveys in PHP and non-PHP villages to measure the impact of the program on health; and an in-depth evaluation of the performance of VHWs. Some technical assistance is needed in research design, analysis, program evaluation and operations research. Participant training in these fields would be very useful.

Recommendations for Future Assistance

The Evaluation Team also made some recommendations for assistance beyond PHC II, that is, for future assistance.

1. AID should continue to support the program, generally along its current lines. The purpose should be to help the Burmese develop a decentralized, self-sufficient PHC system, based on well-trained, supervised and supported VHWs.
2. Basic commodities are greatly needed and appreciated. AID should continue to supply basic medicines, audio-visual aids, health education materials, and such essential items as paper and pens.
3. Long-term institutional development should be pursued through participant training and support to such institutions as the Health Assistant Training School, the new School of Nursing, and/or the departments of Public Health and Community Medicine. In addition to the typical specialties in tropical medicine, MCH, health education and so forth, the institutional objective should be to become self-sufficient in the management of health services. Special emphasis should be given to developing expertise in training and supervision methods, program management, program evaluation and operations research.
4. AID should explore opportunities to develop and test innovative ways to provide PHC services to hard-to-reach and high-risk groups through the private sector, cooperatives, and local service provider groups.
5. The problems of septic abortion, anemia and environmental sanitation deserve particular attention. Support would also be appropriate to deal with measles, neonatal tetanus, malaria, and home-based diarrheal disease control and prevention.
6. An urban primary health care program is needed to provide public health services to the peri-urban inhabitants who are

currently unserved or underserved. Present clinic and hospital-based services do not extend adequately into the urban communities.

Specific recommendations for PHC II and the future are presented in Chapter V, by subsystem: commodity, training and curriculum development, supervision and management, delivery of services, and monitoring and evaluation.

Table of Contents

	Page
Acknowledgements	i
Executive Summary	ii
Abbreviations	xii
CHAPTER ONE: INTRODUCTION	1
1.1. Background	1
1.2. Purpose of the Evaluation	1
1.3. Evaluation Issues and Questions	2
1.3.1. Accomplishments	2
1.3.2. Impact to Date	4
1.3.3. Institution-Building	4
1.3.4. Implications	4
1.4. Audience	4
1.5. Methodology	5
CHAPTER TWO: BACKGROUND	9
2.1. Burmese Health Status	9
2.2. The People's Health Programme	11
2.3. Administration and Delivery Services	14
2.4. The AID Primary Health Care Project	22
2.4.1. Planned Project Outputs	24
2.4.2. Planned Project Inputs	25
2.5. Summary of the Mid-Term Evaluation	29
CHAPTER THREE: QUANTITATIVE ACHIEVEMENTS	32
3.1. Project Inputs	32
3.1.1. Commodities	33
3.1.2. Participant Training	39
3.1.3. Technical Assistance	40
3.1.4. Local Currency Contributions	42
3.2. Project Outputs	43
3.3. Project Effects and Impacts	45
3.3.1. Project Effects on Coverage	45
3.3.2. VHW Performance	45
3.3.3. Project Impact on Morbidity and Mortality	50

11-2-1

	Page
CHAPTER FOUR: QUALITATIVE ASSESSMENT	52
4.1. Commodity System	52
4.2. Training System	57
4.2.1. Organization and Administration of Training	59
4.2.2. Selection and Recruitment of Voluntary Workers....	60
4.2.3. Delivery of VHW Training	62
4.3. Supervision and Management Systems	64
4.4. Delivery Systems: VHW Services and Referrals	68
4.4.1. Direct Services	68
4.4.2. Referrals	73
4.4.3. Nutrition Services	73
4.4.4. MCH Services	74
4.5. Monitoring and Evaluation Systems	75
4.5.1. Monitoring System	76
4.5.2. Evaluation System	81
CHAPTER FIVE: RECOMMENDATIONS	84
5.1. General Conclusions and Recommendations	84
5.1.1. Recommendations for PHC II	84
5.1.2. Recommendations for Future Assistance	85
5.2. Commodities	86
5.2.1. Recommendations for PHC II	86
5.2.2. Recommendations for the Future	86
5.3. Training and Curriculum Development	88
5.3.1. Recommendations for PHC II	88
5.3.2. Recommendations for the Future	91
5.4. Delivery of Services	91
5.4.1. Recommendations for PHC II	91
5.5. Supervision and Management	92
5.5.1. Recommendations for PHC II	92
5.6. Monitoring and Evaluation	94
5.6.1. Recommendations for PHC II	94
5.6.2. Recommendations for the Future	97
REFERENCES	
APPENDICES	

APPENDICES

- A. Individuals and Institutions Contacted
- B. Schedule for PHC I Evaluation Team
- C. Logical Framework
- D. Rural Health Indicators by State/Divisions (1981-82)
- E. Vital Statistics Rates by State/Divisions (1982-83)
- F. Burma/USAID PHC I Project (1980-82)
- G. Project Financial Implementation Report
- H. Supplies and Equipment
- I. No. of Trainees Trained under PHC I Project
- J. Curriculum for Training of Trainers
- K. Curriculum for Traditional Birth Attendants (Let-thes)
- M. Curriculum for Community Health Workers (CHWs)

TABLES

2-1 Selected Demographic and Vital Statistics	9
2-2 Vital Statistics from Three Sources	10
2-3 Leading Causes of Mortality	11
2-4 Selected Causes of Mortality Among Children 0-4 years .. of age.	12
2-5 Administrative Structure	14
2-6 Health System Resources	20
2-7 Pre-Service Training of Primary Health Workers	23
2-8 Planned In-service Training of PHC Workers	24
2-9 Summary of planned Financial Contributions to PHC I, .. by Source.	26
2-10 AID Planned Financial Contributions to PHC I	27
3-1 Planned and Actual Contributions to PHP I, by Source ..	32
3-2 AID Planned and Actual Expenditures, PHP I	33
3-3 Commodities Budget Summary	34
3-4 Procurement and Distribution of Commodities	35
3-5 Planned and Actual Participant Training	39
3-6 Planned and Actual Short-term Technical Assistance	41

3-7 Summary of USAID Local Currency Contributions (PL 480) ...	42
3-8 Staff Appointed under PHC I Project Using Kyat Funds	43
3-9 Planned and Actual Project Outputs, PHC II	44
3-10 Project Effects on Coverage	45
3-11 Selected VHW Performance Indicators, 1983-1984	47
4-1 Average Performance Scores of VHWs on Selected Performance Criteria	70
4-2 Percent of PHC Time Spent by CHWs on Curative and Preventive Care.	71

FIGURES

1-1 General Description of the Evaluation Approach	6
1-2 General Systems Model of the PHC I Project	7
2-1 Administrative Map of the Union of Burma	15
2-2 Ministry of Health	17
2-3 Organization of Rural Primary Health Care	18
2-4 State/Division Health Director	19
4-1 A Systems Model of the VHW System	53
4-2 The Commodity System	56
4.3 The Training System	58
4-4 The VHW Supervision System	66
4-5 The Service Delivery System	69
4-6 Monitoring and Evaluation System	77
4-7 Outline of Township Workshop Session on Monitoring..... and Evaluation	79
4-8 Evaluation Studies Under PHC I	81

Abbreviations

AID/W	Agency for International Development, Washington
AMW	Auxiliary Midwife
BHS	Basic Health Services (see Glossary)
BPI	Burma Pharmaceutical Industries
CHP	Country Health Programme
CHW	Community Health Worker
CMSD	Central Medical Stores Division
D/S	Division/State
D/STT	Division/State Training Team
DG	Director General
DOH	Department of Health
EPI	Expanded Programme for Immunization (Project)
FHC	Family Health Care (Project)
GSRUB	Government of the Socialist Republic of the Union of Burma
HA	Health Assistant
HHW	House Hold Health Worker
IMR	Infant Mortality Rate
K	Kyat = @8.73 \$
LHV	Lady Health Visitor
MCH	Maternal Child Health
MOH	Ministry of Health
MW	Midwife
PHC	Primary Health Care
PHN	Public Health Nurse
PHS	Public Health Supervisors I and II
PIO/C	Project Implementation Order/Commodities
PP	Project Paper
RHC	Rural Health Center
SRUB	Socialist Republic of the Union of Burma
TBA	Traditional Birth Attendant (Let-the)
THO	Township Health Officer

TMO	Townhsip Medical Officer
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development, Rangoon
VBDC	Vector-Borne Disease Control (Project)
VTPC	Village Tract People's Council
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1. Background

When the United States resumed economic assistance to Burma in 1980, the Primary Health Care Project was already underway with support from UNICEF and WHO. The project was considered by AID to be consistent with the Agency's basic human needs strategy and the Congressional mandate of targetting assistance to the rural poor majority. AID agreed to support the project, which was a high priority within the Burmese People's Health Plan. AID inputs of commodities (mostly health worker kits) a small amount of overseas training and technical assistance, and Kyat funds for expanded pre-service worker training were programmed to accelerated primary health care coverage.

The stated, and limited, objective of primary health care in Burma is the provision by volunteer workers of preventive services, first aid treatment for minor illnesses at the village level, and referral of serious cases. Selection of workers is by the local People's Councils who have the responsibility for implementing primary health care as well as the work-related supervision and support of the workers. The Department of Health (DOH) is responsible for the training and technical supervision of workers through the Basic Health Services Program and its health centers. Two types of workers are involved: a community health worker selected from his/her village; and an auxiliary midwife selected from a village tract. The DOH is also training traditional birth attendants or "Let-thes" with AID support.

1.2. Purpose of the Evaluation

AID normally requires an evaluation mid-way through and at the end if each project it funds. A mid-term evaluation of the Primary Health Care Project (482-0002) was completed in April, 1982. In January, 1985 a three-member team arrived in Burma to conduct the end-of-project evaluation.

The objectives for the evaluation were to: 1) determine if the desired end-of-project status was achieved; 2) synthesize lessons learned; and 3) make recommendations for improvements in future project design.

The desired end-of-project status was described in the "logframe" (see appendix C). According to the project paper, the Primary Health Care Project was designed to assist the Burmese Government in expanding the coverage and quality of Burma's primary health care system in 147 of Burma's 287 rural townships. This was to be done through:

1. Increasing the availability of trained primary health care workers;
2. Improving the training and supervision of primary health care workers;
3. Expanding the range of disease control activities carried out by primary health care workers, with particular emphasis on nutrition, diarrheal disease, antenatal and child care, and malaria;
4. Strengthening supporting and referral services available at rural health centers and station hospitals; and
5. Increasing the capability of the health services to monitor and evaluate the primary health care and basic health services program.

To facilitate the accomplishment of these activities, the project design incorporated two major components:

1. Providing pre and in-service training for primary health care workers, and
2. Providing supplies and equipment to PHC workers, station hospitals, and Rural Health Centers.

1.3. Evaluation Issues and Questions

The Evaluation Team was asked to assess project accomplishments impact, institution-building, and program implications. A series of questions was posed under each category.

1.3.1! Accomplishments

Implementation and level of accomplishment of project activities:

Training

Has the actual number of trained workers and supervisors been reached, superceded, or fallen short of anticipated levels? How many workers have received in-service training? Has the anticipated level been reached? What is the breakdown by type of worker (CHW, AMW, Let-thes)? Discuss the level of accomplishment and reasons associated with results;

What are the strengths and shortcomings of the training provided? How do both trainers and trainees perceive the quality of training? How is quality of training tested?

What happens to workers after training? Specifically, are they returning to the intended villages and providing health care? What percentage of those trained are working? For how long after training do these workers commit themselves to providing health care? How many more townships are covered by trained health workers as compared to before PHC I? What is the attrition rate and how are replacements recruited and trained?

Commodities

Are the PHC workers adequately supplied with the commodities designated for this project? Is the quality level of these commodities considered adequate? Are the PHC workers trained to judge the adequacy and quality of the supplies they use? Discuss the implementation of commodity provision in terms of accomplishments and identify any obstacles preventing accomplishment. What is the importance of the project-funded commodities in the daily performance of the PHC workers?

Supervision

Is the supervision of PHC workers adequate? Has an optimum level of supervision been defined, and if so, what progress has been made towards this level? Do PHC workers feel that supervision makes a difference in their ability to provide health care? Is supervision important enough to warrant a discrete training activity?

Service

Has the range of disease control activities expanded? Is the availability of referral and supporting services at Rural Health Care centers and Station Hospitals adequate? Are the referrals made appropriately? Are villagers getting to the referred destination? If not, why -- where is the breakdown occurring?

Monitoring and Evaluation

What progress has been made in developing the capacity of health services to monitor and evaluate PHC and basic health service programs? Specifically, what progress has been made in developing and approving a plan for impact assessment, recruiting and training of additional health information staff, training of health staff in data collection, field staff reporting and reviews of monitoring and evaluation data, placement of supplies and equipment for increasing data processing capabilities in central and division/state offices?

Nutrition

What efforts have been made in addressing child health and nutrition issues?

1.3.2. Impact to Date

Program impact to date:

Quality of Care

What are the perceptions of the trained Primary Health Care workers regarding the quality of health care they are providing since receiving their training and supplies of commodities? What are the strengths and shortcomings? In what ways do they feel they can be helped in becoming more effective?

What are the perceptions of the residents of villages that are now being covered by a trained PHC workers regarding the health care they are receiving? Do they see a difference in their family's health status? In what ways do they feel health care can be improved?

Health Status

Have the child and maternal nutrition interventions made any measurable, positive impact?

1.3.3. Institution-Building

What Burmese Government institutional changes have resulted from the project? In what ways will they contribute to a self-sustaining development process? What are the present plans of the Government for financing project costs presently funded external sources once the project ends? To what extent can responsibility for financing be shouldered by consumers?

1.3.4. Implications

Program Implications

How have specific components of the project design or implementation contributed to or inhibited the success of the project? How can those factors limiting or inhibiting success be altered or eliminated from the design of a follow-on project?

Is there a balance among preventive, promotive and curative activities in the present project? If not, how can such a balance be struck in Burma?

1.4. Audience

The Principal audiences for this evaluation are:

The Department of Health, Government of Burma

The AID/Burma Health Office

The AID/Washington Asia Bureau and Health Office

Each are interested, not only in the accomplishments of the PHC I project, but in learning what modifications could be made that would lead to improvements in future project design and programming.

1.5. Methodology

The principal approach applied in this evaluation compared actual performance with planned performance to determine the degree to which PHC I adhered to the logical framework. This involved determining to what extent project inputs were provided as planned; whether inputs were utilized as intended and processed into prescribed outputs; whether the outputs in fact resulted in realizing the project purpose (effects on knowledge, attitudes and behaviour); and whether the purpose was appropriate and sufficient to result in an achievement of the program goal. (Impacts on morbidity and mortality). See Figure 1-1 for a schematic summary of the evaluation approach.

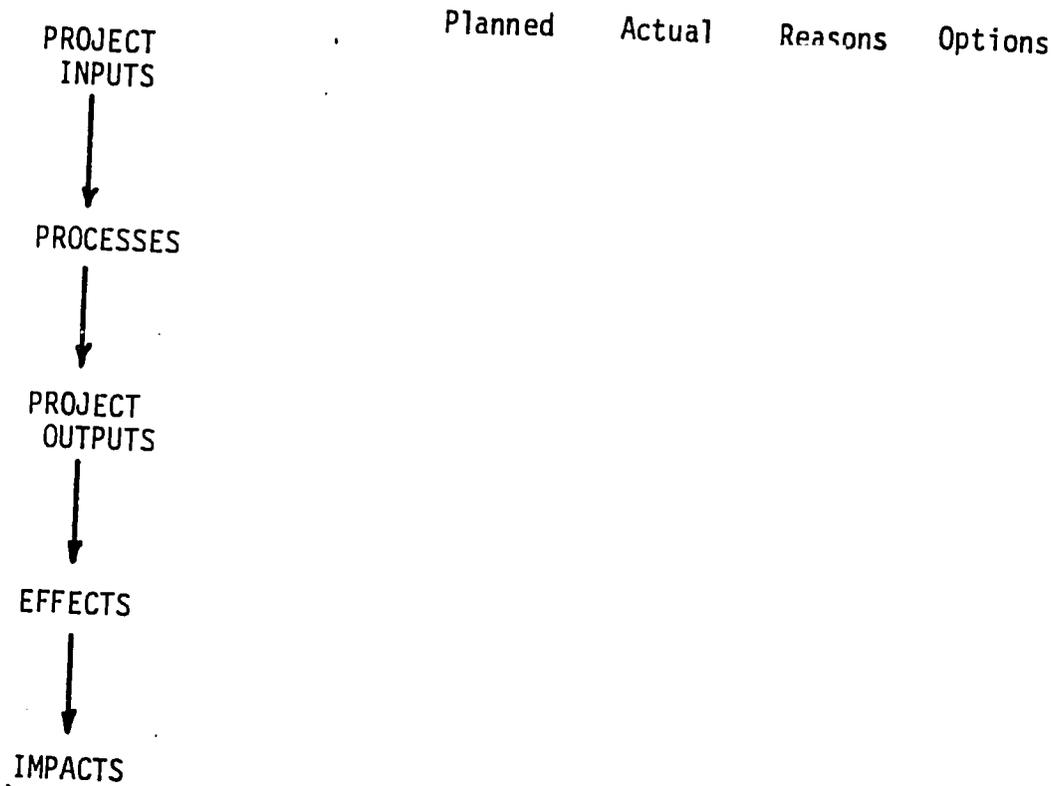
A modified systems approach was employed to carry out the evaluation. The PHC I project was broken into subsystems (commodities, training, supervision, service delivery, monitoring and evaluation) which were then analyzed in two steps: 1) quantitative achievements (inputs and outputs); and 2) qualitative performance (assessment of the subsystem processes, including identification of the factors that accounted for success or constrained performance). Finally, options for improving performance were identified.

The evaluation team relied on three sources of data:

1. Existing documentation, including statistics, program data, research, evaluation and consultant reports.
2. Meetings and discussions in Rangoon with key policymakers, program planners and administrators in the Burmese Government and AID/Burma (see Appendix A). The team was initially briefed by in-country personnel. Thereafter, considerable exchange of ideas and observations contributed to the evaluation findings.
3. Fields visits to Rural Health Centers and villages to talk with local government health personnel charged with implementing the People's Health Plan, and volunteer health workers who form the core of the Primary Health Care system which PHC I supports. Discussions with recipients of Basic and Primary Health Care Services provided further insights into the appropriateness and extent of service delivery (see Appendix B).

Figure 1-1

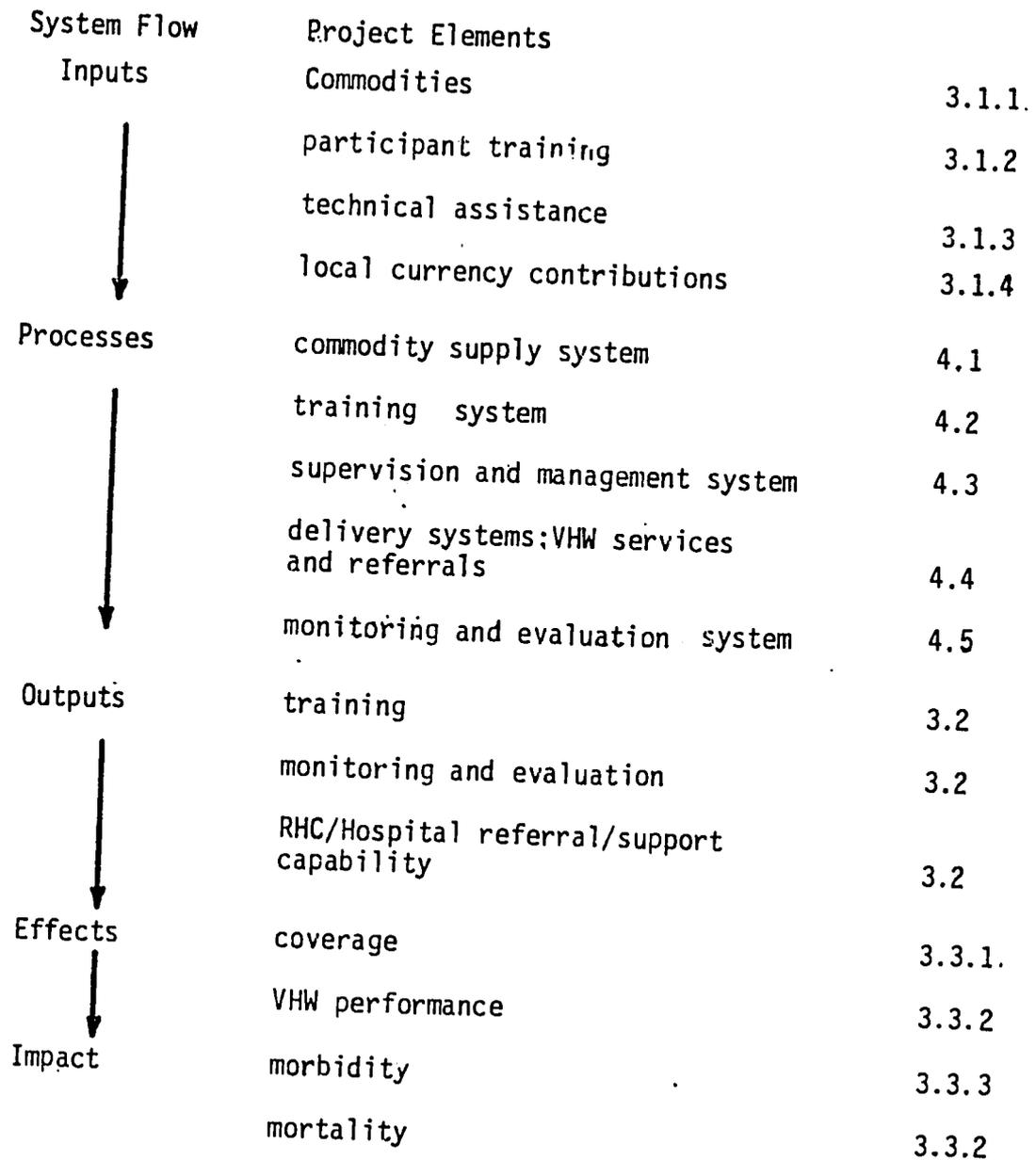
General Description of the Evaluation Approach



1. Describe the planned inputs, processes, outputs, effects, impacts.
2. Compare with actual achievements (quantitative and qualitative).
3. Identify causes for the discrepancies, issues.
4. Identify options for improving inputs and processes.

Figure 1-2

General Systems Model of the PHC I Project



It must be noted that the sites selected for the field visits were not necessarily representative of the country-wide project. However, the field visits were informative and provided an opportunity for candid discussion with an array of health personnel and program recipients.

Based on the information collected, the evaluation team prepared a draft report which was discussed with Burmese and USAID officials. The final version of the report was then prepared.

CHAPTER TWO: BACKGROUND

2.1. Burmese Health Status

The spectrum of health problems afflicting Burma is not unlike those of neighbouring countries with low per capita income, a tropical environment, poor sanitation facilities, and a predominantly agricultural economy. But Burma has several advantages that mitigate the effects of these conditions. Her high literacy rate, low population, fertile land and the efforts of the government to provide social and, recently, health services to the rural population are among those advantages.

Until recently, nearly all statistics on mortality and morbidity in Burma were derived from hospital records. Not only did this result in faulty estimates of national statistics, but it skewed the "leading causes" toward those diseases which tend to be treated in hospitals. Recently, some new forms of data collection (household surveys, reporting of vital events by midwives) have led to some startling revisions in the traditional estimates. Infant mortality had been estimated to be as high as 120 per 1,000 live births. A recent cross-sectional survey of 12,000 households by Khin Maung Thwin, (10, p.15) found the infant mortality rate (IMR) to be between 30.8 to 50.2 per 1,000 live births, depending on the region. Last year, LeSar (13) examined five community-based studies on child mortality and concluded that "the Burmese IMR is now about 40/1,000 live births.... the IMR has been dropping rapidly over the last 5-8 years.... from (a high of) 274 in 1940.."

The latest government demographic and vital statistics show that the population is smaller than had been thought, the birth rate lower, and mortality rates for infants, children and mothers also lower than reported previously. Table 2-1 summarizes those statistics.

Table 2-1
Selected Demographic and Vital Statistics

Population (1983)	35.32 million
Percent urban (1983)	23.25
Crude birth rate (1982)	26.7
Crude death rate (1982)	6.3
Rate of population growth (1983)	2.02
Infant mortality rate (1982)	40.5
Child (1-4) mortality rate (1982)	8.7
Maternal mortality rate (1982)	0-4.6

Source: Department of Health, 1984.

* Numbers in parentheses refer to site reports and documents. See references.

How accurate these estimates are is subject to debate. For example, data from two separate HIS reports show widely different rates for most indicators, and these differ from those produced by a household sample survey which the DOH apparently uses for its official figures. The infant mortality rate computed from the survey is similar to the one computed from the MW data, but both are far below the rate derived from the AMW data. This inconsistency makes it difficult to determine what the actual health status is of the target population, and, as will be pointed out in Chapter Three, makes it impossible to determine the impact of the PHC I project on health.

Table 2-2
Vital Statistics from Three Sources

	1981-82 (Survey)	1981-82 (AMW)	1982-83 (MW)
Crude birth rate	26.7	27.4	24.1
Stillbirth rate	8.7	18.2	11.5
Infant mortality rate	40.5	71.4	38.6
Child mortality (1-4) rate	8.7	5.8	4.9
Crude death rate	6.3	7.9	4.4
Maternal mortality rate	2.3*	13.5	0:6
Abortion rate		60.8	30.99
Population Covered	65,218	172,763	4,367,693

* Sample too small to compute accurate data. Assumed to be between 0-4.6

Sources: Health and Demographic Information Bulletin for States and Divisions, HIS, 16 November, 1982, (based on AMW Reporting System, see Appendix D); Table for 1982-83 obtained from HIS in January, 1985 (based on MW Reporting System, see Appendix E). Data from "Survey" are from Khin Maung Thwin (10), Table 37, p. 41.

Table 2-3
Leading Causes of Mortality

Rank	Cause	Percent
1	Other fever	15.8
2	Symptoms associated with brain, heart and blood vessels	14.3
3	Pneumonia/Asthma	7.0
4	Diarrhoea	5.5
5	Other pain and swelling (including cancer)	4.8
6	Malaria	4.3
7	Acute Abdomen	4.4
8	Serious injuries	3.8
9	Fever with skin symptoms	3.5
10	Tuberculosis	3.3
11	Still-birth causes of perinatal mortality	3.0
12	Jaundice/infectious jaundice	2.7
13	Tetanus	2.3
14	Anemia and general weakness	1.5
15	Abortion and complications of pregnancy	1.2
16	Typhoid	0.7
17	Renal and urogenital disorders	0.5
18	Rabies	0.5
19	Poisonings	0.5
20	Other	20.8

Source: Khin Maung Thwin, p.46

The chief target groups of primary health care (children aged 0-4) are shown in Table 2-4. "Other" fever may include malaria, seticimias, and meningoencephalities. "Fever with skin symptoms" may be mostly measles (13, p.5). Tetanus, measles and diarrhea, which account for 27 percent of infant deaths and 26 percent of

deaths of children aged 1-4, are largely preventable. Mortality figures for another prime target group, women in the childbearing years, indicate that "other" fever, cardiovascular illness, and abortion are the leading causes.*

Morbidity data from this survey show "other" fever as first, followed by anemia, malaria, indigestion and diarrhoea. Among children aged 0-4, "other" fever ranks first followed by diarrhoea, measles, other coughs and chicken pox. Among women aged 15-44, the first five health complaints are "other" fever, anemia, malaria, indigestion and asthma.

Table 2-4
Selected Causes of Mortality Among Children 0-4
Years of Age

Rank	Cause		Percent	
	0-1	1-4	0-1	1-4
1	1	"Other" Fever	.18	.24
3	2	Pneumonia	.09	.15
3	3	Diarrhoea	.09	.13
3	-	Tetanus	.09	-
4	3	Fever with skin symptoms	.07	.13
2	1	Perinatal causes	.15	

Sources: Khin Maung Thwin, 1983 p.46; and LeSar, 1984 p.5

Thus, despite the positive news that health conditions may not be as poor as had been previously thought, significant problems still exist, particularly among infants and children under five years of age. A good proportion of these problems could be prevented through the provision of simple primary health care measures.

* However, these rates are based on extremely small numbers.

2.2. The People's Health Programme

Burma has a comprehensive, and ambitious, health programme that has its roots in the 20-year (1973-1993) National Plan for Economic Development, which has as its objectives the raising of the standard of living, changing the economic structure from an agricultural culture economy to an industrial-based agricultural economy, creating a socialist production relationship with public sector ownership comprising 48 percent, cooperative sector 26 percent and private sector 26 percent. The health sector policies of that plan emphasize primary health care, and were developed from guidelines laid down by the Burma Socialist Programme Party. This is important to note in reading this report because the influence of the Party and the socialist character of the government affect the way the PHC Project operates.

The priorities of the health policy are to achieve increased productivity through the emergence of good socialist workers, to ensure full development of physical fitness and health for all citizens, to instill the spirit of dedication to serve the country commensurate with physical fitness, to ensure continuous studies and research on health-related matters, to insure improved status and continual promotion of traditional medicine, to ensure increased mass participation in sports, and to establish facilities for rest and recreation for the working people which would promote greater capacity for serving the country. (Burma Country Profile, 1978, pp.1-2).

Before the 1978 Alma-Ata Conference, Burma had adopted a primary health care strategy, consisting of the training, deployment and support of two kinds of voluntary health workers -- community health workers (CHW) and auxiliary midwives (AMW). In 1978 a new primary health care initiative was formalized in the Third National Four Year Plan (1978-1982). The health component of the Fourth Plan was prepared in 1980-81 for implementation in 1982-1986. The AID project overlapped those two plans, which differed slightly.

From 1978-1982 the priority programs were Primary Health Care (PHC) and Basic Health Services (BHS), Family Health Care (FHC), Expanded Program of Immunization, Environmental Sanitation, Vector-Borne Disease Control (VBDC) and Medical Care.

From 1982-1986 the priority programs are: Community Health Care (PHC, BHS, FHC and VBDC); Environmental Health and Hospital Care. Supporting projects are Laboratory Services, Supplies and Logistics, Health Education and Health Manpower Development. Health Information and Health Services Research are to be incorporated into each program.

The specific objectives of the 1982 - 1986 programs are:

1. To narrow the gap of health care services available in rural and urban areas by providing Primary Health Care and expanding Basic Health Services in rural Townships;
2. To improve the environmental health in the country by increasing access to potable water, especially in dryland areas, and improving sanitation and waste disposal facilities;
3. To involve the community in identifying their health problems and needs. This involves promoting the concept of using rural resources to support and assure the availability and use of health services, thereby forstoring self-reliance;
4. To promote preventive and curative services, with priority accorded to preventive measures in the control of communicable diseases;
5. To provide adequate and essential medical care to prevent or reduce mortality due to disease and injuries;
6. To give priority to health problems affecting mothers and children and to effect measures that will address these problems.

2.3. Administration and Delivery of Services

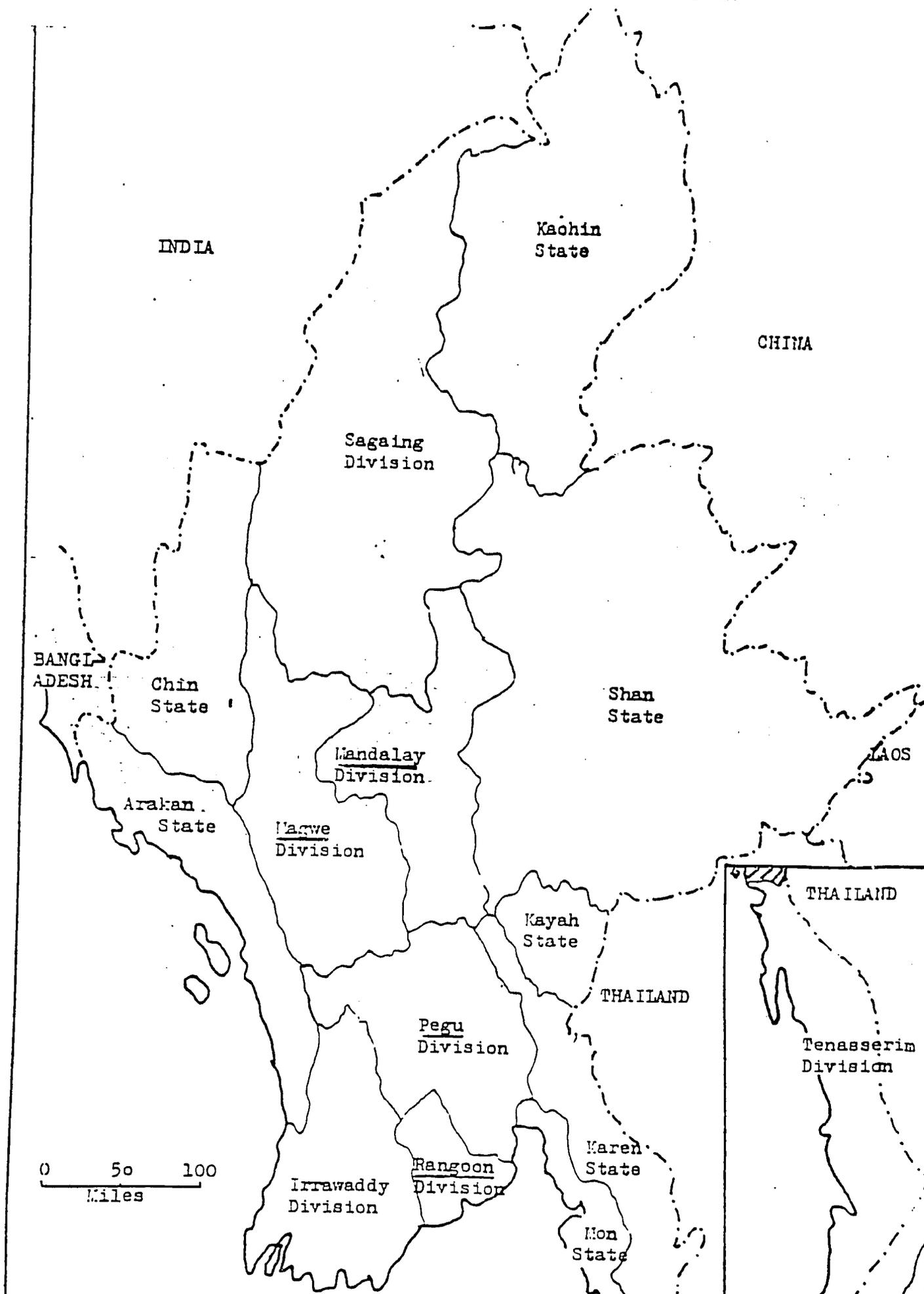
Burma's health sector follows the country's administrative structure. The country is divided into seven States and seven Divisions (see Figure 2-1). The Divisions are the administrative units in the central plains areas whose population consist of ethnic Burmese. The States are inhabited by ethnic minority groups. States and Divisions are subdivided into 314 Townships and Towns, which consist of about Village Tracts each. Each Village Tract is comprised of, on the average, five villages.

Table 2-5
Administrative Structure.

States and Divisions	14
Townships and Towns	602
Village Tracts	13,751
Villages	65,327
Population	35,310,000

Source: Health Information Services 1984.

121
Figure 2-1
Administrative Map of the Union of Burma.



The highest level of authority resides with the Ministry of Health which has four Departments. (Figure 2-2) one of which is the Department of Health (DOH). The DOH administers the PHP. Delivery of services at the central level is limited to a number of tertiary care hospitals, mostly in Rangoon.

The State/Division Health Departments are administered by the State/Division Health Directors with the assistance of public health and other personnel. Services are provided by the 14 State/Division Hospitals. These are referral and general hospitals staffed by medical specialists.

At the Township level, the Township Medical Officer (TMO) is in charge of the Township Health Department (Figure 2-3). In a number of Townships there is also a Township Health Officer (THO), who assumes responsibility for public and community health activities, thereby easing the burden placed on the TMO. While the actual delivery of services at this level is provided through Township Hospitals, which are staffed by general medical officers and have 16-150 beds, the more important role of the Township Health Department is to administer Basic Health Services.

Basic Health Services (BHS) are, by definition, the most peripheral level of Burma's formal rural health sector - that is the lowest level of the health delivery system which is paid for by the Government. In rural areas it consists of Station Hospitals, Rural Health Centers and sub-centers.

There are 297 Station Hospitals, whose staff includes a medical officer. They represent a new level of service delivery, bridging the gap between Township Hospitals and the 1,267 Rural Health Centers (RHC). (Figure 2-6). The RHCs provide outpatient health care and are staffed by para-professionals. Generally, this includes a Health Assistant, one Lady Health Visitor, five Midwives, and one to four Public Health Supervisors.

However, when a Station Hospital is constructed in an area being served by a RHC, the Health Assistant is transferred to another area and the Station Hospital's Medical Officer assumes a supervisory role for the RHC as well. Like Station Hospitals, the catchment area for RHCs is a portion of a Township, consisting on the average of approximately 12 village tracts.

The RHC is responsible for the provision of preventive, and an array of curative, health services. It is also designed to act as a referral mechanism to the Township level. This however, is often difficult unless the RHC is close to the Township Hospital. Therefore Health Assistants are charged with providing and supervising most curative medicine in village tracts. The final rung on the ladder of

MINISTRY OF HEALTH

Department of
Med. Research

Department of
Med. Education

Department of Health
(Director General)

Department of Sports
and Physical Culture

DIRECTOR
(Lab'y Services)

Chemical Food
and Drugs
(Dy. Director)

- Clinical

Pathology
(Dy. Director)

- Publi. Health
(Dy. Director)

DIRECTOR
(Medical Care)

Medical Care
(Dy. Director)

Medical Stores
(Dy. Director)

Dental Health
(Dy. Director)

Med. Static
(Asst. Director)

Indigineous -
Medicine
(Supt. Officer)

DIRECTOR
(Public Health)

Nutrition
(Asst. Director)

Health Education
(Asst. Director)

Env. Sanitation
(Asst. Director)

Occpa'l Health
(Dy. Director)

Rural Health
MCH & School
Health

DIRECTOR
(Disease Control)

Epidemiology
(Dy. Director)

Malaria
(Cy. Director)

Tuberculosis
(Dy. Director)

Leprosy
(Dy. Director)

Trachoma
(H.Q.T. Asst.)

DIRECTOR
(Pl. Bud. Adm. Training)

Training
(Dy. Director)

Training
(Asst. Director)

Nursing
(Asst. Director)

Planning, Budget & Admin.
(Dy. Director)

Administration
(Asst. Director)

Figure 2-3
ORGANIZATION OF RURAL PRIMARY HEALTH CARE

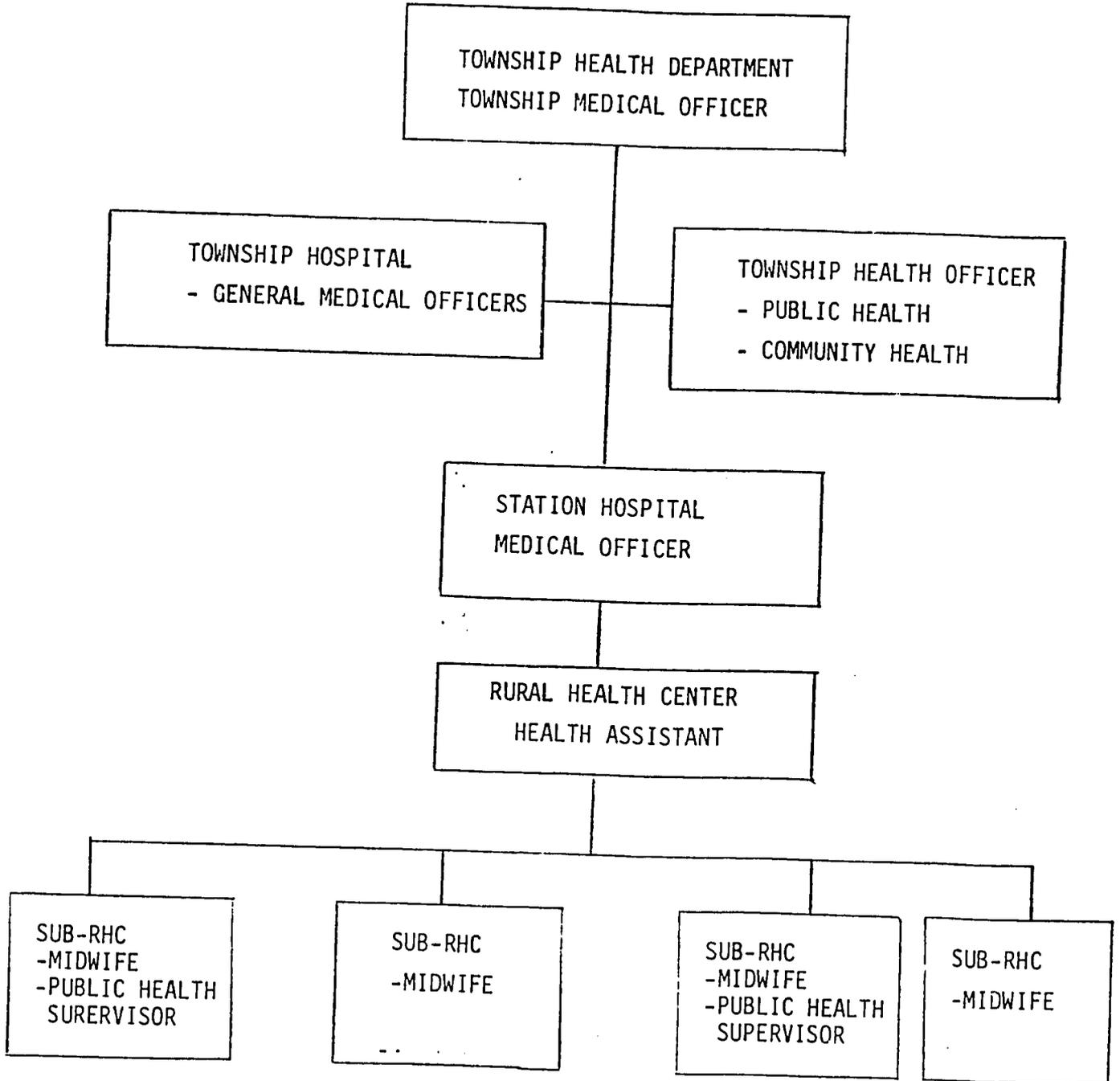
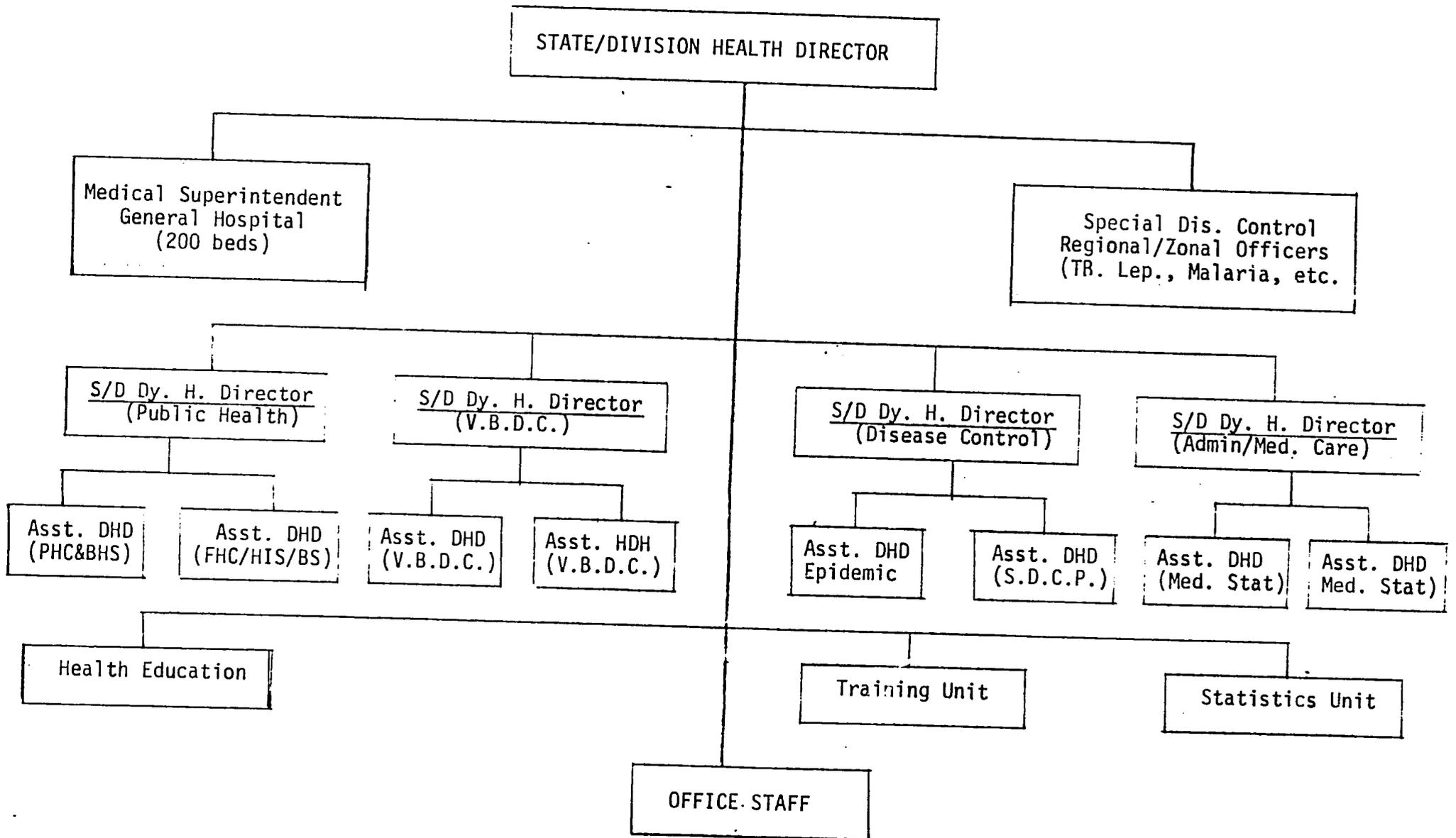


Figure 2-4



19

Health

Basic Health Services in Burma is the Rural Health Sub-center. For each RHC there are four satellite sub-centers staffed by a midwife, and in some instances, a public health supervisor, as well. These sub-centers, are often located in the homes of the midwives.

Table 2-6

Health System Resources

Specialized Insititues, Hospitals and Research Centers.	17
General Hospitals	22
Township Hospitals	565
Urban Health Centers	66
School Teams & MCH Centers	448
Station Hospitals	297
Rural Health Centers	1,267
Rural Subcenters	6,486
Village Health Posts	
Auxiliary Midwives	4,486
Community Health Workers	14,600
Trained Let-thes	1,060

Source: Health Information Services, 1984.

Despite the existance of the Basic Health Services in Burma, it is readily apparent that many of the rural villages are underserved, and receive little or no primary health care. In some cases, large numbers of Village Tracts are not served by Basic Health Services. In other instances, despite the existance of an RHC, the staff is overburdened or a shortage of equipment and lack of outreach limits the ability of this system to meet health needs. It is estimated that on average, each RHC serves a population of 22,000. Characteristically, preventive measures are overshadowed by curative activities.

In response to unmet needs, the GSRUB conceived a new tier of primary health care, to be provided by volunteer health workers. Two types of workers have been deployed to meet needs at the village level: Community Health Workers (CHWs) and Auxiliary Midwives (AMWs). In addition, a third component of the Voluntary Health Workers scheme involves the training of Let-thes, or Traditional Birth Attendants (TBAs). These women, usually elderly, have often been the principal source of obstetrical care in their communities.

Administratively, the AMWs and CHWs are supervised by the midwives and PHC workers respectively (See Figure 204). However, the RHC staff is only responsible for technical supervision. The Village Tract People's Council (VTPC) have local judicial, administrative and developmental authority. They are responsible for selecting, recruiting and administrative supervision of the AMWs and CHWs. They are the most basic extension of the Central People's Party, and thus, of SRUB administrative authority and responsibility.

The major activities of the AMWs are:

- Health education
- Environmental sanitation
- Communicable disease surveillance
- Vital health statistics
- Antenatal and postnatal care
- Home delivery
- Assistance with immunization
- Minor treatment, management of emergencies and referral of severe cases.

The CHWs are charged with:

- Medical care of minor ailments and first aid
- Referral of severe ailments to nearest BHS unit
- Assistance in communicable disease control including immunization
- Motivation of the community for environmental sanitation improvement including vector control
- Dissemination of health education emphasizing nutrition and family health
- Assistance in family health activities
- Assistance in reporting vital events
- Support and assistance to the BHS staff in their activities in the community

The goal of the PHC I was to have an auxiliary midwife or midwife in each Village Tract; and to install one Community Health Worker in every village in the target area. The tradition of volunteerism in Burmese society, the prestige that accompanies the role of VHWs, coupled with the expected in-kind remuneration, was considered sufficient to make the VHWs a viable enterprise and valuable asset. If successful the approach would be an innovative and low-cost means of providing the assuring accessibility to primary health care for millions of Burma's rural population.

2.4. The Aid Primary Health Care Project

AID strategy in Burma is to invest modest dollar and local current resources to increase the access of the rural poor to goods and services required to meet basic human needs. The PHC I Project was designed to expand and improve Burma's own model effort to develop primary health care workers at the village level. Burmese priorities and programs in this area had already been established, and implementation was underway with sufficient help from WHO and UNICEF. Because this was the first AID-funded activity following the resumption of US bilateral support, AID designed the project as a straightforward set of activities to support the ongoing Burmese PHC Project and to minimize the complexity of AID regulations controlling project expenditures.

The overall goal of the AID Primary Health Care Project was the same as that of the People's Health Programme of the SRUB, namely to reduce morbidity and mortality among Burma's rural population, and particularly among infants and young children.

The detailed objective of this Primary Health Care Project was to expand the coverage and the quality of the Primary Health Care System in 147 of 283 rural townships by 1982.

Expanded coverage means increasing the number of trained and equipped Auxiliary Midwives (AMW's) and Community Health Workers (CHW's) in the project area. The initial PHP coverage provided for a midwife or an AHW in 82% of village tracts, and for a midwife or a CHW in 24% of the villages in the PHP townships. This project was expected to increase AMW or midwife coverage to 100% of village tracts in the Project area and to increase CHW or midwife coverage to 46% of villages in the PHP townships by 1982.

Expanded quality was to be accomplished by strengthening such high impact services as rehydration therapy for diarrheal disease, nutrition surveillance and intervention in young children, malaria treatment and prophylaxis and iron supplementation during pregnancy. Another supporting activity was to be the strengthening of health system processes of training, supervision, referral and evaluation.

2.4.1. Planned Project Outputs

- An increased number of trained primary health care workers supplied with necessary drugs and equipment and providing an expanded range of services.

Originally, the project was to support the training and equipping of approximately 1,400 AMWs and 7,400 CHWs. That was later increased to 1,787 AMWs and 9,418 CHWs. Additional training of AMWs (a six-month course) was to continue a second and third year in each PHP township with a goal of having an AMW trained for each village tract. CHW training (a 21-day course) was to be given in the Rural Health Centers (RHC) or Township Health Departments by the Basic Health Staff.

The final schedule for pre-service training of Primary Health Care workers was as follows:

Table 2-7

Pre-Services Training of Primary Health Workers

4/30 - 3/82

	<u>Numbers to be trained</u>		
	<u>AMWs</u>	<u>CHWs</u>	<u>Let-thes</u>
Sub-total, by this Project	1,787	9,418	4,000

Basic drug kits for AMWs and resupply of oral rehydration and chloroquine for both CHWs and AMWs were to be provided by AID for all primary health care workers, including those trained under the original People's Health Programme Plan.

A total of 4,000 (initially 1,000) traditional birth attendants (Let-thes) were to be trained to provide safer delivery services. The Let-the training was to take 30 days, with initial training of 3-5 days followed by one day of training weekly for the next six months. Training was to be conducted in the Let-thes' villages by the midwives as part of their normal work. Project support was needed only for training the midwives as Let-the trainers, and for supplying the Let-thes.

Additional in-service training was required for all Primary Health Care Workers trained prior to the start of this project. Such in-service training was to upgrade their skills in oral rehydration therapy, nutritional surveillance and other expanded activities. Support was to be provided for training of all existing AMWs and CHWs for twelve days per year at all Rural Health Centers in the Project area.

Table 2-8
Planned In-Service Training of PHC Workers

<u>Year</u>	<u>Number to be trained (accumulative)</u>	
	AMW	CHW
4/80 - 3/82	6,300	21,812

In order to provide local leaders with a clear understanding of the PHP, criteria for selection of volunteer workers and their role, and the proper implementation of the program activities, one-day orientation courses were to be conducted for Village People's members in all village tracts where AMWs or CHWs were being trained during the Project period. In villages where there was no AMW or CHWs suitable members of the village were to receive training in the use of oral rehydration therapy.

- Increased capability of health services to design and implement effective training and supervision programs.

As part of this Project, 28 medical officers and 12 public health nurses were to be hired from the local currency project budget provided by the SRUB, added to Division/State Health Directorates, and formed as Division/State Training Teams, for the duration of the Project.

These teams were to be trained and equipped to provide improved training and supervision of primary health care activities. They were to be responsible with other Division/State and Township health workers for training PHC staff and trainers of CHWs in order to expand the training capability to meet project targets.

Each team was to be made up of four individuals: two doctors and one public health nurse (PHN) (Project personnel), and one health worker (already assigned to each State/Division). These teams were to be trained and equipped with modern educational science techniques to provide improved training and supervision at the peripheral level. They were to work part of the year conducting training-of-trainers programs and supervising township, RHC and PHC workers. Altogether, 2,435 RHC staff were to be trained as trainers of CHWs.

These training teams were to work several months of each year together with central staff as a core group for curriculum and materials development and production of guidelines and other supporting tools, for helping the township and RHC staff to become more efficient trainers and supervisors.

Division/State Training Teams were to review AMW and CHW job descriptions and their training curricula and training materials. Recommendations for change in the duration of training (such as an increase in the length of the CHW training) or the content of training could be developed by these teams, and, if approved, appropriate changes could be made during the course of this Project. These teams were to prepare training modules for RHCs to use for in-service training of PHC workers. During the first year of the Project these were to include nutritional surveillance and intervention, oral rehydration therapy, and use of chloroquine for treatment and prophylaxis.

- Improved and expanded referral and supporting services available at better equipped rural health centers and station hospitals.

Intravenous fluids and equipments were to be made available to station hospitals and RHCs, and training of appropriate RHC staff in intravenous techniques was to be included in in-service training programs. Also, approximately 60 station hospitals were to be provided by AID with additional supplies and equipment necessary for expanding their referral capabilities.

- Increased capability of health services to monitor and evaluate the impact of the primary health care and basic health service program.

For effective processing and feedback/monitoring information 22 additional health information staff for Central and State/Division levels were to be hired from the local currency project budget, trained and equipped. In addition, necessary supplies and equipment to support the expanded demands on the data processing to the Health Information Project were to be provided under the Grant.

2.4.2. Planned Project Inputs

AID planned to contribute \$6.46 million to PHC I. The Government of the Socialist Republic of the Union of Burma planned to contribute 14 million kyats. WHO and UNICEF were expected to contribute about 4.7 million dollars worth of assistance, mostly in commodities, participant training and advisory services. Community contributions were estimated at over 21.5 million kyats. Table 2-9 summarizes the totals.

Table 2-9
Summary of Planned Financial Contributions
to PHC I, by Source

Source	Amount	Percent
AID Grant *	\$ 6,459,000	38.9
UNICEF	3,744,000	22.6
WHO	925,000	5.6
GSRUB **	2,155,000	13.0
Community Contributions**	<u>3,305,000</u>	<u>19.9</u>
Total	\$16,588,000	100.0

* Includes \$ 1,459 million of U.S. owned excess kyats

** In U.S. dollar equivalents at \$1 = Kyat 6.51

Table 2 - 10

AID Planned Financial Contributions to PHC I.

Component Dollar Funds	Initial Agreement	Final Revision	Difference	Percent Charge
Commodities	\$4,291,169	\$ 4,713,000	+ 421,831	+ 9.8
Participant Training	126,024	200,000	+ 73,976	+ 58.7
Technical Assistance	438,532	77,000	- 361,532	- 82.4
Contingency	144,275	10,000	- 134,275	- 93.1
Total Dollars	5,000,000	5,000,000	0	0
Kyat Funds	9,498,000	51,546,000	+42,048,000	+ 442.7
(\$US Equivalent)	(1,458,986) ^{1/}	(6,524,810) ^{2/}	+ 5,065,824	+ 347.2
Total	6,458,986	11,524,810	5,065,824	+ 78.4

1/ Calculated at 6.51 Kyats = 1 \$US

2/ Calculated at 7.9 Kyats = 1 \$US

Supplies and Equipment

AID planned to provide approximately 13,000 basic drug kits for CHWs, 1,400 midwifery kits and 3,200 basic drug kits for AMWs, 1,000 Let-thes kits, 367 rehydration equipment sets, 60 station hospital equipment sets, and 35 training school kits to the Department of Health for respective PHC workers and institutions. Oral rehydration salts for treatment of acute diarrheal cases., cholorquine or amodiaquine for prevention and treatment of malaria in endemic areas, and severe diarrhea cases were also planned to be made available.

Training materials were to include audio-visual and printing and printing items, data processing equipment, necessary for health information services was also to be supplied.

The resupply of drugs for CHWs was to come from community contributions.

Monitoring and Evaluation

The present monitoring and evaluation system developed and used by the Department of Health was to be utilized to the maximum extent possible. To study the impact of the PHC project, a small-scale study was to be undertaken by the Department of Health to monitor and compare selected health indicators in sample areas with and without AMWs and PHC staff.

The services of a full-time procurement assistant located in the Central Medical Stores Depot (CMSDO) was to be funded under the SRUB's local currency.

Participant Training

Long-term training courses (total of approximately 48 person-months) were planned in the following areas of concentration:

- 1 MPH in Maternal and Child Health
- 1 MPH in Nutrition
- 1 MPH in Health Education
- 1 MPH in Health Services Management

Short-term (less than one year) training courses were planned in the following areas of concentration:

- 2, 3-month courses in Primary Health Care
- 2, 3-month courses in training of trainers
- 2, 3-month courses in Nutrition/MCH

These training programs were intended to support longer-term staff development within the Department of Health.

Technical Assistance

Approximately 42 person-months of short-term technical assistance was to be provided by AID and financed from the Dollar Grant. Such short-term assistance was to assist in defining the most appropriate nutrition interventions for AMWs and CHWs; nutrition data analysis; improving training, curriculum development and materials development skills of Central, State/Division training teams; improving, monitoring and evaluation activities; strengthening the commodity management capabilities of the Department of Health to accommodate the additional inputs, health services management and such areas.

2.5. Summary of the Mid-Term Evaluation

The mid-term evaluation conducted in April, 1982 concluded that the project was progressing well in terms of its quantitative objectives, but that improvements could be made in the quality of project activities, particularly training. The report summarized its findings under nine headings.

- Impact. Data were not available (and would probably not be available in the future) to assess the impact of the project on health.

- Processes. The voluntary health worker strategy was successful and the project was meeting its quantitative targets. Two areas that needed attention were: 1) the mix of preventive versus curative activities; 2) the quality of training; and 3) the performance of roles and responsibilities.

- Training. Auxiliary midwives and traditional birth attendants were receiving effective training and were working well in their communities. However, the CHW training was seen as needing improvement. The numbers trained and the deployment of CHWs was on schedule, but deficiencies were noted in the training materials, the emphasis on curative versus preventive activities, the lack of fulltime trainers, and the lack of in-service training.

- Supervision and Management. This was a "weak link" in the PHC system. Specific problems included the lack of training in supervision; the heavy workload of supervisors; the lack of direction in some health offices; and the lack of useful information for management decision-making.

- Commodities. The evaluation team questioned the appropriateness of supplying CHWs with prescription pharmaceuticals after only three weeks of training. Other concerns were the time required for commodities to arrive from the United States and the difficulties in resupplying CHWs.

- Nutrition. Although nutrition is an area of emphasis to the MOH, this was not reflected in the PHC I Project, especially among CHWs.

- Maternal and Infant Care. The AMWs, in particular, were noted for their contribution to the improvement of maternal and infant care, although the fact that they were not allowed to provide information and/or commodities on family spacing inhibited their ability to have an impact on septic abortions.

- Health Information Service. National health sector data was considered to be of poor quality and of little use for planning and decisionmaking. The assistance provided by USAID (a computer) was also seen as inappropriate.

- Evaluation. Although the evaluation studies were considered well conceived, they would not provide information on project impact, and there was some concern that they would not be utilized.

The evaluation team made a number of recommendations for improving the PHC I Project. The principal ones were that:

- more attention be given to preventive rather than curative activities;
- new training materials be developed that are task oriented;
- in-service training be given higher priority;
- supervision and management be strengthened;
- a comprehensive nutrition strategy be developed, and that
- a built-in monitoring and evaluation system be developed.

In addition, the team made several recommendations for PHC II:

- expendable commodities should be reduced;
- CHW duties should be revised;
- a technical assistance team should be contracted; and
- institutional change should be encouraged.

CHAPTER THREE: QUANTITATIVE ACHIEVEMENTS

This chapter presents the quantitative findings of the evaluation, beginning with an assessment of the principal AID inputs to the project (commodities, participant training, technical assistance, and local currency contributions), and concluding with the statistics for the principal project outputs (training, monitoring and evaluation, and referral and support services).

3.1. Project Inputs.

Table 3-1 shows the total contributions to the project by source. AID's contribution was slightly less than originally planned, while those of the other international donors (WHO and UNICIEF) were slightly more. Contributions by the government, and especially the communities, were much larger than initially anticipated and constituted the bulk (87 percent) of the project's resources. This could be viewed as a testament to the value of the project to the Burmese Government and the target communities.

Table 3-1
Planned and Actual Contributions to PHP I, by Source
(In \$ US Thousands)

<u>Source</u>	<u>Planned</u>	<u>Actual</u>	<u>Percent</u>
AID Grant	\$ 6,459 ^{1/}	\$ 5,805	6.3
UNICEF	3,744	4,380	4.7
WHO	925	1,548	1.7
GSRUB	255 ^{3/}	29,633 ^{2/}	32.0
Communities	3,305 ^{3/}	51,380 ^{2/}	55.4
Total	\$ 16,588	\$ 92,746	100.1

^{1/} Includes 9,498,000 kyats valued in 1980 at \$1,459,000
(1 \$US = Kyat 6.51)

Does not include 41,748,000 Kyats added for PHP II and construction of wells.

^{2/} Includes 9,498,000 kyats valued in 1982 at \$1,202,000
(1 \$US = Kyat 7.9)

^{3/} 1 \$ US - Kyat 6.51 ^{4/} 1 \$ US = Kyat 7.9

Sources: AID/Burma, Department of Health.

Table 3-2 summarizes the planned and actual expenditures by line item. The AID Controller's report (see Appendix G) shows that all but \$400,000 (mostly in commodities) of the \$5,000,000 budget has been expended.

Table 3-2
AID Planned and Actual Expenditure, PHP I

Component Dollar Funds	Final Budget	Expended	Balance	Percent Spent
Commodities	\$ 4,713,000	\$ 4,318,369	\$ 394,631	91.6
Participant training	200,000	207,588	(7,588)	103.8
Technical Assistance	77,000	76,912	88	99.9
Contingency	10,000	0	10,000	0
Total dollars	\$ 5,000,000	4,602,869	397,131	92.1
Kyats funds*	51,546,000	51,246,000	300,000	99.4
(US \$ equivalent)*	(6,524,810)	(6,486,835)	(39,975)	99.4
Total	\$11,524,810	\$11,089,704	\$ 435,106	96.2

* Calculated at ; \$US = Kyat 7.9

The PHC I project balance should be confirmed with the Controller, deobligated from PHC I, and reobligated to the AID/Burma Health Account for use in appropriate health activities. The kyat funds have been assigned to the SRUB and hopefully will be spent on primary health care activities.

3.1.1. Commodities

Commodity support for the SRUB Primary Health Care Project was designated to complement the training and deployment of voluntary primary health care workers. This support included:

- Provision of training equipment and supplies to the Health Assistance Training School (HATS) as well as equipping the Division and State Level Training Teams (S/DTT).
- Provision of primary health care service kits to 1,400 AMWs; 7,418 CHWs and 2,500 traditional birth attendant or Let-thes.
- Provision of surgical equipment for intravenous therapy for severe diarrhea at 367 in-patient and out-patient facilities (station hospitals and rural health centers) including intravenous fluids and administration sets.

- Provision of miscellaneous items to support the primary health care system: text/reference books, and a mini-computer and air conditioning unit for expansion of the health information service.

A summary of the commodities budget, appears in Table 3-3. An itemized list of supplies and equipment is provided in Table 3-4 and Appendix H. Of the \$4,713,000 budgeted for commodities, 91.6% \$4,318,369 has been expended leaving a balance of \$394,631 as of December 31, 1984.

Table 3-3
Commodities Budget Summary
As of December 31, 1984

Total budget	\$ 4,713,000.00
Total Expenditures	\$ 4,318,368.83
<hr/>	
Funds Remaining	\$ 394,631.17

The mid-term evaluation highlighted several issues regarding commodities:

1. The high percentage (50 percent) of AID-supplied commodities that are expendable and curative in nature;
2. Burma's lack of foreign exchange for purchase of commodities in the international market;
3. The prudence and appropriateness of CHWs distributing prescription pharmaceuticals (chloroquine, sulfadimidine, pen, v.k.) after only three weeks of training; and
4. BPI's limited production ability and priorities, resulting in difficulties in resupplying VHWs.

These four issues are addressed in their section in addition to several other which the Evaluation Team encountered.

For this evaluation, all commodities were evaluated on six factors:

1. Adequacy - for purpose intended
2. Appropriateness - for purpose intended
3. Quantity - for amount ordered

Table 3-4
Procurement and Distribution of Commodities

ITEM	Quantity Ordered (or) PIO/C#	Quantity Distributed	% Distributed
Traditional Midwife (Let-the) Kits	2,500	2,460	98.4%
Basic Supplies and Equipment for CHW			
- First Aid Kits	7,500	7,490	100%
- Medicine Chests	7,500	7,469	100%
- Snakebite Kits	7,500	7,371	98%
AMW Training School Kits & Basic Supplies & Equipment			
- AMW Training School Kits	25	25	100%
- Midwifery Kits	1,425	1,401	98.3%
- Nursing Kits	2,475	1,554	63%
- Medicine Chests	4,625	4,605	100%
- Carrying Case	1,425	1,393	97.75%
Other Medical Supplies			
- Aspirin (X1000)	44,500	40,638	91%
- Penicillin tablets (X1000)	15,500	14,910	96%
- Oral Rehydration Salts packets	1,635,000	1,539,500	94.16% (95,500 Balance)
- Chloroquine (X1000)	17,000	8,400	49%
- Ringers Lactate Solution with Drip Set	224,000	221,602	99%
- Ice & Hot Water Bag	3,295	3,288	96.85%
Rehydration Equipment Sets	367	190	52%
Station Hospital Equipment	60	60	100%
Training Material			
- PIO/C 10020 Training Materials	}		100%
- PIO/C 10021 Books			
- PIO/C 10032 Photo Machine & Parts			
- PIO/C 10033 Office Supplies			
- PIO/C 10034 Printing Paper & Scales			
Materials for HIS			
- PIO/C 10002 Equipment for MOPH		100%	100%
- PIO/C 10027 Comp. & Accessories		100%	100%

4. Timely arrival - (See Chapter 4)
5. Problems
6. Advice for future procurement (Chapter 5)

In general the commodities were generally adequate and appropriate. The quantities ordered were received, but more were needed. Timely arrival was a problem (see Chapter 4). With respect to the commodities themselves, the following issues are worth highlighting.

Medical Supplies and equipment

1. AMW and CHW kits included enough medication for only approximately 4 months of service and replenishment was difficult. BPI production is very limited and open market prices are extremely high.
2. Station hospitals found that although the Flex II anesthesia machine is superior to the EMO unit, the former requires an additional person to operate it while the latter can be operated single-handedly. Due to the shortage of trained medical staff, the EMO was unanimously preferred over the Flex II.
3. Snake bite first aid kits were part of the CHW equipment provided. During their training, however, many were instructed not to use the kits but to use tourniquets and refer the patient to a medical facility for an anti-venom injection. Other CHWs stated that they were taught to use the kit. It is our understanding that the latest kits include tourniquets in place of snake bite kits.
4. Salter Scales are supplied for weighing babies. Several RHC staff reported that occasionally scales were missing from the AMW kits and that on rare occasions a whole shipment of kits would not have scales. After one year of field use, several scales required replacements. These were not included in the kits, nor were they available as spare parts and replacement scales were not available. To continue weighing operations some AMW attempted to repair the scales or to compensate for the scales' inaccuracy.
5. Numerous reports came in regarding the poor quality of artery forceps provided in the kits. These instruments tended to break at the pincer or clasp, and no replacement parts were available.

6. One kidney shaped tray is provided in the kits. Some workers and supervisors stated that a second tray was needed because if the pan were being used for dressing wounds they had no receptical for the instruments they were using, but needed to put them down on a sterile surface. A second tray would have been most helpful.
7. The plastic carrying cases were not durable and often broke at the latch or hinge. Metal cases (aluminum) were found to be very durable, none had broken. They were also handy as a back-up sterilizing units, because water could be boiled in them. This provided a convenient container in which to place sterilized instruments.

- Training Supplies and Equipment

1. Numerous 3 M copier machines supplied to training teams had defective print drums. The replacement parts for these units are being provided and installed by the local representative at the manufacturer's expense.
2. Printing paper ordered in size 16" x 24" for the lithographic production of gown chart (at 75,000 a week) was not provided. Instead reams of 8½" x 11" regular size paper was delivered. This made it necessary to produce charts by photocopier at a rate of only 5,000 copies a week, causing a delay in distribution to the field.

- Information System Supplies Equipment

A limited amount of equipment and supplies was programmed for PHC I, totaling \$24,680. This consisted of desk-top calculators (for the 20 health information staff to be hired), and some equipment and supplies to complement the computer provided by WHO to HIS (including funds for repair and maintenance of the computer and air conditioners).

What happened was quite different. HIS ordered and received another computer and peripherals in addition to the initially programmed commodities. The total expended for HIS commodities was almost double the original amount planned (\$ 47,927). AID provided air conditioners to ensure that the computer would be housed in an adequately cool environment.

The computer (a Cromenco 3102) is located in a sealed, air-conditioned room on the ground floor of the Department of Health. In addition to the computer, a hard disk and printer supplied by AID, additional equipment had been supplied by WHO: an identical Cromenco 3102 computer with a Cromenco System Three CPU with four disk drives, and 11 megabyte HDD disk, a letter quality printer, terminals, supplies, etc.

The current system would appear to be quite adequate, but is not because the machines are heavily used by staff from the PHC project, Nutrition, Health Information Services and others. In fact, demand for computer services is increasing, and additional equipment will have to be procured in the near future. WHO recently supplied a Columbia PC (an IBM - Compatible computer) and the Director General has authorized HIS to seek funds for an additional computer. The minimum requirement would be another Cromenco 3102 system (with disk). HIS would like to order a much larger system with 30 remote terminals to allow other departments to utilize the computers.

Electrical current in Rangoon fluctuates widely and sometimes shuts down completely. HIS has lost significant amount of data when this has occurred. A voltage regulator supplied by AID was inadequate to handle the extreme fluctuations in voltage. AID recently purchased a "battery backup", which would automatically switch on and keep the computer running for 4-5 minutes when power failed. This would allow the operator enough time to save the data in the system. However, the machine that was received is rated for 440 watts (current in Rangoon is 220 vatts) and could not be used. It is currently at the University of Rangoon undergoing modification.

HIS also received a wide assortment of software for word processing, data base management, spreadsheet calculations and statistical analysis. All but the statistical package (Statpak) are adequate. Statpak cannot handle large samples and has a limited number of statistical operations. It would be a worthwhile investment for AID or WHO to purchase a copy of the microcomputer version of SPSS for the project.

Whether HIS needs another computer or a new computer system is an issue that deserves more study. There would not appear to be a great need in terms of PHC II. The computers that HIS has are more than adequate to handle the limited amount of data processing required by the project. The need is broader, within the DOH itself, and perhaps, within the MOH. That issue should be examined by the DOH separately, perhaps in consultation with WHO, which has as advisor in Rangoon who is knowledgeable about this subject.

The commodity need the Evaluation Team identified is much more basic. RHCs and VHWS in the field need paper and pens to record and report data that they have been asked to collect. This issue will be discussed further in Section 4.5.

3.1.2. Participant Training

The plan for participant training called for four candidates to be sent to the United States for MPH degrees, with concentrations in Maternal and Child Health, Nutrition, Health Education, and Health Services Management. Six individuals were to receive short-term training (3 months) in one of three fields: Nutrition/MCH, Training of Trainers, or Primary Health Care.

Table 3-5
Planned and Actual Participant Training

Long-term (MPH degree @ 12 months)	Planned	Actual
Maternal and Child Health	1	1
Nutrition	1	1
Health Education	1	1
Health Services Management	1	1
Short-term (3-month courses)	1	
Nutrition/MCH	2	2
Training of Trainers	2	2
Primary Health Care	2	2
Total Budget/Cost	\$ 236,024	\$ 207,588

As the table shows, all of the planned participant training was undertaken and completed. The costs were much higher than originally anticipated and funds were transferred from other line items (principally technical assistance) to make up the difference.

Training did not take place as quickly as expected. The four long-term trainees did not leave until July 1982. They returned in July, 1983. The short-term trainees spent five months in training and observation tours. They did not leave until May and August, 1984, and returned in September, 1984 and January 1985. Upon their return all of the participants were reassigned to their former positions. Only one of the long-term participants - the Master of Public Health/Health Education - who returned to the Health Education Bureau, was in a position where she could utilize her training in the Primary Health Care Project. She is now on maternity leave. The Health Services Management participant is with the Foreign Relations Training Unit; the MPH/Nutrition trainee is teaching Surgery at HATS; and the MPH/MCH trainee is teaching Epidemiology at the Medical College.

The Team was informed that a request has been made to the Ministry of Health to reassign them so that their efforts can be directed toward PHC.

The 6 short-term participants are all working as TMOs in their townships. It was not possible to meet with any of them, and it might be advisable for the Training Advisor to contact them after he arrives to determine the relevancy of their training to their Primary Health Care functions.

In regard to the training, the two long-term participants who went to Tulane were satisfied with the program and felt it was very useful, but the two who went to Hawaii for long-term training felt that the subject areas were US-oriented (i.e. child abuse, the handicapped child, etc.) and not relevant to Burma's priority health problems.

They made a 3-month tour of the United States visiting migrant and Indian Health Centers, and considered that more useful.

Comments noted from the reports of the 6 short-term participants generally indicated dissatisfaction with the program, - there was too much traveling. A 5-day orientation in Washington D.C. on American History - they felt, was not necessary - it could have been given at the Universities where they were assigned. They visited the Frontier Nurse Program in Kentucky, Indian Reservations in Arizona and New Mexico, and the Medics Program in Alaska. Because of all this traveling they missed some of the lectures in a series so that they did not get credits. There was no flexibility in the curricula. Many of the subjects were irrelevant to developing country problems, but they were not permitted to change. In some instances they had instructors who knew less than they did. They felt that a great deal of time, energy and money went into trips back and forth across the U.S., while not enough time was given to the training that they had come to get. There were other, lesser criticisms, but perhaps for future participants, a University in a developing country such as Thailand or the Philippines might be considered.

3.1.3. Technical Assistance

Forty-two person months of short-term technical assistance has been programmed for PHC I. Very little of it was used. Table 3-6 shows that only 6 of 42 (14 percent) person months of technical assistance were actually used. The largest category of assistance was in training, all but 21 days of which was provided by one consultant (Dr. Don Chauls) from Management Sciences for Health. Dr. Marian Zeitlin (Abt Associates) provided help in the design of six evaluation studies, several of which were in the nutrition field. Apparently, she visited Burma again on another assignment and worked with at least some of the Principal Investigators on their data analysis. Dr. Paul Kwong (Abt Associates) spent three weeks in Burma helping HIS staff with the computer system and data processing.

The Evaluation Team did not have time to assess the quality of this technical assistance nor to determine why so little of what was programmed was actually used. Given the large amount of TA planned for PHC II, it would be prudent for AID and/or the new Project Advisor to look into this matter in more detail.

Table 3-6
Planned and Actual Short Term Technical Assistance

Field of Assistance	Planned (Days) ^{1/}	Used (Days) ^{2/}
Training of Trainers	194	150
Nutrition Planning	129	
Nutrition Data Analysis	129	21
Evaluation	194	23
Logistics	129	
Other	129	
Total	904 (42 pm)	194 (6 pm)
Budget/Costs	\$438,532 ^{3/}	\$76,912

Source: 1) Project, Annex E, p.4; 2), Project Financial Implementation Report, December 31, 1984

^{3/} Includes \$ 86,233 for contingency.

3.1.4. Local Currency Contributions

AID programmed 9,498,000 Kyats for three categories: 1) pre-service and in-service training of VHWs (mostly per diem, transportation, rent); 2) training of trainers (including salaries for 30 new positions, per diem, travel, rent; and 3) health information services (including salaries of 22 clerks, travel, per diem, reporting incentives). Table 3-7 summarizes the planned and actual kyat expenditures by category.

Table 3-7
Summary of USAID Local Currency
Contribution
PL 480

	(Kyats in thousands)			
	<u>Plan</u>	<u>Actual</u>	<u>Difference</u>	<u>Percent</u>
1. Training of Village Workers				
a) CHW (Pre-and inservice)	3989	3795	-194	-4.9
b) AMW (Pre-and inservice)	3199	2222	-977	-30.7
c) TBA	-	919	+919	-
d) VPC orientation	<u>535</u>	<u>494</u>	<u>- 41</u>	<u>-7.7</u>
Sub total	7723	7430	-293	-3.8
2. Training of Trainers and other individual village support	1023	1367	+344	+33.6
3) Health information Service/ Evaluation Support	<u>752</u>	<u>701</u>	-51	-6.8
	9498	9498		

Source: Department of Health

All of the funds were expended pretty much according to plan with two exceptions; travel and per diem needed for the training of Let-thes. Savings in other categories made this possible. The principal saving came from the training of AMWs, which cost less than anticipated, and salaries of State/Division Training Team Medical Officers. Although 28 positions were budgeted, none could be recruited from outside the system. Instead, Township Health Officers were assigned to the SDTTs.

Table 3-8 summarizes the staff appointments paid out of AID local currency. In addition to the positions programmed, three computer staff and seven offset staff were hired with these funds.

Table 3-8

Staff Appointed Under PHC I Project Using Kyat Funds

	<u>Plan</u>	<u>Actual</u>
<u>A. State/Division Training Teams (SDTT)</u>		
1. Medical Officer	28	-
2. Public Health Nurse	12	13
<u>B. Health Information Section</u>		
1. State/Division Stat. Technician	14	14
2. Central Office Stat. Technician	8	8
3. Computer Staff (1 Engineer and 2 Programmers)	-	-
4. Offset Staff (Printer and Photographer, workers.)	-	7
<u>C. Logistics</u>		
1. Logistic Officer	1	1
2. Assistant Logistic Officer	2	2

3.2. Project Outputs

Table 3-9 summarizes the principal outputs planned for PHC I together with the quantitative achievements. As mentioned in Chapter 2, the original training targets were modified. The numbers of VHWs to be the original training targets were modified. The numbers of VHWs to be given pre-service and in-service training were increased substantially, during the detailed planning sessions held at the outset of the project as the DOH staff determined they could increase the projected outputs at no additional expense to the project. In several cases communities paid for training of additional AMWs, and this was programmed into the project targets.

Table 3-9
Planned and Actual Project Outputs, PHC I

Initial Training	Planned	Actual	Difference	Percent
CHWs (3 weeks)	9,418	9,383	- 35	- 0.4
AMWs (6 months)	1,787	1,654	- 133	- 7.5
TBAs (30 days)	4,000	5,710	+1,710	+42.8
Division/State Trainers	120	162	+ 42	+35
Health info. staff	66	90	+ 24	+26.7
VTPC Members	37,150	37,100	- 50	- 0.1
In-Service Training				
CHWs (12 days)	21,812	21,748	- 64	- 0.3
AMWs (12 days)	6,300	6,300	0	0
BHS Trainers	2,435	2,500	+ 65	-2.7
Let-the Trainers	1,790	1,730	- 60	- 3.4

These figures show that the project achieved its quantitative objectives in most categories, and exceeded them in several. Quantitatively the most significant increases came in the training of Let-the, SDTT members, and health information staff. Appendix I provides planned and actual totals for each of the three years of the project.

A number of other expected outputs were listed in the original Logframe. Two that were related to training were achieved: 1) job descriptions for CHWs, AMWs and BHS staff were developed and incorporated into training; 2) curricula and materials were developed. Two objectives related to the development of referral services at the RHCs, township and station hospitals, were achieved: 1) IV rehydration was made available; and 2) station hospitals equipped.

Some of the expected outputs for monitoring and evaluation were achieved: 1) supplies and equipment for data processing were installed and operating at DOH and at State/Division levels; 2) 20 additional health information staff for central and State/Division levels were recruited, trained and deployed; 3) health staff in selected sample areas were trained for data collection requirements; 4) regular reporting and periodic reviews of monitoring and evaluation data were carried out by field staff (see section 4.5). But despite these achievements, the principal objective of developing "increased capability of health services to monitor and evaluate impact of the PHC/BHS program" was not achieved. This was not due to a

lack of resources (with the exception of such essential supplies as paper and pens at the VHws and RHC levels) as much as to an inability to develop viable monitoring and evaluation systems (see section 4.5 details).

3.3. Project Effects and Impacts

It is clear that the PHC I project did have some effects. PHC coverage was extended and VHws did provide services. It is not possible, however, to determine what impact the project had on morbidity and mortality. This is due to the lack of controlled studies what would enable scientists to: 1) determine the exact changes in health status indicators; and 2) determine the portion of those changes that resulted from PHC I (or even the PHP) and what portion were due to other factors. Nevertheless, a few studies have been conducted, some declines in morbidity noticed in some health statistics, and some anecdotal examples given that all indicate that the project does indeed seem to have had an impact. It will not be able to prove this, however, without controlled studies.

3.3.1 Project Effects on Coverage

Table 3-10 shows the latest available data from the DOH on program coverage. The original objective for PHC I was to "increase AMW coverage from 82% to 100% of village tracts and CHW coverage from 24% to 46% of villages in the project area (so that by the end of this project, 55% of the villages will be covered". (21, p.13)

Table 3-10
Project Effects on Coverage

	(147 Townships)		Percent Covered	
	<u>1978</u>	<u>1982</u>	<u>1984</u>	<u>Plan</u>
Village Tracts (AMW)	3.9	59.6	76.5	100
Villages (CHW)	3.1	41.0	54.7	55

Source: Department of Health

These figures show that the project achieved its CHW coverage objective but fell short of its AMW objective by almost 25 percentage points. Also, neither objective was achieved by the original target date of 1982. Projections for 1986 indicate that village coverage will reach 70.4 percent and village tract coverage will reach 100 percent. Thus, the program is meeting its objectives with respect to coverage, although several years later than expected. A Mid-Term Evaluation of the PHP II project (14) (not PHC II), concluded that 247 townships were covered in PHP I and an

additional 20 mid-way through PHP II. Thus the program has met its target (14, p.19). However, the same report concluded that reliable data are not available for calculating the proportion of village tracts in the 147 target townships covered by AMWs or villages covered by CHWs (ibid, p.21).

3.3.2 VHW Performance

Table 3-11 shows selected VHW performance indicators from the same report, which concluded that the data are of poor quality because of incomplete and, sometimes, inaccurate reporting (ibid, p.22-23, 53)

Nevertheless, the report drew some inferences from the data. These are summarized below:

CHWs have not been making as many contacts as expected, and the trend is downward. CHWs may be screening out about 1/4 of diarrhea cases for treatment. The remainder go to the RHC. This is encouraging but should increase. CHWs are not spending enough time with each diarrhea case. Referrals are a bit low. Joint activities between BHWs and CHWs occurred only once for each three BHW visits, and the amount of collaboration has declined in recent years. CHWs are engaging in less environmental sanitation activities than previously. CHWs average only 1/4 of the health care activities of AMWs.

The AMW antenatal coverage figure is inflated. The true value is probably around 25 percent, which is low. The number of antenatal and postnatal contacts per mother are satisfactory. AMWs conduct 19 percent of deliveries, which is an increase over past years, due to more AMWs being trained. This will probably continue to increase and will probably mean fewer deliveries by TBAs in the future. AMWs appear to contribute significantly to diarrhea treatment, but should spend more time with each case. Joint activities with BHWs is satisfactory, as is the percentage of referrals.

The TBA indicator was considered of little value, but the report calculated that trained TBAs were performing 5 percent of all deliveries and untrained TBAs 20 percent, and recommended that TBA training be up. Referrals by TBAs were "very satisfactory" (ibid, pp. 33-41).

Although these conclusions are not a ringing endorsement of the performance of VHWs they do indicate that the VHWs are working and that AMWs and Let-thes may be performing better than CHWs.

A few research projects have been conducted over the past several years, and they tend to support those observations. For example, a study by Khin Maung Thwin (10) reported that VHWs average 78 monthly health care contacts per 100 households; and that AMWs provide 34 percent of the antenatal care and attend 29 percent of births; and that VHWs provide health care during 14 percent of sicknesses (see Table C, p.23).

Table 3-11
Selected VHW Performance Indicators, 1983 - 1984

	Objective	Actual
<u>CHWS</u>		
Ave. no. of new and old personal health care contacts/CHW	308	136
Proportion of treated diarrhoea cases among / <u>5</u> children	NA	8
Ave. no. attendances per new diarrhoea case	NA	1
Percentage referrals to BHW/Clinig/Hospital	NA	3
Ave. no. joint activities with BHW per CHW	7	8
Ave. no. reporting activities per CHW	5	4
Ave. no. environmental sanitation activities per CHW	18	13
Ave. no. health care activities/month	NA	4
<u>AMWS</u>		
AN coverage, percent	NA	35
Ave. no. contacts per new AN mother	NA	2
Percentage coverage of home activities	31	19
Ave. no. attendances per PN mother	NA	2
Percentage under nutrition among / <u>3</u> children	NA	13
Proportion of treated new dirrhoea cases / <u>5</u> children	NA	4
Ave. no. of attendances per new diarrhoea case	NA	1
Ave. no. joint activities with BHWs	12	9
Ave. no. reporting activities per AMW	4	3
Percent referrals of AN/PN/Infants to BHW/Clinics/ Hospitals	NA	3
<u>Let-the (TBA)</u>		
Ratio of deliveries by trained TBAs to deliveries by BHWs	NA	0.1
Percent referrals of AN mothers to BHW/Clinics/Hospitals	NA	19

Source: Mid-Term Evaluation (14) (pp. 25-28)

In another study Thein Maung Myint, et al (25) found that utilization of health services increased in townships with VHWs opposed to those without them; that self-care, "no care" and use of TBAs and traditional medical practitioners declined in these townships; that the principal activities and key problems, that VHWs dealt with were curative by nature and were, in order of priority: diarrhoea, malaria, conjunctivitis, worm infestation, pregnancy, delivery, accidents, and snake bite; that the activity of VHWs decreased over time while that of AMWs did not; that performance was adequate in all areas except the taking of malaria slides; and that community awareness of the VHWs was high. The authors also identified eight factors which effected VHW performance: community support, monetary support, supervision, incentives, drug supply, time available for VHW work; and location of the VHW (performance is higher in the villages where they reside).

Thein Maung Myint also conducted a VHW time utilization study (28) and found that: the average time spent by CHWs in PHC averages 84 minutes per day and that spent by AMWs averages 121 minutes; time spent varies greatly from place to place and VHW to VHW (from 47 to 137 minutes for CHWs, from 72 to 237 minutes for AMWs); CHWs spent from 39-44 percent of their time on curative activities, 30-36 percent on preventive, and 22-23 percent on travel; AMWs spent roughly 39 percent on curative, 36 percent on preventive, and 22 percent on travel; CHWs principal PHC activities in order of frequency were treatment of illnesses, health education and environmental sanitation, AMWs principal activities were delivery, antenatal care, care of infants and distribution of drugs. Factors associated with performance were individual role perception, the shortage of drugs, the availability of the VHW kits after training, community support, supervision, motivation and incentives.

Aung Tun Thet and Tin Tin Hmun conducted a study of Let-thes (2) before and after their training and found that their knowledge, attitudes and practices improved remarkably as a result of the training, especially in regard to knowledge of risk factors, care of new born, ORT, nutrition, immunizations, referrals, delivery, and antenatal care. The authors concluded that "Let-thes were as good if not better than the AMWs" (2,p.37)

The Evaluation Team visited a number of Rural Health Centers, Township Hospitals, and villages and spoke (often through translators) to a variety of CHWs, AMWs, HAs, LHVs, TMOs, THOs, SDTT staff, villagers, Let-thes, and VTPC members. The overall impression gained from these visits and from interviews with numerous DOH officials and other knowledgeable individuals, is: that the VHWs are working that attrition is very low (perhaps 1-2 percent); that there are a few CHWs and AMWs ("black sheep", as the Burmese call them) who do not work at all, as much as expected, or who provide services that they have not been trained to provide (e.g., injections); but that the vast majority put in an average of 1-2 hours per day, are usually available when needed (the exception being in the planting and harvesting seasons), and limit themselves to providing the services they were trained to provide. It was also generally acknowledged that AMWs and trained Let-thes are performing well, and that CHW performance is less satisfactory. The work VHWs performed is more generally curative

than preventive, but many pointed out that this is what the villagers want and need, that prevention will come once the VHW has established credibility through adequate provision of curative services, and that most CHWs are engaged in some preventive activities (health education, nutrition education, environmental sanitation, EPI, growth monitoring, etc.). Most of the VHWs (CHWs, AMWs, Let-thes) refer cases as indicated, and many act as "community organizers", "extensions of the RHC", or "the eyes and ears of the HAs and LHVs" in their villages.

In fact, this may be one of the most valuable and effective aspects of the VHW program. A number of HAs pointed out that because the VHWs are in the villages, they (the HAs) are able to provide better services because: 1) they have better information about health needs; 2) they get the information sooner; and 3) there is someone in the village to help them organize PHC activities to deal with those problems.

Among the factors that seem to account for differences in performance, the Team was told repeatedly that the availability of drugs is the single most important factor. As will be seen in Chapter Four, the late arrival of the kits and the problems of resupply of drugs have been significant factors. The former has been solved, the latter still needs to be. Other factors mentioned were: individual CHW motivation, supervision and in-service training, the limited time VHWs (especially CHWs) have available for PHC, the location of the VHW, monetary incentives/compensation, and community support (especially from the VTPCs).

The Team was intrigued by the questions: why do these people volunteer, and why is attrition so low? Although no clear explanation was identified, several factors may account for this phenomenon. First is the "spirit of voluntarism" that permeates the Burmese culture, and has its roots in Buddhism. Second, is the socio-political structure, which demands respect for authority and unquestioning obedience. Third may be the economic situation, which limits mobility and economic aspirations. Finally is the prestige that accrues to the VHWs from receiving "medical" training and possessing valued knowledge and skills. This fascinating subject deserves further study.

Given the constraints under which these VHWs work (limited medical supplies, little or no remuneration, limited time, limited training, refresher training and supervision, for example, it is truly remarkable how well they seem to be performing. The consensus seems to be that the VHWs have been effective in extending coverage to previously unserved or underserved rural people, and that they are performing "adequately", in most cases. The Burmese acknowledge, however, that there is great room for improvement, particularly in taking steps to upgrade the quality of care provided. That will be treated in the next chapter.

3.3.3. Project Impact on Morbidity and Mortality

As noted previously, it is not possible to determine: 1) whether any significant changes have occurred in the health status because the available data are not reliable; and 2) whether any change that has occurred was due to the PHC I project because no controlled studies were conducted. Nevertheless, the statistical, survey and anecdotal data that have been collected suggest that the PHP (and, by extension, PHC I and II) have had an impact, particularly on maternal and child health.

The mortality figures used by the DOH indicate that there have been significant reductions in infant, child and maternal mortality in recent years. However, as pointed out in Chapter Two, there are large variations in rates presented in different reports, and until HIS can produce an accurate vital registration system or commission replicable surveys, it will not be possible to measure changes in mortality or morbidity.

The Evaluation Team saw statistics in a number of RHCs that indicated a decline in the number of reported cases of several diseases over the past four years, including whooping cough, plague, and diarrhoea. Other diseases, notably measles, did not show any decline. Interviews with health staff and villagers confirmed these impressions. Hospital staff reported seeing fewer cases of diarrhea because more were treated at home. HAs in several areas recounted how they had wiped out plague through organized "rat beating" campaigns. Midwives and LHVs reported seeing more high-risk pregnancies because they were being referred to them by VHWs, and that more and safer deliveries were being performed at home by AMWs and trained Let-thes. Their impression was that better antenatal care and nutrition were occurring and that this was evident to them in fewer problems and healthier children.

It is hard to doubt these testimonials, but it is also difficult to prove scientifically that changes have taken place and that this is the result of PHC I or II. A study by Khin Maung Thwin (ibid) found that VHWs were providing services, and that villagers were using health services more in areas where VHWs worked than in areas where they weren't found. However, the report also said:

"It is found that infant mortality rates are not significantly different between regions and between villages with (the) presence or absence of VHWs. Childhood mortality rates are also found to be not statistically significant between regions and between levels of service. It is very remarkable to see that morbidity and mortality experiences (were) comparatively higher in VHW villages than in remote villages where no health services exist." (p.20)

The author also attempted to find which two factors had the most impact on infant mortality. After doing a regression analysis, he concluded that antenatal care and literacy are the two factors. "The regression equation implies that IMR decreases on the average by 2.9 units for each increase of 1% in AN care and decreases by 5.4 units for every increase of 1% in literacy rates" (ibid, p.21). If this finding proves to be true,

the implication would be that improving literacy would have a greater impact on health than providing health care, at least in the short run.

A study by Aung Tun Thet found no significant difference between health status and health service utilization, in fact he found " a suprisingly high HSI (health status index) in villages where there is no health services delivery" (1, p. 19).

Given the large investment in PHC and the extremely limited data available on VHW performance and impact, the Evaluation Team strongly recommends that relevant and carefully designed studies be undertaken as soon as possible.

CHAPTER FOUR: QUALITATIVE ASSESSMENT

One of AID's principal interests has been to improve the quality of the PHP through PHC I, and now PHC II. The Evaluation Team assessed the qualitative aspects of this project by first describing the "VHW System" and then breaking it into "subsystems" for further analysis. Figure 4-1 summarizes the model the Team used to describe the overall system. It shows several tracks proceeding at about the same time and ultimately culminating in the delivery of PHC services. These tracks, or subsystems, are described individually in the remainder of this chapter. They are:

1. the Commodity System-which includes the ordering, purchasing, and ultimate distribution of commodities to VHWs, Station Hospitals, and so forth;
2. the Training System - which includes the development and preparation of trainers as well as the delivery of pre-service and in-service training;
3. the Supervision System - which consists largely of field and in-office supervision of VHWs by RHC staff;
4. the Delivery System-- made up of referrals and direct PHC services provided by the VHWs;
5. the Monitoring and Evaluation System - which is supposed to gather information from the other subsystems, process it and feed it back to managers and policymakers to help them make adjustments in the inputs to the system or to the subsystems themselves.

4.1. Commodity System

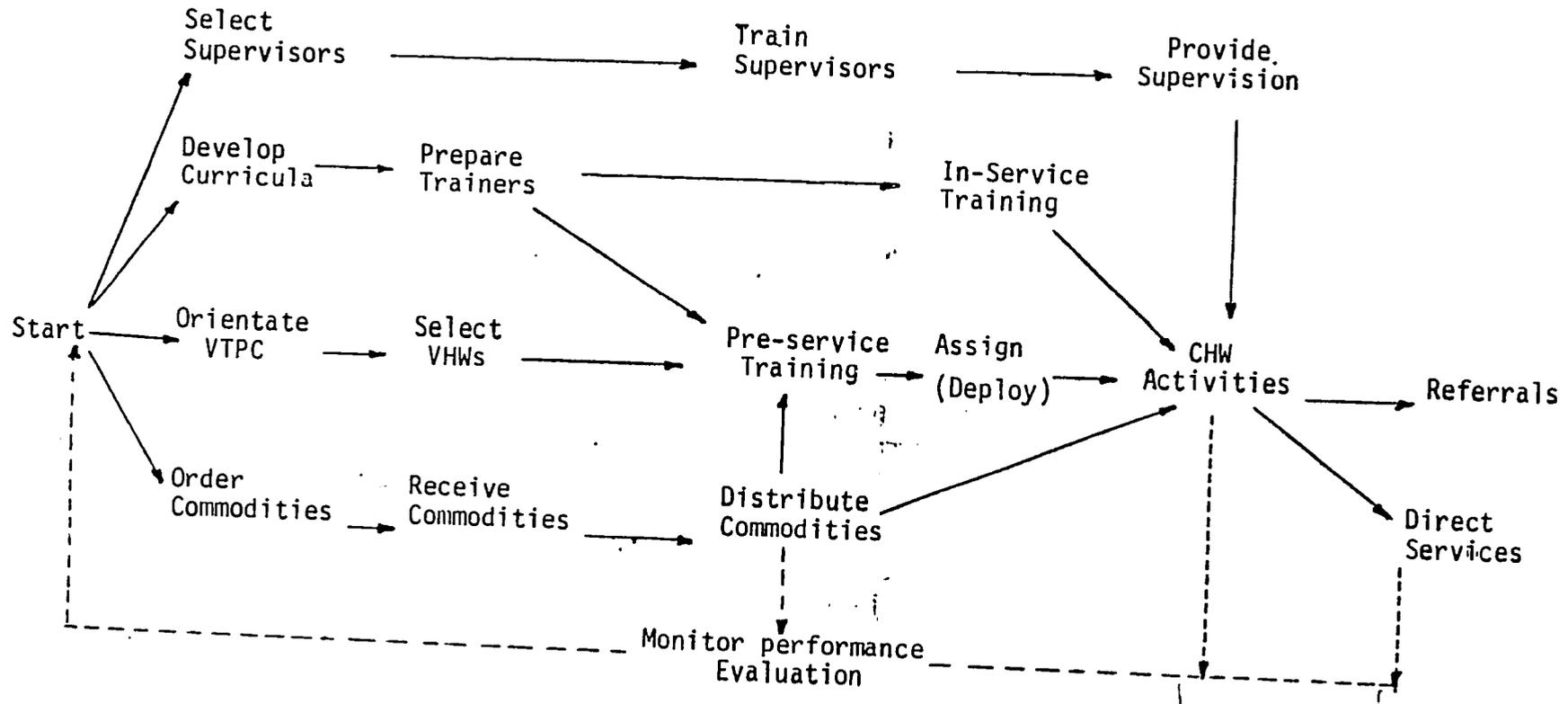
The major component of PHC I was providing supplies and equipment to primary health care workers, as well as rural health care centers and station hospitals. The purchase and shipment of commodities constituted 94 percent of the AID assistance. Nearly half of these commodities were expendable items while the remainder were non-expendable, which were designed to contribute to institution building.

The procurement and distribution system of supplies and equipment is outlined in figure 1, this process is initiated when the AID Project Officer issues a PIO/C (Project Implementation Order/Commodities) which is then forwarded to the Director of Public Health for approval. After approval, the PIO/C is sent to AID/W via Diplomatic Pouch arriving at SER/COM within 3 weeks.

Following receipt of the PIO/C, SER/COM begins the process of purchasing the requested commodities. If any problems arise during the purchasing process, such as low cost estimates, unavailability of requested items, or non-responsive source/origin, SER/COM cables AID/Burma requesting necessary changes, substitutions or clarification. If there are no problems with the commodity

Figure 4-1

A Systems Model of the VHW System



65

order, AID/Burma is notified of the end of the purchasing process through the receipt of shipping documents. A separate shipping document is supplied from the location sending supplies. The time required to complete the transaction from request through receipt of the shipping documents takes anywhere from 6 to 12 months.

Since Rangoon is not a U.S. port of call, nor a containerized port, there may be 1 to 2 trans-shipment points (Japan, Singapore) before the commodities reach Rangoon. The process of shipping generally requires 2 to 3 months.

Once the commodities are unloaded in Rangoon, it can take up to one month to clear customs. In clearing the commodities, Customs officials require two pieces of information:

1. a bill of lading issued by the shipping company, listing the contents and quantities contained; and
2. an export form listing what has been purchased and the cost.

As soon as the commodities are cleared by Customs, they are taken by truck to the Central Medical Stores Division (C.M.S.D.). The commodities are unloaded, checked for damages, logged in, and stored in the AID warehouse. The Commodities Advisor (an AID host national employee) is responsible for monitoring commodities during the customs clearing process and while stored at the CMSD. The Deputy Director for Health Services instructs the Commodities Advisor as to distribution points and the amounts allocated for each location and informs the designated Township Medical Officers (TMO) that the shipment has arrived and is ready for pick-up. Although CMSD makes deliveries once or twice a year, messengers are usually deployed by the TMOs to pick up the delivery at CMSD. Before releasing the commodities, the messengers must produce: 1) an I.D. with their picture which is matched against a roster; and 2) a requisition. The receipt of delivery is signed by the messenger at CMSD and by the TMO when delivery is made to the Township. Distribution of commodities from CMSD to the Township may take up to 2 months.

The mid-term evaluation highlighted delays in the receipt of commodities as a major issue in procurement. The Evaluation Team was informed that the issue of timely procurement had been recognized by AID and SRUB and that future procurement procedures will allow for anticipated delays in the arrival and distribution of commodities. In addition to this, commodities are said to now be procured in groups to avoid broken shipments and piecemeal deliveries.

Approximately 95-99% percent of all commodities have been distributed. Damage reports are few and limited, indicating that packing for shipping and distribution was of good quality.

There were few delays in the procurement and distribution of station hospital equipment, rehydration sets, HIS material, or training material. These comprised a small part of this project's commodities.

PHC I originally planned to provide 1,000 Let-the Kits. However, when the number of Let-thees to be trained was raised to 2,500 the SRUB requested an additional 1,500 kits, which were ordered and supplied. However, at the village level, the number of AMW and CHW candidates to be trained was increased above that planned to accommodate additional VHWs sent to training (and paid for) by VTPCs. However, there were no kits for these VHWs, since they had not been anticipated or requested. Had there been better communication with Project Management, additional kits may have been ordered and made available.

Initially, logistics and technical problems hampered the timely and adequate flow of commodities. The persistence of SRUB and AID produced successful solutions to these problems.

Because procurement delays resulted in many VHWs being deployed without their kits, they concentrated on such preventive activities as health education, nutrition, hygiene and sanitation. The delays, therefore, may have unexpectedly produced beneficial effects by requiring the AMWs and CHWs to focus first on preventive rather than curative activities.

Ordering, storage and accounting have improved greatly with the establishment of an AID CMSD Warehouse used exclusively for the storage of AID-funded commodities. No less important is the fine inventory and distribution accounting system developed by SRUB staff to monitor the flow of these goods.

Occasionally, the Evaluation Team received comments regarding the lack of some components in some AMW and CHW kits. These comments were infrequent, however, and limited to early phases of PHC I. Again, the outstanding concern of most was the late arrival of many of the shipments of kits. Timely arrival of these kits is important so that the kits can be provided to the volunteers at the beginning of their training. This would also facilitate teaching each worker how to properly use and maintain their equipment.

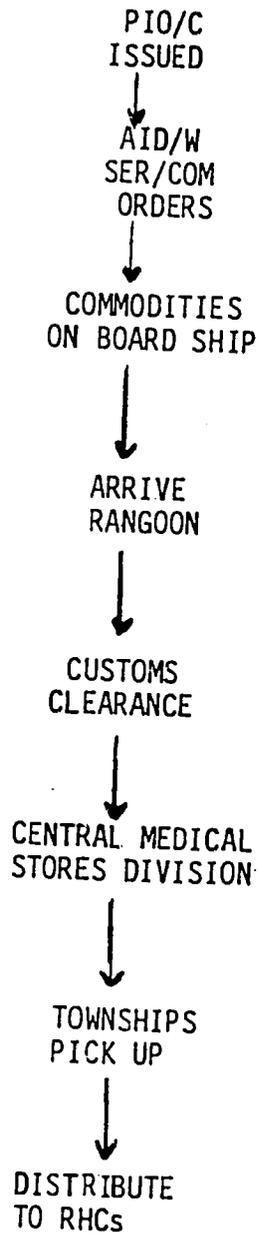
An aspect of distribution that needs improvement is the infrequent delivery of commodities from CMSD to the townships. Most shipments are made only once or twice a year. The purpose of this SRUB Policy is minimize pilferage while ensuring delivery. TMOs and THOs repeatedly stated, however, that once notified of the arrival of their commodities at CMSD, they preferred to travel to Rangoon to pick them up, rather than continue operation without the needed supplies.

The problem of re-supply of pharmaceutical commodities to Voluntary Health Workers was frequently encountered by the Evaluation Team. The intended procedure follows:

- a. Needs are identified by voluntary health workers .
- b. Money to meet re-supply needs is allocated by the Village Tract People's Council or supplied through an informal remuneration system for delivery of services rendered by village health workers.
- c. Commodities are purchased from cooperative stores and/or local markets; alternatively, they are provided through the Rural Health Center following requisition from BPI or provision by external donors.

Figure 4-2

The Commodity System



The system often breaks down due to financial constraints at the village level; non-availability or exorbitant cost on local markets; the absence of a functional supply system at Rural Health Centers due to the failure to anticipate demand, or timely requisition of supplies; difficulties with prompt distribution in response to requests from peripheral health centers; and the limited production capability of the Burma Pharmaceutical Industries and the distance from Rangoon.

4.2. Training Systems

The training of Village Health Workers was the principal activity of PHC I. Both pre-service and in-service training were planned for Community Health Workers and Auxiliary Midwives. Let-thes were also to receive training. AID's input consisted of a limited amount of training commodities, a small amount of technical assistance, and local currency contributions to offset travel and per diem costs of trainers and trainees.

AID concentrated on three aspects of training: strategies; quality; and capacity.

Training Strategies. Pre-service training of AMWs to continue as before, i.e., held in townships following the existing curriculum, CHW training was to be moved from the townships to the RHCs and conducted by RHC staff. The Project Paper also made the following observation:

" In view of the extensive job description of the CHWs it is unlikely that CHWs can achieve competency in all specified activities in the brief three weeks of training he receives. Unless the CHWs tasks are considerably reduced, (and this project is supporting an increase in both tasks and training), serious consideration should be given to increasing training duration." (21, pp. 21-22) The project also expected to support 12 days of in-service training each year for both AMWs and CHWs.

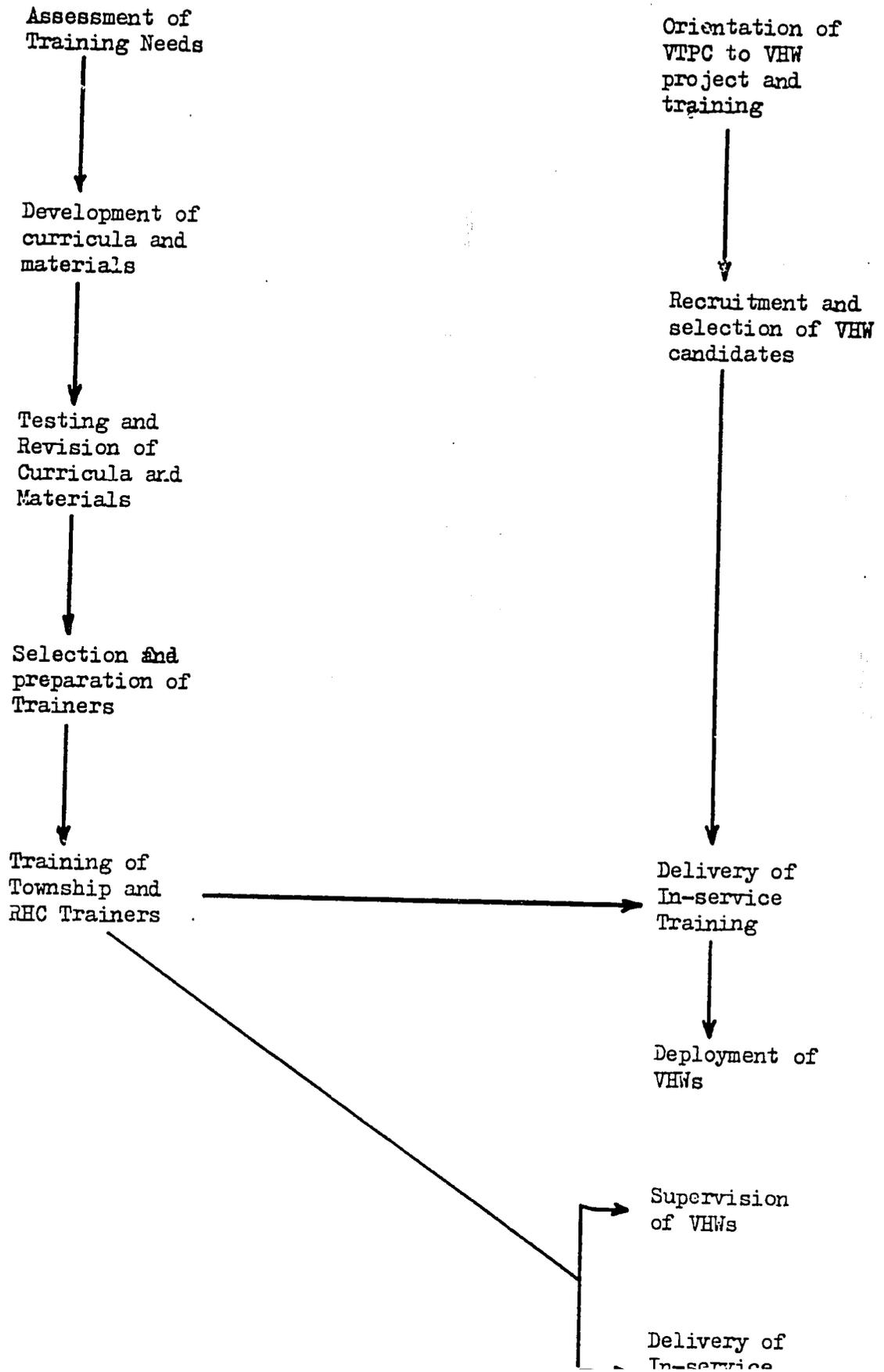
Training Quality. The lack of training staff was seen as a critical constraint, and the project planned to support and equip four-person training teams in each of the 14 Divisions/States. Part of the year they would train RHC and township staff to become trainers and supervisors, the other part they would work with the central staff to develop training curricula and material. (21, p. 22)

Training Capacity. The project did not anticipate any problems in handling the training of AMWs and Let-thes, but noted that the training of CHWs at the RHC level "should be monitored carefully during implementation so it can be modified if necessary." (ibid.) There was also a concern that VHW attrition be monitored to determine how often VHWs would have to be replaced.

The mid-term evaluation found that the training was meeting its quantitative targets, and that the quality of AMW and Let-the training was good. The problems identified were:

Figure 4-3

The Training System



1. Lack of fulltime trainers; .
2. Lack of adequate training materials .
3. Lack of systematic retraining.

The report suggested "careful scrutiny" of CHW training and re-examination of the composition of the State/Division Training Team.

Figure 4.2-1 is a diagram of the VHW training system, as understood by the Evaluation Team. On the left side are the key steps in the development of the training curriculum and the preparation of the trainers. On the right is the recruitment and selection of CHWs, AMWs and Let-thes to be trained, the delivery of pre-service training, supervision, and in-service training.

4.2.1. Organization and Administration of Training

Training needs are determined at the National level by the Director (P.H.) of the DOH, assisted by the Deputy Director (RHC/MCH/SH). He is responsible for all the training programs for VHWs and the orientation courses for Rural Health Staff. A permanent S/DTT coordinating unit has been established within the Training Division to strengthen planning, supervision and coordination of the Team's activities. They have already begun to redesign the curriculum.

The directors of the State/Division Health Departments, under the guidance of the State/Division PHP Committee, are responsible for implementation, management, training, monitoring and evaluation at the intermediate level. They plan, organize and, initially, conducted training of township level staff.

The Township Health Officer is responsible for planning, implementation and evaluation of the health program activities in his/her jurisdiction, under the guidance of the Township PHP Committee. He organizes the training of peripheral Rural Health staff and VHWs.

The Station Medical Officers or HAs, assisted by Lady Health Visitors and Midwives, PHS Grades I & II, are responsible for implementing, supervising and monitoring the program activities in their respective jurisdictions. They undertake on-the-job and refresher training, supervision, technical guidance and assistance to CHWs, AMWs, and TBAs.

The Health Assistant Training School (HATS) in Rangoon has the responsibility for designing and developing the curriculum and training materials, and for training the State/Division Training Team (S/DTT).

These S/DTTs are at the heart of the volunteer health worker training. Their prime duty is the training of BHS staff at township and village tract levels to become trainers who, in turn, train VHWs in small numbers at health centers and station hospitals close to the point of recruitment. The concept of a Training Team which would be mobile and able to provide training to trainers at the rural level was instituted in 1979. Originally, there were two MOs, one PAN and one Health Educator. Then, when project funding no

longer covered the MOs, a TMO was utilized to work with the PHN and the Health Educator. Due to the pressure of his other duties, the TMO was not always available, so teaching was rather erratic. The original plans evolved into the present arrangement with USAID funding, each of the 15 State/Division Training Teams (S/DTTs) now staffed by either one or two Mos, one or two PHNs, and one Health Educator. They are permanently assigned, and now most of them are functioning fully.

The members of the teams receive 6 weeks of preparation for their roles at HATS. The curriculum includes curriculum development, methodologies of teaching, principles of adult learning, case study, use of audio-visuals, supervision and evaluation. There is considerable practice and class review. They were taught by various individuals who had the particular expertise required for each area.

AID/Burma Primary Health Care II is providing them with transport to make them more mobile. They provide one week of training for the RHC trainers (see curriculum, Appendix J). These better-prepared, more active S/DTTs should be able to prepare the BHS staff and the People's Council members to be better trainers and better supervisors.

These trainers - the Health Assistants, Lady Health Visitors and midwives - then share in the training of the volunteer workers. The Lady Health Visitors and Midwives train the AMWs at the RHC and on-the-job in the community during the latter 3 months of their six-months training course. They are also responsible for training the TBAs. The Health Assistants train the CHWs.

The trainers of all the volunteers were inexperienced teachers and the training methods used, along with shortages of relevant training aids, put considerable restraint on the quality of teaching. The Mobile teams now being deployed to the Rural Training Centers to provide training in methodology for these trainers should considerably improve the level of teaching, but will not solve the problem of shortages of training materials.

With improved teaching skills, the pre-service training should show an improvement, but there remains the need for systematic re-training activities for deployed VHWs based on field observations of their performance. They should be taught not only to perform tasks, but also to solve problems which they encounter in their villages. Problem-solving will make them think and discover new ideas - thereby making them better leaders in the community. It will be important, therefore, for the trainers to acquire needed skills in training VHWs in problem identification, analysis and solution development techniques.

4.2.2. Selection and Recruitment of Volunteery Workers.

The selection process for all 3 types of Volunteer Health Workers (VHWs) is virtually identical. At a meeting, the Township People's Council, the Township Medical Officer (TMO) or the Township Health Officer (THO) describes the program and informs the Council of the number of new health volunteer workers which the Central Government will train from their Township.

Township People's Council selects the villages to be offered training slots. The Village People's Councils of these villages select an individual whom they consider most appropriate, and offer the position to this person. All candidates must meet Department of Health criteria of local residency and willingness to serve the community free of charge.

This selection process appears to work quite satisfactorily in the case of the AMWs and the Let-thes. Since AMWs usually receive some payment for their services, this provides an added incentive for attracting an ambitious young person. The Let-thes are already delivering babies and receiving some form of payment, and gladly accept the opportunity to upgrade their skills and become a part of the health system.

The recruitment and selection of the CHWs had certain faults during the first year of implementation of the program. Many of the selected CHWs were led to believe that the CHW job would lead to paid government employment. VPC members tended to select family members or persons close to them in other ways. Some potentially better candidates were not chosen simply because they had no ties to VPC members. The potential for favoritism, nepotism or corruption in the selection of CHWs was somewhat reduced by the fact that they are unpaid workers. Since the position is not overwhelmingly attractive, the people selected are not necessarily the brightest, most enterprising villagers. On the other hand, they are most apt to remain in the village and in this position.

The majority of the CHWs selected when the program started were quite young - 20 or younger. Consequently, people in villages tended not to give much credence to their advice. Over the years the selection process has evolved and is considerably improved. Initially, the medical personnel controlled the process. Experience showed that villagers did a better job of selection and they were given that role. The HA, or other personnel from the RHC usually meets with the VTPC prior to selection to clarify their understanding of the CHW's expected role. More time is now given for selection and, of course, a VTPC is likely to do a better job in selecting its second or third VHW than it did in the first instance.

Also the DOH instituted an effective incentive. If a VHW had to be replaced, the village would have to bear the costs of retraining the new selectee. These two features of the selection process appear to be very effective.

The selection criteria have also evolved and more suitable candidates are being recruited. The most significant criteria appear to be the following.

VHWs must now be:

- a resident of the village from which he or she is selected
- gainfully employed in his/her own community
- neither too young nor too old - 25 is a good average - imbued with a "spirit of volunteer risk"

A literacy requirement was dropped when it was learned that this excluded a number of otherwise qualified candidates.

4.2.3. Delivery of VHW Training

- Auxiliary Midwives (AMWs)

AMWs are between 18-45 years of age, but most are young women who meet the literacy and primary education requirements. Their training totals 6 months: 3 months of theory at a training institution or at the Township Hospital (See curriculum, Appendix K) and 3 months at the Rural Health Center, where they also receive on-the-job training working with one of the midwives. Each AMW performs at least 10-15 deliveries under the supervision of her trainers, i.e., the Lady Health Visitor (LHV) or the Midwife (MW).

A refresher course is held yearly for 6 days, mostly consisting of problems and training in areas requested or needed, such as nutrition, teaching methods, or review of delivery techniques.

- Traditional Birth Attendants/Let-thes (TBAs)

These are usually middle aged or older women with limited or no education. Usually their skills have been handed down to them from the previous generation. They are required to have had 15 years of experience, and must be able to work in cooperation with local AMWs and MWs.

Let-thes receive a total of 30 days of training: initially 3-5 days of training, followed by one day a week for 6 months. Classes are held in the Rural Health centers and sub-centers by the midwife and/or the Lady Health Visitor. Teaching is simple and informal, relying on discussion and demonstration (see curriculum, Appendix L).

- Community Health Workers (CHWs)

CHWs may be either male or female, usually between the ages of 20-45, but nearly all are male. They are required to serve the community free of charge for three years after completing their initial training (see curriculum, Appendix M). Previously CHWs received three weeks of training at either the Township Hospital or at a centrally located institution with 100 or more CHWs in each class. Training consisted of a series of lectures and demonstrations by a variety of Township medical and health personnel.

This has changed in recent years. The tendency now is to have the CHWs come to the Rural Health Centers for 4 weeks of training, with both theory and practical experience provided by the Health Assistants, sometimes with assistance from THOs and other BHS staff.

The CHWs attend a 6-day refresher course at the RHC every year. This consists mostly of discussion of problems, review of pre-service training, and teaching techniques.

- Curricula

The curricula for both AMWs and the TBAs appear to be a satisfactory balance of theory and supervised on-the-job practical experience. Good educational techniques are used to present the various areas.

Nutrition, MCH, health education and record keeping all seem to be adequately presented for the AMWs. The curriculum for the TBAs is simple and basic, relying on repetition of procedures for reinforcement of learning since they are mainly illiterate and need to "unlearn" old techniques. The entire curriculum is taught during their initial 5-6 days of training, and then constantly reinforced each week for 6 months.

The curriculum for the CHWs still includes too much content for the 4-week training period for people with no previous health knowledge. It has largely been lecture-oriented with demonstrations rather than "learning by doing". It is more prevention-oriented than the previous curriculum, but there is a shortage of practical, on-the-job prevention activities.

- Training Materials

The shortage of training materials is critical at all levels of training, but particularly at the RHC, where the VHWs receive the bulk of their training. Kits are not available to be used for training so that the trainer needs to describe the contents, rather than being able to show them. Also, there are not enough training manuals, audio-visual aids, or even paper, for more effective, more stimulating teaching.

- Results

The training for the AMWs and TBAs appears to be effective. They are both working well in their communities. Their training is directly linked to job performance, and if an AMW or TBA is not performing satisfactorily in any area, she is brought back to the RHC and instructed again in that area. In the case of the AMWs, the 6-months training - (with 3 months of theory at a training institution followed by 3 months of on-the-job practical training and experience under close supervision) provides her with a solid background for the work she will be doing. The TBAs are already experienced in delivering babies and assisting mothers, and are motivated to learn better techniques so that they can be accepted into the health system. Both also receive monetary or "in-kind" recompense for what they do, as well as the appreciation and gratitude of the mothers they have delivered. They have frequent contact with their trainers/ supervisors which tends to keep motivation and enthusiasm higher.

The training of the CHWs would seem to still need improvement. Due to the heavy work load of the HAs they are not able to provide the on-the-job practical training and the supportive supervision that the LHVs and MWs give the AMWs. Because of this lack of supportive supervision, and the lack of self-confidence in practical applications due to insufficient practice, they tend to concentrate on curative rather than preventive activities. People

do come to them when they require medication, but preventive activities require that they go out to the people. Because they get little or no recompense and there is no prospect of advancement or promotion, they lack the motivation to perform all the duties they are taught, and tend to do only those which are easiest or that provide some self-satisfaction, such as providing medications or treatments. There have been instances of CHWs performing more than they were trained to do, such as giving injections, but measures to discourage this are being considered.

4.3. Supervision and Management Systems.

The Ministry of Health's supervisory system is channeled through the fourteen State/Division Medical Directors. They in turn oversee the activities of the Township Medical Officers. The Township Medical Officers in turn direct the activities of the Health Assistants deployed at Rural Health Centers and the Medical Officers at the State Hospitals. It is the supervision at the Rural Health Center (RHC) that is of primary importance for the Primary Health Care Project as the Rural Health Center staff directs the activities and sets priorities for the Auxiliary Midwives, Community Health Workers and Traditional Birth Attendants.

In the Rural Health Center, the Health Assistant is formally responsible for the activities of the Lady Health Visitor and the Public Health Supervisors, as well as the Midwives. However, the day-to-day supervision for Midwives is generally the responsibility of the Lady Health Visitor. In addition, the direct technical supervision for the Auxiliary Midwives and Traditional Birth Attendants is the responsibility of the Midwives, while the field technical supervision of community Health Workers falls to the Public Health Supervisors.

The Mid-Term Project Evaluation highlighted several areas in Supervision and Management:

1. Lack of adequate training in supervisory techniques;
2. Heavy workload of supervisors;
3. Lack of leadership from townships, State/Division levels;
4. Supervision biased toward curative rather than preventive activities;
5. Lack of quantifiable information for management decision making;
6. Irregular supervision meetings.

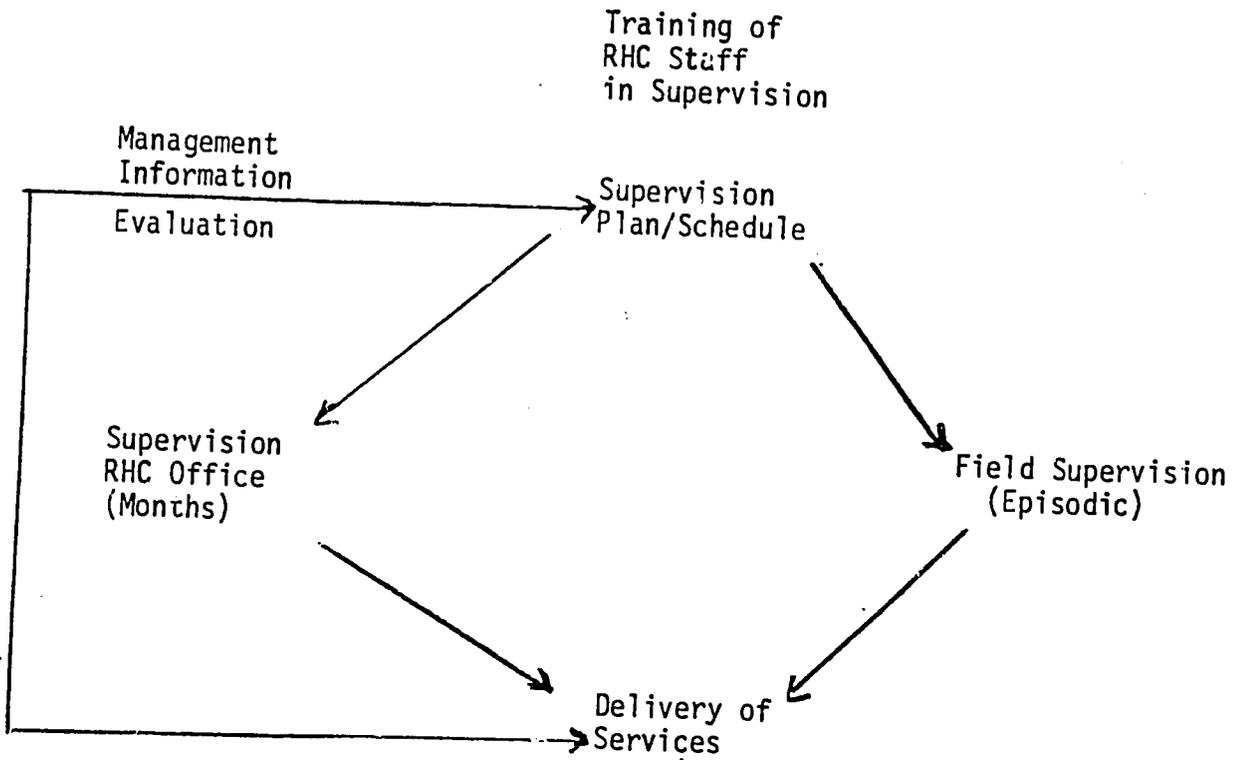
The Evaluation Team found an increase in the number of regularly scheduled supervisory meetings. The remaining issues mentioned were found quite weak and several additional problems were uncovered.

4.3.1. Supervision and Management Issues

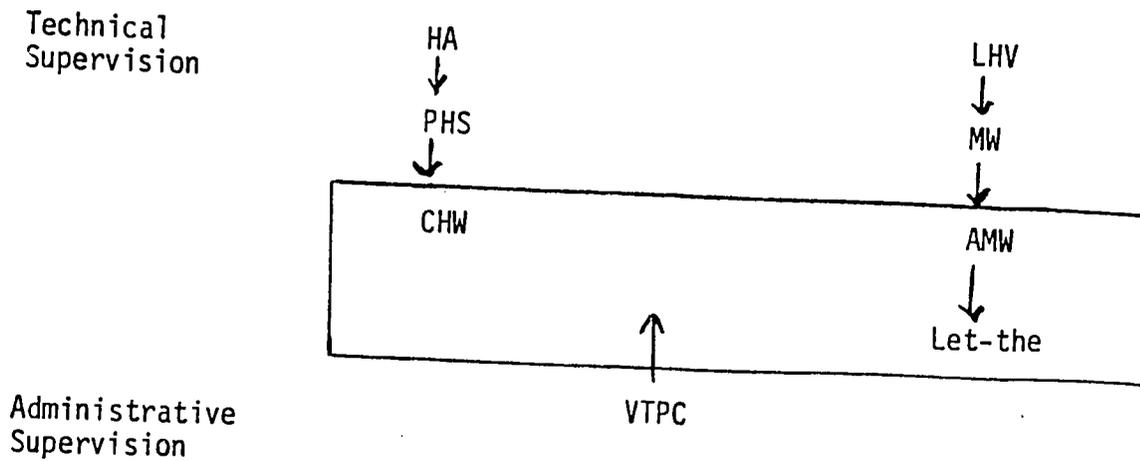
A major weakness, if not the foremost, of PHC I is the lack of organized, objective-oriented management at most levels in the health care system. Although individual medical facilities seemed well-run and orderly, intergration with AMW/CHW activities was severely lacking. The Team uncovered several factors which seem to contribute to this overall weakness:

1. AMW/CHWs are supervised directly by MW/PHS respectively, the training these supervisors receive does not provide them with the skills they need to be effective in systematically working with the VHWs, nor does it provide them with skills to recognize gaps in their delivery system or how to utilize information gathered from it.
2. There are no specific health care goals or timetables for accomplishment of specific tasks. Understandably, these are volunteer workers with their own livelihood to attend. However, providing some specific leadership would assist them to achieve greater coverage and provide higher quality care.
3. Public Health Supervisors, who officially provide supervision to CHWs, are in short supply. This often results in having the responsibility for supervising the CHWs passed along to such already overworked supervisors as Health Assistants and Medical Officers or having the rotation of this responsibility between various staff with limited continuity.
4. Basic health services delivery from the township level down is under the auspices of a TMO. Medical care and running the township hospital are given priority. Few TMOs have public/preventive health backgrounds. To assist with this problem and lessen the TMO workload, THO's are supposed to have responsibility for public health activities. Like Public Health Supervisors, however, THO's are in short supply. State/Division health officers have the official responsibility for developing and providing supervisory training for the AMW/CHW program. Their positions, however, are quite junior to TMO's and their influence on TMO operations is neither major nor consistent.
5. Part of AMW training involves a 3-month clinical period where the AMWs work closely with an assigned MW. This provides a reasonable opportunity not only to see a trained professional in practice while learning skills but also provides a vehicle for developing a personal relationship with their future supervisor. CHW's, however, have little contact with their Public Health Supervisors during their limited 4-week training period. They have little time allocated to developing competence in their field, professionalism, or a good working relationship with their supervisors who, as already mentioned, may be constantly rotated or simply not exist, except by substitution.
6. At the village level, although AMWs, CHWs and Let-thes are supervised by RHC Staff, this is limited to technical supervision. Improper conduct or indiscretions can only be reported to the People's

Figure 4-4
The VHW Supervision System



Supervisory Responsibilities
RHC



Village Council which has jurisdiction over all voluntary health workers practicing in its community. This places RHC supervisors in an awkward position should problems arise with their VHWs. Should the Council differ with the supervisor or be unable to act in a timely fashion the volunteer's patients might receive improper care. This split authority inhibits a good worker-supervisor relationship.

7. The VHWs were originally oriented toward preventive services for the community. AMW's, with their 6-month training receive a significant amount of clinical training, which they practice. CHW's however, during their 1-month training term receive little clinical training, yet, were consistently said to be providing far more curative services than preventive. Again, as mentioned previously, they may also find themselves being supervised by curative-oriented medical officers. This can result in their work being overlooked, and that can lead to the continuation of unnecessary health problems. An example of this was observed by the Evaluation Team during an interview with a CHW who did not have a proper latrine at his home, which would be important to have both to demonstrate to neighbors the value of a latrine and how to construct one. Some CHW's apparently have latrines that are inappropriate, and others have none at all.
8. The health information system relies on surveillance activities of BHS staff and voluntary health workers. Data are collected on numerous items for passage up to the DOH. This information, however, is not analyzed and fed back to the RHCs or VHWs. This situation often results in a poor management information flow, making it difficult to make rational decisions.
9. Although meetings between AMW/CHW and supervisors were reported to occur monthly with regularity, the principal purposes of the meetings seem to be to collect the surveillance records. No other particular agenda seems to be set, although many of the RHC staff interviewed by the Evaluation Team said that they use these meetings to analyze the reports, identify health problems, and set priorities for the next months' activities.
10. During the regular monthly meetings between MW and AMW's, there was no indication of a formal invitation for Let-thes to attend, although they referred patients to both AMW's and MW's for assistance on difficult deliveries.
11. A positive note is that many AMW's and CHW's meet regularly when working in the same village. They also receive supervision by the HA, PHS, or LHV, depending on which staff person is in the field visiting their village. This reduces the time required for travel while increasing the amount of supervision at the village level.
12. The PHC Project operates in an unusual religious-socio-cultural-voluntary environment which the Evaluation Team recognizes. This presents a unique challenge for developing an appropriate and effective supervision system.

Issues presented in this section may indicate areas where improvements and aid are warranted, but they should not obscure the fact that significant progress has been made in establishing a voluntary health worker system fueled by committed people.

4.4. Delivery Systems: VHW Services and Referrals

The objective of PHC I was to have an AMW or MW in each village tract and one CHW in each of the 147 villages in the target area. This deployment of VHWs was intended to reduce morbidity and mortality among Burma's rural poor, particularly infants and children. This section of the evaluation will assess the services provided by the VHWs and the quality of their performance.

4.4.1. Direct Services

The official job description for CHW's and AMW's is not extensive but is reasonably comprehensive given the limited training provided to these workers, their functional responsibilities are intended to be complimentary.

There is some overlap between AMC/CHW's in the field. This overlap of functions, is not detrimental, however, and can potentially enhance the program.

Functions of CHWs

The CHWs are supposed to undertake the following activities:

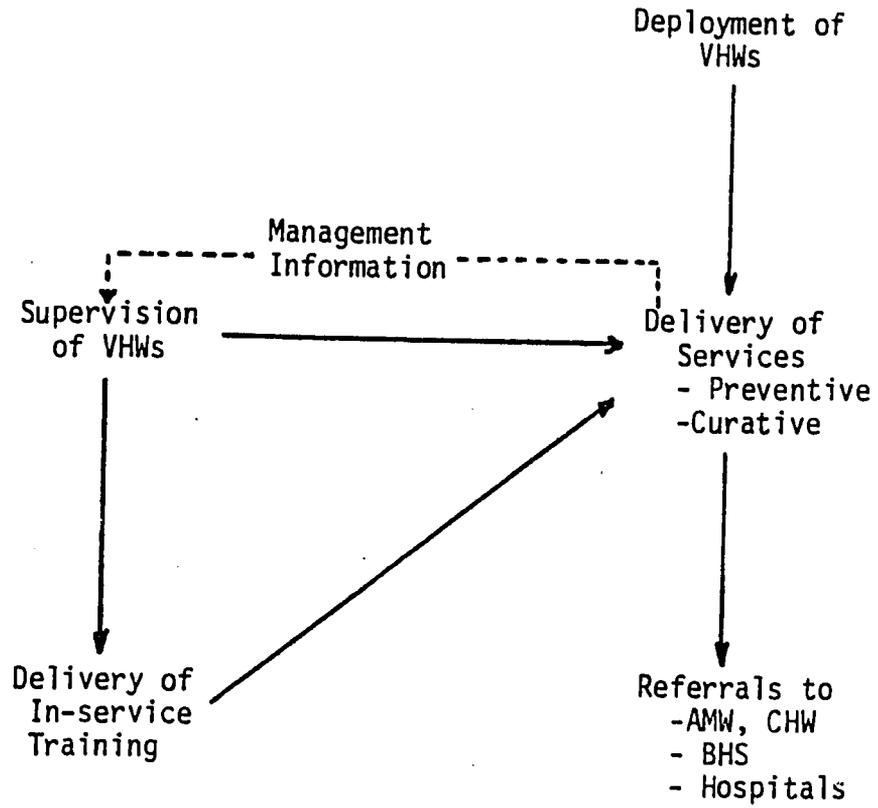
- ~~the~~ medical care of minor ailments and first aid
- ~~the~~ referral of severe ailments to nearest BHS unit/staff
- dissemination of health education for prevailing health problems
- assistance in communicable disease control including immunization
- motivation of the community for water and sanitation improvement
- assistance in family health activities including nutrition surveillance and education
- support and assistance to BHS staff
- assistance in reporting of vital events

Function of AMWs

The AMWs are expected to undertake the following activities:

- maternal care (AN,PN and home delivery)
- management of maternal emergencies and referral

Figure 4-5
The Service Delivery System



- referral of at-risk-mothers and children
- assistance in immunization
- nutrition education and surveillance for pregnant mothers and children under 3 years
- health education
- assist in reporting of vital events and health statistics.

In one of the few studies of VHW ability to carry out these tasks, a research team from the Health Assistant Training School (HATS) conducted an assessment of 58 CHWs and 43 AMWs in ten townships around the country. They were interviewed, tested and observed on a number of tasks (ability to prepare a sputum smear, ability to treat minor ailments). Then the VHWs were rated on a 100 point scale on each task. The results are summarized in Table 4-1.

Table 4-1
Average Performance Scores of VHWs on Selected Performance Criteria

Task.	CHWs	AMWs	
	Average Score		Average Score
1. Conducts chlorination	56.8	1. Measures mid-arm circumference	43.0
2. Prepares blood smear	55.9	2. Fills up weight chart	59.0
3. Prepares sputum smear	61.4	3. Performs abdominal examination	57.1
4. Treats minor ailments	70.1	4. Tests urine for albumin and sugar	47.0
5. Maintains patient drug register	65.2	5. Maintains AN register	44.0
		6. Performs midwifery kit layout	43.0
		7. Collects vital health statistics	93.0
		8. Utilizes vital health statistic data	20.0

Source: (23), pp. 26-27

The CHWs performance was computed at 60 percent (on a 100-point scale); the AMWs average was 50 percent.

Another study (28) examined the amount of time VHWs spent on health work and computed the time CHWs spend on curative and preventive care.

Table 4-2

Percent of PHC Spent by CHWs on Curative and Preventative Care

Activity	Percent of Time	
	Tagone Gyi	Shwe Myin Tin
Curative	43.9	38.9
Preventive	29.8	36.0
Recording/reporting	3.4	3.5
Travel	22.9	21.6

Source: (28), Table 7.

The CHWs spent about 1½ hours per day on PHC work and around 40 percent of that time was devoted to curative care, with 30-35 percent devoted to preventive care. The AMWs spent about 2 hours per day on PHC. From the report the Evaluation Team calculated that AMWs spent about 36 percent of their time on treatment, 32 percent on preventive care, and 22 percent in travel.

As limited as these data are, they indicate that the VHWs are providing the services they were expected to provide, and that they are doing it relatively well, given the limited training they have had. This general impression was confirmed by discussions the Evaluation Team had with DOH staff and VHWs.

The VHWs also appear to provide services consistently and for significant periods of time after completing training. Reports are that attrition is very low (1-2 percent) and justified when it occurs (death, married and had to move to another village, e.g.,). The Team was told that attrition may be higher in remote areas, and that some VHWs stop working because they are poor and cannot afford to spend the time or money that is sometimes required to function adequately (e.g., travel costs to deliver reports to the RHC, paper to record service data, resupplies of medicines). This matter certainly deserves further study.

During the Evaluation Team's interviews at various towns and villages, there were several reports of CHW's providing interventions beyond the scope of their training - injections and intravenous drips were the most common interventions reported. There was no evidence to confirm this allegation and most of those interviewed said they knew such instances occurred, but not

in their village. The emphasis of PHC I was to establish coverage rather than quality services. No mechanism was set up to control service delivery, and it is not possible, therefore to detect (or correct) malpractice.

Nevertheless, this supports the argument that there is a strong demand for curative services in the villages, and CHWs are expected to provide them.

The service emphasis appears to be on curative care, principally the distribution of medications and provision of first aid by CHW's, and delivering of babies and providing of antenatal and post natal care by AMW's. This is not to say that the preventive aspects are ignored, only that the original intention to emphasize preventive care has been supplanted by curative measures.

AMW/CHW's are all said to take pride in their work and are accorded prestige, respect and visibility in their communities. On the whole, AMW's are perceived to be significantly more valuable practitioners by both medical and supervisory staff. Perhaps this is an unfair comparison given that AMW's receive 6 items as much training, but this is the perception this team noted.

Several issues surfaced during the evaluation:

1. AMW and CHW's do not tend to work as a team when assigned to the same village. There is some collaborative activity from time to time for special programs as EPI, yet there are few regular meetings. A clear delineation of roles and responsibilities may help provide a more team-oriented village practice between AMW and CHWs.
2. Some AMW activities, such as weighing and monitoring babies and providing iron supplement could also be performed by the more numerous and more conveniently located CHWs, they could also assist the AMW during her visits to collect data.
3. Self-sufficiency has been an issue for both AMWs and CHWs with regard to medicinal supplies and replenishment. This matter is covered extensively in the commodities section of this report. However, to state the problem succinctly; AMW/CHW kits are only supplied with enough medication to last 3-6 months. This has not been sufficient time for communities to raise enough funds for replenishments. What replenishments are available through BPI are limited and available only once or twice yearly.
4. There are few female CHWs and most desire to continue their training in order to become AMWs, therefore making the corps of CHWs almost exclusively male. Because cultural etiquette prevents men from becoming AMWs, it will be necessary to continue to deploy one AMW per village tract with one CHW per village.
5. The need for increased emphasis on preventive services is necessary for both the AMWs and CHWs alike. The best method for establishing this orientation is not yet clear. During the Project Term,

several classes of AMWs and CHWs graduated while waiting upto about one year for their medicine/equipment kits to arrive. This presents an unanticipated opportunity to study and compare the performance of VHWs with and without kits. The Evaluation Team found some of these "preventive by necessity" VHWs active and well. It may be a useful strategy to provide kits only after 6 months to 1 year of preventative community service. A study evaluating the impact of equipped Vs. unequipped volunteers would provide valuable information and should be undertaken as soon as possible, since the conditions are currently appropriate.

4.4.2. Referrals

Referrals to facilities and clinical consultation by Let-the/AMW/CHWs is operating well. Patients are followed jointly by consultants and providers in the field and all those referred to health facilities are accompanied by a health worker. This system should be permitted to function without unnecessary outside intervention. CHWs readily refer medical problems beyond minor care. AMWs find quick assistance desirable and available from MWs for complications of pregnancy and delivery. Interestingly, Let-thes find AMWs a convenient source of referral and consultation.

4.4.3. Nutrition Services

Given the apparent predominance of curative activity by AMWs and CHWs, there appears to be insufficient emphasis on preventive education, including nutrition. Although both the AMWs and CHWs we interviewed gave accurate nutrition information to villagers, they also indicated that this is often done in an irregular fashion as part of clinical care rather than specific community education activities.

Several Issues become apparent:

1. Charting of growth is weak for several reasons:

- a. Charts were produced late because the wrong size of paper was delivered to the Printing Services. This made it necessary to duplicate Charts on a small machine that could only produce 5,000 copies a week rather than on the large format Litho Printer which can produce 75,000 copies a week.
- b. Growth Charts are kept by the AMWs and MWs instead of being left with the mother as a teaching tool and for local follow-up and surveillance.
- c. Timely, routine charting was not common.
- d. Salter scales were found missing from some kits and had no replacement springs provided for repair.
- e. Mid-arm circumference measuring tapes were also found missing from some kits.

- f. The growth charts do not differentiate between primary and secondary malnutrition, making it difficult to make early identification of children at risk.
- g. SRUB policy is to weigh and measure children only up to 3 years of age, although the growth charts allow for up to 5 years. Initially, voluntary workers had difficulty getting to children less than 3 years old because most of their time is spent with deliveries, newborns, and antenatal and post natal care. The 4 and 5 year olds were more difficult to locate, since they roved about the village. Therefore, health workers are instructed to follow policy and do weighing of 3-5 year olds only if time permits.
- h. AMWs and CHWs need to focus more on hygiene, weaning food preparation and use, extended breastfeeding, maintenance of food intake during pregnancy and illness and addressing such cultural issues as eating less to avoid having a large baby, even to the point of inadequate nutrition.

4.4.4. MCH Services

Maternal and Child Health might be said to have benefited most from PHC I. This is the opinion given by Division/State Health Officers, TMOs, THOs, RHC staff and DOH staff alike. The overwhelming consensus is that the reason is that AMWs and Let-thes have extended the provision of quality health care to more pregnant women and new-borns. Referrals and consultations flow easily without reports of conflicts or unavailability. Let-thes are consulting, not competing, with AMWs and both jointly see their patients with MW consultants should complications arise.

Two major health problems remain to be addressed: 1) septic abortion and 2) iron deficiency anemia.

Earlier reports indicated a high increase of morbidity due to threatened and septic abortion. Because Burma is not populous, SRUB policy is to increase population and therefore the Government does not permit open family planning counseling or contraceptive marketing. When confronted with questions regarding this issue, the most AMWs and Let-thes are permitted to provide is Health Education regarding the physiology of reproductive cycles and the merits of extending breastfeeding to 2 years. In light of the foregoing, new figures need to be generated on what, if any, changes there have been in the incidence of septic abortion.

Previous studies have estimated iron deficiency anemia to be present in 60% of pregnant women in Burma. Such foods high in iron as spinach and watercress are small components of most family diets and intestinal absorption is generally found to be low. Absorption increases, however, when meat, fish or fish sauce is mixed with the vegetables. In attempting to stem this high incidence of anemia AMWs and CHWs are supplied 2 thousand tablets of iron supplement to be distributed to all pregnant women in their third trimester and those found anemic on examination during the first or second trimester.

At the standing prescription rate of one tablet twice daily, the AMWs and CHW kit supply of 2 thousand tablets should last approximately 4 months, or the equivalent of about 10 pregnancies. A greater initial supply of iron supplements would be more appropriate and health surveillance, follow-up, and analysis would permit accurate judgement of the effects of such mass distribution.

4.5. Monitoring and Evaluation Systems

Monitoring and evaluation have been given a good deal of attention by the DOH and donors to the PHC program (particularly WHO and AID) for several years. The principal priorities have been to develop a health information system that would provide accurate data on the health impact of the program, and to conduct selected evaluation research on topics of special interest.

AID's input to the development of these systems has been fairly limited, as explained in Chapter Three. In PHP I it consisted of a computer and related supplies for the central level, a limited amount of short-term technical assistance in monitoring and evaluation, and local currency financing of 22 health information staff and a number of research and evaluation studies.

AID's objectives in funding this activity were to increase the "capability of the health services program to monitor and evaluate impact of the primary health care and basic health service program" (22 1, p. 15). The PP said:

"...present evaluations plans seem unlikely to yield information regarding the health effects of adding a large network of primary health care workers to the existing basic health service structure. This project will support attempts to develop a feasible approach to such an evaluation using indicators already selected by the DOH. It will also support implementation of such a plan as well as other relevant monitoring and evaluation studies."

"Since present staff are unable to effectively process and feed back monitoring information on time, 20 additional health information staff for central and Division/State levels will be supported by the project, trained and equipped." (pp 15-16)

AID also had some specific expectations for monitoring and evaluation outputs.

The following four are taken from the PHP LogFrame:

1. System for monitoring changes in selected impact indicators in PHC worker and control areas operating;
2. Plan for impact assessment of PHC workers on sample basis developed and approved;

3. Health staff in selected sample areas trained for data collection requirements; and
4. Regular reporting and periodic reviews of monitoring and evaluation data carried out by field staff. (21 1. Annex B).

The mid-term evaluation team concluded that the desired system had not been developed, that available data was of poor quality, and that data were not being used in planning and decision making (14, pp. 2,6,7). The report went on to say that "evaluation efforts, as presently conceived will not provide the necessary information to assess impact in the future." (ibid, p.2). Still, the report supported the development of a management information system, saying it deserved "further exploration" and recommended "long-term and continual technical assistance" to do so. The report also set out some desirable characteristics of such a system: 1) it should require a minimum amount of information to be collected; 2) it should be simple; 3) it should be understandable and useful to field staff; 4) it should require supervisors to be accountable for the collection, synthesis and use of the data; 5) it should provide rapid feedback to village workers; and 6) it should be grounded in a "management by exception" philosophy (ibid. 68-70). The report also stated that HIS has too many responsibilities to be expected to take the lead in developing such a system; and it also questioned the appropriateness of developing a computerized system. (ibid, pp. 84-85).

With respect to evaluation studies, the mid-term report said that the six studies underway appeared to be well designed and progressing on schedule. However, it noted deficiencies in the overall evaluation framework and questioned the utility of the studies, especially in determining the impact of the PHC I project on health status. (ibid, 86.).

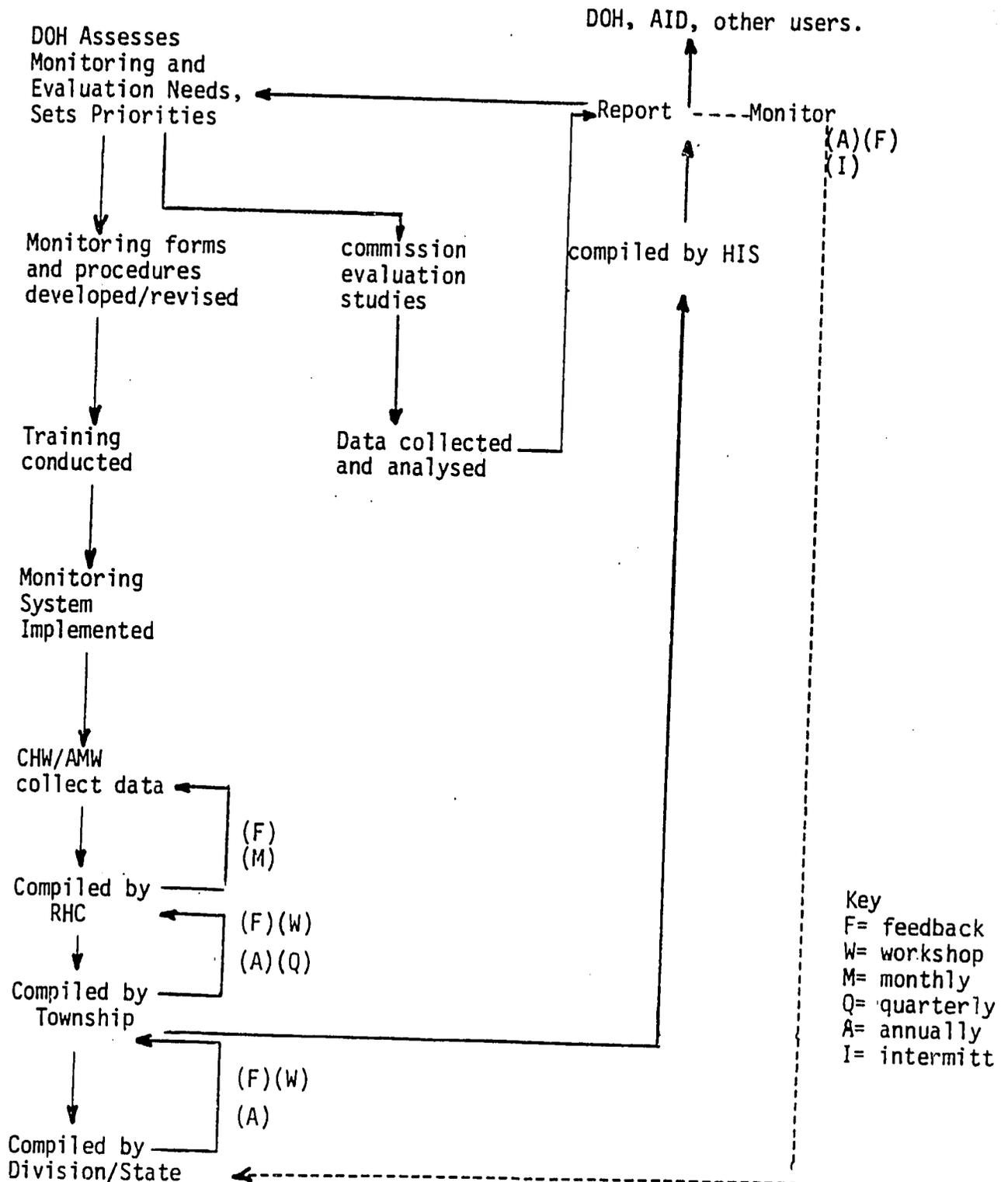
4.5.1. The Monitoring System

Figure 4-1 is a diagram of the current monitoring and evaluation systems, as perceived by the Evaluation Team. With respect to monitoring, the DOH identifies the data needs and sets priorities for data collection. Forms and procedures are then developed and training in their use conducted for Central and Division/State personnel, who train township staff, who train RHC staff, and so on.

At present the monitoring system relies on three sources of data: 1) health worker activity data (form 02/1); 2) hospital records; and 3) reporting of vital events by midwives ("Lay Reporting"). When implemented, the system relies on data collected in the field by CHWs, AMWs, and BHS staff. That data is reported periodically (usually monthly) to the RHC staff, who compile it and send it on to the township where it is aggregated, combined with township hospital data and sent on to the central level (HIS) with copies to the Division/State level (form 02/2). HIS compiles the data for the entire country, prepares reports and distributes them.

Figure 4-6

Monitoring and Evaluation System



There seems to be general agreement that this system is not working very well. Data are being collected, compiled and forwarded to the HIS, but they are incomplete and of varying quality. Health status data are particularly poor. Major reasons for this are that some VHWs do not send in their reports at all, others send them but they take months to arrive at the RHC, some VHWs have not had enough training and supervision to collect and report the data accurately, and hospital records on vital events are incomplete. HIS, for its part, compiles the data and prepares a report only once each year, and little information is fed back from either HIS or the Divisions/States to the field level.

In analyzing the current system there seem to be a number of weaknesses and a heartening number of strengths, which, if our assessment is correct, could be exploited to develop an effective, decentralized monitoring system.

- Assessment of Monitoring Needs, Development of Forms and Procedures

DOH assessment of monitoring needs has been going on for a number of years. The list of "minimum" indicators has been examined over and over again by intradepartment teams. All agree that the list of indicators (currently 68) is too long, but, as one DOH official noted, "no one wants to cut out their indicators." The form also appears elaborate, since all 68 indicators are listed on one axis and the various health staff who have to fill out the report (CHWs, AMWs, MW, LHVs, HAs, PHSs etc.) are listed on the other. The result is a huge matrix of data cells. However, any one health worker does not have an overwhelming number of items to report. For example, there are eight for the CHW, 11 for the AMW, and only two for the Let-thes. The DOH has revised the form and procedures twice in attempts to simplify the system, but it seems unlikely that a simplified version will be agreed upon in the near future, given the breadth of services that the reporting form is attempting to cover.

The current form includes 44 items for the Community Health Program; 5 for Environmental Sanitation; 14 for Disease Control, and 5 for Medical Services. Continued revisions may actually be counterproductive for several reasons: field workers have to learn a new system; supervisors have to spend more time in training and supervision to explain the new system; forms and procedures have to be revised; HIS has to reprogram its analysis procedure; and so forth. Thus, it may be more effective to leave the present form unchanged, but to modify the data collection, processing and analysis procedures.

Training

Training in monitoring and evaluation has gotten underway for the PHP staff. Workshops have been held at the central level for DOH staff in Rangoon and for Division/State staff. The Evaluation Team was not able to observe any of the training workshops, but happened to visit one township site at the end of a three-day workshop that apparently included a brief training session given by the TMO on evaluation and monitoring. The outline of that session is shown in Table 4-7. The team also learned that WHO recently contributed to a workshop on evaluation and monitoring sponsored by the Department of Health from December 3-7, 1984. (30) One of the purposes

of the workshop was to familiarize participants with monitoring and evaluation approaches. Another was to examine the current system, identify strengths and weaknesses and recommend ways to improve it.

It appears that the training in monitoring and basic program evaluation is being conducted at the central level, and that this training is being passed down through the States/Divisions to the townships, and in some cases to the RHCs. However, the degree to which this training is being effectively conveyed to the RHC level and below is worth studying.

The team suspects that this is an area that not only merits attention, but training and technical assistance to help RHC staff and VHWs learn how to monitor, evaluate, and identify solutions to their own problems.

Figure 4-7

Outline of Township Workshop Session on Monitoring
and Evaluation

<u>Monitoring</u>	<u>Evaluation</u>
Who, what, whom, how, cost & effect	
1. Standard of performance	1. Relevance
2. Actual performance	2. Adequacy
3. Comparing 1 & 2	3. Progress
4. Causes and formulations	4. Efficiency
5. Corrective activities	6. Effectiveness

- Implementation

This is probably the most critical part of the monitoring system, since the accurate and reliable collection of data at the village level determines the validity and utility of the entire system. It appears that some VHWs are very conscientious in collecting, recording and reporting data. Others are either less sure of what they are doing, lack the incentive to maintain accurate records, or do not have the basic resources required (paper, pencils and pens - funds to mail or take their reports to the RHC). Time after time the Evaluation Team saw how essential basic supplies are to this system. Recently UNICEF supplied small notebooks (similar to college exam bluebooks for VHWs to use to record data. These are very much appreciated and needed.

The RHCs also lack basic materials for compiling the statistics from the VHWs (paper, posterboard, blackboards). Many have developed innovative ways to display the data reported by the VHWs. For example, the team saw a number of RHCs that purchased plywood, painted it black, and used it for blackboards to display basic statistics on incidence of disease, VHW activities, EPI targets and achievements, and so forth. Others used the reverse sides of calendars, or posters with blank spaces to display their data.

These basic resources are not only extremely scarce, but they are essential for analysis and utilization of data at the local level. The team was impressed with the number of RHCs, subcenters, and townships that had found ways to display their statistics prominently. Each of these units seem to be utilizing the information, as well. This was a surprise, because the team had expected to learn that the data were simply collected and reported to higher levels, without ever being analyzed. This was not the case in the areas visited by the team. Practically all the HAs noted that they used these data regularly, especially in their monthly meetings with CHWs identify problems and set priorities. Township Health Officers also said they used the data for planning and reallocation of resources. Many BHS staff commented that the system helps them identify serious health problems (e.g., an outbreak of plague) and to take immediate action.

On the other hand, the analyses that are conducted are not at all sophisticated. In nearly all cases, simple counts of cases or activities was all that was done. A few RHCs and townships computed percentages. None that the team visited went beyond that. Some additional training in data analysis would be very helpful to provide the BHS and VHW personnel with tools that would help them analyze their own problems and identify practical solution.

- Feedback and Utilization

Except for that noted above, feedback of collected data is quite rare, especially from the central level. The information flow is one-way, from the VHWs up. When the team asked about feedback from the central level, no one could remember having received any. Apparently, HIS does compile statistics annually, but it was not clear to the team how this information was disseminated. HIS staff admit that compilation and aggregation of the data is a problem. The data are reported to them monthly, but more reports are incomplete and HIS sometimes has to wait several months before receiving late data or determining that the data will not be reported and proceeding with estimations. The volume of information received is also enormous. So far, tabulations are done by hand because the forms have been changed so often that it has not been practical to develop a computer program to process the data. HIS plans to develop a program as soon as the DOH decides on the final data collection scheme. Until that occurs, HIS will continue to operate as it does now, and little useful information will be compiled and fed back to the field staff.

One apparent exception to this is the "Lay Reporting System" which seems to be working quite well. Midwives report vital events and symptoms on a regular basis, and these statistics are compiled for States/ Divisions and national levels by HIS. This system appears to be producing accurate and useful information (10, 1983, pp. 16-19).

4.5.1. In summary, the current monitoring system is a fairly elaborate, bottom-up reporting system which is time-consuming and of limited utility. However, local RHCs and townships (and perhaps Divisions/States) appear to be using the data they collect to identify health problems, set priorities and develop annual plans. The system appears to have limited utility at the central level because the data are incomplete and are compiled only once each year. An exception to this observation is the Lay Reporting System, which appears to provide reliable data on morbidity and mortality.

4.5.2. Evaluation Systems

The evaluation work that has been undertaken so far has consisted of a series of seven studies (see Table 4-8)

Figure 4-8
Evaluation Studies Under PHC I

1. Household Survey on Morbidity, Mortality and Health Care (10)
2. Time Utilization of Voluntary Health Workers Bassein Township (28)
3. Study of Let-thes (2)
4. Study of Monitoring of Vital Events, Nutritional Status 0-3, Birth Weights and Primary Health Care at the Village Level (23)
5. Evaluation of the Effectiveness of Community-based Weighing Programs*
6. A Study of Weaning Practices and Impact Indicators for Nutrition Education (29)
7. Evaluation of Voluntary Health Workers (25)

See References for complete citation. Reference number in parentheses.

*

The Team did not have time to obtain and review items and cannot attest to the accuracy of the title.

It is not clear how or why these particular evaluation topics were selected. Several of the studies are not evaluations but descriptive or baseline survey. Three of the eight deal with nutrition, and three with training. None gives an assessment of the impact of the PHP or PHC I on health status.

Despite these criticisms, most of the studies are adequately designed and they have yielded some valuable information. For example, the first study in Table 4-8 (10) provides the best data available so far on morbidity and mortality. It demonstrated, among other things, that infant mortality is much lower than had been thought previously. The third study (28) demonstrated that VHWs were spending an average of two hours per day providing health care to their communities (p.11) and that CHWs were spending more time on curative than preventive care. The fifth study showed that the quality of CHW performance was average to excellent for 100 percent of those studies (p. 22).

A review of these studies by the Evaluation Team led to the following conclusions:

1. The studies appear to be relevant, but it is not clear how or why these particular topics were selected. One of the project's objectives, to develop a core list of impact measures, does not seem to have been undertaken, much less achieved.
2. The individual studies seem to be adequately designed, however, some reflect a lack of understanding of research principles and most do not focus on specific evaluation issues for specific decisionmakers.
3. Data collection appears to be the strongest part of these studies. The field investigators appear to have done a remarkable job of obtaining data from remote areas, and the data appear to be relatively reliable and complete.
4. Analysis is limited to descriptive tabulations in most studies, with some computations of percentages. Interpretation is almost completely absent in these studies, although most provide some recommendations for program and policy guidance.
5. Several of the studies have obviously had an impact at the central level, either by stimulating debate or by leading to policy changes, particularly among those at DOH who are most concerned with Primary Health Care.
6. Research capability appears to be greatest at the Department of Medical Research (DMR) and the Institute of Economics, although there are some exceptions, for example at HATS and HIS.

It is also important to note that one or two operations research studies have been undertaken (e.g., utilization of CHW time).

Given the large number of operational problems that this program faces, these types of studies can be extremely valuable and should be encouraged and supported.

In summary, evaluation during PHC I was of mixed quality. Some were relatively well-designed, but many were largely descriptive with little analysis undertaken. Topics selected for evaluation were reasonable but uneven (three nutrition studies but none on environmental sanitation, for example). The studies appear to have been of use to a limited audience, largely at the central level.

CHAPTER FIVE: RECOMMENDATIONS

5.1. General Conclusions and Recommendations

The overall conclusion of the Evaluation Team is that PHC I was an effective project. Although it was not possible to measure project impact on health, it was clear that the project did achieve its purpose of increasing coverage. VHW performance was impressive, particularly given the voluntary nature of the program and the limited resources made available to the volunteers. The AMW's and trained Let-thes appear to be working particularly well, the CHW's performance is less effective, but still impressive.

Many of the problems raised in the mid-term evaluation remain, however. Services are still more curative in nature than preventive; some CHWs are providing services they were not trained for (injections, for example); training and supervision still need strengthening; and the monitoring and evaluation systems are weak. The DOH has taken steps in PHC II to deal with these problems and deserves AID's full support.

AID inputs to PHC I made a significant contribution to the project, and most of the expected outputs were achieved. The commodities were essential, particularly the kits for the VHWs. The principal problem encountered was the late arrival of the kits. This is being dealt with in PHC II. Local currency contributions for travel and per diem of trainers and trainees was especially important. Technical assistance was limited but appears to have been productive. More had been programmed and would appear to have been needed to deal with some of the qualitative problems. Participant training was completed, albeit much later than originally planned. This component seems to have been uneven and should be examined more closely in PHC II.

The overall recommendation of the Evaluation Team is that AID continue its assistance to the DOH in support of this primary health care effort. Commodities are essential to the success of the project, and are greatly needed. Technical assistance and participant training are also needed and should be provided. Funds to offset local currency costs of VHW training should also be continued.

5.1.1. Recommendations for PHC II

The priority areas for AID assistance in PHC II appear to the Team to be the following:

1. provide the VHW kits at the beginning of training, increase the supply of medicines to last one year, and help the VHWs find ways to resupply their kits;
2. continue to upgrade the training system with improved curricula, modern training methods, continued training of township RHC staff in training and supervision, more structured in-service training, and increased quantities of training materials and aids for RHCs and townships. Technical assistance and participant training in this area should be encouraged with the aim of helping the Burmese become technically self-sufficient over the next decade;

3. the supervision system should be studied, upgraded, and a viable system implemented. Training is needed in supervisory techniques and problem analysis, particularly at the RHC and VHW level. Short-term participant training and technical assistance in supervision are strongly recommended;
4. the information system needs to be developed from the bottom up. The best use of data for problem analysis will be at the RHC level, and training and technical assistance in information gathering, processing and analysis should be provided to townships and RHCs to develop a decentralized monitoring capability;
5. the evaluation system needs to be carefully structured, beginning with a comprehensive framework to set priorities among study possibilities. Priorities recommended by the Team are: periodic sample surveys in PHP and non-PHP villages to measure the impact of the program on health; and an in-depth evaluation of the performance of VHWs. Some technical assistance is needed in research design, analysis, program evaluation and operations research. Participant training in these fields would be very useful.

5.1.2. Recommendations for Future Assistance

The Evaluation Team also made some recommendations for assistance beyond PHC II, this is, for future assistance.

1. AID should continue to support the program, generally along its current lines. The purpose should be to help the Burmese develop a decentralized, self-sufficient PHC system, based on well-trained, supervised and supported VHWs.
2. Basic commodities are greatly needed and appreciated. AID should continue to supply basic medicines, audio-visual aids, health education materials, and such essential items as paper and pens.
3. Long-term institutional development should be pursued through participant training and support to such institutions as the Health Assistant Training School, the new School of Nursing, and/or the faculties of Public Health and Community Medicine. In addition to the typical specialties in tropical medicine, MCH, health education and so forth, the institutional objective should be to become self-sufficient in the management of health services. Special emphasis should be given to developing expertise in training and supervision methods, program management, program evaluation and operations research.
4. AID should explore opportunities to develop and test innovative ways to provide PHC services to hard-to-reach and high-risk groups through the private sector, cooperatives, and local service provider groups.

5. The problems of septic abortion, anemia and environmental sanitation deserve particular attention. Support would also be appropriate to deal with measles, neonatal tetanus, malaria, and home-based diarrheal disease control and prevention.
6. an urban primary health care program is needed to provide public health services to the peri-urban inhabitants who are currently unserved or underserved. Present clinic and hospital based services do not extend adequately into the urban communities.

Specific recommendations for PHC II and the future are presented below, arranged by subsystem: commodity, training and curriculum development supervision and management, delivery of services, and monitoring and evaluation.

5.1. Commodities

5.2.1. Recommendations for PHC II

- Resupply of Medicines

Given the immediate shortage of AMW and CHW medicines reported by all volunteers and staff interviewed, it is recommended that an immediate replenishment supply be procured with excess project funds available and distributed to the VHWs as soon as possible.

- Provide More Medicines in Kits

The medical supplies provided with AMW/CHW kits tend to last about 4 months. BPI production is very limited and villages have found difficulty raising adequate funds for medicine replenishment during the initial 4 month period. It is recommended that AID increase the initial supply of AMW/CHW kit medications to last one year. This would provide more time for villages to raise sufficient funds for replenishment and permit better coordination with BPI production schedules.

- Provide Kits During Training

Because the VHWs receive the kits at completion of their training they do not have the opportunity to gain familiarity with the use and maintenance of the equipment while under the eye of instructors. To alleviate this situation it is recommended that kits be provided to trainees at the beginning of their training. Medicines can be removed and held at the training sites until training is completed.

- More Rapid Distribution

The infrequent distribution of goods from CMSD causes TMOs to feel it is more efficient to send messengers to pick-up their supplies rather than await CMSD distribution. This takes the time and effort of numerous individuals and probably uses an unnecessary amount of petrol as well. It is recommended that a regular, more frequent delivery schedule be developed for the distribution of goods. Technical assistance is recommended to help plan and evaluate operational models and increase the likelihood of quick implementing of an efficient system.

- Link Between Commodity Managers and Consumers

A link between managers and consumers often permits early detection of unexpected fluctuations in supply and demand and permits efficient and timely shifting of commodities to areas where needed. It is recommended that AID and SRUB establish such a link between its commodity and project managers and TMO and RHC consumers. This could alleviate the problem of "late commodities" and provide a means for preventing their occurrence.

- AID Tracking System

A review of the files and documents revealed that AID had no consistent system of commodity tracking. It is recommended that a procurement and distribution ledger be developed that tracks the flow of commodities from the planned and budgeted number of units through their distribution, and that this be integrated into a PERT/GANTT Chart. This would greatly facilitate rapid review and highlight areas of likely difficulty before they became serious.

5.1.2. Recommendations for the Future

- Soap Production

Soap is an essential commodity for PHC, but is in short supply and very expensive on the open market. The Team recommends a local soap production and distribution project to increase the effectiveness of health education and hygiene programs as well as to provide jobs and income to selected communities. Perhaps this could be a cooperative-run project.

- Expansion of BPI

BPI expansion for local pharmaceutical production of modern and traditional medications would ease the drug shortage and constant reliance on foreign exchange. For raw materials requiring foreign exchange, donor assistance would be beneficial and appropriate.

- Basic Commodities

PHC I provided a large quantity of commodities. Given the serious shortage of the most basic commodities in Burma, it would be appropriate for AID to continue providing such basic supplies as pens, pencils, note books, etc.

- Training

Continued emphasis on training in prevention, management and supervision is greatly needed and an appropriate area for AID assistance.

- Training and Education Materials

More and better training and community education materials are very much needed. They should be kept simple, but made extensively available.

- Spare Parts

The lack of spare and replacement parts has been voiced numerous times. It is recommended that commodities be procured with spare and replacement parts where appropriate. In conjunction it is recommended that units be distributed to teaching centers for use as demonstration models. Although AMW and CHW kits have significant curative content, in light of the VHW planned emphasis on prevention, the great demand for curative services is causing initial drug supplies to last only 4 months. It is recommended that these curative supplies continue to be supplied and, where appropriate, be increased. It is also recommended, that supplies for preventive measures get more emphasis. This may require, for example, that CHWs and AMWs do field surveillance of their villages and learn to use the data before providing them the curative contents of their kits.

5.3. Training and Curriculum Development

5.3.1. Recommendations for PHC II

- Revise CHW Curriculum

The content of the training curriculum for CHWs should be reduced in the initial training period, since it seems unlikely that the training period can be expanded. Further content could be offered in the refresher courses. The Team recommends a change in the subject presentation, alternating theory and practical experience. Example:

- Basic CHW Course

Week 1 - At RHC

Record keeping, interviewing, surveying, referrals (similar to 10 household workers course)

Week 2 - In Village

Visit households, record statistics, interview regarding health problems, do a survey of latrines, waste and refuse disposal methods, stray dogs, water sources. Other pertinent information.

Week 3 - At RHC and in field

Days 1 & 2: Review of records - discussion of problems - problem solving approaches to sanitation, water treatment, rat control, stray dogs, control of flies, mosquitoes and other insects.

Days 3,4,5,6,: In village-
demonstration by instructor to trainees - practice by trainee
demonstration to villagers by trainee

- latrine construction
- water chlorination
- rat control - stray dogs - control of insects

Week 4 - At RHC

- assisting with campaigns (Procedures)
- personal hygiene
- First AID - ORT - Indigenous Medicines

- Advanced CHW Course

In 3,4,5, or 6 months - Advanced course - 1 week

- discussion of problems - problem - solving
- communicable diseases - malaria, including taking of smears - TB sputum specimens.
- give medicines - discuss use of side effects
- treatment of simple illnesses

Refresher Training

Then a refresher course could be given every year from a structural curriculum designed to help VHVs identify and analyze problems, assess practical solutions, and learn from one another about ways to improve the quality of services.

- Training and Education Materials

The RHCs should be provided with training materials; flip-charts - audio visuals, graphics, etc. to make their training and health education effective. Village level health workers also should be given teaching materials, i.e. simple booklets that the AMW and TBAs can give to mothers on child care, flip-books illustrating proper latrine construction, etc, for the CHWs, posters, appropriate for the village on prevention activities.

- Supervision

Better supportive supervision should be given to the VHWs. Perhaps a "team" approach whereby either a HA, a LHV or midwife, or a VTPC member could take turns on a regular basis to meet briefly with the CHW each week when one or the other is in the village. If a copy of the monthly record from each CHW could be duplicated and sent from the RHC to the VTPC with appropriate comments on health conditions in that village as well as, when indicated, a favorable critique of the CHWs work, the VTPCs could make a commendation at a village meeting.

- Cassette Players and Tapes

At their next refresher course all CHWs who have served 2 or 3 years or more, could receive recognition in the form of a cassette player (and batteries) and 4 or 5 health tapes, so that they can hold "listening discussion" meetings in their villages. Since cassettes or radios are scarce in the villages, the probability of attracting an audience is good. The tapes would also serve to reinforce the CHWs knowledge of diseases while at the same time educating the people. When most of the villagers have heard all the tapes (and more than once), they could be exchanged for others or erased and new messages taped. When there are special problems in a community, relevant tapes could be supplied. UNICEF has a demonstration tape of health songs (newly developed).

- Demonstration Latrines

Funds to build a latrine on his compound should be provided for the CHW. This could be demonstration model and serve as an example to other villagers.

- PHC Manual

The Health Assistants should be provided with a Primary Health Care Manual to have as a resource (perhaps David Werner's Helping Health Workers Learn, would be appropriate).

- Participant Training and Technical Assistance

The PHC II project includes provisions for participant training and technical assistance, which the Team heartily endorses. Efforts should continue to be made to ensure that both are relevant and appropriate to the Burmese context. In some cases, observation tours and short term training in such essential areas as training methods, development of simple educational materials at the village level, and problem analysis may be more valuable than two or three-year academic programs.

5.3.2. Recommendations for the Future

- Develop Institutional Capability

Staff training and health education will continue to be needed for many years to come. It would be appropriate to identify ways to build up Burmese institutional capability over the next decade to become self-sufficient in these areas. Support for a faculty of community medicine, a school of public health, or the upgrading of the Health Assistants Training School would be among the mechanisms available.

- Health Education Bureau

Another institution in need of assistance is the Health Education Bureau at DOH. Continued technical assistance, participant training, and support for the integration of health education into all PHC services should be continued.

- Nurses Training School

There is no doubt that the New Nurses Training School will fill a critical gap. AID assistance in curriculum development, participant training, and visiting faculty would be very appropriate.

5.4. Delivery Services

5.4.1. Recommendations for PHC III.

- Preventive Health Emphasis

CHWs and AMWs orientation to promoting, establishing, and developing preventive health measures needs significant strengthening. This improved preparation in preventive measures should be supported with similar yet more extensive training.

- Supervision of CHWs

CHW supervision needs improvement in all aspects including motivating and organizing villages to participate in public health preventive activities. Emphasis should be on such preventive measures as nutrition, health education, sanitation and hygiene.

- Quality Control

In addition, quality control is almost non-existent. Standards and means to evaluate and enforce adherence need to be developed and implemented.

- Role Clarification of VHWs

A clear delineation of CHW and AMW roles would increase coverage while decreasing duplication of services. Complementary roles could lead to more emphasis on preventive measures. Their equipment and supplies should be altered accordingly to support the revised roles.

- Study of VHWs With and Without Kits

AMWs and CHW performance with and without equipment should be evaluated immediately. The unanticipated delay in arrival of kits has provided PHC I with a "natural experiment". A study should be made of VHW performance with and without kits to determine if more preventive work was done by one group or the other.

- Promotion of Home Preparation of ORT

CHWs and AMWs should be encouraged to promote home preparation of ORT. Currently the project distributes UNICEF packets and may be creating a dependency on their supply. Should these packets become unavailable, the program would lose some credibility. Home preparation would be a prudent back-up procedure, and increase self-reliance as well as saving the DOH money.

- Modify Growth Charts

Because growth charts do not differentiate between primary and secondary malnutrition, it is difficult to detect children at risk early. If it is important to the DOH to make this distinction, the charts should be modified to differentiate between first and second degree malnutrition.

- Septic Abortion Solution Needed

The incidence of septic abortion needs to be determined again. Hopefully, the AMW Program has had a positive impact on its reduction. The reported high incidence in the past with its concomitant negative effect on the health, the crowding of hospitals with cases, the enormous expenditure of resources on treatment combined with SRUB policy prohibiting family counseling, makes it all the more important to assess and find a solution to the problem.

- Study of Prevalence of Anemia

Iron deficiency anemia in pregnancy has reportedly affected many Burmese women, since CHWs and AMWs dispense large amounts of iron supplement by Protocol it is appropriate to evaluate what effect this is having on prevalence. A study of this condition and the impact of the VHW program on prevalence would be of value of health planning.

5.5. Supervision and Management

5.5.1. Recommendations for PHC II

- Establish a System

Due to the unique socio-political-religious-cultural-voluntary base upon which this VHW program operates, it will require a unique management system, with appropriate incentives to bolster performance and accurate timely supervision. It is recommended that priority be given to establish

a quality system as soon as possible. This system should make sound use of the management information system, especially at the community level, for establishing goals, objectives, direction, and priorities, and it should be the basis for rational decision-making about operational problems.

- Training for Supervisors

Supervisors need more training in preventive public health, quality control, management by objectives and supervision. From the TMO down to RHC staff, key supervisors often have only a curative medicine orientation. It is recommended that health personnel, particularly key BYS supervisors be provided training and education in supervision with an orientation towards preventive community health and an emphasis on quality control and long-term management by objectives.

- Information for Decision-Making

Part of making sound, rational, health decisions is having accurate, up-to-date information from which to work. Although the RHC staff with their VHW network gather numerous statistics for passage up the health network to the DOH, much of the data collected is not used. It is recommended that the health information system be refined and focused to produce health information statistics relevant to operational strategies. At the RHC village level VHWs should be given assistance or training to help them understand the value and use of their surveillance information for decision-making. A refined and limited number of indicators, perhaps five, should be passed up the HIS through the townships. Rapid feedback from the TMO level down to the RHCs and VHWs should include analysis and feedback on progress being made throughout the township. This will demonstrate the utility of the surveillance activities and will also provide an incentive to continue providing current and accurate data.

- Support to CHWs for Prevention Activities

CHWs have little clinical or preventive health training and are not provided the skills, funds or routine VTPC support to mount successful community health improvement programs. It is recommended that this issue be studied to determine the best means of supporting and helping CHWs to establish their preventive programs. This could include funds and materials to build demonstration projects such as latrines; increased training in community development and motivation; routine VTPC support of all community health project, and media support and advertising.

- Supervision of Let-thes

Although Let-thes are part of the community health network, they are not routinely part of regular supervisory meetings. It is recommended that they be included in monthly supervisory meetings, and AMW and CHW meetings at the village level. Let-thes tend to be older than CHWs and likely have community prestige and experience that would make them valued Health Team members.

5.6. Monitoring and Evaluation

5.6.1. Recommendations for PHC II

- Monitoring

Our evaluation concluded that the current health information system is an elaborate, bottom-up reporting system which is very time-consuming and of limited utility. However, local RHCs and townships appear to be using the data they collect to identify health problems, set service priorities and develop annual plans. The system appears to have limited utility at the central level because the data are incomplete and compiled only annually.

In PHC II AID proposes to continue to work with the Health Information Service "to develop a simplified health statistics collection and analysis capability in the Department of Health ... Attention will be given to the collection of hospital-based morbidity and mortality data, and to determine of what role Voluntary Health Workers should play in generating accurate, community-based health statistics." (PP II, p. 30)

- Develop a Decentralized Information System

The Evaluation Team wants to suggest that a variation of that plan that could be more effective would be to develop a decentralized system whose primary purpose would be to generate relevant data for use in problem-solving, priority-setting, and planning at the local level. We suggest that this be adopted as a formal policy of the DOH to make clear to everyone that the primary purpose of collecting this information is to enable RHC staff and VHWs to make better decisions. That means that the data to be collected might vary from township to township and among States/Divisions. For example, if measles is a priority concern in one area, then data on the incidence of measles would be collected. If malaria is a priority problem, data on malaria would be collected and analyzed.

- Build From the Existing System

The Team also recommends that this system be based on the ongoing information system (form 02/2) rather than starting all over. The BHS, RHC staff and VHWs are already familiar with this system and it would be best to begin with what exists and adapt it to individual needs.

- Provide Technical Assistance

Technical assistance would be needed to develop a single procedure for adapting the current data collection forms and procedures to local needs, training SDTT staff to train others in the adaptation procedure, and helping to set up and monitor field tests of this approach.

- Send Selective Statistics to HIS

Selected statistics should be standardized and forwarded to HIS for compilation and periodic analysis (at least quarterly). These data should be limited to 5-10 indicators (e.g., incidence of diarrhea, septic abortions, infant mortality).

The data could be collected from various sources, including the Lay Reporting System, which the Team believes should continue to be developed, tested, refined, and ultimately implemented throughout the country if it proves to provide accurate and reliable morbidity and mortality data.

This information should be used mostly for accountability purposes and to spot trends in key indicators. Policymaking should rely more on the State/Division Directors' meetings, since these people will have broader information (both quantitative and qualitative) from workshops that are conducted annually in the RHCs, townships, and States/Divisions. That is, the local priorities are probably being fed up the hierarchy through this system, these workshops and meetings, which probably reflect health status and service needs more accurately than the information system.

This process can also be strengthened by modifying the current data collection system so that it more accurately represents local health problems and priorities.

- Provide Training

Training is needed at the local level (RHC, VHW) in data compilation and analysis so that problems can be identified and service priorities set. A curriculum should be developed, perhaps by HATS in consultation with HIS and the Health Information Specialist to be provided by AID. After field testing and refining the procedures and training, the curriculum could be integrated into the training of training program.

- Coordinate with WHO and UNICEF

WHO has been operating in this field for quite awhile and currently has an information specialist in Burma. It would be important to coordinate any information system work under PHC II with WHO/Burma. UNICEF has supplied small notebooks for VHWs to keep their records. This is a crucial resource. We have recommended that all VHWs be given a year's supply of books, plus pencils and other relevant materials to facilitate and encourage both data collection and local level analysis of data (e.g., charts, graphs of health indicators in the CHW or AMW's home or the VPC headquarters). AID should coordinate with UNICEF regarding the provision of these needed supplies.

- Evaluation

Our evaluation concluded that evaluation studies have had some utility at the central level but are virtually unknown at the local level. In general, they are of mixed quality. Some are well-designed, but most are largely descriptive with little analysis. Topics selected for evaluation have been heavily weighted toward nutrition and training while other items have not been studied at all. According to the Project Paper, AID expects the health information system to provide "impact information regarding changes in health status of the target population." (PP, p.15). Data from this system will "be supplemented by a series of special studies on both operational and technical subjects to provide the DOH with information required to manage (the) program effectively." (ibid).

- The Information System Will Not Measure Health Impact

It does not seem likely that the health impact of the PHP can be measured through the information system, much less the PHC II project. In addition to the difficulties in collecting reliable data, there are technical problems in trying to attribute any noticeable change to the program or project without some sort of controls to account for other causes of improved health status. Nevertheless, the Team does recommend the collection of basic morbidity and mortality data through this system for accountability purposes and to spot trends, but not to assess impact.

- Evaluative Research Needed to Measure Health Impact

The Team believes that a carefully designed impact study should be undertaken, and that this should be done through sample surveys. We suggest that the Evaluation Research Advisor present several options for carrying out this type of research to the DOH, and that this include the WHO cluster sample prototype recently developed to measure morbidity and mortality of children due to diarrheal diseases. This is an example of a survey that can be conducted quickly and inexpensively. This research should get underway as soon as possible in control and project sites so that follow-up surveys can be made annually or bi-annually. Additional technical assistance may be needed for design and analysis, and AID is encouraged to provide that assistance.

- Framework for Selection of Evaluation Priorities

To ensure that the evaluation topics which are selected are relevant and that DOH will be able to use them, DOH decisionmakers should select the topics and be consulted periodically during the course of the evaluation. Some sort of comprehensive framework should be adopted to help DOH identify important issues and select relevant topics. A system framework, such as used for this evaluation, is one possibility.

- Suggested Evaluation Topics

During the course of this evaluation, the Team identified a number of issues that seem to merit study. Among the priorities for evaluation, the Team suggests the following:

1. VHW performance - what are the VHWs doing, how good are the services they are performing, what do they emphasize and why, what constraints are there to increased performance, what is the effect of DOH training, supplies, supervision on performance ?
2. VHW training - how is training being conducted at all levels, including VHC, what is being taught, what are the trainees learning, what are the constraints to learning ?

The team would also like to suggest several operations research studies. Evaluation is supposed to provide information to determine if a project or system is operating well or not. Operations research attempts to identify solutions to problems by examining a problem carefully and then identifying and assessing alternative solutions to that problem. This type of research would seem to be particularly appropriate for PHC II. The priorities that the Team recommends are:

1. Supervision - examine the current supervision system in detail and identify and test alternative ways to improve supervision.
2. Community financing of PHC - examine current community financing schemes in areas with and without VHWs and identify and test the most feasible alternatives.

- Provide Technical Assistance

Technical assistance will be needed in design, analysis and interpretation. Intermittent assistance provided by a variety of consultants, each working with a counterpart team on a specific study, might be advisable, depending on the type of study to be undertaken. A resource that is available to AID is the centrally-funded Primary Health Care Operations Research Project (PRICOR).

- In-Country Workshops in Evaluation and Operations Research

As part of their technical assistance, these consultants could provide short workshops (1-3 days) on specified research and evaluation topics and methods of interest to Burmese researchers.

- Participant Training

In addition to, or in place of, the planned long-term training in Biostatistics, and Computer Science, and the short-term training in Health Statistics and Demography, it would be appropriate to provide training in Health Services Research, Program Evaluation, and Operations Research.

5.6.2. Recommendations for Future Activities

The Team recommends that monitoring and evaluation continue to be supported beyond the PHC II project, and that technical assistance continue to be provided in program evaluation and operations research, in particular.

It would be appropriate for AID to continue its efforts to build monitoring and evaluation capability to support the DOH program. Where this capability should be developed is an issue worthy of serious discussion. Efforts in other countries to build this capability into Ministries of Health have often been unsuccessful. In part, this has been because the Ministries have been service-oriented and have not provided the support needed to attract and retain trained social scientists. An alternative that seem to have been more successful is to build the capability in

universities or other institutions which can attract and retain social scientists, and to develop an institutional relationship between the research organizations and the MOH, with the latter commissioning studies it wants from the former. This is the approach that the Evaluation Team recommends. The Department of Medical Research and the Institute of Economics have the potential for developing program evaluation and operations research capabilities with much less effort than would be required to build the same capability in the DOH. This type of arrangement, has the added advantage of being flexible and elastic. Work can be commissioned on an as needed basis.

Appendix A

Individuals and Institutions Contacted.

Department of Health

Dr. U Pe Thein, Director General (to 1/31/85)

Dr. U Tin U, Director General (from 2/1/85)

Dr. U Thein Nyunt, Deputy Director General

Dr. U Lun Wai, Director, Planning, Training, Budget and Administration.

Previous Project Manager, PHC I.

Dr. U Ba Tun, Director, Public Health.

Dr. U Kyaw Lwin, Director, Disease Control

Dr. U Mya Win, Deputy Director (RH/SH/MCH)

Dr. U Tun Lin, Assistant Director, Training and Foreign Relations

Dr. U Saw Lwin, Deputy Director, Medical Services

Dr. U Than Sein, Assistant Project Manager (PHC-BHS)

Dr. Tin Tin Win, Assistant Project Manager (PHC)

Dr. Daw Thyra Po, Assistant Director, Nutrition

Dr. Daw Khin Swe Min, Medical Officer, Nutrition

Dr. U Aye Thwin, Medical Officer, Nutrition

Dr. Daw Tin Tin Hmun, Assistant Director, MCH

U Min Swe, Assistant Director, Health Education

U Khin Sein, Health Education Officer, Training

U Tin Soe, Health Education Officer, Mass Communications

U Isaak, Assistant Training Officer, Training

U Sen Tun Oo, Curator, Museum

U Aung Thun, Assistant Health Educator, Training

Dr. Daw Nyo Nyo Minn (participant trainee, MCH, U. Hawaii)

Dr. U Kan Tun, (participant trainee, Management, Tulane U.)

U Thein Lwin, Director, Health Information Service

Dr. Daw Khin Nwe Oo, Medical Statistician, HIS

AID

Mr. Charles Ward, Representative

Mr. Richard Nelson, Program Officer

Dr. John Naponick, Health Development Officer

U Tin Htut, Commodities Specialist

Daw Marie Tun Myint, Participant Training Assistant

1/23 Health Assistants Training School (HATS)

Dr. C. Hla Shein, Director

Dr. C. Khai Ming, Project Manager

Hlaing Health Center

Dr. Kyi Kyi Chit MCH 1 Senior Medical Officer,
Regional Health Service

Dr. Maung Kham Maing, Training Team Leader,

Dr. Khin Co Myint, Division Medical Officer

1/25 WHO

Dr. J. Galea, WHO Program Coordinator

Mr. R.A. Bristow, Senior Public Health Administrator/WHO

1/25 WHO

Dr. J. Akiyama, Entomologist

Dr. U Myint Thaung, Program Officer

B UNICEF

Mr. Antonio Hidalgo, UNICEF Representative

Dr. Arata Kochi, Programme Officer(Health/ Nutrition)

Mr. Lars Wadstein, Programme Coordinator

U Myint Maung, Assistant Programme Officer (Health/Nutrition)

Department of Medical Research

Dr. U Khjn Maung Tin, Director

Dr. U Thein Maung Myint

1/26 Myinmu Township

U Saw Gwa La, Regional Chief

Dr. U Myint Swe, Township Medical Officer (TMO)

Dr. Daw Tin Tin Lay, Township Health Officer (THO)

Dr. U Swe Myint, MCH/Medical Officer

Okalapa Rural Health Center (RHC)

U Htay Do, Health Assistant (HA)

Daw Khin Maw, Lady Health Visitor (LHV)

1/28 Ayadaw Township

Township Medical Officer (TMO)

Town Council

Twin Taung Village

U Chit, People's Council

Dr. Daw Thann Htay, Assistant Township Health Officer (THO)

U Than Swe The Myopawha

1/29 Monywa Training School

Dr. U Hta Oo, Senior Medical Officer, PHC

Dr. Than Swe Than, Township Health Officer, (THO)

Dr. Wynn Kyi Nyunt, PAC Team Leader

Dr. Tint Way, Township Health Officer (THO)

Dr. U Than Pe, Township Medical Officer, (TMO)

Chaung-U Township

Dr. Min Thein, Township Medical Officer, (TMO)

Dr. Myint Myint Lwin, Civil Assistant Surgeon.

Daw Hla Myint, Lady Health Visitor (LHV)

1/30 Kyaukse Township

Dr. U Hla Phaw, Township Medical Officer 1.

Dr. U G. B. Limball, Civil Assistant Surgeon

1/30 Kyaukse

Dr. U Mya Pe Hla, Civil Assistant Surgeon

Dr. Daw Nwe Nee Win " " "

Dr. Daw Khin Hnin Swe " " "

Dr. Daw Khin Hnin Mi " " "

Dr. Daw Khin Oo Zin " " "

Daw Kyi Kyi Win, Lady Health Visitor, Urban Maternity and Child Health

Daw Cho, Lady Health Visitor, Minsu Rural Health Center

Daw Tin, Lady Health Visitor, Hpyauk Seik Pin, Rural Health Center RHC)

Daw Khin San Yee, Lady Health Visitor, Sama, Rural Health Center

Daw Khin Shein, Lady Health Visitor, Than Ywa, Rural Health Center

Daw Myint Khin, Lady Health Visitor, Dwe Hla, Rural Health Center

1/30 Myitha Township, Kume Rural Health Center

U Than Kyi, Executive Member People's Council

U Myo Myint, Secretary, People's Council

Daw Tin Tin, Township Health Officer (THO)

U Thaug Dan, Health Assistant (HA)

1/31 Tin Hlaing, Rural Health Center

San Pya, Rural Health Center

Dr. U Nyan Tun, Township Medical Officer (TMO)

Dr. U Tin Hlaing, Township Health Officer (THO)

U Tin Hlaing, Health Assistant (HA)

Pyawbwe Village

Daw Lan Tin, (TBA)

Khin-Ma-Kan Village

Mo Man Tin, (CHW)

Myingyan Midwife Training School

Pyaw Bwe San Pya Rural Health Center

Daw Yi Yi Tin, Lady Health Visitor

U Tin Hlaing, Health Assistant

Popa Rural Health Center

U Aung Shein, Health Assistant

2/1 Pagan, Nyaung Oo Township Hospital

Appendix B

Schedule for PHC I Evaluation Team

1/18-20/85 Arrive Rangoon

1/21 (Monday)
AID briefing
DOH briefing, Director General
DOH briefing, Department Directors
AID Project review
Data collection, reading, drafting introduction to report

1/22 (Tuesday)
DOH briefings: Directors
PHC Project
AID briefings: Commodities
Data collection, reading, drafting background to report

1/23(Wednesday)
Visit HATS
Visit Hlaing Township Urban Health Center
Visit Hlaing Township Ward 13, People's Council Office
Visit AMW Training School
DOH briefings: Nutrition Department, Health Education Bureau
AID briefings: Commodities
Data collection, reading, drafting background of report

- 1/25 (Friday) AID discussion
WHO
UNICEF
Department of Medical Research
- 1/26 (Saturday) Reading, synthesis, draft of quantitative sections of :

Field Trip: Mandalay, Sagaing Divisions
- 1/27 (Sunday) Fly Rangoon to Mandalay Night stop
Drive Mandalay, Myinmu-Allakapa-Monywa
Visit Township Health Office, Myinmu
Allakapa Rural Health Center Monywa
- 1/28 (Monday) Drive Monywa-Wadan-Budalin-Monywa
Visit Wadan Rural Health Center (Ayadaw)
Kyun-po-pin Sub Center.
Twin Taung Sub Center (Budalin) Monywa
The Bin Aing Village
- 1/29 (Tuesday) Drive Monywa-Chaung U- Mandalay Mandalay
Visit Monywa Hospital and Auxiliary
Midwife Training School
Chaung U Rural Health Center
- 1/30 (Wednesday) Drive Mandalay-Kyaukse-Myittha-Kinda Dam Kinda Dam
Visit Kyaukse Hospital
Myittha Rural Health Center

- 1/31 (Thursday) Drive Kinda Dam-Myittha-Myingyan-Popa-Pagan Pagan
Visit Tin Hlaing Rural Health Center
San Pya Rural Health Center
Pyaw Bwe Village
Kin Ma Gone village
Myingyan Auxiliary Midwife Training School
Popa Rural Health Center (Kyauk Padaung)
- 2/1 (Friday) Fly Pagan - Rangoon
Visit Pagan-Nyaung Ob Hospital
- 2/2-3 (Saturday,
(Sunday)) Drafting of report
- 2/4 (Monday) Debriefings : DOH, preliminary findings and recommendations
AID, preliminary findings and recommendations
Data Collection: commodities, participant training
Drafting of report
- 2/5 (Tuesday) Data collection: commodities, participant training,
Health Education, Project amendments and PILs
Drafting of report
- 2/6 (Wednesday) Data collection: commodities, participant training, outputs
Drafting of report
- 2/7 (Thursday) Debriefings: AID
Drafting of report
- 2/8 (Friday) Debriefings: DOH, Director General
U.S. Embassy, DCM
Drafting of report

101

- 2/9 (Saturday) Health Educator Departs
Drafting of report
Strategy Team arrives
- 2/10 (Sunday) Public Health Physician Departs
Finalizing of report
Initial briefing of Strategy Team
- 2/11 (Monday) Attend Strategy Team Briefing, DOH
Debrief PHC Project Director, DOH
Finalize report
- 2/12 (Tuesday) Finalize Report
Brief Strategy Team
- 2/13 (Wednesday) Deliver Report to AID
Team Leader Departs Rangoon.

Appendix C

LOGICAL FRAMEWORK

Project Title & Number: Primary Health Care, 482-0001

Life of Project: \$16,588,000
 From FY 80 to FY 81
 Total U.S. Funding: \$6,459,000
 Date Prepared: Nov. 25, 1979

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>Program or Sector Goal:</u></p> <p>To reduce mortality and morbidity among Burma's rural poor and particularly among infants and children.</p>	<p><u>Measures of Goal Achievement:</u></p> <ol style="list-style-type: none"> 1. Reduction of infant mortality rate. 2. Reduction of 1-4 year age specific mortality rate. 3. Reduction of frequency of malnutrition in children. 4. Reduction in frequency of low birth weight infants. 	<ol style="list-style-type: none"> 1. Baseline surveys. 2. Routine basic health service and project statistics. 3. Periodic evaluation surveys. 	<ol style="list-style-type: none"> 1. Rural population will support and utilize primary health care services. 2. Mix of services offered will result in decreased morbidity and mortality.
<p><u>Project purpose:</u></p> <p>To expand the coverage and quality of Burma's primary health care (PHC) system in 147 of 287 rural townships.</p>	<p><u>Conditions that will indicate purpose has been achieved: End of project status:</u></p> <ol style="list-style-type: none"> 1. Primary health care services regularly available in more than 7,600 village tracts in the 147 project townships. 2. In-service training provided at least twice yearly to all PHC workers. 3. System for monitoring changes in selected impact indicators in PHC worker and control areas operating. 	<ol style="list-style-type: none"> 1. Training, field supervision, supply and evaluation reports of DGH. 2. Possible sample surveys of PHC workers. 3. Health Information System documents and reports. 4. Field inspections. 	<p><u>Assumptions for achieving purpose:</u></p> <ol style="list-style-type: none"> 1. Increased number of trained PHC workers will have skills and motivation necessary to increase availability of improved health care. 2. Targets for expansion and wider distribution of services/supplies met. 3. Attrition rates of PHC workers are minimal. 4. Improved quality and length of pre- and in-service

ANNEX 3 - LOGICAL FRAMEWORK

ANNEX 5

~~Don't Available~~

Best Available Document

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	<p>4. Oral rehydration therapy readily available from more than 90% of PHC workers.</p> <p>5. Nutritional surveillance being carried out at regular intervals on more than 50% of children under 5 years of age.</p>		<p>training (including oral rehydration, nutritional surveillance, and other interventions) and supervision will improve quality of service.</p> <p>5. Provision of additional supplies and equipment will improve curative, preventive, referral and supervisory services.</p> <p>6. Improved monitoring and evaluation capabilities will result in an improved PHC system.</p>
<p><u>Outputs:</u></p> <p>1. An increased number of trained PHC workers supplied with necessary drugs and equipment and providing an expanded range of services.</p> <p>2. Increased capability of health services to design and implement effective training and supervision programs.</p> <p>3. Improved and expanded referral and supporting services available at better equipped RHCs and station hospitals.</p> <p>4. Increased capability of</p>	<p><u>Magnitude of Outputs:</u></p> <p>1a. 7,418 additional CHWs trained and supplied.</p> <p>b. 1,400 additional AMWs trained and supplied.</p> <p>c. 1,000 let-thes trained and supplied.</p> <p>d. 12,600 CHWs and 4,600 AMWs provided with regular in-service training.</p> <p>e. 26,750 VPC members provided orientation.</p> <p>2a. 40 additional trainers/supervisors recruited, trained and equipped.</p> <p>b. 2,335 RHC staff trained as trainers.</p> <p>c. Curricula and training aids</p>	<p>1. DOH training, personnel, supervision, evaluation and supply reports.</p> <p>2. Examination of curricula, teaching aids, impact assessment and other project documents and plans.</p> <p>3. Field visits to training sites and project area.</p>	<p><u>Assumptions for Achieving Outputs:</u></p> <p>1. Number of individuals including PHC workers, trainers, and supervisors, does not exceed training capacity.</p> <p>2. Essential supplies and equipment delivered to trainers and PHC workers, as well as referral and training facilities, on schedule.</p> <p>3. PHC workers are willing and able to undertake a wider range of tasks if provided more training and support.</p> <p>4. Additional number of trainers/supervisors will result in improved PHC worker performance.</p> <p>5. Limited transport available</p>

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>health services to monitor and evaluate impact of the PHC/BHS program.</p>	<p>developed.</p> <p>d. Expanded job descriptions for CHWs, AMWs, and relevant BHS personnel developed and incorporated into pre- and in-service training.</p> <p>3a. 2,500 BHS workers trained in providing support to PHC program.</p> <p>b. Intravenous rehydration available at all RHCs, and township and station hospitals.</p> <p>c. 60 station hospitals equipped and supplied.</p> <p>4a. Plan for impact assessment of PHC workers on sample basis developed and approved.</p> <p>b. 20 additional health information staff for Central and Division/State levels recruited and trained.</p> <p>c. Health staff in selected sample areas trained for data collection requirements.</p> <p>d. Regular reporting and periodic reviews of monitoring and evaluation data carried out by field staff.</p> <p>e. Supplies and equipment for increasing data processing capabilities in place in Central and Division/State offices.</p>		<p>10 supervisors will not unduly compromise ability to supervise.</p> <p>6. VPC members can, with orientation, provide improved PHC worker recruitment.</p> <p>7. RHC staff can be trained and motivated as effective trainers and providers of referral/supporting services.</p> <p>8. Distance is not an insurmountable barrier to utilization of referral/supporting services and facilities.</p> <p>9. Staff and equipment can be made available at all levels to increase monitoring capabilities.</p> <p>10. PHC workers can be trained and motivated to collect and report data for monitoring on a regular basis.</p> <p>11. Villages and village tracts raise sufficient funds for necessary drug resupplies.</p>

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>Inputs:</u></p> <p><u>AID</u> \$6,462,000* (grant)</p> <p><u>UNICEF</u> \$5,744,000</p> <p><u>WHO</u> \$ 985,000</p> <p><u>GSRUB</u> \$2,155,000**</p> <p><u>Community Contributions</u> \$3,305,000**</p> <p>*Includes \$1,462,000 U.S. dollar equivalent of U.S. excess kyat. **U.S. dollar equivalent.</p>	<p><u>Implementation Target (Type and Quantity):</u></p> <p><u>AID</u></p> <ul style="list-style-type: none"> - Short-term advisory services - Participant training - Commodities - In-country training - Salaries and support costs <p><u>UNICEF</u></p> <ul style="list-style-type: none"> - Advisory services - Commodities <p><u>WHO</u></p> <ul style="list-style-type: none"> - Advisory services - Participant training <p><u>GSRUB</u></p> <ul style="list-style-type: none"> - Salaries and support costs <p><u>Community Contributions</u></p> <ul style="list-style-type: none"> - Payment to PHC workers and voluntary labor - Funds for drug re-supplies 	<p><u>AID</u></p> <ul style="list-style-type: none"> - Project Agreement - Periodic reports of monitors, advisors. <p><u>UNICEF/WHO</u></p> <ul style="list-style-type: none"> - Grant documents committing funds and/or commodities. <p><u>GSRUB</u></p> <ul style="list-style-type: none"> - Annual budgets. - Staffing lists. - Third Four Year Plan documents. <p><u>Community Contributions</u></p> <ul style="list-style-type: none"> - Periodic reports of monitors. - DOH reports, records. 	<p><u>Assumptions for Achieving Inputs:</u></p> <p><u>AID</u></p> <ul style="list-style-type: none"> - Funding and project monitoring capabilities as planned. <p><u>UNICEF/WHO</u></p> <ul style="list-style-type: none"> - Funds and/or commodities available as planned. <p><u>GSRUB</u></p> <ul style="list-style-type: none"> - Operating budget requirements met as planned. - Staff levels approved as planned. <p><u>Community Contributions</u></p> <ul style="list-style-type: none"> - Sufficient funds available; PHC workers motivated to provide some labor on a voluntary basis

112

Appendix D

Table(4) Rural Health Indicators by States/Divisions (1981-82)
(Based on AMW reporting system)

Sr. No.	States/ Division	Popula- tion Curved	Crude Birth Rate (a)	Still- birth Rate (b)	Infant Morta- lity Rate (b)	Child- hood (1-4 yr) Morta- lity Rate (c)	Crude Death Rate (a)	Mater- nal Morta- lity Rate (b)	Abor- tion Rate (b)
1	Rangoon	(17188)	26.7	13.2	55.8	2.3	7.2	19.7	68.9
2	Pegu	(17378)	30.0	23.1	43.2	5.6	8.5	1.9	100.9
3	Irrawaddy	(10058)	31.2	9.6	47.8	16.4	9.4	9.6	91.0
4	Tenasserim	(9809)	30.9	24.8	59.4	1.0	8.6	33	69.3
5	Magwe	(13874)	30.9	14.0	49.0	8.7	5.8	25.6	14.0
6	Mandalay	(18894)	34.1	14.0	90.7	5.4	9.4	7.8	46.5
7	Sagaing	(32545)	23.0	32.1	82.2	3.0	6.2	21.4	72.1
8	Arakan	(10088)	31.2	-	76.2	2.7	6.4	6.3	33.3
9	Mon	(15822)	19.4	14.6	43.9	2.6	6.2	-	34.1
10	Kayah*	(664)	34.6	43.5	173.9	16.7	19.6	-	87.0
11	Shan	(9114)	26.2	25.2	81.8	17.6	11.2	21.0	56.6
12	Chin*	(2272)	25.1	-	175.4	3.2	11.0	35.1	17.5
13	Kachin	(11082)	24.6	21.9	142.8	17.6	10.8	25.6	65.9
14	Karen*	(3975)	26.7	9.4	56.6	-	8.8	19.9	84.9
	Total	(172763)	27.4	18.2	71.4	5.8	7.9	13.5	60.8

(a) Per 1000 population. (b) per 1000 live births.

(c) Per 1000 (1-4 yr.) Population.

Population covered is too small to permit computation of realistic rates.

Appendix E

VITAL STATISTICS RATES BY STATES AND DIVISIONS (1982-83)

(Based on MW Reporting)

STATE/DIVISION	POPULATION	L.B.R.	S.B.R.	I.H.R.	1-4yr. C.M.R.	D.R.	Abortion Rate	M.M.R.
Pequ Division	509689	24.1	12.1	27.7	6.1	4.9	39.1	0.8
Magwe Division	508770	27	15	63	6	5	18	0.4
Mon State	621447	26.5	9.6	24.2	4.0	4.8	32.5	0.7
Chin State	173476	23.7	9.7	45.9	5.3	5.0	16.5	-
Rakhine State	337573	25.6	12.5	35.7	2.6	2.5	24.3	0.7
Kachin State	94992	21.2	18.8	46.6	6.4	4.6	24.3	-
Irrawaddy Division	393417	23	12	43	7	5	41	1
Tenasserim Div.	199046	25.5	7.5	36.7	4.2	5.7	52.1	0.8
Rangoon Division	571775	18	12	34	5	3	30	0.9
Kayah State	28949	49.8	9.7	38.1	7.9	5.5	29.8	1.4
Shan State	159443	23.3	15.1	39.6	7.4	4.9	34.8	1.1
Sagaing Division	376969	22	13	51	4	3	22	0.6
Karen State	160041	26.7	6.1	25.8	2.4	2.5	42.2	0.2
Mandalay Division	232106	23.4	7.2	35.6	5.1	5.1	31.7	0.7
TOTAL	4367693	24.1	11.5	38.6	4.9	4.4	30.9	0.6

Appendix F

BUPMA/USAID - P.H.C (1) PROJECT (1980-82)

- (1) PURPOSE : - To Support the existing People's Health Plan (PHP) I.
- By substantial expansion of Voluntary Health Workers i.e. Community Health Workers (CHWs) and Auxiliary Midwives (AMWs), Strengthening of Nutrition and Diarrhoeal disease control activities of the Burma's PHP.
- (2) OBJECTIVES : - (a) To reduce mortality and morbidity among the Burma's Rural population, particularly among infants and young children.
(b) To expand the covered quality of PHC system in (147) townships.
- (3) PERIOD : - (a) Will be operative from 1980 April through March 1982 for 2 fiscal year, overlaping the last two years of PHP.
- (4) TARGETS : - (a) Altogether (1400) AMWs and (7418) CHWs to be trained and equipped.
(b) 1000 letthes or TBAs to be trained and equipped.
(c) Assistance in the formation of State and Division Training Teams and Training of Basic Health Staff in Modern Educational Science Methodology.
(d) To help in the collection of information by the Health Information Service by appointing State and Division Health Statisticians and establishment of Computer Service.
(e) To provide the BHS Health Centres by drugs and equipments and also Station - Hospitals (50).
(f) To provide technical consultants and sending fellows to study in USA.
- 115

(5) ACCOMPLISHMENTS : -

(a)

Year	Targeted/Trained (CIWs)		Targeted/Trained (AMWs)		Targeted/Trained (TBAs)	
1980-81	3294	3314	700	680	300	740
1981-82	4124	4117	700	716	700	1519
1982-83	2000	1952	387	258	3000	3451
TOTAL	9418	9383	1787	1654	4000	5710

- (b) Refresher Course given to (4560) CIW, (1500) AMWs.
- (c) Over 30,000 Village People's Councillors were movited by Workshop.
- (d) Over 15,000 BHS given Educational Science Methodology.
- (e) (76) Workers for Health Information data collection and computization, training of BHS in Educational Science were appointed.
- (f) Over \$ 4.626 Million (December 1984) were spent in drugs and equipments and the rest out of \$ 5 Million had also been spent for provision of materials which had already arrived in Rangoon wharf.

(6) BUDGET SITUATION : -

- (a) Total Estimated cost was \$ 11.92 Million and out of which \$ 5 Million was AID's Contribution, SRUB's Contribution about \$ 6.94 Million which later was borne by USAID fund by mutual agreement. Community contribution amounts to \$ 3.31 Million was also included in SRUB's contribution.
- (b) Up to December 1983 a total of \$ 3.820 Million was spent, \$ 0.093 obligated for equipments which arrived in 1984, and the rest reserved for unforesee fellowships expenditure.
- (c) Up to March 1983 - Over Kyats 9.498 Million spent on training activities of VHWS, Educational Science on training of trainers and a statistical data collection.

(d) SRUB had spent over Kyats 36.363 Million for the salaries of the supervisory staffs and other expenses.

(7) BENEFITS :

- (a) In (147) Townships, Village coverage by FHC increased from 24% to 4
- (b) Every Village-Tract (5 Villages, population 2000) had MCH Coverage by a MW or an ANW.
- (c) 80% of all pregnant women are delivered by trained Health Workers.
- (d) In one year a CHW had attended over (300) times to patients.
- (e) An ANW had delivered 30 to 40 mothers per year.
- (f) IMR of (1978) (80) had dropped to (50)/1000 LB in 1982 in Rural area.
- (g) MMR of (1978) (1.5) had dropped to (1.0)/1000 LB in 1982 in Urban area. (Rural figure for 1980 is 2.4 and for 1978 is N.A.)

Appendix G
PROJECT FINANCIAL IMPLEMENTATION REPORT

P.O. AID/BURMA

PROJECT TITLE: PRIMARY HEALTH CARE
PROJECT NO. 482-0002
AS OF DECEMBER 31, 1984

DATE OF ORIGINAL AGREEMENT: 08/29/80
PROJECT ASSISTANCE COMPLETION DATE: 03/31/85
TERMINAL DISBURSEMENT DATE: 12/31/85

Page 1 of 5 Pages

PROJECT SPECIFIC INPUTS	(1) OBLIGATION/ FINANCIAL PLAN	(2) EARMARKED	(3) COMMITMENTS	(4) DISBURSEMENTS	(5) ACCRUALS	(6) EXPENDITURES (4+5)	(7) PIPELINE (1-6)	(8) %OBL. EXP.	REMARKS
TECHNICAL ASSISTANCE:									
- FY-80:									
02 Management Sciences for Health (10/16/81-07/06/81) Dr. Don Chauls		4,613.00	4,613.00	4,613.00		4,613.00			
04 Management Sciences for Health (07/06/81-07/06/81) Dr. Don Chauls		20,676.46	20,676.46	20,676.46		20,676.46			
05 ABT Associates, Inc. (01/10-31/81) Dr. Marian Zeitlin		11,188.46	11,188.46	11,188.46		11,188.46			
06 Education Development Center (01/26/81-02/14/81) Dr. Lucas Hendrata		5,594.00	5,594.00	5,594.00		5,594.00			
02 ABT Associates, Inc. (08/31/81-06/30/82) Dr. P. Kwong		13,532.36	13,532.36	13,532.36		13,532.36			
01 Management Sciences for Health (12/20/82-02/28/83) Dr. Don Chauls		19,565.80	19,565.80	19,565.80		19,565.80			
02 Tech. Asst. on Computer P.O. AID-0025 (Singapore) 2 Days TDY (06/16/83)		1,742.00	1,742.00	1,742.00		1,742.00			
TECHNICAL ASSISTANCE	77,000.00	76,912.08	76,912.08	76,912.08		76,912.08	87.92	99.9%	
PARTICIPANTS:									
- FY-81:									
03 U. Kan Tun (7/82-7/83)		24,516.00	24,516.00	24,516.00		24,516.00			
03 Daw Nyo Nyo Minn(...."....)		23,567.00	23,567.00	23,567.00		23,567.00			
03 Daw Yin Yin May (...."....)		23,562.00	23,562.00	23,562.00		23,562.00			
03 U Than Htut (...."....)		24,590.00	24,590.00	24,590.00		24,590.00			
03 Dr. Ye Mon & Dr. Khin Maung Thi		39,218.00	39,218.00	32,218.00	7,000.00	39,218.00			
03 Dr. Soe Tint & Dr. Maung Aye		34,195.00	34,195.00	27,195.00	7,000.00	34,195.00			
03 Dr. Khin Mya Thwin & Dr. Khin Mar Yee		37,940.00	37,940.00	30,940.00	7,000.00	37,940.00			
PARTICIPANTS	207,588.00	207,588.00	207,588.00	186,588.00	21,000.00	207,588.00		100.0%	

PROJECT FINANCIAL IMPLEMENTATION REPORT

MISSION: AID/BURMA

PROJECT TITLE: PRIMARY HEALTH CARE
PROJECT NO. 482-0002
AS OF. DECEMBER 31, 1984

DATE OF ORIGINAL AGREEMENT: 08/29
PROJECT ASSISTANCE COMPLETION DATE: 03/31
TERMINAL DISBURSEMENT DATE: 12/31

Page 2 of 5 Pages

PROJECT SPECIFIC INPUTS	(1) OBLIGATION/ FINANCIAL PLAN	(2) EARMARKED	(3) COMMITMENTS	(4) DISBURSEMENTS	(5) ACCRUALS	(6) EXPENDITURES (4+5)	(7) PIPELINE (1-6)	(8) %ORL. EXP.	REMARKS
<u>COMMODITIES:</u>									
<u>PIO/C - FY-80:</u>									
#00003 (UNICEF) Aux. Mid-Wives Kits		25,816.73	25,816.73	25,816.73		25,816.73			
#00004 (UNICEF) Aux. Mid-Wives Kits		50,576.14	50,576.14	50,576.14		50,576.14			
#00005 (UNICEF) Aux. Mid-Wives Kits		372,457.65	372,457.65	372,457.65		372,457.65			
#00006 (GSA) Aux. Mid-Wives, Training Sets		80,304.82	80,304.82	80,304.82		80,304.82			
#00007 (UNICEF) CHW Medicine		226,191.17	226,191.17	226,191.17		226,191.17			
#00008 (GSA) Training Materials		84,684.87	84,684.87	42,352.85	42,332.02	84,684.87			
#00009 (GSA) Training Materials		1,711.01	1,711.01	1,711.01		1,711.01			
#00010 (GSA) Audio Visual Equipment		14,274.19	14,274.19	14,274.19		14,274.19			
#00011 (GSA) Equipment & Supplies		10,009.00	10,009.00	6,903.99	3,012.55	9,916.54	92.46	✓	
#00012 (UNICEF) Traditional, Mid-Wife Kits		11,042.86	11,042.86	11,042.86		11,042.86			
#00013 (GSA) Minor Surgical Sets		372,912.64	372,912.64	126,455.39	29,663.30	156,118.69	216,793.95	✓	
#00014 (GSA) Rehydration Equipment		29,367.46	29,367.46	29,367.46		29,367.46			
00015 (GSA) Medical Equipment		301,699.46	301,699.46	301,699.46		301,699.46			
00016 (UNICEF) Salts, Oral, Rehydration Power		43,641.74	43,641.74	43,641.74		43,641.74			
00017 (GSA) Aspirin		40,602.30	40,602.30	40,602.30		40,602.30			
00018 (UNICEF) AMW Mid-Wife Kits		16,603.54	16,603.54	16,603.54		16,603.54			
00019 (UNICEF) Traditional, Mid-Wife Kits		16,722.38	16,722.38	16,722.38		16,722.38			
00020 (UNICEF) AMW Nursing Kits		9,526.64	9,526.64	9,526.64		9,526.64			
00023 (UNICEF) Medical Kits		127,428.00	127,428.00		127,428.00	127,428.00			

PROJECT FINANCIAL IMPLEMENTATION REPORT

MISSION: AID/BURMA

PROJECT TITLE: PRIMARY HEALTH CARE
PROJECT NO. 482-0002
AS OF DECEMBER 31, 1984

DATE OF ORIGINAL AGREEMENT: 08/20
PROJECT ASSISTANCE COMPLETION DATE: 03/31
TERMINAL DISBURSEMENT DATE: 12/31

LIFE OF PROJECT FUNDING: \$5,000,000.00

PROJECT SPECIFIC INPUTS	(1) OBLIGATION/ FINANCIAL PLAN	(2) EARMARKED	(3) COMMITMENTS	(4) DISBURSEMENTS	(5) ACCRUALS	(6) EXPENDITURES (4+5)	(7) PIPELINE (1-6)	(8) %OBL. EXP.	REMARKS
<u>COMMODITIES: PIO/C - FY-80: (cont.)</u>									
#00024 (Singapore) Equipment & Supplies		9,257.40	9,257.40	9,257.40		9,257.40			
#00025 (UNICEF) 200 Health Kits		16,564.00	16,564.00	11,853.73		11,853.73	4,710.27	✓	
#00026 (UNICEF) 200 Health Kits		4,750.00	4,750.00	4,423.02		4,423.02	326.98	✓	
<u>Total FY-80</u>	<u>1,923,000.00</u>	<u>1,866,144.00</u>	<u>1,866,144.00</u>	<u>1,441,784.47</u>	<u>202,435.87</u>	<u>1,644,220.34</u>	<u>278,779.66</u>	<u>85.5%</u>	
<u>PIO/C - FY-81:</u>									
#10001 (GSA) Salts & Oral Rehydration		112,788.58	112,788.58	112,788.58		112,788.58			
#10002 (Singapore) Equipment for MOPH		49,716.93	49,716.93	49,716.93		49,716.93			
#10007 (GSA) Penicillin		387,267.21	387,267.21	356,966.01	301.20	357,267.21	30,000.00	✓	
#10008 (GSA) Chloroquine Tablets		129,525.76	129,525.76	129,525.76		129,525.76			
#10009 (AID/W) Computer Equipment		5,363.50	5,363.50	5,363.50		5,363.50			
#10010 (GSA) Plastic Carry Case		10,562.08	10,562.08	10,562.08		10,562.08			
#10011 (GSA) First Aid Kits		83,310.40	83,310.40	77,755.64	5,554.76	83,310.40			
#10012 (UNICEF) Aux.Mid-Wives Medicine Chests		79,604.61	79,604.61	79,604.61		79,604.61			
#10013 (UNICEF) CHW Medicine Chests		259,746.68	259,746.68	259,746.68		259,746.68			
#10014 (GSA) Snake Bite Kits		8,574.25	8,574.25	8,574.25		8,574.25			
#10015 (GSA) [Lactated] Ringers' Injection		324,474.38	324,474.38	305,420.01	19,054.37	324,474.38			
#10016 (GSA) Hospital Equipment		369,942.65	369,942.65	338,681.24	31,261.41	369,942.65			
#10017 (GSA) Rehydration Equipment		22,278.97	22,278.97	20,583.60	1,695.37	22,278.97			

120

PROJECT FINANCIAL IMPLEMENTATION REPORT

MISSION: AID/BURMA

LIFE OF PROJECT FUNDING: \$5,000,000.00

PROJECT TITLE: PRIMARY HEALTH CARE
PROJECT NO. 482-0002
AS OF DECEMBER 31, 1984

DATE OF ORIGINAL AGREEMENT: 08/2
PROJECT ASSISTANCE COMPLETION DATE: 03/3
TERMINAL DISBURSEMENT DATE: 17/3

Page 4 of 5 Page

PROJECT SPECIFIC INPUTS	(1) OBLIGATION/ FINANCIAL PLAN	(2) EARMARKED	(3) COMMITMENTS	(4) DISBURSEMENTS	(5) ACCRUALS	(6) EXPENDITURES (4+5)	(7) PIPELINE (1-6)	(8) %OBL. EXP.	REMARKS
<u>COMMODITIES: P10/C - FY-81: (cont.)</u>									
#10018 (GSA) Chloroquine		128,571.46	128,571.46	128,571.46		128,571.46			
#10019 (GSA) Aspirin		96,052.97	96,052.97	86,143.86	9,909.11	96,052.97			
#10020 (GSA) Training Materials		35,000.00	35,000.00	18,466.16	10,644.13	29,110.29	5,889.71	✓	
#10021 (AID/W) Books		1,053.98	1,053.98	275.54	778.44	1,053.98			
#10022 (Singapore) Air Conditioners		5,160.00	5,160.00	5,160.00		5,160.00			
#10027 (Singapore) Comp. & Accessories		11,240.00	11,240.00	11,240.00		11,240.00			
#10030 (UNICEF) Aux. Mid-Wives Nursing Kits		43,660.41	43,660.41	42,815.81		42,815.81	844.60	✓	
#10031 (AAPC) Electric Equipment		834.81	834.81	834.81		834.81			
#10032 (Singapore) Photo Machine & Parts.		1,711.46	1,711.46	1,711.46		1,711.46			
#10033 (Singapore) Office Supplies		7,966.07	7,966.07	7,966.07		7,966.07			
#10034 (AID/W) Printing Paper & Film		78,550.00	78,550.00	78,135.66		78,135.66	414.34	✓	
#10035 (AID/W) 2,500 Spring Scales		21,562.20	21,562.20	21,562.20		21,562.20			
#10036 (AID/W) Books		7,500.00	7,500.00		7,500.00	7,500.00			
#10039 (SER/COM) Aux. Midwife		108,745.00	108,745.00	81,342.70		81,342.70	27,402.30	✓	
#10040 (SER/COM) Aux. Midwife Carrying Cases		9,500.00	9,500.00		9,500.00	9,500.00			
#10041 (SER/COM) Birth Attendant Kits		37,500.00	37,500.00	29,573.67		29,573.67	7,926.33	✓	
#10042 (Singapore) Birth Attendant Scales		25,874.65	25,874.65	25,874.65		25,874.65			
#10043 (SER/COM) Aux. Midwife Kits		28,000.00	28,000.00	24,311.64		24,311.64	3,688.36	✓	
#10044 (SER/COM) Com. Health Worker Kits		243,260.00	243,260.00	233,301.73		233,301.73	9,958.27	✓	

PROJECT FINANCIAL IMPLEMENTATION REPORT

MISSION: AID/BURMA

PROJECT TITLE: PRIMARY HEALTH CARE
PROJECT NO. 482-0002
AS OF DECEMBER 31, 1984

DATE OF ORIGINAL AGREEMENT: 08/29/80
PROJECT ASSISTANCE COMPLETION DATE: 03/31/85
TERMINAL DISBURSEMENT DATE: 12/31/85

LIFE OF PROJECT FUNDING: \$5,000,000.00

Page 5 of 5 Pages

PROJECT SPECIFIC INPUTS	(1) OBLIGATION/ FINANCIAL PLAN	(2) EARMARKED	(3) COMMITMENTS	(4) DISBURSEMENTS	(5) ACCRUALS	(6) EXPENDITURES (4+5)	(7) PIPELINE (1-6)	(8) %OBL. EXP.	REMARKS
<u>COMMODITIES: PIO/C - FY-81: (cont.)</u>									
10045 (UNICEF) 400 Aux. Midwife Kits		20,100.00	20,100.00		20,100.00	20,100.00			
10046 (SER/COM) Mirror Assemblies		1,764.44	1,764.44	1,764.44		1,764.44			
10056 (SINGAPORE) Repair of Disc Drive Reserved)		3,508.95	3,508.95	3,508.95		3,508.95			
<u>Total FY-81</u>	<u>2,790,000.00</u>	<u>2,760,272.40</u>	<u>2,760,272.40</u>	<u>2,557,849.70</u>	<u>116,298.79</u>	<u>2,674,148.49</u>	<u>115,851.51</u>	<u>95.8%</u>	
<u>TOTAL COMMODITIES</u>	<u>4,713,000.00</u>	<u>4,626,416.40</u>	<u>4,626,416.40</u>	<u>3,999,634.17</u>	<u>318,734.66</u>	<u>4,318,368.83</u>	<u>394,631.17</u>	<u>91.6%</u>	*
<u>NUTRITION</u>									
<u>CONTINGENCY</u>	<u>2,412.00</u>						<u>2,412.00</u>	<u>0.0%</u>	
<u>TOTAL</u>	<u>5,000,000.00</u>	<u>4,910,916.48</u>	<u>4,910,916.48</u>	<u>4,263,134.25</u>	<u>339,734.66</u>	<u>4,602,868.91</u>	<u>397,131.09</u>	<u>92.1%</u>	*
<u>LOCAL CURRENCY KYAT ASSISTANCE:</u>									
GOVERNMENT OF THE UNION REPUBLIC OF MYANMAR	KYAT	<u>51,246,000.00</u>	<u>51,246,000.00</u>	<u>51,246,000.00</u>	<u>51,246,000.00</u>	<u>51,246,000.00</u>		<u>100.0%</u>	

Appendix H
Supplies and Equipment

I. TRADITIONAL MIDWIFE (LET-THE) KIT

Drugs - Gentian Violet
Supplies
Equipment

IIA. CHW MEDICINE CHEST

Drugs - Pen V.K., Piperazine, Iron/Folate,
Oralyte, Eye Ointment, Aspirin, Antiseptic
Cream, Benzyl Benzoate, Gentian Violet,
Vitamin B.
Supplies
Equipment

IIB. CHW FIRST AID KIT

Drugs - Antiseptic Cream, Mercurachrome
Dressings and other supplies
Snakebite kit
Flashlight
Equipment

IIIA. AMW MEDICINE CHEST

Drugs - Multivitamin/Iron/Folate, Ergometrine,
Vitamin A, Oralyte, Aspirin, Pen V.K.
Piperazine, Eye Ointment, Gentian Violet.
Equipment - Salter Portable Scale
Adult Scale
6' Folding Ruler

IIIB. AMW MIDWIFERY KIT

Drugs - Ergometrine
Supplies
Equipment

IIIC. AMW NURSING KIT

Supplies
Equipment

IV. REHYDRATION EQUIPMENT SET

Nasal Tubes
Scalp Vein and Cut-down Sets

V. STATION HOSPITAL EQUIPMENT SET

Anesthesia Equipment
Labor and Delivery Bed
Refrigerator
Sterilizing Equipment
Diagnostic Set
Examining Table
Microscope
Surgical Equipment
Generator, gasoline
Operating Light
Hospital Supplies
Tracheotomy Unit
Suction Unit
D&C Set
Autopsy Set

VI. AMW TRAINING SCHOOL SET

Charts and other Aids
Anatomic Models

VII. AUDIO-VISUAL SET FOR CENTER TRAINING

Plain Paper Copier and Parts
Overhead projectors
Tape Recorders and Speakers
Assorted related equipment and supplies

VIII. TRAINING MATERIALS SETS FOR D/STT

Stencils and paper (of suitable quality for printing/reproduction)

Audio-Visual supplies including artists' supplies, film and developing kits, overhead and slide projectors.

IX. HIS MATERIAL FOR MOPH

Computer and Supplies

12/1

Appendix I

No. of Trainees Trained Under PHC I Project

	Total.		1980/81		1981/82		1982/83	
	P	A	P	A	P	A	P	A
A. <u>Pre-Service Training</u>								
1. CHW	9,418	9,383	3,294	3,314	4,124	4,117	2,000	1,952
2. AMW	1,787	1,654	700	680	700	716	387	258
3. Let-The	4,000	5,170	300	740	700	1,519	3,000	3,451
B. <u>In-Service Training</u>								
1. CHW	21,812	21,748	-	-	7,854	7,827	13,958	13,921
2. AMW	6,300	6,300	-	-	1,700	1,700	4,600	4,600
3. BHS Trainers	2,435	2,500	410	-	1,285	1,695	740	755
4. Let-The Trainers	1,790	1,730	156	160	438	470	1,196	1,100
C. <u>Workshop/Training</u>								
1. State/Division Training Team members	120	162	60	54	60	54	-	54
2. Stat: Technicians	66	90	22	30	22	30	22	30
3. Workshop for Evaluation	-	41	-	41	-	-	-	-
D. <u>Village People's Council Orientation</u>								
1. V.P.C.	37,150	37,100	12,350	12,300	14,400	14,400	10,400	10,400

Appendix J

Curriculum for Training of Trainees

Duration: 6 days (30 hours)

1. Adult learning
2. Identification of job, task, and sub-task
3. Objective
4. Preparation of Lesson Plan
 - Pre-evaluation
 - Different methods of teaching
 - Advantages and disadvantages
 - teaching and learning principles
 - different teaching aids and their uses
 - post-evaluation
 - tests and types of questions :
5. Learning environment

Appendix L

Curriculum For Traditional Birth Attendants (TBAs)

"Let-thes"

Duration: 30 days

Objectives

- 1) Increased safety of Let-the's practice.
- 2) Decrease in deliveries conducted alone by Let-thes
- 3) Increased referral of mothers and babies "at risk"
- 4) Co-operative relationships between Let-thes and health staff.
Acceptance of continuing teaching -supervision of the
Let-thes by the midwife

Theoretical

1. How pregnancy occurs.
 - 2) Progress - general health
size
fetal heart
position and presentations
 3. Health of the mother during pregnancy
 - rules for healthy living
 - common complaints - what to advise
 - when to refer - danger signs, what to do
 - preparation of breast for breast feeding
 4. How a safe delivery is conducted
 - preparation by mother, (clean rag, pot suitable for boiling)
 - preparation of area
 - preparation of Let-the herself (clothing, nails, hands)
 - preparation of mother
 - preparation of equipment - meaning of boiling - (exact procedure)
- 127

Appendix K

Curriculum for Auxiliary Midwives (AMWs) (Duration: 6 months)
3 months theory - 3 months practical

Duration: 6 months (3 months theory - 3 months practical)

OVERALL OBJECTIVE

To prepare a worker belonging to the remote area to provide her home village with routine A.N.C, right referral, a normal delivery service and its follow-up; - simple health teaching for child care and health living - First Aid and simple family care of the sick in the home.

The teaching will be task oriented and emphasis will be placed on safe practice, knowledge of when to refer and the ability to give simple health teaching.

Educational Objectives of the Course

As a result of the course the student will be expected to -

1. practice acceptable personal hygiene within the limitations of rural living, teaching through example and guidance.
 2. have acquired a simple understanding of the makeup of the human body to allow her to provide intelligent health care and immediate First Aid.
 3. have acquired the skills of simple health teaching, and the willingness to use them to encourage the practical application of the rules for health living in the home and community.
 4. have a simple understanding of the principles of nutrition, resulting in sound personal practice; with the ability and conviction to teach others practically in accordance with their needs.
 5. have the knowledge and skills for providing routine A.N. care under the overall guidance of the midwife, with the ability to detect and refer high risk cases.
- 100

6. have the knowledge and skills necessary to practice safe normal midwifery as an independent worker, recognising and making immediate referral of any abnormality in delivery or a high-risk newborn.
7. guide the mother in the establishment and continuation of successful breast feeding, and the later addition of solids for the baby.
8. encourage the timely take-up of immunizations (provided by the midwife, LHV & HA), and guide the family in the protecting of the body and young child from communicable and noncommunicable infections including the prevention and treatment of dehydration.
9. be watchful in teaching for the prevention of accidents, able to give simple immediate First Aid and help the family with simple home nursing.
10. keep simple work records and report by symptoms all unusual incidents of disease in her area.

Outline of Content of Course

- 1) The body and how it works. - simple, brief overview.
- 2) Keeping the body healthy
 - nutrition
 - personal hygiene
 - safe surroundings
- 3) How the Auxiliary Midwife works
 - relationship to the Midwife CHW and other Health Staff.
 - relationship with the villagers and People's Council
 - organisation of work programs
 - home visiting techniques
 - keeping home visiting and midwifery kits always in readiness
 - R.H.C. and sub-centre clinics.

109

- 4) What A.M.W. needs to know to practice safe normal midwifery
- how the baby is conceived and develops
 - how to know if the mother is pregnant and when the baby will be born
 - how to keep the mother healthy during pregnancy
 - routine care, when to refer, assessment of maternal 'at risk' factors
 - how to deliver mother and baby safely at home
 - preparation of - room
 - equipment - sterilisation
 - use of kit
 - mother
 - midwife herself
 - management of 3 stages of labour when to refer
 - immediate care of baby after birth - at risk factors
 - care of the mother and baby for 10 days after delivery
 - establishment of breast feeding
- 5) What to teach a mother about the care of her young child - 0 - 5.
- how to feed it
 - personal hygiene
 - immunisations (encourage - keep list of defaulters)
 - seeking advice early if child is unwell, importance of fluids. - (rehydration)
- 6) What to do in case of an accident. (simple First Aid)
- 7) How people get ill. What to teach the family about the care of a sick member at home.
- control of infection - reducing a fever - treatment for diarrhoea, rehydration - keeping the sick person comfortable - right referral.
- 8) Information the Auxiliary Midwife should know about health conditions in her village
- records she had to keep (Minimum)
 - noting and reporting rashes and unusual incidents of illness.

N.B.

Teaching method should be as active as possible and task oriented. All theory must be correlated with demonstration and practice, and be in keeping with the work of the Auxiliary Midwife.

120

After initial training the student must live with midwife until she has taken cases in the home under her supervision, attended A.N. and Children's Clinic sessions and accompanied the midwife visiting.

Practical Experience

- 1) Very Simple A.N. and Delivery records should be kept by the student.
- 2) At least 5 cases must be witnessed before the student conducts a case under strict supervision.
- 3) Maximum experience should be given in the home. A minimum of 20 delivery cases must be taken fully by the student. (inc: lying in care).
- 4) Student must be proficient in A.N.C. palpation etc: and be able to give helpful advice for a healthy pregnancy and minor disorders, knowing when to refer: She must be able to assess the 'at risk' factors.
- 5) Student must have sufficient experience to be able to visit a mother at home acceptably; give simple health teaching, provide ante natal, delivery and post natal care, simple help with nursing the sick, and advice on the care of the infant and child under 5 years, including encouragement for immunisation.
- 6) Student must be able to provide immediate First Aid practised in role play situations.

Appendix L

Curriculum For Traditional Birth Attendants (TBAs)

"Let-thes"

Duration: 30 days

Objectives

- 1) Increased safety of Let-the's practice.
- 2) Decrease in deliveries conducted alone by Let-thes
- 3) Increased referral of mothers and babies "at risk"
- 4) Co-operative relationships between Let-thes and health staff.
Acceptance of continuing teaching -supervision of the
Let-thes by the midwife.

Theoretical

1. How pregnancy occurs.
- 2) Progress - general health
size
fetal heart
position and presentations
3. Health of the mother during pregnancy
 - rules for healthy living
 - common complaints - what to advise
 - when to refer - danger signs, what to do
 - preparation of breast for breast feeding
4. How a safe delivery is conducted
 - preparation by mother, (clean rag, pot suitable for boiling)
 - preparation of area
 - preparation of Let-the herself (clothing, nails, hands)
 - preparation of mother
 - preparation of equipment - meaning of boiling (exact procedure

122

- preparation for receipt of baby
 - what happens at each stage of labor
 - how does the Let-the conduct delivery now?
 - can her practice be made safer? How?
 - importance of timely referral
 - importance of non-interference
 - safe management of each stage
 - care of newborn - eyes, airway, cord.
5. What sometimes goes wrong? What do Let-thes do? What is the best thing to do? At risk factors - emergencies - mouth to mouth breathing - rehydration mixture
6. Care of mother and baby after delivery and during next 10 days.
7. How should we care for babies to keep them healthy?
- importance of breast feeding
 - need for solids
 - prevention of infection = personal hygiene, immunizations
 - need for fluids in diarrhea

Practical

- 1) A.N. examination - palpation - fetal heart - breast
- simple advice
 - to refer - at risk mothers - when?

2. Care of Let-the's hands and nails (practice every class)
3. Care of equipment between and during use
4. Sterilization of boiling (practice every class)
5. Delivery techniques 1, 2, 3, stage
 - demonstration of points with dummy (role play)
 - observation of delivery conducted by H.V. or midwife if possible.
 - observation of delivery conducted by Let-the, by the H.V. or midwife.
6. Demonstration of immediate care of baby
7. Role play of emergencies
8. Simple health teaching

Appendix M

Curriculum For Community Health Workers

Duration: 4 weeks (140 hours)

1. Health Policy 2 hrs.
2. Background: Country Policy in relation to Health 2 hrs.
3. Anatomy & Physiology (including practical) 12 hrs.
4. First Aid 18 hrs.
5. Control of Communicable Diseases (27 hrs)
 - Epidemiology 2 hrs.
 - Chicken pox 1 hour.
 - Measles)
Diphtheria) Expanded program on immunization(EPI) 3 hours.
Tetanus)
 - Viral Hepatitis)
Typhoid) 1 hour.
 - Plague -- Control of rodents 2 hours.
 - Tuberculosis -- including sputum smear taking 3 hours.
 - Leprosy -- Drug Distribution 2 hours.
 - Field training on control of diseases common in their areas 6 hours.
 - Trichoma - -- Case finding and application of eye ointment 2 hours.
 - Malaria --- including blood smear 5 hours.
6. Environmental Sanitation (28 hrs)
 - Proper excreta disposal)
Proper refuse disposal) 2 hours.
 - Safe Water supply, including chlorination 3 hours.
 - Control of flies, mosquitoes and other insects 2 hours.
 - Control of stray dogs)
Personal Hygiene) 1 hour.

- Field Trips
 - Construction of latrines
 - Chlorination of wells
 - Control of stray dogs
- 7. Family Health Care - Referral of Pregnant Women 2 hours.
 - Nutrition
 - Pregnant Women
 - Weaning Child
 - weighing of child
- 8. Control of diarrheal diseases, including preparation of ORS 2 hours
- 9. Health Education 10 hours.
 - Methods of Health Education
 - Disaster preparedness
- 10. Medicines in the CHW kits: uses and side effects. -1 hour.
- 11. Treatment of minor illnesses 2 hours.
 - headache
 - fever
 - abdominal pain
- 12. Referral 1 hour.
- 13. Reports and Returns (Record keeping and filling out forms) 2 hours.
- 14. Indigenous medicine 2 hours.

- REFRESHER COURSE Every year 6 days.

Discussion of problems
Review of training
Health education techniques

126

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