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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

AGENCY FOR INTERNATIONAL DEVELOPMENT

WASHINGTON, D.C. 20523

PROJECT PAPER

BANGLADESH

PALLI CHIKITSAK (VILLAGE MEDICS)

388-0055

September 1981

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT  
PROJECT DATA SHEET

1. TRANSACTION CODE  
 A = Add  
 C = Change  
 D = Delete  
 Amendment Number \_\_\_\_\_

DOCUMENT CODE  
3

2. COUNTRY/ENTITY  
BANGLADESH

3. PROJECT NUMBER  
388-0055

4. BUREAU/OFFICE  
[ ] [ ]

5. PROJECT TITLE (maximum 40 characters)  
Palli Chikitsak (Village Medics)

PROJECT ASSISTANCE COMPLETION DATE (PACD)  
MM DD YY  
09/30/85

7. ESTIMATED DATE OF OBLIGATION  
(Under "B." below, enter 1, 2, 3, or 4)  
 A. Initial FY 81 B. Quarter 3 C. Final FY 84

8. COSTS (\$000 OR EQUIVALENT \$1 = 15 Taka)

A. FUNDING SOURCE	FIRST FY 81			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	( 1600 )	( - )	( 1600 )	( 3318.8 )	( 3,581.2 )	( 6,900.0 )
(Loan)	( )	( )	( )	( )	( )	( )
Other						
1.						
2.						
Host Country		3042	3042		16,562	16,562
Other Donor(s)						
<b>TOTALS</b>	1600	3042	4642	3318.8	20,143.2	23,462.0

9. SCHEDULE OF AID FUNDING (\$000)

A. APPRO. PRIORITATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) PH	524B	562		N.A.				6900.0	
(2)									
(3)									
(4)									
<b>TOTALS</b>									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)  
 510 440 740 840

11. SECONDARY PURPOSE CODE  
440

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)  
 A. Code BR TNG DEL  
 B. Amount 6,900.0 5,071 6,900.0

13. PROJECT PURPOSE (maximum 480 characters)  
 To increase the quality and availability of low cost primary health and family planning services in rural Bangladesh

Pop. action, Health, WID Division:  
 Joan La Rosa  
 Charles Garney  
 Proj: M01drem

14. SCHEDULED EVALUATIONS  
 Interim MM YY 01/3/3 MM YY 09/8/3 Final MM YY 04/8/4

15. SOURCE/ORIGIN OF GOODS AND SERVICES  
 000  941  Local  Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a \_\_\_\_\_ page PP Amendment.)  
 N.A.

17. APPROVED BY  
 Signature: Richard Podol  
 Title: Acting Director  
 Date Signed: MM DD YY 03/09/81

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION  
 MM DD YY 03/26/81

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## ACRONYMS

AID/W	Agency for International Development/Washington
BDG	Bangladesh Government
CRL	Cholera Research Laboratory (changed to ICDDR,B in 1979)
DHD	Directorate of Health Manpower Development
FWC	Family Welfare Center (Union level)
FWV	Family Welfare Visitor (female)
FX	Foreign Exchange
FY	Fiscal Year
GDP	Gross Domestic Product
HSI	Health Services International (Consulting firm)
IBRD/IDA	International Bank of Reconstruction and Development/ International Development Association (World Bank)
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
LC	Local Currency
MA	Medical Assistant
M/FP	Midwifery/Family Planning
MHPC	Ministry of Health and Population Control
MO	Medical Officer (M.B.B.S.)
NTC	National Training Center
ORT	Oral Rehydration Therapy
PC	Palli Chikitsak (Village Medic)
PID	Project Identification Document
PIL	Project Implementation Letter
PIO	Project Implementation Order
PSC	Personal Services Contract
RFTP	Request for Technical Proposal
SFYP	Second Five Year Plan (1981-1985)
THA	Thana Health Administrator
THC	Thana Health Complex
Tk	Taka (Bangladesh Currency, 15 Tk = \$1.00)
TMO	Thana Medical Officer (MCH/FP)
UNDP	United Nations Development Program
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development (Dacca)
WHO	World Health Organization

GLOSSARY

- ALLOPATHY --The treatment of disease by remedies that produce effects different from or opposite to those produced by the disease (as opposed to homeopathy). Westernstyle medicine.
- AYURVEDIC --The traditional Indian medical system, usually practiced by Hindus. Concerned with the whole life it places emphasis on health maintenance and spiritual aspects of healthful living.
- BURKHA --A garment covering the head, face and body to achieve purdah.
- CHEMIST SHOP --A pharmacy
- DAI --A trained or self-taught traditional midwife.
- GRAM SARKAR --The village level government with no administrative functions. Gram means village.
- HAKIM --A practitioner of Unani medicine
- HOMOEOPATHY --A system of medical treatment based on the theory that certain diseases can be cured by giving very small doses of drugs which in a healthy person and in large doses would produce symptoms like those of the disease (as opposed to allopathy). Homeopathy is the most popular system in towns and is prevalent everywhere, but contrary to theory some homeopaths now give antibiotic injections and all of them prescribe other modern drugs\*
- INDIGENOUS PRACTITIONERS --Hakims, homeopaths, kobiraj, totkas, spiritual healers and other quacks.
- KUTCHA --Temporary. Used to describe a shelter made of thatch and stick.
- NATIONAL DOCTORS --Licensed allopathic medical practitioners graduated from alternative medical schools established in opposition to the British colonial regime and closed in the mid 1960s.
- PALLI CHIKITSAK --Licensed village medical practitioners trained for one year at BDG training centers.
- PARA --The Bangladesh unit of geographical identity. A hamlet made up of a group of homesteads (300-350 people). Usually a few paras comprise a village.\*

- PUCCA --Permanent. Used to describe structures made of steel reinforced cement construction with doors, frames, plumbing, and utility connections.
- PURDAH --The practice of secluding or hiding women from strangers. Literally purdah means the curtain or veil.
- QUACK --Village medical practitioners including indigenous practitioners without any formal medical license. The term as used in Bangladesh is not derogatory.
- QUALIFIED ALLOPATH--Medical practitioners with MBBS degree or medical board license.
- SEMI-PUCCA --Semi-permanent. A term applied to buildings with an anticipated economic life of 15-20 years, built with modern materials, but not having finished interiors.
- SPIRITUAL HEALERS --Those practitioners not using any medicine and healing through spirits, religious chanting or amulets.
- SWANTRVAR --Self-reliance. A government-sponsored movement which seeks to enable participating villages to manage their own socio-economic development and population control by setting up five committees to represent landowners, the landless, artisans, women and youth.
- THANA --A government administrative division--county. A thana is comprised of several unions (180,000-200,000 people) and is the local administrative headquarters for all BDG programs including health and family planning.
- TOTKA --An indigenous healer. Totkas tend to be older, less educated and more often women and usually treat only one or two specific maladies.
- UNANI --Associated with Muslims it is a traditional system of medicine which is derived largely from ancient Greek medicine.\* Also described as a synthesis of Ayurvedic and Arab systems of medicine.
- UNION PARISHAD --At the union level it is the lowest structure of government. A union (18,000-20,000 people) is made up of three wards, each of which includes several villages.
- UNQUALIFIED ALLOPATH --A medical practitioner without a medical degree or license who is using allopathic drugs.
- WARD --An electoral unit comprising several villages but having no administrative functions (about 6,000 people).

\*Definitions are from Beliefs and Fertility in Bangladesh by Maloney, Aziz and Sarker, 1980.

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON D C 20523

PROJECT AUTHORIZATION

BANGLADESH

Palli Chikitsak (Village Medics)  
Project No. 388-0055

1. Pursuant to Part I, Chapter 1, Section 104 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Palli Chikitsak (Village Medics) Project for Bangladesh (Cooperating Country) involving planned obligations of not to exceed Six Million Nine Hundred Thousand United States Dollars (U.S. \$6,900,000) in grant funds over a four year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the Project.
2. The purpose of the Project is to increase the quality and availability of low cost primary health and family planning services in rural Bangladesh.
3. I hereby authorize the initiation of negotiations of the Project Agreement and its execution by the officer to whom such authority has been delegated in accordance with A.I.D. regulations and Delegations of Authority. The Project Agreement that may be negotiated and executed shall be subject to the following essential terms and major conditions, as well as such other terms and conditions as A.I.D. may deem appropriate.
4. Source Origin  
Goods and services including ocean shipping financed by A.I.D. under the grant shall have their source and origin in the United States, the Cooperating Country or in the other countries included in A.I.D. Geographic Code 941, except as A.I.D. may agree otherwise in writing.
5. Other Terms and Conditions  
The Project Agreement shall include, but not be limited to, certain other conditions precedent to disbursement and covenants, providing in substance as follows:
  - (a) Except as A.I.D. may otherwise agree in writing:
    - (i) The BDG covenants to assign and coordinate counterpart personnel as follows: (a) Two Ministry of Health and Population Control ("MHPC") health educators, qualified by education and experience for their counterpart assignments, will be assigned as permanent employees to the National Training Center ("NTC"); said employees will not be transferred during the Project except in extraordinary circumstances,

and if transferred, will be replaced immediately; (b) Following the technical assistance phase of the Project, the BDG counterparts will be assigned to the Health Manpower Development Directorate of the MHPC; and (c) The Director of the Palli Chikitsak ("PC") program will work part-time with the Consultant Team Leader to ensure Project coordination at all levels.

(ii) The Medical Officers ("MOs") trained in the Project will be assigned to Thana Health Complexes in which PC training is taking place, and will be responsible for the coordination and implementation of all PC training activities; beginning in 1985, MO trainers will be assigned to the permanent PC training centers, not less than two per center.

(iii) PCs will be required to undergo bi-annual, in-service training (two or three week program) as a condition of their re-certification.

(iv) PCs will be considered private practitioners, entitled to charge reasonable fees for their services.

(v) Female PC students will be admitted to the training program whether married, widowed or divorced.

Clearances:

Herbert E. Morris, GC/ASIA  
G. R. van Raalte, ASIA/PD  
Robert Halligan, ASIA/DP  
James A. Norris, ASIA/BI  
Robert Ichord, A-ASIA/TR

Date:

Initial

8/17/81  
8/14/81  
8/17/81  
8/17/81  
8/14/81

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REB

Signature

*[Handwritten Signature]*  
Assistant Administrator  
Bureau for Asia

Date

8/18/81

GC/ASIA:GDavidson:hp/fv:8/13/81:X58450

A. Description

This project will provide technical assistance to the Bangladesh Government for further development of the Palli Chikitsak (PC) curriculum, the training of PC trainers, and the production of educational materials. It will provide local cost financing of PC training and the materials to erect temporary PC student hostels in 74 Thana Health Complexes.

The project will be implemented in cooperation with the Ministry of Health and Population Control (MHPC). The technical assistance will be provided by a USA firm or qualified international research institution through a Host Country Contract. The contractor will procure equipment, educational materials and supplies; administer local training costs; employ expatriate and local staff; and provide through lease the National Training Center (NTC). Other local, US and third country project costs will be provided directly by USAID through specific sub-obligating documents.

The purpose of this project is to expand and improve the quality of medical and family planning services to the rural people who through circumstances of age, sex, residence and poverty do not have ready access to health care. The purpose is to be achieved by training, equipping and assigning one health practitioner to each of Bangladesh's 65,000 villages by 1985. The program is to be sustained in subsequent years by training to replace the numbers lost through attrition and by the institutionalization of in-service training for all PC graduate practitioners.

The goal of the project is to reduce substantially the morbidity and mortality of the rural population.

The Government's PC program is three years old, having been implemented and sustained since 1979 without donor assistance. At the Government's request, USAID provided technical assistance in 1980 to appraise the PC program's effects in the villages and to make recommendations for program improvements and continuation. The experts provided by an AID contract with Health Services International (HSI) found the program to be effective and conceptually sound. To improve the quality of the PC practitioners the experts made recommendations for improvements in PC curriculum, training, equipping and linkages with the thana health infrastructure. Using the consultant's findings together with recommendations of MHPC professionals and suggestions of other authorities in the field, USAID and the MHPC have designed this project.

B. Project Grantee and Implementing Agency

The USAID contribution to the project will be funded by a grant, executed through a Grant Agreement, and, if necessary subsequent amendments thereto, with the Government of Bangladesh (BDG). The administering BDG agency will be the Ministry of Health and Population Control.

Funds will be identified for commitment and sub-obligated through Project Implementation Orders and Project Implementation Letters.

C. Project Costs and Funding Sources

The PC Project will begin in FY 1981 and it will be implemented over a four year period at an estimated overall cost of 23.5 million dollars. The AID contribution to the project will be 6.9 million dollars. The BDG's contribution will be Taka 248 million (US Equivalent 16.6 million dollars). The project budget is in Annex C, Table C.2.

D. Statutory Criteria

All statutory criteria have been satisfied, see Annex D.

E. Mission Views and Recommendations

This project is consistent with the interests of the United States Government and supportive of its strategy for assisting the economic and social development of Bangladesh. All analyses of the project, from the technical, financial, social, economic and administrative standpoints indicate that the project design is sound. The Mission recommends approval of this grant project for the amount of US\$ 6.9 million in accordance with the terms and conditions in this project paper.

## PART II: PROJECT DESCRIPTION

### A. Background

The Palli Chikitsak (PC) program was begun in 1978 by the Ministry of Health and Population Control (MHPC). It is intended to train 65,000 PCs, one for each Bangladesh village. The chikitsak (medic) will be the principal provider of higher quality medical, family planning and general health services to that 90% of Bangladesh's population which resides in its villages.

When the program was proposed, reactions were mixed among the foreign donor agencies and within Bangladesh's medical community. The issues that were raised will be discussed elsewhere in this paper: they include concerns regarding the program's size and rapid implementation, the fee-for-service concept, and "second class" para-medical health care. Despite reluctance by some foreign donors to endorse the program, the MHPC remained firmly committed and began PC training, on schedule, in 1979. The numbers of training centres has increased rapidly and on schedule, as has the recruitment and training of the PCs. To date, the program's cost have been born entirely by the BDG.

#### 1. Rural Health

##### a. Lack of Basic Health Services

Despite BDG efforts to expand rural health infrastructure and manpower, villagers have little access to modern medical and health care. The UNICEF--WHO survey (1978) shows that in the case of serious illness ("So ill that he feels he needs to lie in bed") 22.3 percent could not consult any type of healer, only 10.1 percent consulted government clinics and 7.9 percent consulted qualified allopaths. The rest (59.7 percent) were attended by unqualified allopaths and other healers.

The CRL survey (1975) in Matlab Thana shows that 34.5 percent of the deceased did not receive, prior to their deaths, any care by any type of healer, only 13 percent had a single consultation in government clinics and in 11.1 percent of the cases there were multiple consultations with qualified/unqualified allopaths and other healers.

These figures illustrate the acute shortage of basic health care facilities in the rural areas. In addition, utilization of existing rural health facilities is poor due to the uneven quality of services, personnel shortages, and the lack of free drugs and other necessary medical supplies.

##### b. Low Health Status (Disease Profile)

The shortage of basic health care facilities is a contributing factor to the low health status of the rural population. In addition, the majority of the people live in absolute poverty and almost the entire population lives in relative poverty. Thus, the health status of the rural poor is also

related to their economic status (See Table II-1 - Bangladesh Demographic, Health and Economic Indicators.)

Malnutrition caused by inadequate caloric intake is the most important health problem in Bangladesh. Particularly in children under 5 years of age, protein energy malnutrition (PEM) not only retards growth and brain development but also increases a child's vulnerability to diseases. Not only is the body's resistance weakened but also its ability to recover. Disease in turn contributes to malnutrition by increasing the body's caloric requirements. Thus a vicious circle is set in motion by the interplay of malnutrition and disease.

The diseases most common in the rural areas are diarrhea/dysentery, upper respiratory tract infections, fever, parasites, tetanus, peptic ulcer, scabies and other infectious diseases. A survey in Matlab Thana (1974-75) shows that of all deaths, 29.89 percent were due to dysentery/diarrhea, 9.53 percent were due to fevers (all forms), 9.12 percent were due to tetanus and 1.9 percent, were due to measles. Maternal mortality is 5.7 per 1000. Infant mortality is 140 per 1000 live births. (See Table II-2 for a list of major causes of morbidity and mortality.)

Some of the common diseases prevalent in the rural areas are caused by lack of sanitation, safe drinking water, and hygienic waste disposal, or are due to lack of adequate health knowledge by villagers. The rapid population growth further aggravates rural health problems. The mean number of live births for currently married women is 7.6 and the completed family size is 6. The average birth interval is 33 months. Mean age of marriage is estimated to be 15 years and the mean age at first delivery 18.5 years. All these contribute to increased maternal mortality and morbidity, and consequent adverse effects on child and family health.

### c. BDG Health Interventions

Four major interventions necessary to deal with the health problems of rural Bangladesh, which were identified in the PID, are simple curative care, improved water and sanitation, immunization, and health education. The BDG activities in these areas, also described in the PID, will not be reiterated here. The Palli Chikitsak Program was designed primarily to provide simple curative care as quickly as possible to the under-served rural population.

## 2. The BDG Rural Health Outreach System

Bangladesh is divided into four administrative divisions, 21 districts (provinces), 65 sub-divisions, 356 rural thanas (counties) and approximately 3,700 rural unions (townships), each with 10 to 20 villages. The BDG Health Division has a 100 to 300 bed hospital in each district and smaller hospitals

TABLE II - 1

Bangladesh Demographic, Health and Economic IndicatorsDemographic

Area	55,598 sq.miles
Population (1980)	89.7 million
Density	1,614 per sq. mile
Crude birth rate	43 per 1000
Crude death rate	16 per 1000
Growth rate	2.7%
Population under 15 years of age	over 45%
Contraceptive Prevalency(1979)	12.66% of fertile couples
Average Family Size	6

Health

Life Expectancy at Birth	Less than 50 years
Life Expectancy at age 1	54 years
Infant Mortality Rate (0-12 mo)	140 per 1000 live births
Child Mortality Rate (0-5 yrs)	250 per 1000 live births
Maternal Mortality	5.7 per 1000 live births
Average daily caloric intake (rural) (1975-76)	2,114 Kcal
Children under 12 with 2nd or 3rd degree malnutrition (Gomez Classification)	86%

Economic

GDP (1980)	US\$ 10.5 Billion
GDP annual growth rate (1975-1980)	5.6%
GDP per capita (1979)	US\$ 100
Agriculture Sector % of GNP	53%
Rural Labor Force:	
Engaged in Agriculture Production	46.4%
Unemployed	32%
Land Holdings by Rural Households:	
Functionally Landless	54%

TABLE II - 2

	(1)	(2)
<u>Major Causes of Morbidity</u>		
1.	Gastrointestinal Diseases	19.03%
2.	Scabies	12.06%
3.	Respiratory tract infections (excluding TB)	12.43%
4.	Stomach pains	11.85%
5.	Nutritional Disorders	8.18%
6.	Other	36.45%

	(1)	(3)
<u>Major Causes of Mortality</u>		
1.	Dysentery	31.5%
2.	Fever	27.8%
3.	Diarrhea	15.5%
4.	Tetanus	3.5%
5.	Pneumonia	2.3%
6.	Jaundice	1.4%

(1) WHO Country Health Programming Bangladesh, April 1977

(2) Based on outpatient records from one Thana Health Complex in each district

(3) Based on reported deaths in Teknaf Thana of Chittagong District

at the sub-divisional towns. The rural health outreach program begins at the thana level. The thana health facility is a Thana Health Complex (THC), a combined inpatient and outpatient facility, with 31 beds (25 general and 6 maternity beds), staffed by up to four physicians (medical officers), 5 nurses, and other technical personnel. The THC serves an average population of 200,000 with clinical health and family planning services. It is the lowest level at which physicians are assigned.

There are about 10 unions in every thana. The government is now constructing union health sub-centers, or Family Welfare Centers (FWCs), one for every rural union. The FWCs are to be staffed by two clinical practitioners, male and female, to provide simple curative care and family-planning services. The male, known as a Medical Assistant (MA), will have received two years of classroom/clinical training plus six months of field practice and is competent to treat the majority of common diseases, provide first aid, set bones and perform simple surgery (such as lancing of boils). The female, known as the Family Welfare Visitor (FWV)\*, has received eighteen months of similar training but with emphasis on maternal and child health care and family planning. Besides these clinical workers, there are also in each union three male health visitors plus one supervisor, and three female family planning/maternal and child health visitors plus one supervisor. These field workers, who have received two months of formal training, are responsible for domiciliary visiting, health education, environmental sanitation, and contraceptive distribution and follow-up. Villagers in need of curative care are referred to the FWC, and those cases requiring a physician's care are then referred to the THC. The medical officers (MOs) at the THCs provide technical supervision to the MAs and FWVs, who in turn provide technical supervision to the field workers.

By the end of the Second Five Year Plan (SFYP) (1981-1985) the MIPC had planned to construct 362 Thana Health Complexes and 4500 Family Welfare Centres; however, these construction programs begun in the mid-seventies have not adhered to schedules. At the end of 1980 only 290 THCs were complete or nearing completion, and only a few hundred of the FWCs were minimally operational. Given the competition in Bangladesh for modern construction materials and the labor to build more modern structures, it is unlikely that the current pace will be greatly increased. In the meantime, older union health dispensaries and family planning sub-centers serve some areas. Training of MAs and FWVs was initiated four years ago, and total union coverage is several years away. The health and family planning field workers and their field supervisors have been trained and assigned to rural areas, but training was inadequate and field workers are still inadequately supervised.

The BDG's effort to implement this health delivery system is assisted by a number of donors. WHO has provided advisors for all aspects of health delivery system. Other donors primarily IBRD/IDA, UNFPA, UNDP, UNICEF, the Netherlands, Danida and CARE-MEDICO are financing construction, training of paramedics, and medical supplies and equipment.

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\* Due to recent MIPC initiative to integrate health and family planning services this job title (and others) is being changed. See Part V.D. Administrative Analysis.

The Palli Chikitsak (PC) is the third and newest category in the medical manpower hierarchy: the M.B.B.S. doctor (MO) is at the top, the MA (and F&V) in the middle and the PC at the base. In the government health services structure they are placed at the thana, union and village levels respectively. The first two are supported by the BDG while the third is to be individually and community supported.

### 3. The Palli Chikitsak Program

#### a. Program Norms

The PC Training Program<sup>1</sup> is a one-year, full-time, comprehensive, curative, and public health training program at the technical level. Theoretical and clinical components are taught to secondary school graduates by Thana Health Administrators (THAs) and Medical Officers (MOs) who use curriculum materials created by physicians specifically for the program.

The curriculum includes: general sciences, anatomy and physiology, pharmacology, physical assessment, first aid, etiology and treatment of common diseases, food and nutrition, family planning/population control, nutrition, and rural development and leadership.

Students are recruited from the village to which they will return and are licensed to practice upon completion of the course. Seats for women and indigenous practitioners (20% for each group<sup>2</sup>) are reserved in an effort to upgrade and enhance the participation of these groups.

Students study, practice and reside at the THC where patients are attended daily. Each PC receives a government stipend of 100 Taka per month throughout the student experience and for one calendar year after graduation. Books and lodging are also provided during the study year.

Successful completion of the program requires passing grades on two examinations at the end of each six-month semester. Graduates receive a certificate and are eligible to practice in their unions upon receipt of final grades. Measures to assure quality control include attendance at a monthly meeting at the Thana Health Complex and the maintenance of a patient record book where THA comments are recorded. License renewal requires a refresher course every two years.

Specifically, upon completion of the program, the graduate would be expected to:

- a. provide the rural population with treatment for common diseases;
- b. provide first aid for fractures and other injuries;
- c. do minor surgery, e.g. boils;

<sup>1</sup> A description of the program is also repeated in the study which is Annex G.

<sup>2</sup> The quota for indigenous practitioners was raised to 50% in December 1980.

- d. refer complicated illnesses and injuries to the most appropriate higher level practitioner and provide follow-up care for these cases;
- e. provide family planning services;
- f. provide immunization services; and
- g. be available to the villagers for advice regarding sanitation and household hygiene, potable water, school health education, and nutrition. In the original PC curriculum it is also stated that PCs would receive some general training in integrated rural development.

The first 2500 students (50 groups) were admitted to 50 Thana Health Complexes in all districts in January 1979. These groups completed a year of training and wrote their final examinations in December 1979. It was anticipated that each would begin private practice about March 1980, upon receipt of their licenses. Thus, by August 1980, approximately 2,500 graduate PCs were delivering curative health services in 2,500 Bangladesh villages. The goal of the BDG's project is to train enough PCs in order to provide one practitioner for each of the country's 65,000 villages, and to complete the process by 1985. (See PC Training Schedule, Table II-3)

#### b. Program Rationale

The PC Program design is seen by the Government as an efficient way of using scarce funds and resources. By employing existing Thana Health Administrators as the principal trainers of the PCs and by using existing facilities, minimal changes are required to implement the program. Training of PCs at the thana level is seen as being more cost-effective than creating a series of separate centers and developing new organizational structures.

The development of a cadre of curative village medics is considered to be a self-supporting approach to health care at the village level. It is recognized that patients are more easily inclined to pay for curative services because the outcomes are more easily observed than the results of preventive health care. Thus, to meet health needs and to encourage the development of non-government-dependent practitioners, the program made available services: a) which are at a curative level, and b) which will ensure perpetuation of the private fee-for-service reimbursement system. The PC Program was designed as an affordable, safe and effective approach to providing these services to the rural population.

#### 4. Results of USAID Assessment of PC Program Implementation<sup>1</sup>

##### a. Summary

The purpose of the study was to assess the implementation of the PC program with regard to selection criteria of candidates, program components,

<sup>1</sup> Annexes G and H include complete study and results.

Table II - 3  
Palli Chikitsak Training Schedule  
1979 - 1984

Class Number	Year of Training (Jan. - Dec.)	Number of PC Trainees	Number of Training Centres (THCs)
1	79	2,500	50
2	80	7,500	150
3	81	10,000	200
4	82	13,750	275
5	83	15,000	300
6	84	16,250	325

facilities, equipment and personnel needs, perceptions of trainers and PC graduates, and follow-up of actual outcomes of the program. Thus, an overall curriculum assessment was undertaken by the investigators. Curriculum was conceived of as all aspects of study and/or living which affected the learners throughout their course of study.

To conduct the assessment, questionnaires were created, tested (through a pilot study) and administered to 24 THAs and 98 PC graduates. The sample of THAs was selected randomly and the PCs were included by virtue of their presence in the randomly selected thana.

Trained interpreters accompanied the three investigators during three weeks of July 1980, at which time 98 unannounced visits were made to the PCs in their village homes.

The data were summarized, tabulated, coded, analyzed and discussed in relation to the specific areas of BDG and USAID interest.

#### b. Conclusions

On the basis of literature reviewed, persons interviewed, thanas and villages visited and analysis of all research findings, the investigators made recommendations which are being incorporated into this project design.

Overall, the PC Program was viewed as a dynamic, creative, socially useful and relevant program designed to meet a need among a poor, deprived and remote substrata of population. Founded on the principles of fee-for-service and private practice, the program seemed to promote on the part of PCs an urgency for learning useful information and seeking approaches to enhance their effectiveness. There was a sense of pride and interest among the graduates and the data reflected an overwhelming PC perception that the training program was too short. In another respect, then, an incidental but most important effect of the program was the generation in the PC's of feelings of motivation, involvement and personal investment in their activities and development.

Like any new program involving so many people, change and progress occurred on several levels and at varying rates. The investigators noted the following milestones, finding some in greater evidence than others.

First, the basic structure of the program was in place and was being implemented. Second, 150 THCs had been established at which the first class of 2 500 students had completed a year of training and a second class of 7,500 was in training. And, third, graduates were practicing and serving the target population with relative degrees of success.

#### i. Recruitment

For the most part, students admitted to the program met admission criteria. It was suggested that the need for intense recruitment efforts

aimed at women and indigenous practitioners would further ensure health care to more child-bearing and child-rearing women--the group found to be the least often served by the rural health system.

#### ii. Curriculum

In their review the investigators observed differences between what was written in the original training and program plans and the actual implementation of those plans. Differences were seen in a number of areas: course content and instruction; understanding of the program's purposes; expectations of PC trainees; and roles of graduate PCs. In general, the emphasis of training was on the PCs' curative functions, and other roles originally planned, e.g. health promotor and rural developer, were de-emphasized. Course content as originally planned was too extensive for a one year program. Recommendations were made to review the purposes, revise the curriculum, and to realign theory and clinical hours into a well defined series of manageable units for instruction.

To train effectively the agreed upon number of 50 students per class, and to accommodate the learning environment to the unpredictable and seasonally-dependent clientele, alternatives to providing effective field experiences were determined to be urgently needed. Teaching methodologies using simple technology were also deemed necessary to fill a critical gap in the training.

#### iii. Learning Environment/Living Conditions

Problems associated with living conditions and the learning atmosphere were mentioned by THAs, PC trainees and graduates. At least half the THAs specifically mentioned the need for separate student quarters away from the patient population. Currently, the in-patient wards on the second floor of the THCs are used as dormitories and classrooms for the PCs. Small 10-bed wards have been squeezed into the first floor for in-patient care. In the past, 10-bed wards would have been sufficient for most THCs, and in fact, many lacked beds, nursing staff and cooking facilities so that they were unable to accept any in-patients. With an active sterilization program underway at many THCs, however, and an increase in sterilization acceptors expected, lack of adequate ward space will become a real constraint to the sterilization program. Currently a shortage of ward space does not seem to have affected the number of sterilization patients accepted, but it has already adversely affected the quality of out-patient care, since clients are crowded into limited space. In addition, because the PCs are occupying patient beds, clinical cases for student learning have been eliminated. Hostels to accommodate classes of 50 students are needed.

#### iv. P.C. Stipends

On the basis of the actual practices of the graduates, the investigators concluded that the present system of a one year stipend of 100 Taka per month and no other government funding is an effective way of assisting the new graduate to enter private practice and should be continued. It was further concluded that additional government support of the PCs would undermine their motivation.

v. Follow-up Activities

The investigators noted two discrepancies between the Curriculum Guidelines and the actual practice of monitoring the PCs. Only 20 of the PCs interviewed had attended monthly meetings at THCs. Those who did not attend meetings had not done so because none were held. It was also noted that PC record books were not maintained during or after training. One reason given was that the cost of the books was an expense PCs could not afford. Greater emphasis on follow-up activities and continuing education was recommended by the consultants.

vi. Needs for the Future

Teacher Training

To implement this program, the investigators recommended that available resources be committed for the training of the trainers. The investigators determined that it was difficult to teach in the field without having had exposure to role models who could demonstrate clearly the most effective teaching methods. PCs were found to be enthusiastic, responsive and impressionable. The investigators concluded that the use of competent medical officers as trainers and role models would serve best to meet program objectives.

A one-month, intensive training program for medical officers (MOs) from each thana that would serve to clarify the philosophy, purposes, scope and limitations of the PC training was recommended. This training would actively involve the MOs in preparation of lectures, use of slides, use of live patients, and development of evaluation instruments. Suggested topics for such a training exercise might include: lecture techniques, evaluation techniques, teaching methods, physical assessment, observation and interviewing techniques and the essential components in clinical teaching and evaluation.

Given materials and personnel support as well as teacher training opportunities, the investigators felt that the quality of the teacher-student learning experiences could be enhanced and could serve a multitude of student learning styles.

Materials

Teacher manuals to show medical officers how to teach interviewing, observation and physical assessment need to be developed. Situational ethics vignettes are also needed to assist medical officers to improve the quality of care delivered by the PCs in their practices.

The creation of a center for learning which would be a model for THC training centers, a principal recommendation of the investigators, would provide MOs a classroom to learn the managerial aspects of maintaining a clean, aesthetically pleasant learning environment.

## B. Project Goal, Purpose and Strategy

### 1. Project Goal

The Palli Chikitsak (PC) project goal is to reduce morbidity and mortality in rural Bangladesh.

### 2. Project Purpose

The project purpose is to increase the quality and availability of the low cost primary health and family planning services in rural Bangladesh.

### 3. Project Strategy

The strategy for achieving the project purpose is the training of the PC trainers. These are the 325 thana level medical officers (MOs) who will be trained in this project to be the trainers of the PCs who will return to provide health care services in the 65,000 villages of Bangladesh. Bi-annual, in-service training of graduated PCs will be required as a condition of their recertification, and this institutionalization of PC training is also an important part of the program strategy.

The consultant's report and the MHPC experience in the initial years have caused the MHPC to choose the thana level MOs\* as the trainers rather than the Thana Health Administrators (THAs) who are the MO supervisors and who have been primarily responsible for PC training. This is because the THAs carry large responsibilities for many programs and have too many demands upon their time. The MOs have fewer commitments and can more easily fit the PC teaching assignments into their schedules.

The MOs, under the supervision of the THAs, will be technically responsible for PC activities, e.g. periodic review of PC patient record books. The THAs will be responsible for the management of thrice yearly PC meetings at the THCs, management of the in-service training schedules, and the administration of PC re-certification.

This strategy makes attainable the 1985 goal of having a trained health practitioner in every Bangladesh village.

\* MHPC official documents show two categories of Medical Officers assigned to Thana Health Complexes. There is one 'Thana Medical Officer' or 'TMO' responsible for MCH and clinical family planning programs, i.e. sterilization. There are three 'Medical Officers' responsible for both in and out patient care at the THCs. This paper will use the term 'Medical Officer' or 'MO' and make no distinction between the two categories. TMOs or MOs may participate in the PC training program.

### C. Project Beneficiaries

The three groups of direct beneficiaries of this project, listed in order of their priority, are: the villagers of Bangladesh, who will have access to better health care; the palli chikitsaks themselves, who benefit from their training and employment; and the Health Division of the MHPC, which will acquire new competence in curriculum design, paramedic training and program management. (Project beneficiaries are described further in Part V.B. Social Soundness Assessment.)

### D. Detailed Description

#### 1. Project Activities

New resources will be invested in a recently implemented, on-going BDG program in order to improve its quality and to insure the project purposes are achieved. Six activities are planned and funded under this project.

(a) A one month training course will be given to the PC trainers-- 325 thana based MOs. Consultants and their MHPC counterparts will staff and equip a National Training Center (NTC) and will design the course curriculum and teaching materials based on the 1980 consultants' report and subsequent evaluations of on-going PC instruction. The NTC will have two classrooms and a laboratory allowing 40-50 MOs to be trained during each month from November 1982 until August 1983.

(b) The PC curriculum will be reviewed and revised. The review began with the consultants' study in August 1980. Based upon that study and subsequent investigation by the NTC staff, new educational materials-- texts, manuals, audio-visual and other teaching aids--will be drafted, tested and then reproduced in Bengali for use in all the PC training centers.

(c) The PC bi-annual, in-service, Recertification Course curriculum will be designed, tested and teaching materials reproduced for use in the three week training courses scheduled for early 1984. A workshop for the Recertification Course trainers is scheduled prior to the start of in-service training.

(d) Midwifery and family planning will be given emphasis for an estimated 5000 female PCs. The Midwifery/Family Planning (M/FP) activity will include a six to eight week course in a third country (probably W. Bengal, India for cultural and linguistic reasons) to train the trainers. Forty MHPC female physicians or other higher level female paramedics, e.g. Family Welfare Visitor Instructors, who will be selected as the trainers, will attend one of two courses offered in a third country in 1982. Three in-country workshops will be scheduled upon the return of the trainers, throughout 1983, to allow them to develop the course curriculum, to test teaching materials, and to schedule about 180 two-week M/FP courses for 5000 female PCs. It is anticipated that approximately 2400 students enrolled in PC Class 5 will be instructed in 1983, and 2600 (from Classes 1-4) will attend the course in conjunction with their in-service training

in early 1984. The trainers, who will develop M/FP student and teacher manuals, will also determine the contents of midwifery kits, which are being provided to the female PCs as motivation for serving more female clients.

(e) Two complementary continuing education and monitoring activities are scheduled beginning in late 1983. (i) Thrice yearly, one or two day meetings will be held at the THCs for the practicing PCs in the thana. At these meetings, administered by the THAs, the PC patient record books will be reviewed, patient referral and individual problems discussed, and additional instructional materials provided to the PCs. There will be an opportunity at these meetings for PCs and government health workers to exchange information on health conditions in their areas. (ii) Two to three day orientation workshops for THAs will be held at the National Training Centre to discuss and plan the continuing education PC meetings. District and Central level MHPC officials whose work requires their having knowledge of the PC program will also attend these orientation workshops.

(f) Hostel Construction. In Bangladesh there are two terms, each generic, to describe construction. One is "kutcha" and the other is "pucca". (Very roughly, the English equivalents are "temporary" and "permanent".) Within each category there is a wide range of subordinate, related definitions. "Kutcha" accurately describes a lean to put up for one night to give shelter, a thatch and stick shelter meant to last during a harvest, or a "permanent" home in rural and urban areas. "Pucca" tends to mean steel reinforced cement construction with doors, frames, plumbing, utility connections (as available), etc. "Semi-pucca" broadly applies to buildings with an anticipated economic life of fifteen to twenty years, built with modern materials, but not having finished interiors. A pipe-frame attached to brick or cement foundations and supporting a galvanized iron roof would be in the category of "semi-pucca" (semi-permanent). It is construction in this category which is planned for the hostels at the 74 permanent THC training centers and which should be manageable by local contractors because of their familiarity with the necessary construction techniques.

The MHPC will provide land for the hostel construction which is already a part of the Thana Health Complex areas as well as labor, transport and procurement\*. The Construction Unit of the MHPC will be responsible for designs, adherence to specifications and building completion certifications. The Ministry will submit final designs and construction drawings including detailed specifications for the hostels along with cost estimates for USAID approval prior to issuance of construction contracts. The Ministry will then allocate funds for the building of the hostels to Thana Health Administrators. Materials and labor will be contracted locally within cost and other guidelines of the Government which apply to this kind of construction. Engineers of the MHPC's building, planning and design unit will inspect and certify adherence to specifications, and funding disbursements will be in accordance with agreed schedules.

\*NOTE: The Thana Health Complexes where hostels are to be built are large, walled compounds with resident professional and auxiliary staff including day and night watchmen. Security arrangements, therefor, meet the best available in Bangladesh.

USAID will contribute \$15,000 toward the cost of construction materials required for each hostel. USAID will, in the normal course of project monitoring, record construction completion at the 74 sites, seeing that the hostels built are of the approximate size described in the building plan. The mission will also verify that the buildings are used for intended purposes. The building plan and details of the construction schedules will be in a Project Implementation Letter (PIL). Construction will begin in 1982 and be completed before 31 December 1983. USAID, as prescribed in PILs, will provide money against agreed schedules, e.g. 40%, 40%, 20% at, respectively, signing of the PIL, completion of 30 of the structures, completion of all structures.

## 2. Project Outputs

- a. Comprehensive teacher training program for medical officers:
  - (i) A well-equipped national teacher training center;
  - (ii) Production of a teaching manual for trainers;
  - (iii) Training of 325 MOs using appropriate educational technology;
  - (iv) Effective program evaluation of educational technology and teaching materials.
- b. Revised PC curriculum and related materials development:
  - (i) Revision of PC curriculum into modules based on technical skills requirements;
  - (ii) Production of supplementary manual and other BDG training materials (in the Bengali language);
  - (iii) Production of simple, relevant classroom aids for teaching clinical skills and theoretical content;
  - (iv) Comprehensive evaluation of educational technology and revised curriculum.
- c. In-service Recertification Course training program for graduate PCs:
  - (i) Development of course schedules and curriculum;
  - (ii) Workshop to orient course instructors;
  - (iii) Three week training of 33,750 PCs;
  - (iv) Evaluation of curriculum, materials and teaching.
- d. Supplementary M/FP training program for female PCs:
  - (i) Third country training in M/FP for 40 trainers;
  - (ii) Three workshops for trainers to develop M/FP course;
  - (iii) Development of course schedule and curriculum;
  - (iv) Production of teacher and student manuals;
  - (v) Procurement of an appropriate midwifery kit;
  - (vi) Training of 5000 female PCs;
  - (vii) Receipt of manuals and midwifery kits by 5000 female PCs;
  - (viii) Evaluation of teacher training, curriculum and materials and PC training.
- e. Effective planning and management for equipment delivery:
  - (i) Receipt of manuals and record books by all PC trainees and graduates;
  - (ii) Receipt of modified medical kits by all PC trainees and graduates.

- f. Continuing education and monitoring system functioning effectively:
- (i) THAs briefed on PC monitoring at workshops.
  - (ii) Three meetings held at each THC to review PC records and discuss referrals and medical issues.
  - (iii) Comprehensive evaluation of Continuing Education and overall PC performance.
- g. Construction of semi-pucca hostels at 74 THCs.

3. Project Inputs

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Budget Summary		(\$000)				
	**	FY81 *	FY82 *	FY83 *	FY84 *	TOTAL
a. Foreign Advisors	C-3 C-4		\$371.6	\$401.2	\$191.2	\$964.0
b. National Personnel	C-5		8.5	12.4	6.5	27.4
c. Nat'l. Trng Center lease, equipment, vehicles	C-6 C-7		88.0	40.8	19.8	148.6
d. Perdiem, travel, training stipends	C-8		22.5	38.0	587.1	647.6
e. M/FP Training	C-9		90.0	448.5	182.0	710.5
f. Supplies & equipment for PC Trainees	C-10		780.0	1,625.0		2,405.0
g. THC training eqipt.	C-10		213.7	-	-	213.7
h. Hostel Construction Materials			500.0	500.0	100.0	1,100.0
i. Evaluation			15.0	15.0	25.0	55.0
Sub-Total			2,079.3	3,080.9	1,111.6	6,271.8
Total (10% added) AID			2,288.2	3,389.0	1,222.8	6,900.0
j. BDG/AFPC Contribution		3,042.0	4,109.0	4,519.0	4,892.0	16,562.0
GRAND TOTAL		\$3,042.0	6,397.2	7,908.0	6,114.8	23,462.0

\* Refers to year of expenditure (not obligation)

\*\* Refer to budget tables in Annex C

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d. (i) Per Diem, Travel and Housing for MO Trainees and Other MHC Staff

MO trainees will spend one month each at a centrally-located training center (Dacca). Three hundred twenty-five MOs will be trained in eight sessions from November 1982 through July 1983. In addition, there will be short orientation workshops for Thana, District and MHC personnel. Total cost of travel and per diem is \$62,600. (The average cost per MO trainee for travel and per diem for one month course is estimated at \$180.)

d. (ii) Per diem and Travel for PC Recertification Training

The trained MOs will begin taking up their teaching positions during 1983 and will reach directly, through the regular program, 31,250 PC trainees of Classes 5 and 6 in 1983 and 1984. To insure the benefits of the new curriculum and improved teaching are available to all previously trained PCs, they will be scheduled for the in-service training Recertification Course beginning either in the latter part of 1983 or in 1984. The 33,750 PCs from Classes 1 to 4 will receive, as a part of their in-service training, the new manuals, blood pressure instruments, and patient record books. To accomplish this large retraining, the MHC will have to make some adjustments in the 1983/1984 schedules. Among the options are: (a) open up 25 THC training centres prior to their scheduled openings in 1984 (325 MOs will be trained by August 1983 but only 500 training centres will be operating during that year. The additional 25 could be opened in late 1983 to begin the in-service training program.); (b) in-service training could be scheduled at 325 THC training centres during the first months of 1984 and the regularly scheduled PC Class 6 could be delayed for two to three months; (c) other adjustments could be made in scheduling, e.g. accelerating and shortening the course or taking mid-term breaks during which time centres could bring in practicing PCs for in-service training. The in-service Recertification Course training, funded under the project in FY84, for 33,750 practicing PCs, will require per diem and travel costs totalling \$ 292,500. Subsequently, PC Recertification training will be required by the MHC every two years for PC re-licensing.

d. (iii) Per diem and Travel for PC Thrice Yearly Meetings/

Continuing Education

Monitoring and follow-up of the quality of care delivered by PCs has been less than adequate. In order to facilitate regular MHC reviews of PC performance the project will provide travel and per diem expenses for PCs to attend thrice yearly meetings beginning in FY84. At these meetings, TRAs and PCs will review patient record books and discuss patient referrals and problems. Total cost for travel and per diem for three two-day meetings is \$ 292,500.

e. Midwifery/Family Planning (M/FP) Training for Female PCs

Rural women constitute the group most in need yet least served by the health delivery system. Social-cultural factors discussed in Part V.B. The Social Soundness Assessment are partly to blame. It is reasoned that by increasing the numbers of female health practitioners (female PCs in this case) services to women will also increase. The consultant study of July 1980 confirmed that female PCs serve a greater percentage of women, but their total patient load is smaller than that of the average male PC. In order to motivate women practitioners to expand their female patient loads and to give emphasis to these important areas of health care, the project includes a comprehensive training program in midwifery and family planning. Activities under this program include third country training of trainers - 40 M/FP female physicians or higher level paramedics - at two six to eight week M/FP courses scheduled in the latter part of 1982, possibly in W. Bengal, India, at a cost of \$ 160,000. Two ten-day workshops will be held for these trainers upon their return from third country training to allow them to develop and test a two-week M/FP curriculum and design and order an appropriate M/FP kit. Total cost of the workshops, including a third, planned for August 1983 to finalize the M/FP course curriculum and schedule, will be \$ 12,000. Per diem, travel and other course-related expenses for 5000 PCs (180 classes) trained in M/FP in late 1983 and 1984 will cost \$ 350,000. Costs of teacher and student manuals and M/FP kits total \$188,500. Total cost for this training program will be \$ 710,500.

f. Manuals, Record Books and Equipment for PC Trainees

Supplementary materials will be given to PC students who are trained by a trained MO in the regular or recertification courses. The supplementary materials are blood pressure instruments (\$ 25.00 each), BDG manuals (\$ 3.50), supplementary manuals (\$ 7.50) and record books (in which to record patient visits, \$ 1.00) for a total of \$ 37.00 per technically assisted PC or a total of \$2,405,000 for the project.

g. Equipment for THC's

Audio-visual equipment, manuals for trainers and other supplementary teaching materials will be provided to 325 THC's with trained MO's. The total costs for these materials will be \$ 213,700.

h. Construction costs

After the total of 65,000 Palli Chikitsaks have been trained, 74 permanent centres will continue to teach PCs to make up for attrition. In addition, the centres will provide to practicing PCs the required bi-annual Recertification Course. This will be a three week course. In the 74 permanent PC training centres, student hostels will be built. These hostels will be "semi-pucca" (semi-permanent) structures designed and constructed by the M/FP Construction

Unit. The BDG will provide the land and labor costs. USAID will contribute to the costs of the basic building materials. It is estimated that the USAID contribution will be \$ 15,000 for each hostel, a total of \$ 1,110,000 for the construction program.

i. Evaluation

The technical assistance contractor with MHPC counterparts will carry out interim evaluations of the various project activities. In January 1983 the MO training course will be evaluated and revised. In September, 1983 there will be a more comprehensive evaluation including a survey of PC trainees and practitioners. A final project evaluation will be done in the Spring of 1984 by USAID and the MHPC. Short term consultants will be employed for a total of five and a half months to assist in these evaluations. The estimated cost of these consulting services is \$ 55,000.

j. BDG/MHPC Financial Contribution

The \$ 16,562,000 expenditure by the BDG for the operation of the THC training units and the training of the PCs is already substantial and comprises the majority of the total project costs.

AID's contribution to the project will be \$ 6.9 million from FY 1981 through FY 1984. The BDG contribution will be Taka 248 million (US \$ equivalent 16.6 million).

E. Project Relationship to Mission Strategy and Host Country Priorities

1. Relationship to CDSS

During initial project design discussions, USAID acknowledged that the project's linkage with the Mission strategy as outlined in the FY82 CDSS was mainly indirect. Nevertheless, USAID decided to go ahead with project development because, in the words of the PID, "The Mission sees improved health care as a worthy goal in itself, because it contributes to an overall improvement in the quality of life for Bangladeshi villagers. In this particular case, we see an opportunity to assist the Bangladesh Government with an innovative health care program which is wholly Bangladeshi conceived, recognizes the constraints of the Government health program and utilizes the private sector to overcome them.

During subsequent project development, however, the project has undergone some major design changes which bring it directly within the FY83 CDSS strategy. First is increased emphasis on family planning in PC training. The PCs are to become primary family planning as well as health care providers. Potentially they will be contraceptive depot-holders for the national family planning program. As the most readily available source of both family planning and health services, PCs are expected to

have a significant impact on rural contraceptive acceptance. (Since the BDG has recently integrated its health and family planning services, PCs as third-tier health/family planning personnel also fit well into the BDG's new concept of integrated service delivery.)

Secondly, the project places emphasis on recruitment of women as PCs and on special training for women in M/FP. This will result in increased benefits for rural women as both participants and beneficiaries. The importance of improving women's status as a necessary step in reducing fertility has been stressed in the CDSS. This project will provide more direct benefits to women through training and relevant, high-status employment opportunities than any other project in the Mission.

## 2. BDG Priorities

The BDG's increased emphasis on rural health services is apparent. The recent Country Health Programming exercise, the Alma Ata Primary Health Care Conference, and the follow-on Asian Regional Conference in Delhi have made a strong impact on Bangladeshi health policy makers.

The PC program has had a strong BDG commitment. The program was conceived, designed, and executed entirely by the Health Division with BDG funds. In the first three years of project life all costs--including curriculum design and textbook production, teachers' payments and student stipends--have been assumed by the BDG, and funds have been budgeted for expansion of the program in future years. The entire training unit of the Health Division has undergone staff changes, including appointment of a special director for overall coordination of primary health care personnel training as well as separate directors for each program.

The budget already earmarked for this program and public statements of high level officials indicate the government's commitment to the program. As implementation problems have arisen the BDG has recognized the need to analyze and make program changes. Increasing the quota for recruitment of indigenous practitioners from 20 to 50 percent, is an example of the BDG's continuing commitment to the success of this program.

## F. Project Issues

1. Issues identified in the PID:
  - a. Villager's need for and acceptance of PCs:
  - b. Equity considerations in a fee for service system:
  - c. Government's capacity for introducing innovations in the PC training program and PC administration:
  - d. Delegation to the Mission to approve the Project Paper (PP):
  - e. Eligibility for FY 1981 initial funding.

2. Issues identified in the PID approval cable (STATE 286929 of 5 November 1979, Annex A):

- a. Inclusion of (emphasis on) family planning services delivery;
- b. Length of PC training course;
- c. Participation of women in the PC program;
- d. Continuity of trainers;
- e. Length of project (USAID participation);
- f. Mission staffing - capability to monitor PMW portfolio;
- g. Potential contractor (for technical assistance).

(1.a. and 1.b.) Village Acceptance of PCs and Equity Issues

Through the study carried out in mid-1980 by AID contract consultants, we confirmed there is a need for a PC in the village and that villagers accept the PCs as they are now trained. (Study: Annex G.) It was also learned that there are inevitable inequities in a fee for service system, but that despite these inequities it is the less affluent who will benefit most from PC services. (See Part V. A. Economic Analysis, also Annex H.) (It is specious in Bangladesh to make distinctions between the rural poor and the rural middle classes, for these groups all live in abject poverty.) Improvements in the training of the PCs, e.g. emphasis on less expensive treatment, will result in lower overall costs (diagnosis, treatment and drugs) thus minimizing inequities.

(1.c.) BDG Capacity for PC Program Innovations and Administration

The Government has participated throughout in the design of this project, has reviewed and concurred in this Project Paper, and has proposed many of the innovations which are described here. This is a large training program for Bangladesh, but the M-PC has experience (shared by USAID and other major donors) in managing such programs for its family planning workers. This was an issue only because, when mentioned, it was still an unknown. We feel it is not now an issue.

(1.d.) Mission Authority to Approve PP

Authority to the Mission for PP approval was granted; however, that approval was based upon the project cost being below \$ 5 million. The cost of the project as finally designed is in excess of that amount, and the PP will be submitted to AID/W for approval.

(1.e.) FY 81 Funding

FY 1981 funds are authorized by AID/W for project start-up costs.

(2.a.) Family Planning Services

Family planning and population control has been a subject in the PC curriculum from the beginning. It will be given increased emphasis in (a) the training of the trainers (TOs), (b) the in-service training of the PCs, and (c) the thrice-yearly one or two day PC meetings at THCs.

The innovation introduced in this project which will have the most immediate, direct effects will be the training of female PC trainers in midwifery and family planning and the subsequent training of the estimated 5000 female PCs. The training of female trainers will be done in a third country, most probably India (W. Bengal), where there is cultural and linguistic compatibility. The female PCs will be trained at their THC training centres. The extra midwifery training of the female PCs will be continued for all females later entering PC training.

Not included in this project, but under discussion with the Ministry's separate Divisions of Health and Family Planning (PCFP), is the proposal to establish PCs as a new, fourth tier in the contraceptive distribution system. The PCs would be depot holders and would charge a fixed price for pills and condoms. The price would be the same or less than the same commodities in the Social Marketing (CRS) program in Bangladesh.

PCs will be designated as recognized motivators, thus able to participate in the national sterilization program.

#### (2.b.) Length of PC Course

The length of the PC course (one year) was considered by the consultants in their 1980 study. They conclude the course is not long enough when related to the content. They find there is support among trainees and others for a longer course. Their recommendation is to retain the present course length and to modernize and revise the curriculum so it may reasonably be covered in the one year program.

USAID in its talks with the MPPC beginning in 1979, did encourage consideration of a shorter course; however, the one year choice had been made at a very high level and had considerable support. Since that time a number of high and middle level MPPC officials have visited the China program ('Barefoot Doctor') and, on their return, talked of continuing PC education to bring them, eventually, to the Chinese standard.

USAID feels program objectives could probably be achieved through a variety of different training approaches, and concludes this one is the best for Bangladesh because it works, because it has support, and because it includes the concept of continuing education.

#### (2.c.) Participation of Women

The participation of women in national economic and social development is among the President's highest priorities. The participation of women in the PC program remains a high priority of the MPPC. At this time, given cultural constraints, we see no easy way to increase markedly the participation of women, no more in this program than in others in Bangladesh. Over time, however, as villagers learn the value of palli chikitsak services and learn that in many places trained women can and do provide services to women that the culture prevents males from providing, they may exert influence on young women to take the courses.

Two direct incentives will be provided for females in this project. One will be the addition of a special midwifery/family planning course for the female PCs and the provision to each female PC of a midwifery kit and manual. The other will be the construction of hostels at the 74 permanent PC centers. The addition of this space will make it much easier for the Thana Health Administrators to provide space for female trainees.

(2.d.) Continuity of Trainers

The continuity of trainers should not now be considered an issue. In the initial, intensive stages of PC training there will be 325 MOs, one for each THC training centre. When the MHC cuts back to 74 permanent centres, it will have available more than four MO trainers for each centre. The MHC will also have available to it the personnel (contractors' counterparts) who could again conduct the training courses. The MHC agrees that from 1984 onward, there will be not less than two MO trainer at each of the PC training centres.

(2.e.) Length of USAID Project

The length of the project as described here is from FY81 through FY85. Activities financed by the project are stretched out over a longer period than proposed in the PID, however, the long term consultant tours are reduced slightly. Project design has dictated the length, not vice-versa. We believe the schedules can be adhered to.

(2.f.) Mission Staffing/Project Monitoring

Mission staffing is adequate to monitor this additional project. The PHW Division, beginning in FY 1982, will have responsibility for one major, on-going project, "Family Planning Services Delivery II," in addition to Palli Chikitsak. In the PHW Division there are five USPH positions, one direct hire (DH) part-time position, one PSC (expatriate), four DH Bangladeshi professionals, and three administrative/secretarial/clerical positions.

Palli Chikitsak will be managed by the Assistant General Development Officer (Health and WID). The PHW physician will assist in the technical aspects of medical curriculum design and training. The General Development Officer (PHW Division Chief) will assist with monitoring, administration, MHC liaison, etc. Other PHW employees will assist with those project elements which are within their expertise. The Program and other offices of the Mission will provide staff assistance.

The USAID Engineering staff will assist in the negotiating of the Project Implementation Letter for construction with the BDG. The PII for construction will specify construction schedules. USAID financial procedures for releasing of money for construction materials, building specifications and content of BDG certification of adherence to design, specifications and schedules. Certification of construction will be by the BDG. USAID will verify completion of building units on the agreed schedules.

(2.g.) Potential Contractor

Selection of Contractor for technical assistance: In the PID, MEDEX was referred to, hypothetically. A number of US firms have provided this kind of technical assistance. We do not know of one with predominant capability. We plan to follow, in accordance with usual USAID policy in Bangladesh, competitive contracting procedures leading to a host country contract.

### III. A. Summary of Implementation Plan

#### 1. Curriculum Redesign, MO Training, and Recertification Course

The Implementation Schedule which follows covers a four year period from March, 1981 to September 1984. USAID inputs begin when the project's long-term technical advisors are contracted by the MHP. The advisors, who are scheduled to arrive in Dacca in February 1982, will establish a National Training Center and immediately begin review and revision of the PC course curriculum and subsequent design of the teacher training course for MO instructors. Teaching materials and manuals will be developed, tested, revised, reproduced and made available in Bengali for the 1983 PC Class and the eight MO Trainer classes. At the conclusion of the MO teacher training classes the Mid-Project Evaluation will take place providing the information necessary to develop the first PC Recertification Course. Prior to the start of this in-service training, a workshop is planned for the instructors to present the course syllabus and materials. USAID financing of the in-service training courses for the first four PC classes will ensure that they also benefit from project improvements in teaching and curriculum design. The new manuals and additional equipment and materials provided under this Grant to PC Trainees, will also be supplied to the PCs attending this Recertification Course.

Two additional activities included in this project to increase the quality and availability of health care provided by PCs to their clients are: 1) special training for female PCs in midwifery and family planning (M/FP), and 2) the introduction of a monitoring/continuing education program including PC meetings at THCs to review record books.

#### 2. M/FP Training

After receiving training for six to eight weeks in a third country in midwifery and family planning, forty MHPC female physicians or nurse practitioners (FWV Trainers) will teach short courses on this subject to all female PC graduates and trainees. Third country training scheduled for two groups of 20 in August and November 1982, will be complemented by three in-country workshops where course schedule, curriculum and materials will be developed and tested prior to reproduction. Training of female PCs will begin after August 1983 with the women enrolled in PC Class 5. Female PCs from Classes 1-4 will receive M/FP training in conjunction with the Recertification Course scheduled in early 1984. Midwifery kits and manuals will be given to all trainees as motivation to better serve the rural female population.

#### 3. Monitoring/Continuing Education Activities

In order to assist the MHPC to standardize its monitoring of PC activities USAID will provide record books for all PCs. Workshops will be held with THAs and other key MHPC staff to set up thrice yearly meetings for PCs at Thana Health Complexes. These meetings, which will consist of record book reviews and other educational activities, will begin during FY84.

4. Hostel Construction Activities

The implementation schedule for the construction of 74 hostels, which will be detailed in a Project Implementation Letter, will begin in 1982 and take approximately two years to complete.

5. IMPLEMENTATION SCHEDULE

<u>Dates</u>	<u>Activities</u>	<u>Personnel</u>	<u>Outcomes</u>
Feb 1981	1. Project Paper completed and approved by USAID	USAID	Project Paper
March/Apr 1981	2. Project Paper approved by AID	APAC/AID	Project Authorization
May/June 1981	3. Grant Agreement signed by USAID and BDG/MHPC	MHPC/AID	Grant Agreement
	4. BDG/MHPC begins recruitment for local Project Personnel	BDG/MHPC Staff	Local Consultant
July/Aug 1981	5.a. Evaluation Criteria established for host country contracting	AID/MHPC	
	b. RFTP, including qualification factors for contractor selection, prepared for contracting services of foreign consultants		RFTP
Aug/Sept 1981	6. RFTP advertised	AID/MHPC	
Sept/Oct 1981	7. Technical proposals received and analyzed	MHPC/AID	
October 1981	8. Contractor selected by MHPC and approved by AID	MHPC/AID	
November 1981	9. Invitation to negotiate and contract preparation	MHPC/AID Contractor	

<u>Dates</u>	<u>Activities</u>	<u>Personnel</u>	<u>Outcomes</u>
December 1981	10. Contract negotiated between HIPC/ Contractor approved by USAID and signed (copies submitted to AID/W)	HIPC/Contractor AID	Contract
Feb/March 1982	11.a. Contractor's expatriate personnel in place (2 Advisors) with essential equipment to begin work;  b. National Counterparts and Administrator in place;  c. Secretaries, Clerk, Driver in place;  d. Short-term Consultant for Manuals and National Counterpart for Manuals employed;  e. Remaining supplies and equipment ordered	HIPC Team Leader Health Educators National Counterparts Administrator Secretaries Clerk Driver Short-term Consultant/ Manual National Counterpart/ Manual	
March/April 1982	12. Contractor personnel begin work in Dacca; National Training Center established	Contractor	Office, training center location established
May to Sept 1982	13.a. PC curriculum analysis and revision completed  b. 10 Teacher Training Course and syllabus developed  c. All training materials developed	Contractor/HIPC  Contractor/HIPC	Revised PC Curriculum  Teacher Training Curriculum Syllabus Manuals, slides, etc., ready
June to Sept 1982	14. Training Center classrooms and lab equipped	Team Leader, National Counterparts, Health Educators	2 Classrooms & Laboratory ready

<u>Dates</u>	<u>Activities</u>	<u>Personnel</u>	<u>Outcomes</u>
December 1981 Aug/Sept 1982	15. Materials Reproduced 16. First I/FP Course for Trainers in 3rd country	Contractor MPC	Copies of Manuals etc. for all PCs and MO Trainers
Oct 1982	17. Progress Report submitted to USAID and to MPC	Contractor	Progress Report
Oct 1982	18. First 2 wk workshop for all Trainers I/FP course		
Oct 1982	19. MO Training Course tested	Contractor/MPC	
Nov/Dec 1982	20. Second I/FP Course for Trainers in 3rd country	MPC	
Nov 82 - Aug 83	21. MOs Trained according to schedule below:	Contractor/MPC	PC Trainers trained

MO TRAINING SCHEDULE  
1982-1983

MONTH	N	D	J <sup>*</sup>	F	M	A	M	J	J
Group Number (2 Classes/Group)	1	2		3	4	5	6	7	8
Number of MOs Trained	40	40		40	45	45	45	45	25
Number of THCs Served by Trained MO		40	80	80	120	165	210	255	300

Jan 1983	* 22. Evaluation and revision of MO training using pre-post-training data	Contractor	Revision of trainer course curriculum
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<u>Dates</u>	<u>Activities</u>	<u>Personnel</u>	<u>Outcomes</u>
Jan 1983	23. Second 2 wk workshop for M/FP Course Trainers	M/PC	Curriculum and material ready for reproduction; equipment ordered
Feb to June 1983	24. Materials Reproduced for M/FP training	M/PC	Manuals ready
May/June 1983	25. Progress Report to USAID and M/PC	Contractor	Progress Report
Aug/Sept 1983	26. a. On-site evaluation of MO Trainers, new PC curriculum and materials; selected sample of practicing PCs b. Curriculum revisions completed c. Plan developed for thrice yearly PC meetings at THCs	Contractor/M/PC	Evaluation Report  Revised Curriculum  Plan for PC meetings
Aug 1983	27. Third workshop for M/FP Trainers	M/PC	
Sept to Dec 1983	28. Class 5 female PCs receive 2 wk M/FP training	M/PC	M/FP trained and equipped female PCs
Oct/Nov 1983	29. a. PC Recertification Course developed b. Orientation workshops for M/PC personnel developed	Contractor/M/PC	Syllabus
Dec 1983	30. a. Workshop held for PC Recertification Course instructors b. Workshops held for M/PC personnel	Contractor/M/PC	

<u>Dates</u>	<u>Activities</u>	<u>Personnel</u>	<u>Outcomes</u>
Jan to March 1984	31.a. PC Recertification Courses given (Class 1-4), and  b. M/FP Course for female PCs given (Classes 1-4) according to schedule below:	M/PC	Recertified PCs  M/FP trained and equipped female PCs

PROPOSED SCHEDULE FOR PC BIENNIAL RECERTIFICATION AND FEMALE PC M/FP COURSES

Recertification Course	JAN 1984	FEB 1984	MAR 1984
M/FP Course			
PC Training Class	1 and 2	3	4
Number of PCs	10,000	10,000	13,750
Female PCs	750	850	1000
Number of Training Centers	325	325	325
	40	40	40
Ave. Number of PCs per class	31	31	42
	19	22	25

<u>Dates</u>	<u>Activities</u>	<u>Personnel</u>	<u>Outcomes</u>
Jan 1984	32. Final Progress Report to USAID and MPC	Contractor	Progress Report
Apr 1984	33. PC Class 6 begins training	MPC	
Mar/Apr 1984	34. Summative Evaluation of Project	USAID	Evaluation Report

### 3. Disbursement and Procurement Procedures

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1. AID established disbursement procedures will be followed. Requests to open letters of commitment for goods and services will contain appropriate certification that items listed are required for project and are eligible for financing under the grant. Disbursement for local currency costs will be made in a manner acceptable to AID.

2. The MFC will negotiate a host country contract under established invitation for bid procedures for the services of a qualified firm or an educational or international research institution which will provide for; a) the long term technical services as outlined in the project proposal; b) establishment of a training center including hiring of local staff; c) procurement of commodities, workshops and training courses, and short term consultant services. AID must approve the contract which will, in turn, be financed under standard AID Letter of Commitment;

3. Hostel construction materials will be financed in local currency released to MFC. At agreed upon intervals during the project, AID will provide the BDC local currency subject to satisfactory progress according to a schedule which will be detailed in a P.I.L.

4. Goods and services procured under the grant shall have both their source and origin in countries included in Code 941 of the AID Geographic Code Book and in the cooperating country.

### C. Monitoring and Reporting Arrangements

#### 1. The USAID Project Manager will:

- a) Monitor and work closely with MFC and contract team leader to assure provisions of Project agreements, contracts, implementation letters and/or memorandums of understanding are in accordance with established AID guidelines and procedures;
- b) Participate, as appropriate, in reviews and evaluations to be undertaken in this project;
- c) Monitor use of AID financed commodities;
- d) Coordinate with USAID Training Office in the monitoring of the third-country training program administered under the project.

#### 2. USAID Engineering Division personnel will:

- a) Review the MFC cost estimates for the building materials to be used in hostel construction to insure costs conform to current market prices in Bangladesh;
- b) Assist the USAID Project manager in negotiating the Project Implementation Letter for hostel construction to insure MFC designs, specifications and schedules conform to BDC standards.

3. The Contractor will:

- a) Submit progress reports according to the project implementation schedule;
- b) Submit all required financial reports to USAID as provided for in the terms of the technical assistance contract;
- c) Fulfill all reporting obligations to MIPC as called for in the negotiated contract;
- d) Arrange and deliver all evaluation inputs required for this project to USAID and MIPC.

4. The MIPC will:

- a) Provide AID an annual report concerning project activities and implementation problems;
- b) Provide financial reports, as required, e.g. an annual financial report on total BDG contributions;
- c) Others as may be specified in Project Implementation Letters (PILs).

#### IV. EVALUATION PLAN

##### A. Summary

Evaluations, which are scheduled throughout the PC project, will assess the quality of the training components and the overall impact of the projects' activities on PC performance. Two of the formative evaluations-- (A) MO Training Course Evaluation and (B) Mid-Project Field Evaluation-- will be administered by the contracting team. These, along with (C) the Midwifery/Family Planning Course Evaluation, will measure the degree to which project objectives are being met, identifying strengths and weaknesses, and providing information for modifying the training programs and/or reformulating strategies to assure achievement of the project purpose. The fourth evaluation, (D) the Final Project Field Evaluation, will be summative in nature and will constitute USAID's final evaluation of the effectiveness of the project in achieving its purpose and goal. The evaluation framework outlined on the next page identifies the objectives, methodologies, indicators and timing of evaluations for each of the project components.

Evaluation schedule is as follows:

<u>Evaluation Title</u>	<u>Agency Responsible</u>	<u>Dates</u>
(A) MO Training Course	Contractor/MHPC	JAN 83
(B) Mid-Project Field	Contractor/USAID/MHPC	AUG/SEP 83
(C) M/FP Training Course	MHPC	DEC 83
(D) Final Project Field	USAID /MHPC	MAR/APR 84

B. EVALUATION FRAMEWORK

COMPONENT	OBJECTIVE	METHODOLOGY	INDICATORS	TIMING
1. MD Teacher Training	<ul style="list-style-type: none"> <li>--To assess the degree to which MD course objectives are met</li> <li>--To assess the effectiveness of MDs as instructors</li> </ul>	<ul style="list-style-type: none"> <li>Pre-test given to MDs before training compared with post-test given after (A)</li> <li>Field Evaluation (B)</li> <li>Field Evaluation (D)</li> </ul>	<ul style="list-style-type: none"> <li>--Changes in knowledge, attitude and skills</li> <li>--PC perceptions of MD teaching skills</li> </ul>	<ul style="list-style-type: none"> <li>--In conjunction with MD classes: NOV 82--AUG 83 (In-depth analysis JAN 83)</li> <li>--Mid-project Field Evaluation- AUG/SEPT 83</li> <li>--Final Field Eval-1983/84</li> </ul>
2. PC Course Curriculum/Recertification Course Curriculum	<ul style="list-style-type: none"> <li>--To determine the effectiveness of new curriculum</li> </ul>	<ul style="list-style-type: none"> <li>Field Evaluation (B)</li> <li>Field Evaluation (D)</li> </ul>	<ul style="list-style-type: none"> <li>--Changes in knowledge, attitudes, skills</li> <li>--Course content difficulty and relevancy</li> <li>--Adequacy of learning environment</li> <li>--Teacher effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>Mid-project Field Eval- AUG/SEP 83</li> <li>Final Field Evaluation- MAR/APR 84</li> </ul>
3. M/FP Training (Female PCs)	<ul style="list-style-type: none"> <li>--To assess the degree to which M/FP course objectives are met</li> </ul>	<ul style="list-style-type: none"> <li>Pre and post tests given to trainees before and after training (C)</li> <li>Field Evaluation (D)</li> </ul>	<ul style="list-style-type: none"> <li>--Changes in knowledge, attitude and skills</li> <li>--Changes in female patient load/treatments</li> </ul>	<ul style="list-style-type: none"> <li>In conjunction with M/FP classes: OCT 83 - 1984</li> <li>Final Field Eval. M/FP</li> </ul>
4. Orientation Workshops for M/FP Personnel	<ul style="list-style-type: none"> <li>--To assess the degree to which workshop objectives are met</li> </ul>	<ul style="list-style-type: none"> <li>Feedback after each workshop</li> <li>Field Evaluation (D)</li> </ul>	<ul style="list-style-type: none"> <li>--Schedule of record review meetings</li> <li>--Quality of record keeping</li> <li>--Other educational activities undertaken</li> </ul>	<ul style="list-style-type: none"> <li>Informal discussions after workshops: OCT/DEC 83</li> <li>Final Field Evaluation- MAR/APR</li> </ul>
5. Monitoring/Continuing Education Meetings	<ul style="list-style-type: none"> <li>--To assess the quality of records kept and effectiveness of meetings to review PC work and offer additional educational experiences</li> </ul>	<ul style="list-style-type: none"> <li>Field Evaluation (D)</li> </ul>	<ul style="list-style-type: none"> <li>--Attendance at meetings</li> <li>--Quality of record keeping</li> </ul>	<ul style="list-style-type: none"> <li>Final Field Evaluation- MAR/APR 84</li> </ul>

## PART V: SUMMARY OF ANALYSES

### A. Summary of Economic Analysis

#### 1. Introduction

The Palli Chikitsak program was developed by the BDG/MPC as an attempt to provide static, curative health care at the village level. The need for this service has been described in the PID and in earlier sections of this document. Alternative means for providing this service are (1) village-level practitioners who are salaried employees of the BDG and can provide services free of charge; and (2) practitioners trained by the BDG but supervised and financed by the local community (e.g., gram sarkar or union parishad) through local taxes or a community health insurance scheme. These alternatives have been considered and rejected on economic or technical grounds.

The first alternative, salaried BDG health practitioners, is simply unaffordable to the government. Annual salaries alone for such a cadre of health workers in 65,000 villages would cost over \$ 31 million, and this excludes other costs such as fringe benefits, medical supplies, logistical costs, and increased numbers of supervisory personnel. This compares to an annual recurrent-cost budget for the entire Health Division of under \$ 35 million and a development (capital cost) budget of \$ 38 million (1978-79). The increased budget allocation for health which such a program implies is not feasible, considering the many competing demands for additional budgetary support.

In addition, such a program would be extremely difficult to implement administratively. Weaknesses in supervision, technical support, and logistical supply already hamper service delivery even in the existing BDG rural health system. These problems would be exaggerated many times through an extension of the system to the villages.

The second alternative, locally supervised and paid practitioners financed through a village health insurance system, has many advantages over the first. The costs to the BDG would be no higher than those of the PC program. The BDG need not be responsible for recurrent costs. Salaries and drug costs would be financed by the community. That the community could generate the resources to pay these costs is confirmed in the analysis below (section 3). Since the practitioner would be supported by the community, he or she would be responsible and responsive to the community. Finally, since a health insurance program could be developed which called for graduated premiums depending upon the income level of the member, the program theoretically at least, would be affordable even to the poorest members of the community. Thus from an equity standpoint it is preferable to the PC program. The problem with this approach is administrative and cultural. There is little sense of cohesion or community spirit above the para level; certainly not at the village level. While some semblance of a village-level government

does exist and in fact is being promoted by the national government at this time it has few functional responsibilities and no authority for collection of revenues or enforcement of government programs. Thus, there is at this time no organizational entity at the village level which has capability or experience in financing and providing public services or in which rural people have a sense of participation. Nevertheless some experiments with health insurance schemes have been made on a small scale, most notably by the Bangladesh Association for Rural Development (BARD), the Bangladesh Rural Advancement Committee (BRAC), and Ecosshastya Kendro (the People's Health Center). The experience of these organizations, which have established health insurance cooperatives, has been that it is almost impossible to obtain the participation of the wealthier members of the community, although their participation is necessary to subsidize the poorer members. Cooperatives made up only of the poorer members are only viable if they provide extremely limited health care services with minimally trained personnel. Studies of the cooperative experience in Bangladesh indicate that cooperatives consisting of individuals of diverse income levels tend to become dominated by those with higher incomes, and that the benefits from the cooperatives accrue disproportionately to the better-off individuals. This phenomenon would be as likely to occur in a health insurance cooperative as in any other type.

All this is not to say that a health insurance system should not be attempted. If it could be implemented successfully, it would be the most equitable means of providing health care to the villagers. In addition, such a program could serve as a means to achieving the government's goal of increasing the role of local government. This is an activity which USAID should encourage and be willing to support.

In the meantime, however, the PC program offers the opportunity to improve the quality of and increase accessibility to basic medical care services in the rural area. If a community health financing scheme were developed, the PCs trained in this program would be an appropriate group to provide services under the scheme.

The PID identified two basic questions to determine the economic viability of the PC project :

1. Can the community support PC ?
2. Are the PCs' services affordable to most rural people?

The feasibility study team considered these and identified additional questions :

- (1) Are the costs of drugs prohibitively expensive ?
- (2) Will the number of PCs to be trained be so great that the market will be unable to support them?

The following analysis will summarize briefly the methodology used to obtain the financial data on which the consultant's findings were based and then will discuss each of the above questions based upon the feasibility study's findings and USAID's own analysis of the data.

## 2. Methodology for Collection and Analysis of Economic Data

Annex H is the economic analysis performed by the feasibility consultants. To gather information on income and clientele of PC, items were included in the survey questionnaires for both PC trainers and the PCs themselves. Trainers were asked which villagers would the PCs benefit most. The PCs were asked how many patients they saw weekly and what they charged in fees and medicine for three common rural ailments--diarrhea, pneumonia and skin disease. It must be cautioned that the data, which are based purely on verbal responses to these questions, are not entirely reliable. Most PCs maintained no records indicating the number of clients they saw, types of diseases, or fees charged. One would expect some upward exaggeration of the number of clients seen, since PCs were eager to appear successful to their interviewers. One might also expect a low estimation of fees charged, since PCs had been instructed to charge no more than two Taka per case. Unfortunately, it was not possible for the consultants to carry out any cross-checks; however, they were able to compare PC responses with data from other studies regarding fees of indigenous practitioners, and the data appear to be consistent.

It must also be noted that total PC income and average charges per visit were based on the number of patients seen and fees charged for only three categories of diseases--diarrhea, skin disease and pneumonia. Since the PCs would likely have treated other kinds of common diseases such as fevers, indigestion, and first aid cases during the same time period for which data were collected, the income and caseload data from the study are not complete. These three disease types were selected because they were among the more common rural ailments and other data existed on fees charged by health practitioners for these disease types. The feasibility team used these data to compare responses as a way of substantiating them.

The data were analyzed in terms of fees charged by disease, by sex of PC, by sex and age of client, by place of practice versus home consultation, and by consultation fees versus drug charges. Since the program emphasizes training of indigenous practitioners as PCs, the analysis also included comparisons of fees and clientele between PCs who were former indigenous practitioners and those who had no previous health care experience.

## 3. Can the Community Support a Palli Chikitsak?

The feasibility study estimated PC income, based on survey responses, by multiplying the average number of patients seen per week by the average fee (weighted by type and frequency of illness treated). This resulted in an estimated income of 250 Taka per week or 1,075 Taka per month. Female PCs tended to see fewer clients than the average; consequently, their average income was somewhat lower, at 735 Taka per month. PCs who were previously indigenous practitioners saw more patients than the average, so their income averaged 1,261 Taka monthly.

The survey also asked PCs what would be the minimum salary they would be willing to receive in lieu of charging for services. Presumably this would approximate the amount actually received in fees. The average response was 727 Taka per month, or 754 Taka for male PCs and 630 Taka for female PCs. Based on these responses, the study concluded that the monthly income for the average PC was 750 to 1,200 Taka per month. Thus, the program's experience to date indicates that communities have been able to adequately support their PCs.

#### 4. Are the Palli Chikitsaks Services Affordable to Most Rural People ?

Although some PCs do maintain their own supply of drugs, many do not. Fees for services, therefore, were considered separately from charges for drugs. This section deals only with fees for services.

In their feasibility analysis, the consultants estimated the per capita health expenditures for different expenditure groups in rural areas, based on a projection of results from the BDC Bureau of Statistics Household Surveys of 1976/77 and 1973/74. Per capita annual health expenditures were estimated for four expenditure groups as follows :

<u>Expenditure Group</u>	<u>Average Annual Per Capita Expenditure, in Taka, 1979/80</u>	<u>Annual Per Capita Health Expenditure, in Taka</u>
Bottom 40%	792	19
Lower Middle 40%	1,151	37
Upper Middle 15%	1,513	62
Top 5%	2,216	100

(From Annex H, Table E.6).

It is important to note here that according to this expenditure projection even for the group classified as the upper middle 15% average per capita expenditure is only about 1,500 Taka or US\$ 100 annually. By any standards the upper middle group is poor. The difference in average annual per capita expenditures between this group and the lower middle 40% is only about US\$ 25. In this case the terms low middle and upper middle as used in the analysis distinguish between relative degrees of poverty. Note also that the higher the expenditure level, the greater the proportion of total expenditure on health; thus, while the upper middle 15% spend 32 percent more on all items annually than the lower middle 40% they spend 63 percent more on health care.

As calculated from the PC questionnaire responses, the average fee for three common disease categories (diarrhea, pneumonia and skin diseases) is 5.9 Taka (about 40 cents). This fee appears to be a feasible expenditure for the poorest 40% as an occasional expenditure, and is certainly within the expenditure range of the lower middle 40%.

For comparison purposes, the consultants compared PC fees for these disease categories with the fees charged by other types of indigenous practitioners for the same diseases as reported in other studies (See Table E.1 of Annex H). The comparison indicated that PC fees were lower than fees of physicians trained in allopathic medicine and were only slightly higher than or equal to fees of other indigenous practitioners.

Thus the fees charged by PCs are similar to fees charged by other village practitioners and appear to be affordable to most rural Bangladeshis. The conclusion changes somewhat, however, when the cost of drugs is added to the equation.

### 5. Are Drug Costs Prohibitively Expensive ?

The consultants' analysis of drug costs is based on survey responses by PCs regarding the drug charges for the same three common disease categories discussed above. Sixty six percent of the PCs provided drugs directly to their patients.

Average drug charges were high, several times higher than consultation fees. The combined cost of drugs and consultation fees averaged 36 Taka for diarrhea, 27 Taka for pneumonia, and 30 Taka for the average patient seen. Since this is greater than the total average annual health expenditure for the poorest 40%, the total cost of treatment may be prohibitive for much of this group.

The high cost of drugs has long been recognized as a major constraint to the delivery of primary health care. The BDG and WHO have prepared a list of 31 essential drugs recommended for domestic production. Domestic production of these drugs could reduce their costs. The BDG's Second Five Year Plan states the goal of increasing production of these drugs through Industry Division promotional programs in both the public and private sectors. Gonoshasthya Kendro (The People's Health Center) has constructed a factory for production of drugs which could begin operating within the next few months. If these and other planned programs are successfully implemented, they will have an impact on drug costs.

A far more important factor, however, which affects both the cost and the quality of health care, is overuse of drugs, particularly of antibiotics. This was found with regard to treatment of diarrhea cases. On the question regarding the number of patients seen weekly for cases of diarrhea, pneumonia and skin diseases, PC responses indicated that about 64 percent of all illnesses treated were diarrhea cases (Table E.4). The drug charge associated with treatment was higher than the drug charge for either pneumonia or skin disease. Yet cases of diarrhea can be treated less expensively through oral rehydration therapy (ORT). (For an adult with severe diarrhea, oral rehydration treatment for four days would cost approximately 12 Taka.)

To assess the PCs' curative skills, survey respondents were asked to describe their treatment for three patient problems, one of which was a child with severe diarrhea. Only 51 percent of PCs prescribed ORT. An additional 27 percent prescribed correct dosages of antibiotics, a much higher-cost treatment. Five percent prescribed damaging dosages of drugs.

A second vignette to which the PCs were asked to respond was a case of pneumonia in a small child. 84 percent of responses were correct, but most incorrect responses prescribed overdoses of antibiotics.

As these vignettes indicate, PC training must be revised to emphasize low-cost therapy and proper prescription of drugs.

The USAID inputs have been designed primarily to focus on the quality of care issue, as brought out in the feasibility study. From the standpoint of economic feasibility, low-cost therapy would reduce the average cost of treatment for the diseases which were analyzed.

Replacement of ORT for antibiotics as treatment for diarrhea, for example, would reduce total costs for fees and medicine in Table E9 to 18 Taka, which would in turn bring down average costs for the three diseases to 19 Taka.

Since project inputs are geared towards trainer training, the emphasis on low-cost therapy and proper drug use should be reflected in practices of MOs as well as PCs.

The consultants' analysis concluded that the combination of consultation and drug charges probably placed palli chikitsak fees beyond the reach of the poorest 40%. For the 'lower middle' group, treatment was still feasible but difficult.

With properly focused training, however, PCs can reduce their charges for medicines for many common diseases, thus bringing the cost of treatment within the range of many who have been unable to afford them up to now. In addition, through improved knowledge of the use and dangers of allopathic drugs, along with promotion of traditional, Ayurvedic and Unani medicines of recognized efficacy, PCs will be able to increase the effectiveness and reduce the costs of the drugs they prescribed.

#### 6. Will the Market be Able to Support the Large Number of Palli Chikitsaks to be Trained?

There are already large numbers of health practitioners in rural Bangladesh, mainly untrained and non-allopathic. Two recent studies carried out in different areas of the country surveyed existing practitioners and found the density of allopathic practitioners (trained and untrained)

to be .6 per 1,000 population and .7 per thousand population\*. These studies indicated that people prefer allopathic practitioners, particularly trained practitioners. The only trained allopathic practitioners available now, however, are the small numbers of physicians, pharmacists, 'National Doctors' and a few medical & paramedical specialists, e.g. dentist, nurses, who are neither readily accessible nor affordable to the vast majority of people. Because PCs are trained practitioners whose fees are competitive with those of untrained allopathic practitioners, their practices are expected to gain in size partly at the expense of allopathic and other kinds of practitioners in the area. (The BDG's recent decision to reserve at least 50 percent of all PC training slots for indigenous practitioners will reduce this competition somewhat.)

The data from the two studies cited previously would indicate that each village could support its own PC, at least if the PC were the only allopathic practitioner utilized. If the studies are indicative of the country as a whole, a population of 1,400 to 1,700 can support an allopathic practitioner. By the time all 65,000 PCs have been trained the average village size will be 1.380 or nearly enough to support one allopathic practitioner at the income level those practitioners now achieve.

The feasibility consultants estimated average village expenditure on health care at 4,950 Taka per month. They concluded that the total was large enough that, as the village's most immediate source of trained allopathic care, the average PC could earn an adequate income.

\* Chen, L. "Are There Barefoot Doctors in Bangladesh?"  
Social Sciences and Medicine. (in press)

Claquin, P. "Private Health Care Providers in Rural Bangladesh."  
Social Sciences and Medicine. (in press)

## B. Social Soundness Assessment

The purpose of the Palli Chikitsak Project (Village Medics) is to increase the availability and quality of low-cost primary health and family planning services to rural Bangladesh. Therefore, the purpose of this Social Soundness Assessment will be to describe the manner by which the project has been designed to meet criteria of social-cultural compatibility, equity, and maximum potential for positive spread effects. Project design, and this assessment, are based on a study commissioned by USAID/Bangladesh and executed by Health Service International (HSI) during July-August 1980, and upon the available literature on social and cultural aspects of health care in Bangladesh and elsewhere in South Asia. (See List of References at end of PP.)

### 1. The Setting

Bangladesh, by almost any measurement, is one of the most desperately poor countries in the world. The outline of these conditions is presented in the Introduction to this Project Paper and will not be repeated here. Over 90% of the population lives in rural areas; the economy depends upon a basic subsistence-oriented rice agriculture; the mean per capita income is about \$90 per year; and transport and communications in a monsoon delta environment are extremely difficult.

### 2. Social Organization in Rural Bangladesh

Rural life in Bangladesh is built upon the foundations of the household and the homestead of related households. Descent and inheritance are calculated through the male line; women join the household of their husband at marriage. The effective unit of economic cooperation and social support is the minimal homestead kin-group; beyond this, especially for women, social ties are weak and unreliable.

Homesteads are grouped into named para, or wards, of a village. Within the para there tends to be approximate equality of social status and, often, religious or ethnic or occupational identity. The para may have corporate ritual activities as well. Beyond the para, at the village level, there is little social cohesion.

Administrative links downward from national levels become weak and infrequent at local levels. Union Councils including several villages form a locus for political activity, but few formalities relate para and village to the wider society and its officialdom. "Outsiders", including most government officials, are often viewed with suspicion.

Within the village, most life revolves around agriculture. However, many villagers may possess special health-related knowledge utilized by their neighbors, such as bone-setting, midwifery, curing snake or insect bites, or casting out demons. A few may earn a significant part of their income from medical practice, based either on Hindu Ayurvedic or Muslim Unani works, on homeopathy, or on a combination of these with allopathic

ideas and nostrums. These local practitioners are usually lumped together under the term "quack"

### 3. The Quack and the Doctor: Social Roles in Medical Practice

Social analyses of the roles of medical practitioners in South Asia are increasing in number and practical applicability. (Cf. Leslie: 1976 for a recent summary.) There is general agreement that a wide range of indigenous practitioners compete successfully with western-trained allopathic doctors for clients. Those practicing medicine range from persons acting intermittently and without charge in treatment of a single ailment to those earning their total incomes by full-time practice. Theories and practices stem from allopathic, Unani, Ayurvedic, homeopathic, and shamanistic traditions, often complexly blended in an individual's practice.

Most full-time allopathic practitioners are recruited from upper income strata, in part due to the time and expense required for medical training. Most are located in urban areas (of the 6,216 allopaths in Bangladesh, only a small percentage are found in rural areas). The trained "traditional" practitioner--the hakim or kobiraj--is often less well educated in western terms and more likely to live and practice in rural areas, but may only practice part-time.

Two recent studies (Chen; Claquin) have investigated the range of medical practitioners found in rural Bangladesh. Both describe a large number of indigenous specialists, often women, most part-time, utilizing a mixture of shamanistic practices, herbal medicines, and elements of allopathic, Unani, and Ayurvedic techniques. These persons, generically called totka, are often of humble status in the community, but are known, familiar specialists assessable both physically and socially.

Overall, the picture of rural medical care is one with a very few, highly prestigious full-time practitioners--mostly allopaths--who are approached by ordinary villagers only rarely due to social barriers, economics, and physical distance factors. They are complemented by a host of indigenous traditional specialists, whose powers are more limited, and whose status is less, but who are more readily available, approachable, and affordable. As Islam (1980:25-26) notes, allopaths are consulted only after more accessible remedies fail. Since by that time the problems have become more serious and treatment more difficult, skepticism concerning the efficiency of allopathic treatment grows.

### 4. Cultural Themes in Bangladesh Life

Life in Bangladesh is strongly influenced by attitudes, norms, and values which stem from its long cultural tradition. In addition to being an intensely conservative Muslim country, Bangladesh partakes of the complex and rich tradition of the Indian subcontinent. These traditions inform and regulate social life, especially among the less educated in rural areas. Some important themes are outlined briefly here.

\* In Bangladesh quack is not pejorative. It's use does not indicate approval or disapproval.

a. Rigid distinctions in social class

9

Land control in Bangladesh is highly skewed. Less than 7% control over 30% of all farm land, and half of all households are landless or nearly so (Jannuzi & Peach 1979 : 110). Control of land and capital allows the upper income groups to educate their children, to travel, and to engage in non-agricultural enterprises. Because of the education required, government positions even at lower levels tend to be occupied by persons with roots in upper-income families. Both rich and poor recognize the advantages in terms of prestige, wealth and power, which are derived from access to resources.

While there is no caste system per se in Bangladesh, society is rigidly stratified in terms of wealth and power, and interpersonal relations tend to be strongly hierarchical in content. Those who cannot, by dress and demeanor, display prestige and command deference, are restricted in their access to resources and services. While giving lip-service to the formal equality specified by Islam, Bangladesh rural society maintains a variant version of traditional South Asian hierarchy. (Maloney et al:1980).

b. Personalism in social relationships

Bangladeshi villagers spend most of their lives with individuals with whom they have grown up. Relationships are highly personal and intense-- whether positive or negative. Establishment of relations with persons outside this network is a process filled with tension and uncertainty, and there is a strong tendency to personalize such relations if at all possible, through use of intermediaries, gift exchanges, and the like. The impersonal doctor-patient role found in the West is nearly impossible to maintain in Bangladesh, but the demands for its personalization make it extremely uncomfortable for high-status, educated doctors who wish to avoid involvement with low-status clients. The result is often avoidance of situations where such confrontations may occur, as in rural health-care settings.

c. Sex-role segregation

In Bangladesh, the worlds of men and women are quite separate. This separation is marked physically by separate living areas within the homestead where strangers are not admitted; separate women's sections on buses and public areas; and the frequent use, by women, of the burkha (a symbolically obscuring garment), outside the home. Women are viewed as inherently dependent and subservient, as well as nurturant, and their restriction to tasks inside the home often excludes them from the general work force (although with recent decline in rural well-being more women are taking low-paid agricultural or construction jobs outside their homes, with concomitant loss of family prestige).

The separation of the sexes results in limited physical mobility for women. In a land where water travel is important, most women do not paddle boats. Many women never travel outside their thana areas. And many are not allowed to go for treatment by 'outsiders' even to Thana Health Complexes. The constraints of the pardah ideology prevent male doctors from examining many female patients.

## 5. Beneficiary Profile

Two major categories of beneficiaries involved in this project are: the village medics themselves, and their rural clientele. Characteristics of these two categories are described briefly.

### a. Health and the Villager

The Health of villagers in Bangladesh is poor. Poor and inadequate diet, lack of sanitation, the presence of a number of endemic diseases such as malaria all contribute to illness. Every investigator's report repeats dreary descriptions of morbidity and despair. Since three-quarters of the population is composed of women and children, and they have relatively less access than men to what little health care there is, it is understandable that female and child health is worse. A major factor in lack of access is physical distance from health care facilities; a second factor is the social segregation of women through pardah. Provision of facilities closer to the village, by a person of a known family may increase use of health care services by rural women and children.

### b. PC as Beneficiary

Village medics are recruited at present from educated segments of the rural population. They are usually male, mostly from middle- and upper-income households, and young (18-30 years). The initial group of PCs, however, need not be representative of all PCs, since the Government is making serious efforts to recruit more women and more traditional practitioners to the program. This becomes important, since the HSI study indicated that activities of the first PC graduates (1979) are directed most to men and that their current practices are still small. The few women in the program seem to be even less active, for reasons likely related to village customs.

The traditional quacks, who are also a target population for recruitment as PCs, face a dilemma in that they are already in practice, in some cases supporting themselves from it and in other cases working in combination with agriculture or other occupations, and are not in position to take a year's time for attending training courses. From 1981 the MIPC increased the quack quota to 50% and emphasises their recruitment. It is not yet known if the quota can be met in full.

### c. Benefits to the PC's Clientele

The PC Project not only establishes a set of better-trained private allopathic practitioners in villages, but also provides a system for vetting their capabilities, and informing them of improved practices and medicines. The benefits to rural clients from this project, once it is established, are manifold. In the first place, most villagers at present lack ready access to any medical care. Those who do receive care get it mostly from poorly-trained indigenous practitioners.

Special benefits will be received by women and by children in rural areas, since they are notoriously under-supplied with medical assistance of any kind.

The elderly, who often are reluctant to travel under difficult circumstances to distant and expensive health care centres, and whose ailments often are chronic, requiring repeated attention, will be benefited by the presence of a trained practitioner within easy travelling distance from their homes.

A strong constraint in getting government officials to serve or even to visit rural areas is lack of available health care for themselves and their families. Although they can often afford private allopathic specialists, these are very scarce in rural areas. The existence of a reputable, trained PC may make a difference in the officials' willingness to take up posts in backward regions and, once there, to remain on the job. This, in turn, will benefit a wide range of rural development efforts currently hindered by lack of effective, functioning staff.

It is possible that, if indigenous preparations are to be used for treatment, local preparers of these nostrums may find a lucrative market with the PCs and their patients. Since many of those engaged in the preparation of indigenous medicines are low-income individuals, many of them women, this may add a modest economic impact to the project.

d. Who will suffer from the PC Project?

The PC will increase existing alternatives for good quality health care in villages, and those who receive the training and support from the PC project will compete at an advantage for clients. Less qualified, less skilled, and less effective practitioners will find their services less in demand.

Hospital based practitioners, who often engage in private practice at higher fees, may find their clienteles reduced. With PC services in place, the ill and injured will seek aid in distant, expensive, and impersonal centers only when the matter is too serious to be dealt with locally--some estimate that only about 10% of all cases are of this sort. The accompanying bribes to hospital attendants, doorkeepers, and the like, will also be reduced.

Both these effects will be by-products of improvement in the availability, reliability, and affordability of rural health care through the use of para-medical personnel performing on a fee-for service basis.

6. Equity Issues: PC Project

The PC Project does not seek to introduce an entirely novel intervention into rural life. Rather, existing local health care roles will be strengthened, while the essentials of the relationship between local health practitioners and their clients will be retained. Although

ultimately more practitioners will be produced by the PC program and its training, they will for the most part continue to perform in long-established fashion.

The differences engendered by the PC project lie in the provision of more adequate allopathic training, tailored to the educational limitations of rural practitioners, and aimed at treatment of a wide range of common complaints endemic in Bangladesh's villages. In this project, equity issues must be considered in recruitment of PCs; and in access by various classes of clients to their services after they enter into practice.

In its earlier phases, the PC program required that candidates possess certain educational qualifications, obtain certification from their Union Council Chairmen, and post a performance bond. These criteria constituted barriers to recruitment of PC trainees from lower-income groups.

The social constraints of purdah have been another factor inhibiting recruitment of women to the project. In the initial trainee groups, less than 10% have been women, despite a reservation of 20% of seats for them. This shortfall is particularly significant because virtually all traditional birth attendants, and those who treat women, are themselves female.

So far as can be determined, there are few if any cases of unequal access to training on the basis of regional, or ethnic, grounds. These might become issues later in the project, as more people are trained, and as the PC becomes recognized as a desirable and perhaps lucrative occupation in rural areas.

## 7. Equity Issues in Treatment of Clients

The HSI study indicates that for low income groups the cost of medical treatment and medicines is very high. For this reason, and for reasons of limited physical access and social distance, the poor make little use of the extremely limited medical facilities available in rural areas. The charge for services is about the same for PCs as for other allopathic practitioners, but the cost of medicines remains an issue.

One suggested approach to supplying medicines at lower costs to PC clients is through an arrangement with a local eleemosynary operation such as Gonoshasthaya Kendra which has recently begun a pharmaceuticals manufacturing facility. This operation would supply good quality medicines at lower costs.

Another element may be posting and publicising prices of medicines, to overcome inflated markups by PCs as well as other practitioners and chemists' shops.

By comparison with the existing overall system of medical care in rural areas, where the poor have limited and infrequent access to qualified practitioners, the PC project appears to offer a feasible and potentially effective system of rural health care. In a limited fashion, it is working already under the strong sponsorship of the BDG. Improvement of training and supervision of PC performance are the keys to increasing quality of care.

## 8. Diffusion of Project Effects

Assessment of project impact must take into account the diffusion of project effects beyond the initial target groups--the PCs and associated administrative structures, and the clientele of the PCs in rural areas--to the wider society. This assessment is necessarily tentative and speculative. However, it may identify potential areas for direction of the project, and areas which may create problems in the future. Another element considered is the durability of project impacts: how long, as well as widespread, might they be?

The PC project will lay a foundation, in training materials and physical support facilities, and in an overall system for providing them, which will contribute to establishment of the PC as a significant element in rural health care in Bangladesh. By fitting into an established, familiar role for health care providers in the village, the PC may be expected to win ready acceptance. By virtue of better training and preparation in meeting client needs, the PC should compete successfully with other, established rural practitioners, upgrading the overall level of health care in the countryside. By being available and accessible, as well as affordable, the PC will be of especial benefit to lower-income groups, women, and children, on a continuous basis. The results of this might be seen within a period of a very few years to diffuse widely throughout the country, and perhaps in low-income urban areas as well.

Since the PC project activities fit into rural social systems in a manner highly compatible with existing relationships and norms for health care, and the PC is expected to remain in the private sector--it may be expected to diffuse widely in a short period of time--five to ten years subject to the ability of the BDG to train PCs in sufficient numbers. But the durability of the project in continuing to achieve an overall transformation of the rural health care scene must also be examined. How thoroughly might the project inputs--material, technical, and social--be expected to penetrate and transform the existing system?

Two existing factors in the PC program should contribute significantly to its durability. The first, again, is its overall compatibility with existing social relations and cultural traditions. Since the PC role will constitute a more effectively functioning variant of a long-established element in rural village society, PCs will not disrupt existing patterns. Individual PCs may be expected to utilize their growing prestige to gain influence in local affairs, but this marks no overall structural change. At the same time, however, health care for more people will show marked improvement, with consequent effects on productivity, employment, reduction of morbidity and mortality, and overall quality of rural life.

The second factor increasing the durability of spread effects of the PC project is that one important output is creation of simplified, comprehensible training programs and materials, which may be modified by experience while retaining basic outlines. By this process of "routinization" expansion and longevity are enhanced.

### C. Technical Analysis of Educational Technology

Increasing the availability and quality of low cost health and family planning services to rural Bangladeshis will be done by training effectively a cadre of village practitioners who will deliver these basic services. This project will not attempt to introduce a highly sophisticated educational technology but rather one which is relatively simple and has been proven effective in health education projects in other developing countries.

#### 1. MO Training

Simple slides will be taken of local patients who present clinical symptoms of common illnesses and disorders which are visible, such as scoliosis, malnutrition, signs of dehydration, worms, skin diseases, etc. The value and importance of using culture-specific materials cannot be overemphasized when one considers the resulting high levels of distractibility created when other cultural factors are part of the learner's visual field. Simple-to-operate, battery-powered projectors will be used by MOs to show slides to supplement field work and textbook assignments.

To assist the MOs in learning the methodology of teaching physical assessment, interviewing and observation, a portapak cassette videotape recorder will be used. The equipment is easily transported, simple to operate, and produces low-cost tapes which can be erased. Video is preferred to movies because the costs of movie films are often prohibitive and usually unavailable on the needed topics. This technology is used currently by RDRS in Lalmonirhat (Rangpur District) in its training of village health workers with much success. Maintaining the equipment has not been a problem for the RDRS project.

It is the plan of this project to produce teaching materials which can supplement textbook learning. The field investigation which took place in July and August 1980 revealed that patients were often unavailable for PC student learning experiences, and, if they were on site, they presented disease entities which the students were not currently studying. It was concluded that the logistics of exposing 50 students to specific patients with specific diseases on a daily basis was indeed difficult and that alternative approaches were needed if the application of theoretical learning to a clinical situation were to occur.

#### 2. PC Curriculum Revision

This project paper proposes the creation of a national teacher training center where MO's will be introduced to the PC Program and trained to teach the PC curriculum. After completing the field work for the PC study, the consultants, whose report is included as Annex G, addressed the issues of what changes could be made to reduce the errors made by PCs, and what changes were necessary to increase the retention of important knowledge, understanding and skills by the graduating PCs. The elements which should be amplified,

reduced or eliminated and the program objectives which were central and which were peripheral to the program were also studied. The conclusions of the investigators which are summarized below address the feasibility of selected curricular elements.

- a. The curriculum should be viewed, clearly, at a technical rather than at a professional level. For example, the hours devoted to theoretical content should be tailored specifically in anatomy and physiology of the skin to the diseases of the skin found in Bangladesh, the effects of pharmacological solutions on the skin, and the effects of nutrition on the development of skin disorders. Detailed content about disease processes and theoretical teaching of pathology are not necessary at this level of practice.
- b. The study of drugs should be related directly to the disease processes studied, and should also include the traditional approaches to pharmacy use in the country. The importance of calculating the proper dosage, especially for children, must be reinforced throughout the curriculum. At this level, repetitive attempts must be made to transfer a respect for drugs; their toxic effects, side effects, potential for stimulating allergic reactions, and contra-indications.
- c. The importance and timely administration of tests to serve as a means for discriminating as between content learned and content not learned must be reinforced along with the understanding of the remedial value of tests. Quizzes or tests should be used readily and frequently in order to identify difficulties in comprehension, understanding and/or transfer of learning.
- d. At a technical level the program emphasis should be on the direct application of principles. Field work is the heart of this type of curriculum and should be carefully monitored and supervised. For each theoretical lesson a clinical application component should be identified as well as the necessary psychomotor skills essential to that experience.
- e. Each student should keep an accurate student record of clinical symptoms seen and treatment analysis completed in the field or reviewed through slides. The eligibility to sit for examinations should be based on the successful completion of a predetermined number of clinical experiences.
- f. The curriculum should be designed to provide for modules of packages of content which are comprehensive, stress principles, including examples, and use oral-visual and auditory exercises to reinforce principles and to identify and analyze major symptoms and treatments.

The technology and paramedical training curriculum presented here are part of the standard equipment and strategy used in similar programs of other developing countries. With care and proper maintenance, the suggested equipment can produce effective and low-cost teaching aids that will complement the curricular model.

## D. Administrative Analysis

### 1. National Level Organization

The Palli Chikitsak Program is administered by the Health Division of the MHC which is responsible for both preventive and curative health services. Within the Health Division under the Director General for Health Services is the Director of Health Manpower Development (DHMD) (see Figure V-1) who is responsible for training activities, including those of the PC program.

The National Training Center (NTC), which will be established under this project will also fall under the overall authority of the Director General and the DHMD. The long-term contract team, which will be employed under the general terms and conditions specified in the host country contract, will work with its designated counterparts: the Advisor/Team Leader with the Director of the PC program; the Health Educators with the two MHC Health Educators assigned to the NTC.

The Building, Planning and Designs Unit of the Ministry of Health and Population Control is responsible for all the Ministry's building programs. This office is staffed by the following professional level personnel: Superintendent Engineer, Architect, Executive Engineer, four Assistant Engineers, and four Sub-assistant Engineers. The Project Implementation Letter on construction will describe the designs, specifications and construction schedules for the 74 thana PC student hostels to be built as part of this project. Authority for contracting and procurement will be delegated to the Thana Health Administrator (THA) who will report directly to the Building, Planning and Design Unit staff on the construction program. The Assistant and Sub-assistant Engineers will insure adherence to Bangladesh Government specifications for buildings of this type. They will certify building completion and provide copies of the certification to USAID according to a schedule, and in a form, which will be agreed to and described in the PIL.

### 2. Thana Level Organization

The MHC is in the process of integrating health and population activities and to this end, at the national level, one Secretary has been appointed to be responsible for both sectors. Personnel at the thana level and below are also being effected by this integration process. As seen at Figure V-2 changes have been made in job titles which will be accompanied by subsequent changes in job responsibilities. Supervisory duties have also been reorganized but these changes are not expected to impact negatively on the PC program or the MO training component. In fact, as the THAs assume increased responsibilities as THFPAs, the project proposal to train MOs as PC teachers and to give the MOs the responsibility for PC program coordination, is viewed by MHC as an acceptable administrative change.

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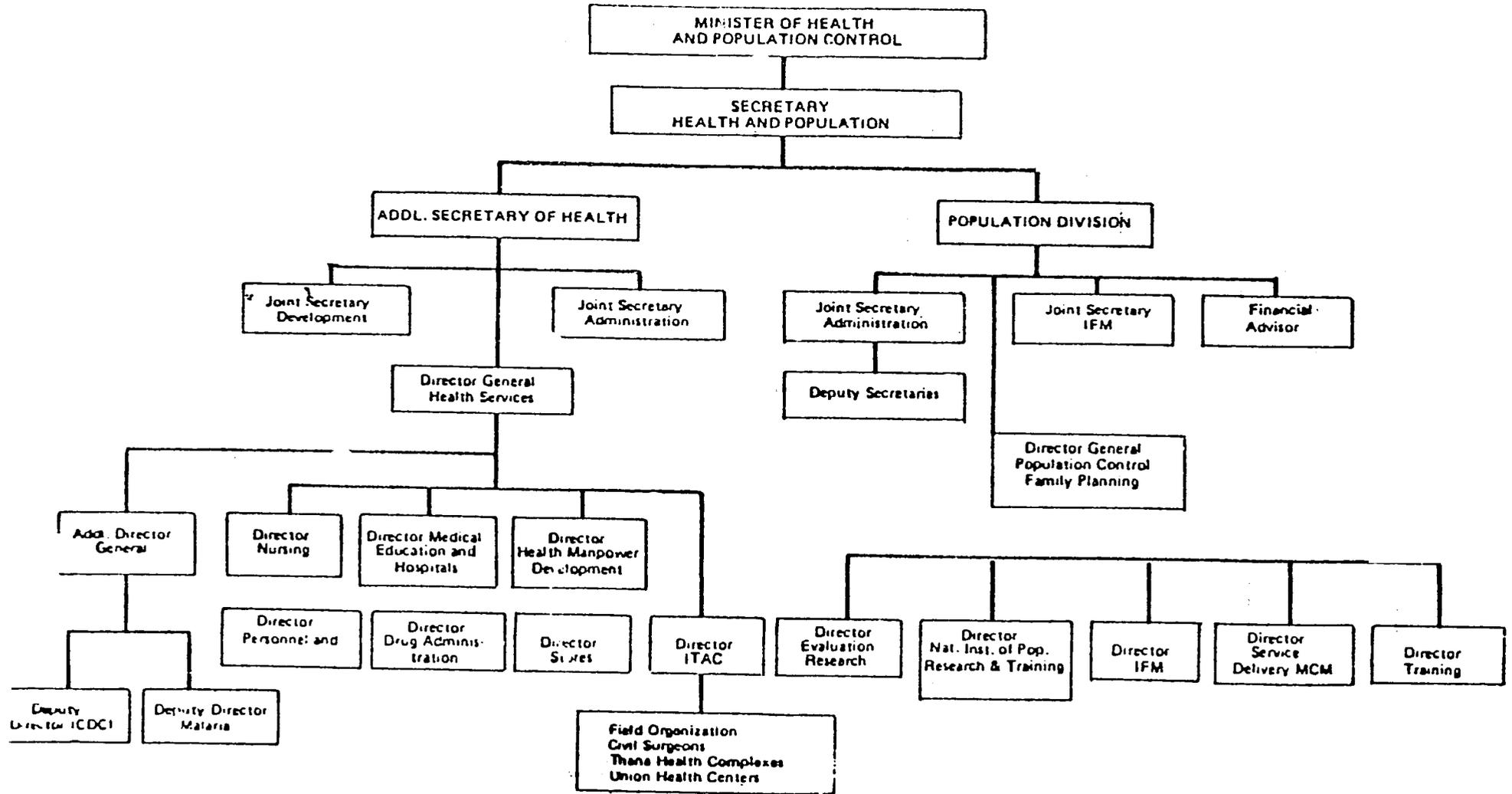
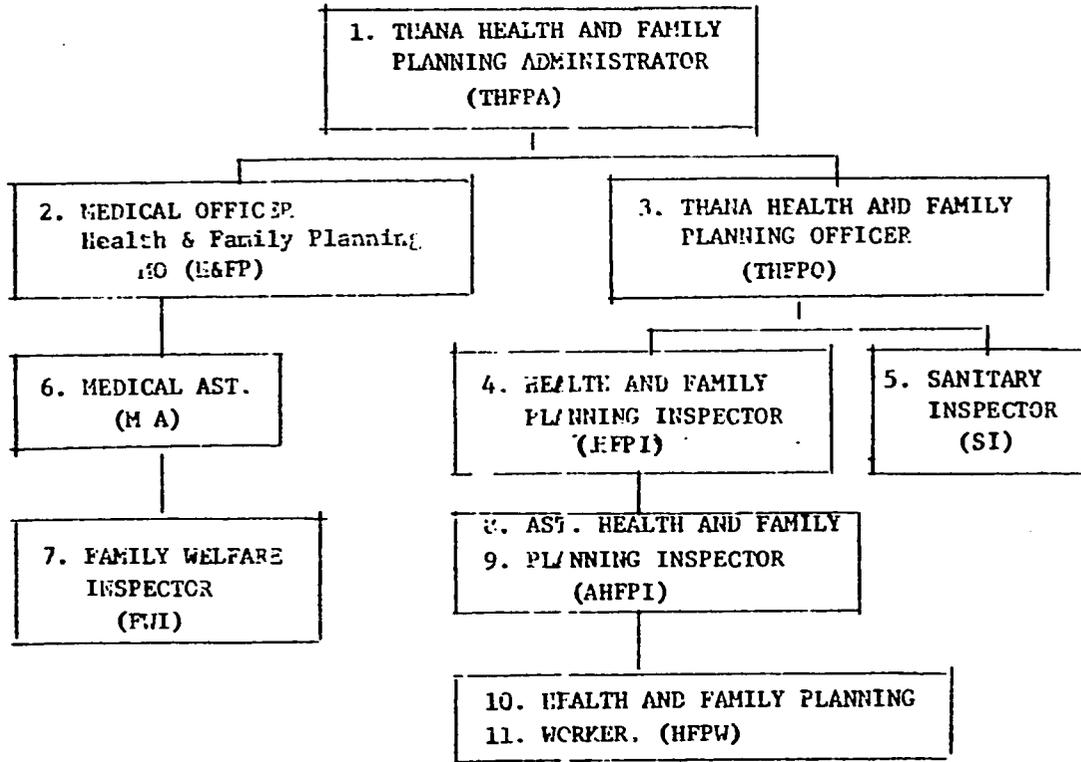


FIGURE V - 2

ORGANIZATION OF HEALTH-FP-MCH PERSONNEL THANA/UNION/VILLAGE LEVEL



OLD NAME	NEW NAME
1. Thana Health Administrator (THA)	1. Thana Health and Family Planning Administrator (THFPA)
2. Thana Medical Officer (TMO)	2. Medical Officer (Health & Family Planning) (H&FP)
3. Thana Family Planning Officer (TFPO)	3. Thana Health and Family Planning Officer (THFPO)
4. Health Inspector (HI)	4. Health and Family Planning Inspector (HFPI)
5. Sanitary Inspector (SI)	5. Sanitary Inspector (SI)
6. Medical Assistant (MA)	6. Medical Assistant (MA)
7. Family Welfare Visitor (FWV)	7. Family Welfare Inspector (FWI)
8. Asst. Health Inspector (AHI)	8. Asst. Health and Family Planning Inspector (AHFPI)
9. Family Planning Asst. (FPA)	9. Asst. Health and Family Planning Inspector (AHFPI)
10. Family Welfare Asst. (FWA)	10. Health and Family Planning Worker (HFPW)
11. Family Welfare Workers (FWW)	11. Health and Family Planning Worker (HFPW)

\* Proposed integration of health with family planning -- new designations for staff positions  
February 1973

### 3. Current Project Administration

Consultants visited THC training centers in July and August 1980 and met with PC trainees in Class 2 as well as graduates from Class 1. More recently USAID personnel have visited some of the 200 currently operating training centers where Class 3 PCs are enrolled. In all cases classes were in session and PCs were receiving stipends of 100 Taka according to the program plan. Medical kits were also provided but educational materials in many cases were not available. The MIPC, aware of the weaknesses in curriculum design, educational materials and quality of teaching, has specifically requested assistance to make needed improvements and will fully support the NTC and proposed project activities.

### 4. Contractors' Administrative Responsibilities

Under the host country contract the long-term advisors will assume much of the administrative work of the project including materials reproduction and commodity procurement. The entire NTC operation including MO training courses will be administered by the contractors.

### E. Financial Analysis

Total AID inputs for this project are \$ 6,932,000. The budget by project component is as follows (based on detailed budget tables of Annex C):

	USAID Inputs		Total
	FX	LC	
1. Technical Assistance(Foreign Advisors)	89.1	72.9	162.0
2. National Training Center Operation	52.9	123.1	176.0
a. Staff	-	(27.4)	
b. NTC Rental and Furnishing	(52.9)	(95.7)	
3. PC Core Training Improvement	1,763.1	918.2	2,681.3
a. Trainer Training	-	(58.5)	
b. Orientation for senior MHP field staff	-	(4.1)	
c. THC Training Equipment	(138.1)	(75.6)	
d. PC Training Manuals & Equipment	(1,625.0)	(780.0)	
4. MCH/FP Training for Female PCs	310.0	400.5	710.5
5. PC Recertification Course	-	292.5	292.5
6. PC Thrice Annual Meetings	-	292.5	292.5
7. Hostel Construction	-	1,100.0	1,100.0
8. Evaluation	-	55.0	55.0
9. Contingencies (10%)	301.7	326.5	628.2
<b>TOTAL</b>	<b>3,318.8</b>	<b>3,581.2</b>	<b>6,900.0</b>
	( 48% )	(52 %)	

47.9 percent of USAID inputs are foreign exchange costs and 52.1 percent are local currency costs. The largest component of assistance is improvement to PC core training (38.7%) followed by hostel construction (15.9%) and foreign technical assistance (13.9%). Supplementary M/FP training for female PCs constitutes 10.2% of total AID inputs.

The BDG contribution for the four-year project period, as shown in Annex C, is \$ 16,562,000, covering all recurrent costs of the PC training program, including honoraria for trainers, student stipends, and basic training materials. This budget does not include the in-kind costs of MHPC personnel involvement in project administration and training and other overhead costs. Addition of these in-kind costs would substantially increase the BDG contribution.

The BDG will be able to continue financing the on-going costs of the PC program after USAID inputs are completed. The BDG is already financing all recurrent costs for the program. By the end of the project, all 65,000 PCs will have undergone basic training; the earlier classes will have received recertification training which includes skill upgrading, and all female PCs will have received supplementary M/FP training. After that point, the only annual recurrent costs for the BDG will be occasional PC courses to replace those lost by attrition, biennial recertification training, and thrice-annual PC meetings. Assuming a 5 percent annual attrition rate, PC core training will cost approximately \$ 250,000. Thrice-annual PC meetings will cost \$ 300,000 and recertification training \$300,000 annually, for a total annual recurrent cost of \$ 850,000. The MHPC is aware of this modest recurrent cost and has planned for it.

## F. Environmental Analysis

### I. Examination of Nature, Scope and Magnitude of Environmental Impacts

#### A. Description of Project

The Bangladesh Government has initiated a program to train one individual from each of the 65,000 villages in Bangladesh as a primary health care practitioner, known as "palli chikitsak" or "village medic". These palli chikitsak will be trained to treat the majority of common village diseases, to give first aid, to provide information on hygiene and other aspects of preventive health care, to provide family planning information and services, and to refer cases which they are unable to treat to the nearest government health facility. They will be paid by their communities on a fee for service basis. To the greatest extent possible, the government will attempt to recruit women and indigenous village health practitioners for this training. The program has been underway for about a year. The first fifty training centers have been opened, each with a class of up to fifty students. The Palli Chikitsak Project will assist the government to improve the quality of palli chikitsak training through technical assistance, teacher training, training materials production, and other equipment and supplies. By the end of the project, the government will have increased capability to expand the training program so that its goal of nationwide health coverage can eventually be reached.

#### B. Identification and Evaluation of Environmental Impacts:

Since this project is a human resources and training program it does not have a direct impact on the environment. If the project is successful in the long term in leading to improved health and consequently lower mortality in rural Bangladesh, it may have one indirect adverse environmental effect by allowing for an increased population growth rate, thereby increasing the pressures on the land. This adverse effect may be counteracted, however, by the fact that palli chikitsak will make available contraceptive information and services and by the probability that decreased mortality may reduce the villagers' perceived need for many children.

### II. Recommendation for Environmental Action

The project will not have a significant effect on the environment. Therefore a Negative Determination is recommended.

## INITIAL ENVIRONMENTAL EXAMINATION

Project Location : Bangladesh

Project Title : Falli Chikitsak (382-0055)

Funding (Fiscal Year and Amount) : FY 81, \$5,000,000

Life of Project : FY 81-FY 83

IEE Prepared by : Vivikka Mollidrem

Date: September 17, 1979

Environmental Action Recommended : Negative Determination.  
See Page 2 attached.

Concurrence : Frank Kimbali, Director

Date : SEP 17 1979

Assistant Administrator's Decision :

Approve : *Richard W. Schick*

Disapprove : \_\_\_\_\_

Date : October 29, 1979

PART VI: PROPOSED CONDITIONS AND COVENANTS

The following conditions and covenants will be written in the BDG/USAID Grant Agreement:

A. USAID. Subject to the availability of funds, AID will provide the resources in the amounts and according to the schedules described in the Project Paper.

B. Government of Bangladesh (BDG/MHPC).

1. The BDG will provide the budget in the amounts and on the schedule shown in Table C-11.
2. The BDG will assign counterpart personnel as follows: Two MHPC health educators will be assigned as permanent employees to the NTC who will be qualified by education and experience for their counterpart assignments. Except in extraordinary circumstances they will not be transferred during the course of this project. If transferred, they will be replaced immediately. Following the termination of technical assistance, the BDG counterparts will be assigned to the Health Manpower Development Directorate of the MHPC. The Director of PC program will work parttime with the Consultant Team Leader to ensure project coordination at all levels.
3. The 325 MOs trained in this project will be assigned to Thana Health Complexes in which PC training is taking place. They will be responsible at the THC, for the coordination and implementation of all PC training activities. From 1985 onward, the MO trainers will be assigned to the 74 permanent PC training centers, not less than two per centre.
4. Palli Chikitsaks will be required to undergo bi-annual, in-service training (two to three week program) as a condition of their recertification.
5. Palli Chikitsaks will be private practitioners, entitled to charge clients reasonable fees for their services.
6. Female PC students will be admitted to the program without regard for their marital status, , married, widowed or divorced.

SEE #3880055005801 FOR CONTINUATION