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ANNEX A : PID APPROVAL CABLE
TELEGRAM
 AMEMBASSY DACCA

ACTION: AID
 INFO : AMB DCM CHR N UNCLASSIFIED RECD: 05 NOV 79 0927
 Classification

P 022 125Z NOV 79
 FM SECSTATE WASHDC
 TO AMEMBASSY DACCA PRIORITY 0837
 BT
 UNCLAS STATE 286929

AIDAC

E.O. 12865: N/A
 SUBJECT: APAC REVIEW, PALLI CHIKITSAK PID

SUBJECT PID WAS APPROVED IN APAC REVIEW HELD 10/23/79. WAS THAT THIS IS AN EXCITING PROJECT IDEA WITH POTENTIAL FOR IMPORTANT DIRECT BENEFITS TO THE RURAL POOR. USE OF PRIVATE SECTOR WAS ESPECIALLY COMMENDED. PRESENTATION IN PID IS THOROUGH AND WELL DONE. FOLLOWING ISSUES WERE DISCUSSED:

1. INCLUSION OF FAMILY PLANNING AMONG SERVICES TO BE PROVIDED: WHILE FP WILL BE INCLUDED IN CURRICULUM, CONCERN WAS EXPRESSED THAT PRACTITIONERS MIGHT BE TOO BUSY WITH CURATIVE CARE TO PROVIDE FAMILY PLANNING SERVICES. IF SAME INCOME INCENTIVES APPLY TO PROVIDING CONTRACEPTIVES/FP SERVICES AS TO OTHER SUPPLIES AND SERVICES, HOWEVER, THIS MAY NOT BE A PROBLEM. PROJECT SHOULD EMPHASIZE INCLUSION OF FP AMONG OTHER SERVICES.
2. FUNDING: FUNDING FROM HEALTH ACCOUNT IS APPROPRIATE. ASIA/DP WILL SEEK TO PROVIDE AMOUNT NECESSARY FOR FY 81.
3. FEASIBILITY: THE MANY AND DIFFICULT FEASIBILITY ISSUES DISCUSSED IN PID WERE NOTED. PP DESIGN TEAM SHOULD EXAMINE, IN ADDITION TO ISSUES STATED IN PID, QUESTION OF APPROPRIATE LENGTH OF TRAINING COURSE. IT MAY BE THAT WELL DESIGNED COURSE COULD RESULT IN NEEDED LEVEL OF SKILLS IN SUBSTANTIALLY LESS THAN A YEAR. IN ADDITION TO COST SAVING;, THIS WOULD MAKE PARTICIPATION BY WOMEN AND INDIGENOUS PRACTITIONERS MORE FEASIBLE. APAC REITERATED ITS CONCERN, SHARED BY MISSION, THAT WOMEN BE INCLUDED TO MAXIMUM EXTENT POSSIBLE. CONCERN WAS EXPRESSED THAT INCENTIVES MAY NEED TO BE BUILT INTO DESIGN TO ENSURE THAT FACULTY REMAIN AT ASSIGNED TRAIN-

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ANNEX A-2

TELEGRAM

AMEMBASSY DACCA

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PAGE 2 STATE 286929

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ING CENTERS.

4. LENGTH OF PROJECT: WHILE AGREEING THAT PROJECT LENGTH AND COST SHOULD BE DETERMINED DURING DESIGN, IT SEEMED HIGHLY LIKELY TO APAC THAT THREE YEARS WOULD PROVE INSUFFICIENT. WE AGREE THAT IS PREFERABLE TO ESTABLISH REALISTIC TIME FRAME AT BEGINNING AND AVOID PROJECT EXTENSIONS, ALTHOUGH WE ALSO RECOGNIZE THAT COSTS MJO INCREASE IF PERIOD IS EXTENDED. REQUEST COMMENT ON PROJECT LENGTH AND POTENTIAL FUNDING IMPLICATIONS.

5. MISSION APPROVAL OF PROJECT: AT DOLS 5 MILLION FUNDING LEVEL, AA AGREES TO MISSION APPROVAL OF PP. IF COSTS INCREASE SIGNIFICANTLY PER PARA 4, AA WILL RE-EXAMINE QUESTION WHEN NEW BUDGET IS AVAILABLE. AA, ASIA BUREAU AND DSB OFFICES WISH TO BE KEPT INFORMED OF PROGRESS AND PROBLEMS AS PROJECT DEVELOPS SINCE THIS IS AN INNOVATIVE AND HIGH RISK PROJECT AND MAY BE OF INTEREST ELSEWHERE IN THE AGENCY. ASSUME PROJECT OFFICER WILL DO REGULAR MONTHLY STATUS REPORT AS IS DONE FOR OTHER MISSION PROJECTS. THIS STATUS REPORT WILL BE DISTRIBUTED BY THE BUREAU TO INTERESTED PARTIES. MISSION SHOULD FORWARD ANY ADDITIONAL SIGNIFICANT REPORTS WHICH IN ITS JUDGMENT WOULD ASSIST AA AND TECHNICAL OFFICES TO KEEP ABREAST. NO SPECIAL REPORTING IS REQUESTED.

6. MISSION STAFFING: APAC IS CONCERNED ABOUT STAFF INTENSIVE PORTFOLIO OF PHAW DIVISION. FILLING OF EXISTING VACANCIES IS DISCUSSED IN SEPTTEL ON APAC REVIEW OF POPULATION PROJECT. IN LIGHT OF PRACTICAL PROBLEMS INVOLVED IN INCREASING DIRECT HIRE STAFF, IS THERE NEED FOR A PERSONAL SERVICES CONTRACTOR IN THE PROJECT? PP SHOULD DISCUSS PROJECT MANAGEMENT AS AN ISSUE. RE SUGGESTED TA BY HEALTH PROFESSIONAL, ASIA/TR WILL ATTEMPT TO LOCATE ASSISTANCE, BUT TWO MONTHS SUGGESTED UNLIKELY TO BE POSSIBLE FOR DIRECT HIRE.

7. PROJECT TITLE: FOR CLARITY TO THOSE UNFAMILIAR WITH PROJECT, ASIA BUREAU PLANS TO USE AS PROJECT TITLE IN CONGRESSIONAL AND OTHER AID/W DOCUMENTS QTE PALLI CHIKITSAK (VILLAGE MEDICS) UNQTE. REQUEST MISSION DO THE SAME.

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OPTIONAL FORM 151(H)
(Formerly FS-412(H))
January 1975
Dept. of State

ANNEX A-3

TELEGRAM

AMEMBASSY DACCA

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PAGE 3 STATE 296929

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8. POTENTIAL CONTRACTOR: ALTHOUGH MEDEX WAS MENTIONED AS A POSSIBLE CONTRACTOR, APAC NOTED THERE ARE OTHER EQUALLY GOOD ALTERNATIVES TO BE EXPLORED IN MATCHING CONTRACTOR TO BOG NEEDS/DESIRES. CHRISTOPHER

UNCLASSIFIED

Classification

OPTIONAL FORM 151(H)
(Formerly FS-412(H))
January 1975
Dept. of State

ANNEX B: LOGICAL FRAMEWORK MATRIX

FY 81 -- FY 84
Total \$7 million

Project Title and Number: Palli Chikitsak (Village Medics) Project No. 388-0055

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<u>Program or sector goal:</u> To reduce morbidity and mortality in rural Bangladesh	<u>Measures of goal achievement:</u> 1) Morbidity rates for most common diseases in rural Bangladesh decrease 2) Mortality rates decrease in rural areas of Bangladesh	1) Census data 2) Health Div. Statistics	<u>Assumptions for achieving goal:</u> 1) No major epidemics, wars, famines or nat. disasters 2) Sanitation, potable water and other BDG rural health projects continue at current levels 3) Reduction in prevalence of common rural diseases will have a significant impact on morbidity

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p><u>Project Purpose:</u></p> <p>To increase the quality and availability of low-cost primary health and family planning services in rural Bangladesh</p>	<p><u>EOPS:</u></p> <p><u>Availability:</u></p> <p>1) Increased number of PCs practicing in rural areas (up to 65,000)</p> <p>2) Increased number of previously under or unserved villagers with access to professional health care and family planning services, esp. women</p> <p><u>Quality:</u></p> <p>1) Reduced incidence (from the 10% est. of baseline survey) to 5% of "incorrect/damaging" treatment of patients by PC graduates</p> <p>2) Working referral system in operation between PCs and THC personnel</p>	<p>1) MHPC statistics and records</p> <p>2) Project Records and Reports</p> <p>3) Project Evaluations</p> <p>4) PC records</p>	<p><u>Assumptions for achieving</u></p> <p>1) PCs will be able to earn living working in rural areas</p> <p>2) PC services are acceptable and affordable to villagers</p> <p>3) The availability of referral materials and proper equipment improves health provider's ability to deliver services</p>

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<u>OUTPUTS:</u>	<u>MAGNITUDE OF OUTPUTS:</u>		<u>ASSUMPTIONS FOR ACHIEVING OUTPUTS</u>
1) NTC located and staffed	1) 1 Training center in central location staffed by foreign consultants, local administrator, secretaries, driver and guard by MARCH 82	1) Project records and reports	1) Qualified students will be available
2) NTC equipped	2) NTC equipped with AV and other teaching tools and computer by AUGUST/SEPT. 82	2) Evaluation Reports	2) Continuity of trained instructors will be maintained in all training centers (M.C.)
3) NTC local professional staff trained	3) 1 Health manager trained for 24 months 1 Health Educator trained for 24 " 1 Curriculum specialist for 6 months 1 Computer programmer for 24 months All training completed by MARCH 84	3) Inspection of manuals and other teaching materials	3) BDG commitment to PC program will continue
4) Basic and Recertification Course curricula developed for PC courses	4) One of each curriculum with teaching materials developed by SEPT. 82 and Nov. 83, respectively	4) Inspection of equipment	
5) MOs trained	5) 325 MOs complete training by AUG. 83	5) MHPC records	
6) M/FP trainers complete third country training course	6) 40 female trainers complete 6-8 week course by DEC. 82	6) PC records	
7) BDG training materials reproduced	7) Distribution of 65,000 copies begins by JAN. 83		
8) Supplementary manual developed and reproduced	8) Distribution of 65,000 copies begins by JAN. 83		

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<u>OUTPUTS:</u>	<u>MAGNITUDE OF OUTPUTS:</u>		
9) M/FP 2 week course curriculum and materials developed	9) Curriculum and teacher and student manuals developed and midwifery kits order by JUNE 83		
10) Workshops held for THAs and other MHPC staff	10) 3 Orientation workshops completed by MAR 84		
11) PCs trained under new Basic Curriculum	11) Approx 31,250 PCs receive training under new course design beginning with Class 5 in JAN 83		
12) PCs trained under new Basic course equipped	12) Manuals, Record Books, Medical Kits(M) received by PCs of Classes 5-6 beginning JAN 83		
13) PCs trained in Classes 1-4 receive Recertification Course	13) 33,750 PCs receive 3-week Recertification Course between SEP 83 and SEP 84		
14) PCs trained in Classes 1-4 receive updated equipment	14) 33,750 PCs receive Manuals, Record Books, and sphygmomanometers at inservice training between SEP 83 and SEP 84		
15) Female PCs trained in M/FP and receive equipment and materials	15) 5,000 female PCs trained in M/FP and receive midwifery kits and manuals between AUG 83 and SEP 84		
16) Hostels constructed	16) 74 THCs utilizing hostels by MAY 84		
17) THC's equipped	17) AV equipment, trainer's manuals, supplementary teaching materials in 300 THCs by JAN 83 and in 325 THCs by JAN 84		
18. PC monitoring/continuing education system functioning	18) 3 meetings held at each THC during FY 84 to check PC record book and discuss problems		
19) Project field evaluations completed	19) First field evaluation completed by <u>NOV 83</u> Second field evaluation completed <u>MAY 84</u>		

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<u>Inputs:</u>	<u>Implementation Target</u>	<u>AID</u>	<u>Assumptions for provided</u>
<u>AID:</u>	(\$000)		<u>inputs:</u>
1) Foreign Advisors	\$964.	- AID project records, financial reports - Procurement shipping reports	1) BDG will make appropriate policy changes
2) National Personnel	27.4		
3) NTC (lease, equipment, vehicles)	148.6		2) BDG will continue provide project support
4) Per diem, travel and training stipends	647.6	<u>BDG</u>	
5) M/FP Training	710.5	- BDG government orders - MHPC reports	
6) PC supplies and equipment	2,405.		
7) THC equipment	213.7		
8) Hostel Constn. materials	1,100.		
9) Evaluation	85.		
10) Contingency 10%	630.2		
	<hr/> 6,932.0		
BDG:	<hr/> 16,562.0		
TOTAL:	<hr/> \$ 23,494.0		

TABLE C.1. USAID'S PROJECTED EXPENDITURES: FOREIGN AND LOCAL COSTS BY FISCAL YEAR (\$000)

Use of Funds:	Reference Table	FY82		FY83		FY84		TOTAL	
		FX	LC	FX	LC	FX	LC	FX	LC
1. Foreign Advisors and Consultants:									
Long-Term Consultants	C-3	\$298.2	\$ 38.9	\$ 343.3	\$ 32.3	\$157.4	\$ 1.7	\$ 798.9	\$ 72.9
Short-Term Consultants	C-4	34.4	-	25.7	-	32.1	-	92.2	-
2. National Personnel	C-5	-	8.5	-	12.4	-	6.5	-	27.4
3. Training Center and Office									
Equipment and Supplies	I C-6/C-7 I	52.9	35.1	-	40.8	-	19.8	52.9	95.7
Space									
4. Per Diem, Travel and Housing for:									
MO Trainees & PCs	C-8	-	22.5	-	38.0	-	587.1	-	647.6
5. M/FP Training for Female PCs	C-9	80.0	-	230.0	218.5	-	182.0	310.0	400.5
6. Equipment for THCs	C-10	138.1	75.6	-	-	-	-	138.1	75.6
7. Manuals, Record Books and Equipment for PC Trainees	C-10	-	780.0	1625.0	-	-	-	1625.0	780.0
8. Evaluation		-	15.0	-	15.0	-	25.0	-	55.0
9. Hostel Construction Materials		-	500.0	-	500.0	-	100.0	-	1100.0
SUB-TOTAL		603.6	1475.6	2224.0	857.0	189.5	922.1	3017.1	3254.7
CONTINGENCY AT 10%		60.4	148.5	222.4	85.7	19.0	92.2	301.7	326.5
TOTAL		664.0	1624.1	2446.4	942.7	208.5	1014.3	3318.8	3581.2
TOTAL (FX & LC)		\$2,298.1		\$3,389.1		\$1,222.8		\$ 6,900.0	

TABLE C.2 Project Budget Summary

		(\$000)				
Budget Summary	**	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		83.0	40.8	19.8	142.6
d. Perdiem, travel, training stipends	C-8		22.5	38.0	587.1	647.6
e. M/EP Training	C-9		80.0	448.5	182.0	710.5
f. Supplies & equipment for PC Trainees	C-10		720.0	1,625.0	-	2,405.0
g. THC training equipt.	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	3,389.8	1,222.8	6,900.0
j. BDA/EPIC 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

a. Foreign Advisors and Consultants¹

Two long-term advisors, for a total of 72 person months, costing \$ 871,800 are required to implement the project. These long-term specialists will consist of a Team Leader (physician) and one expert in health education. All of these professionals should arrive in February 1982 and remain until March 1984. Also needed are 9-1/2 months of short-term consultant services for the writing and production of the supplementary PC manuals and for evaluations. The estimated cost for the short-term consultants is \$ 92,200.

b. National Personnel

National personnel for the operation of the training center and office will consist of: two national short-term consultants for the manuals and curriculum (6 person months); an administrator, two secretaries, a clerk and a driver (total of 126 person months); and, an experienced computer programmer (24 person months). The total costs of national personnel will be \$ 27,400.

c.(1) National Training Center and Office, Equipment and Supplies

The costs of the National Training Center and technical assistance office (to be approximately 1,200 square feet for the office and 3,000 square feet for two classrooms and a laboratory) is estimated at \$ 50,100 for the lease of space and \$ 60,500 for supplies and equipment. Included in this total for supplies and equipment is \$ 14,100 for the purchase of supplementary audio-visual equipment (slide duplicator, 35 mm camera and lenses, polaroid camera and cassette videotape portapak).² The office will be in operation from February 82 through March 84. The classrooms and laboratory will be used from July 82 through March 84.

c.(ii) Other Training Centre Costs

The project will have one four-wheel drive vehicle to move supplies and people for field visits and for local travel in Dacca. Two small 125 cc motorcycles will allow access to field sites and provide inexpensive transportation for project staff in Dacca. The cost of vehicles with maintenance and fuel over the life of the project is \$ 28,400. A small desk top computer with hard disc storage capacity will be used to monitor the project's outputs to individual thanas, keep project accounts, keep records of PC and MO trainees and to do limited data analysis. The US cost of this equipment is approximately \$ 9,500.

¹ See Annex I for position descriptions and qualifications of foreign and national personnel.

² See Part V C. Technical Analysis for an in-depth description of the proposed educational technology.

Table C.3. FOREIGN ADVISORS - LONG TERM

(2) Long-term Advisors - 36 p.m. each (Team Leader, Health Educator)

(\$000)

	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>TOTAL</u>
A. Personnel Compensation and Benefits	\$142.0	\$191.3	\$ 54.7	\$ 388.0
B. Travel and Transportation	59.3	33.8	62.7	155.8
C. Rent, Utilities, Other Costs	59.2	28.8		88.0
D. Contractor's Overhead (100% of Base Pay)	76.0	121.6	41.8	239.4
	<u>\$337.1</u>	<u>\$375.5</u>	<u>\$ 159.2</u>	<u>\$ 871.8</u>

Table C.4. FOREIGN ADVISORS - SHORT TERM

(4) Short-term Consultants - 8.5 p.m. Total (Health Educators, Evaluators)

(\$000)

	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>TOTAL</u>
A. Personnel Compensation	\$ 13.0	\$ 9.4	\$ 18.0	\$ 40.5
B. Travel	2.4	2.6	5.8	10.8
C. Per Diem	5.9	4.3	8.3	18.5
D. Overhead (100% of Compensation)	13.1	9.4	-	22.5
	<u>\$ 34.4</u>	<u>\$ 25.7</u>	<u>\$ 32.1</u>	<u>\$ 92.2</u>

Table C.5. NATIONAL PERSONNEL (ALL LOCAL COSTS)

(7) Employees - 156 p.m. Total (Health Education Consultants
 Administrator Secretaries, Clerk, Driver, Programmer)

	(\$000)			
	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>TOTAL</u>
Salaries	\$ 3.5	\$ 12.4	\$ 6.5	\$ 27.4

Table C.6. RENTAL COSTS OF OFFICE SPACE, CLASSROOMS (ALL ITEMS ARE LOCAL COSTS)

	(\$000)			
	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>TOTAL</u>
Lease and Renovation of Office Space, Classrooms, and Laboratory	\$ 12.3	\$ 25.2	\$ 12.6	\$ 50.1

Table C.7. COST OF EQUIPMENT, SUPPLIES FOR TRAINING CENTER AND TECHNICAL ASSISTANCE OFFICE

	(\$000)							
	FY82		FY83		FY84		TOTAL	
	FX	LC	FX	LC	FX	LC	FX	LC
I. NTC Equipment and Supplies								
A. Office Equipment and Supplies	\$ 5.3	\$ 9.3	-	\$ 5.0	-	\$ 2.4	\$ 5.3	\$15.9
B. Classroom Equipment and Supplies (2)	5.0	6.2	-	4.0	-	2.0	5.0	12.2
C. Laboratory Equipment and Supplies	2.1	4.0	-	1.0	-	-	2.1	5.0
D. Additional Audio-Visual Materials	13.8	.3	-	-	-	-	13.8	.3
Sub-Total I	\$26.2	\$20.0	-	\$10.0	-	\$ 4.4	\$26.2	\$34.4
II. Project vehicle - Cost, Maintenance, Fuel	15.0	2.5	-	5.0	-	2.5	15.0	10.0
III. (2) Motorcycles - Cost, Maintenance, Fuel	2.2	.3	-	.6	-	.3	2.2	1.2
IV. Micro-computer for records of PC trainees, records of MOs, evaluation	9.5	-	-	-	-	-	9.5	.
TOTAL I, II, III IV	\$52.9	\$22.8	-	\$15.6	-	\$ 7.2	\$52.9	\$45.6

Table C.8. TRAVEL, PER DIEM AND TRAINING STIPENDS (ALL LOCAL COSTS)

	(\$000)			
	FY82	FY83	FY84	TOTAL
I. Travel and per diem for 325 MOs (\$180/MO)	\$22.5	\$36.0	-	\$ 58.5
II. Travel and per diem for orientation workshops (\$45 for 90 persons)	-	2.0	2.1	4.1
III. Palli Chikitsak three week Recertification Course 33,750 PCs (Stipend and Travel)	-	-	292.5	292.5
IV. Palli Chikitsak thrice yearly, 2 day meetings (40,750 PCs Travel and per diem)	-	-	292.5	292.5
TOTAL I, II, III, IV	\$22.5	\$38.0	\$587.1	\$647.6

Table C.9. MIDWIFERY/FAMILY PLANNING (M/FP) TRAINING FOR FEMALE PCs

	(\$000)							
	FY82		FY83		FY84		TOTAL	
	FX	LC	FX	LC	FX	LC	FX	LC
I. Course Preparation:								
A. Third-country Training Course for 40 MHPC female physicians (India)	\$80.0	-	\$80.0	-	-	-	\$160.0	-
B. Three In-country workshops to test and finalize curriculum and materials	-	-	-	12.0	-	-	-	12.0
II. Two week M/FP Course for 5 000 Female PCs (Per diem and Travel-teachers and students)	-	-	-	168.0	-	182.0	-	350.0
III. Equipment and materials (Manuals, M/FP Kits)	-	-	150.0	38.5	-	-	150.0	38.5
Total: I, II, III	\$80.0	-	\$230.0	\$218.5	-	\$182.0	\$310.0	\$400.5

Table C.10. EQUIPMENT FOR THANA HEALTH CENTERS AND PALLI CHIKITSAK GRADUATES

	(\$000)							
	FY81		FY82		FY83		TOTAL	
	FX	LC	FX	LC	FX	LC	FX	LC
I. Equipment for 325 THCs (Projectors, Slides, Materials)	-	-	\$138.1	\$ 75.6	-	-	\$ 138.1	\$ 75.6
II. Equipment for 65,000 PCs (Sphygmomanometers, Manuals, Record Books)	-	-	-	780.0	1625.0	-	1625.0	780.0
TOTAL I, II	-	-	\$138.1	\$855.6	\$1625.0	-	\$1763.1	\$855.6

TABLE C.11 CURRENT BDG/MOH PROJECTED BUDGET FOR PALLI CHIKITSAK PROJECT (100,000 Taka)

USE OF FUNDS	Total	1978-79	1979-80	1980-81	1981-82	1982-83	1983-85	1984-85
1. Furniture for Office of PD and Training Center and Hostel	Tk 186.83	Tk 28.98	Tk 57.40	Tk 28.70	Tk 42.75	Tk 14.35	Tk 14.35	-
2. Cost of Training Materials, Models, Charts, etc.	24.38	2.50	8.75	3.75	5.63	1.88	1.87	-
3. Cost of Printing Manual	33.00	33.00	-	-	-	-	-	-
4. Honoraria and Contingency for Manual Committee	1.50	0.50	1.00	-	-	-	-	-
5. Training Allowances for Trainees	780.00	30.00	90.00	120.00	165.00	180.00	195.00	-
6. Contingency for Trainees	78.00	3.00	9.00	12.00	16.50	18.00	19.50	-
7. Pay and Allowance of Others	706.75	28.70	82.95	110.08	142.78	164.35	177.50	-
8. Establishment and Honoraria for Guest Lecturers	-	-	-	-	-	-	-	-
9. Cost of Printing Certificate	3.30	3.30	-	-	-	-	-	-
10. Cost of Printing Refreshers Card	4.62	4.62	-	-	-	-	-	-
11. Cost of Vehicle for PD	1.75	1.75	-	-	-	-	-	-
12. Maintenance of Vehicle	1.80	0.30	0.30	0.30	0.30	0.30	0.30	-
13. Repair of Vehicle	.90	.05	.10	.15	.20	.20	.20	-
14. TA for Officer and Staff	1.50	.10	.28	.28	.28	.28	.28	-
15. Contingency for Office of PD	.36	.36	.06	.06	.06	.06	.06	-
16. Cost of Diagnostic Equipment	552.50	21.25	63.75	85.00	116.88	127.50	138.12	-
17. Honoraria for Palli Chikitsaks	780.00	-	30.00	90.00	120.00	165.00	180.00	195.00
18. Cost of Evaluation of the Training	6.00	1.00	1.00	1.00	1.00	1.00	1.00	-
19. Cost of Hiring House and Unforseen Expenditure	20.00	-	-	5.00	5.00	5.00	5.00	-
20. Installation of a Telephone	.10	-	.10	-	-	-	-	-
TOTAL	Tk 3,183.29	Tk 159.11	Tk 344.70	Tk 56.37	Tk 616.38	Tk 677.92	Tk 733.86	Tk 195.00
US \$ at Tk 15:US\$1	\$ 212.21	\$ 10.61	\$ 22.98	\$ 30.42	\$ 41.09	\$ 45.19	\$ 48.92	\$ 13.00

Annex D : Complete Statutory Checklist

5C(1) - COUNTRY CHECKLIST

A. General Criteria for Country Eligibility

1. FAA Sec. 116. Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? Yes, it can be demonstrated.

2. FAA Sec. 431. Has it been determined that the government of recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? No, Department of State has not so determined.

3. FAA Sec. 620(b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement? Yes.

4. FAA Sec. 620(c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government? No.

5. FAA Sec. 620(e)(1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?
- In 1972 the BDG nationalized five firms which were fully or partially owned by U.S. entities. The BDG has announced a compensation policy and is taking steps to discharge its obligation towards U.S. citizens and entities.
6. FAA Sec. 620(a), 620(f), 620(d), App. Act. Is recipient country a Communist country? Will assistance be provided to Afghanistan, Angola, Cambodia, Cuba, Laos, Socialist Republic of Vietnam or Syria? Will assistance be provided to Mozambique without a waiver?
- a) No.
b) No.
c) No.
7. FAA Sec. 620(i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression?
- a) No.
b) No.
8. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property?
- No.
9. FAA Sec. 620(l). If the country has failed to institute the investment guaranty program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason?
- OPIC bilateral agreement was signed January 15, 1975.
10. FAA Sec. 620(o): Fishermen's Protective Act of 1967, as amended Sec. 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters,
- Not applicable.
- a. has any deduction required by the Fishermen's Protective Act been made?
- b. has complete denial of assistance been considered by AID Administrator?

11. FAA Sec. 620: App. Act. (a) Is the government of the recipient country in default for more than six months on interest or principal of any AID loan to the country? (b) Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds?
- a) No.
b) No.
12. FAA Sec. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget which is for military expenditures, the amount of foreign exchange spent on military equipment and the amount spent for the purchase of sophisticated weapons systems? (An affirmative answer may refer to the record of the annual "Taking Into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB. This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)
- Not applicable.
13. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?
- No.
14. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operation Year Budget?
- Not in arrears.

15. FAA Sec. 620A, App. Act. Has the country granted sanctuary from prosecution to any individual or group which has committed an act of international terrorism? Has the country granted sanctuary from prosecution to any individual or group which has committed a war crime? No.
No.
16. FAA Sec. 666. Does the country object, on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there to carry out economic development program under FAA? No.
17. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it detonated a nuclear device after August 3, 1977 although not "nuclear-weapon State" under the nonproliferation treaty? No.
No.

B. Funding Criteria for Country Eligibility

1. Development Assistance Country Criteria

- a. FAA Sec. 102(b) (4). Have criteria been established and taken into account to assess commitment and progress of the country in effectively involving the poor in development, on such indexes as: (1) increase in agricultural productivity through small-farm labor intensive agriculture, (2) reduced infant mortality, (3) control of population growth, (4) equality of income distribution, (5) reduction of unemployment, and (6) increased literacy. 1. Yes
2. Yes
3. Yes
4. Yes
5. Yes
6. Yes

b. FAA Sec. 104(d). If appropriate, is this development (including Sahel) activity designed to build motivation for smaller families through modification of economic and social conditions supportive of the desire for large families in programs such as education in and out of school, nutrition, disease control, maternal and child health services, agricultural production, rural development, assistance to urban poor, and through community-based development programs which give recognition to people motivated to limit the size of their families? **Yes.**

2. Economic Support Fund Country Criteria

a. FAA Sec. 502B. Has the country (a) engaged in a consistent pattern of gross violations of internationally recognized human rights or (b) made such significant improvement in its human rights record that furnishing such assistance is in the national interest? a) No.
b) Yes.

b. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made? **Not applicable.**

c. App. Act. Will assistance be provided for the purpose of aiding directly the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? **Not applicable.**

d. FAA Sec. 620B, P.L. 94-329, Sec. 406. Will E.S.F. be furnished to Argentina or Chile? **Not applicable.**

5C(2) - PROJECT CHECKLIST

A. GENERAL CRITERIA FOR PROJECT

1. App. Act; FAA Sec. 634A; Sec. 653(b).
(a) Describe how authorizing and appropriations Committees of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that figure)?
 - a) Grant project was included in Congressional Presentation for FY1981
 - b) Yes.

2. FAA Sec. 611(a) (1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?
 - a) Yes.
 - b) Yes.

3. FAA Sec. 611(a) (2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

No further legislative action required.

4. FAA Sec. 611(b); App. Act. If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?

Not applicable.

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

Yes.

6. FAA Sec. 209. Is project susceptible of execution as part of regional or multi-lateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.
- No. The training program funded by this project is strictly country-specific.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to:
- (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.
- The project is not directly applicable to points (a), (c), (d), (e) or (f), it will contribute directly, however, to private initiative and competition in the provision of fee for service health care through rural Bangladesh.
8. FAA Sec. 601 (b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).
- Not applicable.
9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to ensure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.
- To host country contribution is 82% of the local currency and 70% of the total project cost. The host country contribution has been fully approved and appears in the national budget.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?
- No.

11. FAA Sec. 601 (e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes.

12. App. Act. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?

Not applicable.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(a); 111; 113; and 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

a) See body of project paper

b) The project directly encourages and assists development of private, rural-based enterprise in provision of low-cost health care services.

c) Project seeks to assist Bangladesh in becoming self-reliant through assisting it in improving an indigenously developed program which is technically appropriate and affordable.

d) A major component of the project is the training of women to provide health care services for women.

e) Not applicable.

b. FAA Sec. 103, 103A, 104, 105, 106, 107.

Is assistance being made available:

(104) for population planning under sec. 104(b) or health under sec. 104(c); if so, extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems and other modes of community research.

Yes. The project emphasizes low cost primary health and family planning services for the rural poor, with special attention to mothers and young children, utilizing community-based, private paramedical personnel.

c. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country)?

Yes.

d. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing. Is the recipient country "relatively least developed"?

Yes. Recipient country is an RLDC.

e. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental and political processes essential to self-government.

The project will utilize only locally available skills and technologies. It addresses an important priority of the Bangladesh government, reflected by the fact that the BDG has taken the lead in designing, implementing and funding this program itself.

f.

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

Yes.

5C (3) - STANDARD ITEM CHECKLIST

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of goods and services financed?
Procurement of technical services will be through Host Country Contracting. Any qualified US firm, or International Research Institutions are eligible.
2. FAA Sec. 604(a). Will all commodity procurement financed be from U.S. except as otherwise determined by the President or under delegation from him?
Yes.
3. FAA Sec. 604(d). If the cooperating country discriminates against U.S. marine insurance companies, will commodities be insured in the United States against marine risk with a company or companies authorized to do a marine insurance business in the U.S.?
Not applicable.
4. FAA Sec. 604(e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?
Not applicable.
5. FAA Sec. 608(a). Will U.S. Government excess personal property be utilized wherever practicable in lieu of the procurement of new items?
Yes.
6. FAA Sec. 603. Compliance with requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per cent of the gross tonnage of commodities (computed separately for dry bulk
Project Agreement will so provide.

carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.

7. FAA Sec. 621. If technical assistance is financed, will such assistance of goods and professional and other services from private enterprise be furnished on a contract basis? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?
Yes.
Not applicable.
 8. International Air Transport Fair Competitive Practices Act, 1974.
If air transportation of persons or property is financed on grant basis, will provision be made that U.S.-flag carriers will be utilized to the extent such service is available?
Yes.
 9. App. Act. Does the contract for procurement contain a provision authorizing the termination of such contract for the convenience of the United States?
Yes.
- B. Construction
1. FAA Sec. 601(d). If a capital (e.g., construction) project, are engineering and professional services of U.S. firms and their affiliates to be used to the maximum extent consistent with the national interest?
Not applicable.

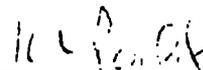
2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? Yes.
 3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million? Not applicable.
- C. Other Restrictions
1. FAA Sec. 122(e). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter? Not applicable.
 2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? Not applicable.
 3. FAA Sec. 620(h). Do arrangements preclude promoting or assisting the foreign aid projects or activities of Communist-block countries, contrary to the best interests of the U.S.? Yes.
 4. FAA Sec. 636(i). Is financing not permitted to be used, without waiver, for purchase, sale, long-term lease, exchange or guaranty of motor vehicles manufactured outside the U.S.? Such is not permitted.
5. Will arrangements preclude use of financing:
- a. FAA Sec. 104(f). To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; to pay for performance of involuntary sterilization as a method of family planning or to coerce or provide financial incentive to any person to undergo sterilization? Yes.

- b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property? Yes.
- c. FAA Sec. 660. To provide training or advice or provide any financial support for police prisons, or other law enforcement forces except for narcotics programs? Yes.
- d. FAA Sec. 662. For CIA activities? Yes.
- e. App. Act. To pay pensions, etc., for military personnel? Yes.
- f. App. Act. To pay U.N. assessments? Yes.
- g. App. Act. To carry out provisions of FAA sections 209(d) (Transfer of FAA funds to multilateral organizations for lending)? Yes.
- h. App. Act. To finance the export of nuclear equipment, fuel, or technology or to train foreign nations in nuclear fields? Yes.
- i. App. Act. To be used for publicity or propaganda purposes within U. S. not authorized by Congress? Yes.

CERTIFICATION PURSUANT TO SECTION 611 (e) OF THE FOREIGN
ASSISTANCE ACT OF 1961, AS AMENDED

I, Richard Podol, Acting Mission Director, the principal officer of the Agency for International Development in Bangladesh, having taken into account, among other things, the maintenance and utilization by the Bangladesh Government and its agencies of projects previously financed by the United States, do hereby certify that in my judgment Bangladesh has the financial and human resources capability effectively to utilize the project to be financed by this grant.

This judgment is based upon considerations discussed in the Project Paper to which this certification is attached.



Richard Podol
Acting Director

6 MAY 81

Date

ANNEX G

A STUDY TO ASSESS THE
IMPLEMENTATION STATUS OF THE
PALLI CHIKITSAK PROGRAM IN BANGLADESH

by

Howard Barnum
Pierre Claquin
Marie Farrell

August 31, 1980

Health Services International, Inc.
Agency for International Development
United States International Development
Cooperation Agency

Technical Advisory Health Services (Palli Chikitsak)
in Bangladesh

388-0055

Table of Contents

Acknowledgements	1
List of Tables	11
List of Figures	11
I. Introduction	1
Purposes of the Palli Chikitsak Program	1
II. Rationale	2
III. The Palli Chikitsak Program	3
A. The Curriculum	3
B. Recruitment of Students	4
C. Living Arrangements and Follow-up Supervision	4
D. Expected Behaviors of Palli Chikitsak Graduates	5
IV. Purposes of the Study	6
V. Definition of Terms	7
VI. Conceptual Framework of the Study	8
VII. Research Design	9
VIII. Analysis of Data	9
IX. Methodology	9
A. Setting	9
B. Procedure	10
C. Sample	10

D.	Instruments	12
1.	Trainer Questionnaire	12
2.	Trainee Questionnaire	13
E.	Results of Pilot Study	14
X.	Results	15
A.	Sample	15
1.	Trainers	15
2.	Trainees	16
B.	Trainers' Perceptions of the Palli Chikitsak Program	18
1.	Objectives of the Program	18
2.	Supervision of the Palli Chikitsaks	20
3.	Areas for Program Improvement	20
4.	Thana Health Administrators' Assessments of Teaching Materials	21
5.	Evaluation of Palli Chikitsak Students by Thana Health Administrators	22
6.	Teacher Training for the Thana Health Administrators	24
7.	Selection of Palli Chikitsak Trainees	24
C.	Trainees' Perceptions of the Palli Chikitsak Program	25
1.	Status of Graduate Palli Chikitsaks	25
2.	Palli Chikitsaks' Perceptions of the Training Program	26
a.	Topic Ratings	26
b.	Length of Program	27
c.	Teaching Methods	28
3.	Work Experience of Graduates	28
4.	Financial Considerations	31
5.	Assessment of Basic Patient Curative Skills	32

XI. Discussion of Findings	33
A. Pre-training Considerations	33
B. Other Criteria for Selection	34
C. Program Findings	35
D. Course Duration and Technical Content	38
E. Teaching Methodology	39
F. Living Conditions	40
G. Post-training Findings	40
XII. Summary, Conclusions, and Recommendations	42
A. Summary	42
B. Conclusions	43
1. Recruitment	44
2. Curriculum	45
3. Follow-up and Quality Control	46
4. Needs for the Future	47
a. Teacher Training	47
b. Materials	48
C. Recommendations	49
1. Pre-admission Criteria	49
2. Program Components	49
a. Curriculum	49
b. Teaching Materials	50
3. Evaluation, Follow-up	50
4. Training for Teachers	51
References	53

**Appendix A: Palli Chikitsaks Curriculum Course Content
and Duration: Detailed Syllabus and Hours**

Appendix B: Trainer Questionnaire

Appendix C: Trainee Questionnaire

**Appendix D: Palli Chikitsak Examination, Content and
Scoring**

**Appendix E: An Example of One Final Written Palli
Chikitsak Examination (English Translation)**

Acknowledgements

Carrying out a research study which involves collections of data in rural areas demands a great deal of cooperation, planning and coordination. To carry out such a study during the monsoon and the holy days of Ramaden in such a short span of time, requires even more intensive planning and help of many people. Without the core support and commitment of the following people our study could not have been undertaken. Thanks is extended to:

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Mr. Charles Gurney, Ms. Joan LaRosa, Ms. Vivikka Molldrem,
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Finally, special thanks is extended to the patient, resourceful and responsive Thana Health Administrators and Palli Chikitsak graduates and students, all of whom were willing to share their time and concerns with us.

List of Tables

- Table 1: Years of Practice, Hours of Practice Per Week and Hours Spent on Training of PCs
- Table 2: Age, Marital Status, Years of Schooling and Numbers of Live Children and Male and Female Graduates
- Table 3: THAs Ratings of Manuals and Audio-visual Teaching Materials and Curriculum Guide
- Table 4: PC Trainers' Ratings of Curricular Topics

List of Figures

- Figure 1: Schematic Model for Assessing Program Implementation
- Figure 2: Map Illustration of 24 Sample Thanas Studied

I. Introduction

In 1978, the Government of Bangladesh initiated the Palli Chikitsak Program; a curative health delivery program. The target recipient population is the rural, poor living in Bangladesh villages. To implement the program, a cadre of village men and women, one from each village, are trained in simple curative health care. They serve their communities as private practitioners and derive income on a fee-for-service basis. The practitioners are known to the village as village medics or Palli Chikitsaks (hereafter referred to as PCs¹).

Purposes of the Palli Chikitsak Program

The overall purposes of the program are to:

- A. "Prepare doctors for the rural areas who would have knowledge of:
 - 1) general hygiene; 2) disease cure; 3) minor surgery; and 4) population control."²
- B. Support "people's participation in [the] public health system."³
- C. "Providing modern and scientific allopathic medical science training to the numerous existing quacks, hakims, kabirajs and homeopaths."⁴
- D. Prepare an "educated and competent doctor from the community itself."⁵

-
1. Project Identification Document for Palli Chikitsak 388-0055, USAID, 1980, p. 5.
 2. Palli Chikitsak Training Curriculum, Government of Bangladesh, p. 1.
 3. Ibid.
 4. Ibid.
 5. Ibid.

- E. Prepare "PCs (65,000 in number) [to] work as change agents in the fields of public health, population control and family planning in the 65,000 villages of the country. They would have vast influence in the fields of public health and population control." ¹
- F. "Create a cadre of PCs based on the consideration of different factors like the pattern of [the] socio-economic structure of the country, economic condition[s] of the rural population, new concept/s/ of 'Appropriate Technology and creation of some economic opportunities for the teeming rural population.'" ²
- G. Establish the 'PCs within the overall network of Health Services. They will be directly supervised and will have full time opportunities to develop their professional competence.'" ³

II. Rationale

The PC Program was created to operate within the context of the current health conditions and needs of rural Bangladesh. Essentially, the need was and is seen to exist at the curative level in order to reduce the most common health problems including: malnutrition, diarrhea/dysentery, upper respiratory tract infection, fever, parasites and other infectious diseases. It is believed that although programs to improve water, sanitation, immunization and health education are in effect, some basic health problems will continue. The PC

-
1. Ibid., p. 2.
 2. Ibid.
 3. Ibid.

Program is viewed as the readily available, 24 hour, static, curative" component to complement the three other interventions currently being implemented, namely: improved water and sanitation, immunization, and health education.

Because it is a village level program it can address the issue of transport and accessibility--major factors which impede the least mobile--the poor, women, and children. Government centers are reportedly open "only eight hours a day and [then] staffs are not available for after hour service or home visits except in their own private practices."¹ It was reasoned that because the PCs are known to the village people their services would be more fully utilized. They speak the same language, and they share similar values and beliefs. Some of the PCs have been and will be selected from the ranks of village quacks, individuals who have already been in practice in the village.

The affordability of the fees to be maintained by the PCs would be assured because it was felt that the villagers would recognize the limited range and extent of PCs' medical capabilities; so that because the PC would perform at a technical level, the fees for services would be kept low enough to attract and retain village clients.

III. The Palli Chikitsak Program

A. The Curriculum²

The PC Program is a one-year, full-time, comprehensive, curative, health training program at the technical level. Theoretical and

1. Project Identification Document for Palli Chikitsak 388-0055, USAID 1980, p. 5.
2. See Appendix A for detailed list of subjects and hour allocation.

clinical components are taught to secondary school graduates by Thana Medical Officers who use curriculum materials created by physicians specifically for the program.

The curriculum components include: general sciences, anatomy and physiology, pharmacology, physical assessment, first aid, etiology and treatment of common diseases, food and nutrition, population control, vegetable growing, and content related to rural development and leadership.

B. Recruitment of Students

Students are recruited from the village to which they will return to practice. In addition to being recommended by the Union Council for the program, a commitment to complete the program is required in the form of a 5,000 Taka bond. Seats for women and indigenous practitioners (20% for each group) are reserved in an effort to upgrade and enhance the participation of these groups. Selection committees composed of THAs, Union Council Chairmen and a representative of the district Civil Surgeon, select the candidates.

C. Living Arrangements and Follow-up Supervision

Students study and reside in the rural area at the Thana Health Complex where patients are referred daily. A government stipend of 100 Taka per month continues 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 held at the end of each six-month semester. Graduates receive a certificate and are eligible to practice upon receipt

of final grades. Subsequent supervision of the PC by several Ministry of Health workers, including the Thana Health Administrators, Medical Assistants, Assistant Health Inspectors, Lady Family Welfare Visitors and Thana Health and Sanitary Inspectors, is presently under consideration. Further, measures to assure quality control include attendance at a monthly meeting at the Thana Health Complex and the maintenance of a Blue Book where THA comments would be recorded. License renewal would occur after completion of a refresher course every two years.

D. Expected Behaviors of Palli Chikitsak Graduates

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

1. Provide treatment for the common diseases to the rural population;
2. Advise the rural people on general hygiene;
3. Provide both children and adults with immunization services;
4. Provide general advice on nutrition;
5. Advise on personal health (effects of smoking, irregularity, bad effects of long nails and hair, benefits of cleanliness, etc.);
6. Provide extensive advice on population control and regularly supply family planning materials;
7. Do small surgery of boils; etc., and provide primary treatment of broken limbs and fractures;
8. Assist in enhancing the knowledge of hygiene of the school children;
9. Refer complication patients and ensure follow-up;
10. Participate in integrated rural development.¹

1. Palli Chikitsak Training Curriculum, Government of Bangladesh, p.5.

The first batches of 50 students were admitted to 50 Thana Health Complexes in all districts in January 1979. These groups completed one 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, it was estimated that by August 1980 approximately 2,500 graduate PCs would be delivering curative health services in 2,500 Bangladeshi villages. The goal of the project is to train enough PCs to provide one practitioner for each of the country's 65,000 villages, and to complete the process by 1985.

IV. Purpose of the Study

Two overall purposes of this study were established. They are: to assess the implementation, to date, of the PC Program; and to make recommendations to the Government of Bangladesh (BDG) and the Agency for International Development (USAID) concerning future resource allocations to the program. Specifically, the areas assessed in this study were:

- A. Nature and extent of implementation of the PC Program including selection of trainees, curriculum content, duration, presentation, theoretical and practical components, student and teacher perceptions and satisfaction, and use of materials and equipment;

- B. Selected demographic characteristics of PC graduates and the relationship of these factors to exposure and acceptance by the rural population;
- C. The relationship between PCs and other government health extension workers;
- D. Selected characteristics of patients seen by the PC graduate;
- E. PC graduates' level of clinical performance; and
- F. The role of women as potential and actual PC practitioners and the use of PCs by women patients.

V. Definition of Terms

For the purposes of this study the following terms are defined:

- A. PC Graduate is defined as an individual who has successfully completed one year of training as a Palli Chikitsak and who has received the Government of Bangladesh certificate of graduation.
- B. Trainee questionnaire is an instrument designed to gather information related to PC graduates' characteristics, perceptions about their educational experiences, and post-training behaviors and practice. It is an instrument with a standardized procedure for administration, collection and scoring.

- C. A Thana Health Administrator (THA) is a BDG medical doctor who is responsible for all medical activities in the thana and therefore for the PC training program.
- D. Trainer questionnaire is an instrument designed to gather information related to PC teacher characteristics, perceptions and opinions related to PC students, curriculum and program. It is an instrument with a standardized procedure for administration, collection and scoring.
- E. Curriculum was conceived of as all aspects of study and/or living which affects the learner through his/her course of study.

VI. Conceptual Framework of the Study

To assess pre-training, program, post-training and follow-up aspects of the program, a curriculum systems framework was used. Both formative and summative evaluation components were included in the assessment. The components of the model are illustrated in Figure 1.

Figure 1: SCHEMATIC MODEL FOR ASSESSING PROGRAM IMPLEMENTATION

PRE-Training	PC PROGRAM	POST-TRAINING	FOLLOW-UP
Criteria for selection; Numbers of PCs; Sex, age, status mix of candidates; Candidate pool; Financial admission criteria.	Purposes; Technical content; Presentation; Clinical practice; Course duration; Teaching materials; Teaching methods; Living conditions	By trainers; By trainees; Characteristics of graduates; Implications for <u>quacks</u> and women.	Evaluation; Accept by other health workers; Financial remuneration; Client population; Assessment of skills.

VII. Research Design

The design undertaken was essentially a verbal, descriptive survey to gather data related to selected formative and summative components. No attempt was made to gather pre- and post-program data due to severe constraints of time and difficult communications.

VIII. Analysis of Data

To analyze the curriculum data and perceptions of the program by the trainers and PC graduates, descriptive statistics and percentages were used. To assess the relationships between trainer and trainee characteristics and selected aspects of program implementation, and to assess the relationship between selected demographic characteristics of the PC graduates and clinical performance t-tests were used.

IX. Methodology

A. Setting

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 had a 100 to 300 bed hospital in each district and small hospitals in 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, staffed by one to four physicians and paramedical personnel. The THC serves an average population of 200,000 with clinical health and family planning services. There are

about 10 unions in every thana.¹

The settings for the study included 24 Thana Health Complexes selected randomly from the original 50 THCs, and the village homes of four PCs per selected thana.

Data for the study was collected from July 14 through July 31, 1980, in the 24 randomly selected thanas throughout Bangladesh (see figure 2). Because of heavy monsoon rains and the observance of Ramaden, it was anticipated that PCs would be available at their homes for interviews. Prior to initiation of data collection, a pilot study (see section E below) was conducted in order to assess the suitability of two instruments created for data collection.

B. Procedure

Before approaching the THA, the Civil Surgeon of the district was visited and notified of the purposes of the study. After the THA was interviewed, a requested list of thana PC graduates was compiled. PC home villages were then sought out with the help of graduates and Thana Health Complex staff. No PC knew in advance of the impending visit.

C. Sample

In order to collect the data, two groups of respondents were included: they were the THAs and the PC graduates of the program. Of the 50 thanas offering PC training in 1979, a simple, random sample of 24 thanas were selected, and the THA of that thana was interviewed. In each thana four PCs were chosen who, by virtue of their membership in that randomly selected thana, were to be

1. Project Identification Document for Palli Chikitsak 388-0055, USAID 1980, p. 3.

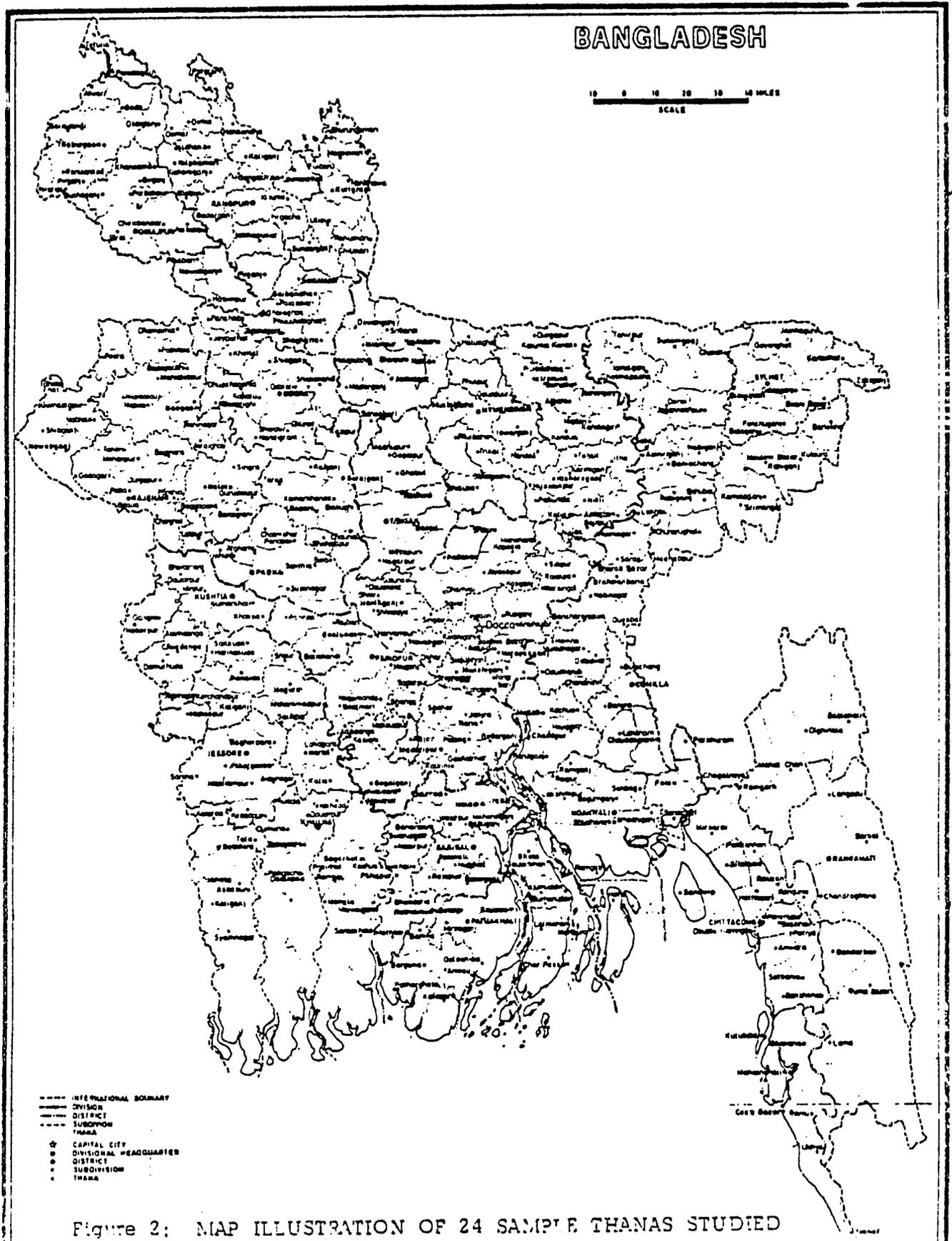


Figure 2: MAP ILLUSTRATION OF 24 SAMPLE THANAS STUDIED

included in the sample. Thus, a total of 24 THAs and the 96 PCs representing 24 thanas were to be included in the final samples.

Since the program was initiated in 1978, one class has graduated. Thus, the only criteria for interview of the THA was that they have had some exposure to the program and preferably that they have had firsthand experience in working with the PC Program. Only the PC students who had successfully completed both examinations and were currently practising were included in the sample. Because women were supposed to represent 20% of each batch of 50 students, efforts were made to include a similar representation among the interviewees. Thus, of every four PCs interviewed, one was to be a female.

D. Instruments

1. Trainer Questionnaire

To gather data related to trainer characteristics and perceptions, an interview schedule, the Trainer Questionnaire, was created (see Appendix B).

The Trainer Questionnaire is a non-standardized, combined, open-ended and forced-choice instrument of 24 items with seven additional items relating to personal characteristics of the trainer. The entire instrument takes approximately 30 to 60 minutes to complete, with variations in time due primarily to English facility of THA.

The overall purpose of the instrument is to assess the THA's perceptions of the program, particularly as it related to the following areas: a) purposes and outcomes of the PC

Program; b) potential population served; c) areas of strength and weakness; d) assessment of usefulness of written materials; e) trainer preparation; f) receptivity of community to the program; g) financial viability; and h) suggestion for improvement. The conceptual framework for the questionnaire was the Curriculum Guide which lists the areas outlined above. A content analysis of the guide was completed and the major subject areas were cross-checked for inclusion in the items. Thus, face and content validity of the instrument were established.

No formal attempts to establish a reliability coefficient were made; however, two interviewers achieved 90% agreement on the items during a pilot study conducted for this purpose.

All respondents were assured confidentially, and stress was placed upon personal perception as a result of experience with the program. All respondents were told that their help was being solicited in order to improve the existing program.

2. Trainee Questionnaire

A second instrument, the Trainee Questionnaire, was created to gather data related to PC graduates' demographic characteristics, perceptions and experiences (see Appendix C).

The Trainee Questionnaire is also non-standardized. It consists of 44 forced-choice and open-ended items covering four sections including: Demographic Data; Items of Training of the PC; Practice Experience; and Case Studies. Its framework is the Curriculum Guide with emphasis placed on the practical

application of theory learned. Three case studies of villagers with common illnesses are presented in order to elicit the respondents' probable behavior when confronted with such circumstances. The appropriateness of treatment and medications, including dosage, is assessed along with the respondents' judicious use of the physician and/or hospital referral system.

A content analysis of the Curriculum Guide was completed and items concerning the training of the PC were included. A similar procedure to that employed for the Trainer Questionnaire was used for assessing consistency of the instrument. Two interviewers achieved 85% agreement on the 44 items. However, this consistency must be noted with caution for the individual interviewed in the pilot was not the PC graduate himself (see section E below). The questionnaire format was found to be suitable in that other villagers with language patterns similar to those of the PC were able to respond to the level and language used, at least in the one pilot test instance. The instrument takes approximately 40 to 60 minutes to complete.

The respondents were assured anonymity before answering questions and were told that their help was being solicited in order to improve the existing program.

E. Results of Pilot Study

In order to assess the two instruments, a pilot study was conducted in Dhamrai Thana near Dacca. The following factors were examined: language level and work usage, reliability, time and appropriateness of the questionnaire format for both the THA and the PC graduates.

One THA was interviewed by two interviewers and one instrument was tested, in the village, on the PC's family, using the trained interpreters. (The PC visited was unavailable for interview because he was making a home visit at the time of the pilot.) Dhamrai Thana was considered to be an appropriate test site for the pilot because that thana had the same staffing pattern and population of other thanas in the country. Further, the PC graduates were selected by the same criteria as were candidates from the other thanas in Bangladesh.

The THA appeared comfortable with the forced-choice as well as with the open-ended items.

After data was collected, the investigators and interpreters met and reviewed both instruments, item by item. Ambiguous terms were removed, redundant items eliminated and reorganization of several sections was completed.

X. Results

A. Sample

1. Trainers

The final sample of Thana Health Administrators consisted of 25 male physicians representing one thana each. The physicians had a mean age of 35, with a modal age of 28 years. The average number of years of medical practice was 6.6 years for the group. Four, or 16%, identified areas of specialization including: nutrition and family planning (one), obstetrics and gynecology (one), and surgery (one).

The number of hours a week spent in professional practice varied considerably from a lower limit of 60 to a high of 112. The average number of hours per week spent on total professional activities was 69.8 hours with 70 hours listed most frequently (see Table 1)

Table 1: YEARS OF PRACTICE, HOURS OF PRACTICE PER WEEK AND HOURS SPENT ON TRAINING OF PCs

Age	Average Number of Years of Practice	Average Number of Hours of Professional Practice per week	Average Number of Hours Spent on PC Training	% Hours Spent on Training of PCs
Under 40	5.6	70.9	13.7	19
Over 40	8.8	66.9	10.1	15

The number of hours devoted to PC training activities also varied considerably, with one physician rendering a low of two hours of teaching per week and four rendering 18 hours per week. The average number of hours was 13.7 per week for physicians over 40 and 10.1 hours per week for physicians under 40, representing, on the average, 19% of the over-40 physicians' time and 15% of the under-40 physicians' time.

2. Trainers

Ninety-eight graduate PCs from 24 thanas comprised the final trainee sample. Seventy-nine men, ranging in age from 18 to

53 were interviewed along with 19 women who ranged in age from 19 to 35. The mean age for males was 21.7, for females 23.8

Of the men, 46, or 58.2%, were married and 33, or 41.8%, were single. None were reported to be widowed. Of the women, 19, or 100%, were married.

Collectively, for both males (including the 33 single men) and females, the mean number of live children was 1.25 (see Table 2).

Table 2: AGE, MARITAL STATUS, YEARS OF SCHOOLING AND NUMBERS OF LIVE CHILDREN OF MALE AND FEMALE GRADUATES

Sex	Average Age	Marital Status M	Status S	Average Years of Schooling	Average Number of Live Children
Male	21.7	58.2%	41.8%	12.2	1.9
Female	23.8	100.0%	0.0%	16.0	1.7

For female PCs, the mean number of live children was 1.7 with a mode of 5.

The data showed that all PCs interviewed had completed at least 10 years of schooling, with the greatest frequency occurring at the IA level (46), the second greatest frequency at matric level (43) and three at BA level.

Prior to training as PCs, the graduates were involved in a variety of working situations. Twenty-six (26.5%) were quacks, 20 were students, 13 had pharmacy experience and 12 were farmers. Other listed areas included: business, social work,

teaching, union board membership and homeopathic practice.

According to the Curriculum Guide, students "will have to execute bonds of Taka five thousand or of land of equal value or of any wealthy person [sic] indicating that they will work in their respective unions for at least 5 years."¹

Eleven of the respondents were aware of the need for a bond, but did not execute one. Forty-nine executed bonds themselves, and 20 depended on family members and union chairmen; two council members were also listed. The remainder (7.2%) did not remember or were unaware of the stipulation.

B. Trainers' Perceptions of the Palli Chikitsak Program

1. Objectives of the Program

As listed on pages one and two, seven objectives of the PC Program were included in the Curriculum Guide sent to each Thana Health Administrator. To assess the THAs' awareness and understanding of the purpose each trainer was asked:

"As you see it, what are the purpose of the PC Program?"

The responses were varied, with the majority of answers focusing on the recipients of care, namely the village rural poor.

Twenty-three, or 92%, indicated that the major purpose was to provide curative care to rural poor. Other responses included:

a) family planning; b) immunization; c) primary health care;

1. Palli Chikitsak Training Curriculum, Government of Bangladesh, p. 21

d) nutrition; e) government policy; f) health facilities to interior; g) preventive care; h) sanitation; i) new cadre of quacks; j) epidemic cases of illness; k) first aid; and
 l) PCs as change agents.

No mention was made of the following objectives as outlined in the Curriculum Guide: a) support participation in the public health system; and/or b) prepare competent doctors. Only one respondent was the training as creating economic opportunities for the rural poor.

The Curriculum Guide enumerates ten specific behaviors which the graduate will be able to perform (see page five). Although the program is intended to reflect a curative focus, six out of ten statements could be classified as preventive, having to do with anticipatory health teaching, immunizations, and family planning advice.

The question was asked:

"In your view, what medical activities will the PC be able to carry out upon completion of his/her program?"

Seventy-four answers were received with 46, or 62%, having to do with treatment. Additional responses included: a) having a kit of common drugs; b) prepare barefoot doctors; c) prescribe medicine; d) sanitation; and e) population planning.

Finally, most THAs saw the program as one of which is useful and one which would provide "qualified doctors for the rural

poor" who never see any type of health workers. They viewed the programs as best meeting the needs of the poor and creating employment for rural health workers.

2. Supervision of the Palli Chikitsaks

The Curriculum Guide lists at least five categories of people who might supervise the PC. However, 17, or 68%, of the THAs saw themselves as immediate supervisors. Thana Health and Sanitary Inspector was listed 11 times, and Assistant Health Inspector listed once. Two THAs noted, with concern, that because the PCs were not government employees, they had to answer to no one.

3. Areas for Program Improvement

When asked:

"What aspects of the program need improvement?"

a wide variety of answers were elicited. The overriding concern related to the length of training which was seen as "too short to teach an entire medical curriculum." Seven THAs expressed frustration because, as they saw it, the expectation was to prepare physicians in one year instead of five. Thus, one suggestion was for longer training (one felt the training duration should be two years). Of equal importance was the concern for improved facilities: a) a separate hotel with appropriate latrine and eating facilities; and b) adequate classroom space. The second most frequently reported suggestion was

the concern for texts for each student, audio-visual equipment, and training materials. The present location of the training (at the THC) was acceptable if separate living quarters for students could be erected.

4. Thana Health Administrators' Assessments of Teaching Materials

The THAs were asked their view of the following items:

- a) usefulness and extensiveness of the Curriculum Guide;
- b) rating of PC Manuals; c) difficulty level of manuals for students; and d) rating of audiovisual material. Extent of use of the Curriculum Guide ranged in ratings from always (11), to sometimes (10), to never (4).

The THAs were asked their views of the content of the curriculum for a year; 44% reported that it was too extensive, 36% felt it was about right, and 20% felt that it was not extensive enough.

THA ratings of the Medical, Surgical and Midwifery Manuals are presented in Table 3 along with the ratings of the audiovisual materials and Curriculum Guide. From Table 3 it can be seen that some of the THAs had not received the manuals, but of those received, they were most frequently rated as average.

Table 3: THAs' RATINGS OF MANUALS, AUDIO-VISUAL TEACHING MATERIALS AND CURRICULUM GUIDE

	Rating			
	Excellent	Average	Poor	Did Not Receive
Medical Manual	4	14	3	4
Surgical Manual	3	14	4	4
Midwifery Manual	2	13	4	6
Audio-visual Materials	7	7	5	3
Curriculum Guide	3	6	4	2

To the question:

"How difficult do you think the manuals are for the students?"

32% responded that the manuals were difficult, 32% rated them about right, and 16% rated them as easy. Twenty percent either did not receive them and/or did not use them.

5. Evaluation of Palli Chikitsak Students by Thana Health Administrators

All PC students were evaluated on their theoretical knowledge through a pencil and paper essay examination. The written examination,¹ according to the Curriculum Guide, is to contain items relating to the following areas: a) anatomy and physiology; b) drugs and pharmacology; c) microbiology; parasitology

1. See Appendix D for Palli Chikitsak Examination and Scoring, Appendix E for an example of one final written Palli Chikitsak Examination (English translation).

and pathology; d) medicine; e) surgery; f) nutrition; g) population control and family planning; h) child health; and i) female diseases and maternal welfare.

However, one written examination sample consisted of four overall questions dealing with selected diseases, complications in maternity and gynecology, and definitions related to population control (see Appendix E). The majority of thanas evaluated student performance at the end of both semesters while five evaluated at the end of one semester only. No formal clinical assessment was completed in any thana, nor were any records kept of number and/or types of clinical cases seen. Blue books of activities were not maintained by the PCs during or after training, even though the Curriculum Guide notes emphatically "maintenance of this Blue Book is compulsory for the Palli Chikitsaks."¹

The Curriculum Guide reflects a curriculum projecting between 600 and 700 hours of theory and 540 hours of clinical or practical training. These hours are divided so that each day theory classes are given for four hours, clinical practice for three. Classes are held five and one-half days each week for eleven months of the year. Thus, 38.5 hours of classes are to be held each week, which yields a yearly grand total of

1. Palli Chikitsak Training Curriculum, Government of Bangladesh, p. 21.

1,925 hours, which is 685 hours over the total number of hours in the curriculum. However, several THAs indicated that no clinical experience was offered, and the investigators' experience was that classes in some thanas were over during the early afternoons. This observation was confirmed by the graduate PCs, whose major concern was their lack of clinical training.

6. Teacher Training for the Thana Health Administrator

Ninety-six percent of the THAs received no formal preparation for the PC Program, although all but one indicated an interest in and need for training. Areas specifically requested were: a) use of group methods; b) evaluation methods; c) how to give classroom presentations; and d) strategies for teaching in the field. The THAs mentioned the difficulty of translating their lectures into Bengali and noted the time this activity consumed. However, all three investigators found that although 100% of the administrators felt the 100 Taka received every one or two months for their time was insufficient, 72% indicated future interest in teaching in the PC Program and 20% indicated a desire for modifications to increase their teaching load.

7. Selection of Palli Chikitsak Trainees

The majority, or 84%, of the administrators felt that 50 students per class was an acceptable, manageable number, although two opted for a wider pool of recruits from which final candidates could be selected. The greatest discrepancy among

the trainers centered on the recruitment of quacks. Five respondents felt that because of the quacks' prior experience and level of knowledge upon entry into the program, quacks derived more from the experience. Further, it was believed that quacks are known to the community and develop a clientele with relative ease. The administrators also noted that the quacks' margin for error would be reduced as their educational level increased. However, two THAs indicated that the quacks in their respective thanas "were practically illiterate" and experienced considerable difficulty in comprehension and reading. Mention was made of the changes needed to recruit candidates with fewer language barriers, and one suggested that women be eliminated.

C. Trainees' Perceptions of the Palli Chikitsak Program

1. Status of Graduate Palli Chikitsaks

Of the 98 PC graduates interviewed, the majority (80) had completed their training in December 1979. According to the guide, candidates would be awarded certificates for practice in their own thanas. Of the 98 interviewed, 70% were practicing by February 1980 and 91% were practicing by June 1980.

When asked:

"Why did you choose to become a PC?"

79, or 80%, said they wished to help poor people of the villages.

Twenty-three listed financial concerns and 21 responses reflected interest in learning and interest in medical care.

Of the 98 PCs interviewed, 88 were receiving their monthly 100 Taka post-training allowance and 10 were not. Upon completion of the program PCs, according to the guide:

will have to attend their nearest Thana Health Complexes at least once a month where they will attend patients, discuss about the treatment of different diseases and health problems. They will maintain a Blue Book where the THA will record his remarks on a regular basis regarding their attendance, activities.¹

Forty-eight had not attended any meetings, seven had attended sometimes, 20 had always attended, and three gave no response. Those who had not attended reported they had not done so because none were held.

2. Palli Chikitsaks' Perception of the Training Program

All graduates were asked to rate the training they received in the selected topic areas, the length of the training, the teaching methods used, and the teaching methods preferred.

a. Topic Ratings

Teaching of diseases was rated excellent by 40, average by 50 and poor by none. Treatment classes received ratings of 41, 54 and one, respectively.

Medicine classes showed a similar scoring to Treatment,

1. Palli Chikitsak Training Curriculum, Government of Bangladesh, p. 8.

with scores of 42, 52 and three respectively. Family Planning received 38 excellent rating , 47 average ratings and 10 poor ratings. Pregnancy and Delivery classes received the lowest rating with 35 excellent, 35 average and 25 poor (see Table 4).

Table 4: PC TRAINEES' RATINGS OF CURRICULAR TOPICS

Topics	Excellent		Average		Poor	
	F*	%	F	%	F	%
Diseases	40	41	58	59	-	-
Treatment	41	43	54	56	1	.01
Medicine	42	43	52	54	3	.03
Family Planning	38	40	47	49	10	10
Pregnancy/Delivery	35	47	35	37	25	26

*Frequency

b. Length of Program

None of the students felt that the program was too long. Eighty-seven were concerned about its short duration, and 11 felt it to be about right. All three investigators found that students verbalized their concern about the need for additional learning and placed special emphasis on field work and practical experience. These aspects were seen as sorely lacking and inhibiting clinical performance.

c. Teaching Methods

From a view of teaching methods used, all thanas employed the lecture method with 66 using discussion as well. Films and slides were unavailable and textbooks had not been received in one-third of the thanas.

Field work, even though limited, was used in 71 thanas, yet this methodology was seen by 62 as the best teaching method to facilitate learning, followed by textbooks, 40, and finally lectures, 36.

Although the majority, or 72, of the graduates were satisfied with their teachers, some noted the need for a variety of individuals who had different teaching styles, experiences and areas of expertise.

Each investigator informally observed the on-going training at some of the THCs. Students shared their concerns about the program and, in two instances, wrote collective letters to voice their concerns. All asked what would become of them and voiced their wish to join government service. Some shared their financial concerns and indicated that they could not live on 100 Taka per month.

3. Work Experiences of Graduates

When asked:

"How many hours a day do you work as a PC?"

considerable variation occurred in the responses. Hours ranged from two hours to 15, with an average number of 13. Patients were either seen at the PC's place of work or at the patient's home, with the percentage seen at the PC's place of work per week reported to be slightly higher than home visits made per week (PC place of work = 2,267, average = 23.9; patient home = 1,852, average = 20.3).

When the total number of female patients seen per day were compared with the total number of male patients seen, number of males was greater than the number of female patients. In a typical week 478 children were seen by all PCs. Also in a typical week the average for men, women, and children were 17.6, 9.5 and 14.0 respectively.

Of interest to this program is the future recruitment of female PCs. When total numbers of men, women and children seen by female PCs was compared to the total numbers seen by male PCs per week, it was found that there was a difference of 24.1. It was found that men saw an average of 47.6 patients per week. Women saw an average of 23.5 patients per week. This difference was found to be statistically significant ($t = 16.7$; $df = 96$; $> .01$).

The responses related to the relative frequency of illnesses seen reflected those which usually occur during monsoon season.

The most frequently occurring illnesses were reported to be, in rank order: diarrhea, skin diseases, and pneumonia.

Although 53 hours of curriculum is devoted to female physiology and diseases and maternal welfare, only 26 out of 96, or 26%, had performed deliveries, with 70% indicating they had performed none.

The concern for assurance of a minimal level of safety was identified by the investigators as particularly important to the relative success of the program. Thus, three questions explored the number of patients referred in a given week, the types of illnesses and/or conditions referred and the referrants to whom patients were sent. Slightly more than half (51) of the respondents never referred a patient; of those who did, the following disorders/illnesses were listed: a) diarrhea; b) deliveries; c) injuries; d) fractures; e) pregnancy; f) ascites; g) cough /t.b.; h) cancer; i) malaria; j) tetanus; and k) diphtheria. Most of these presenting health problems are, indeed, appropriate for referral, and, in all probability occur in most villages. Yet 51% of the respondents did not see fit to refer them.

The most frequent person/place for referral was the THA/ Medical Officer (54) and hospital or rural health center (31).

Thirty-four, 35 %, of the respondents did not supply medicine to their patients. A list was elicited from those who did, and in-stock medications were noted. Drugs of wide variety were mentioned including: antibiotics, carminative, anti-inflammatory agents, antipyretics, sedatives, stimulants, anthelmintics, antacids, anti-histamines, anti-malarials, oxytocic drugs, anti-coagulants, and anti-diarrheal medications. Clearly, drugs are plentiful, and are available from PC graduates and/or from the local pharmacies.

4. Financial Considerations

Eighty-five percent of the patients who were seen by the PCs were either from their own union or living within a five mile radius of the PC. If home visits had to be made, the bicycle was the most frequently mentioned method of transport along with walking, and use of the rickshaw. Some PCs, of course, used several means for an individual visit. For office or place of work visits, PCs charged either 2.5, 5, or 10 Taka, and slightly more for home visits, with 5, 15, and 20 Taka reported most frequently. All three investigators found that, on the whole, PCs were uncomfortable discussing their fees. Some reported their inability to charge because many clients were relatives; and because some villagers saw the PCs as having been trained by the government, they felt a public service was being rendered and did not warrant

payment. Five PCs received some payment in kind, which usually consisted of fruits and vegetables grown by their patients.

Seventy-nine respondents reported a willingness to work on a salary by the Union Council, if they could be assured 750 to 1,000 Taka per month.

5. Assessment of Basic Patient Curative Skills

To assess the PCs behavior when confronted with a patient problem, three vignettes were created: a) an eight month pregnant pre-eclamptic patient; b) a two year old with diarrhea; and c) a child with unilateral pneumonia. The PC was asked what he/she would do when confronted with these situations. The responses were categorized by the investigators as: a) correct; b) partially correct; c) incorrect/neutral; or d) incorrect/damaging.

To the pre-eclamptic patient vignette 65, or 66%, were correct; 7, or 7%, were partially correct; 9, or 9%, incorrect/neutral; and 17, or 17%, were incorrect/damaging.

To the vignette concerning the child with diarrhea 50, or 51%, were correct; 26, or 27%, were partially correct; 17, or 17%, were incorrect/neutral; and 5, or 5%, were incorrect/damaging.

To the pneumonia vignette, 82, or 84%, were correct, 5, or 5%, partially correct; 3, or 3%, were scored as incorrect/neutral; and 8, or 8%, as incorrect/damaging.

IX. Discussion of Findings

In this section an attempt will be made to integrate the results of findings from the two samples (trainers and trainees), and to discuss these findings within the context of the overall framework of the Palli Chikitsak Program. Also, in this section, the investigators' subjective responses as well as the hard and soft data obtained will be included.

Again, the framework for discussion below is the overall systems approach to curriculum design as discussed on page eight and illustrated by the schematic representation on the same page.

A. Pre-training Considerations

The stated criteria for selection of students were that students

- 1) come from the village in which they would practice, i. e. that they be village residents;
- 2) be selected by the THA with a Union Council recommendation;
- 3) present secondary school certification; and
- 4) be required to post a 5,000 Taka bond. Twenty percent of the seats were to be reserved for women, 20% for quacks.¹

All of the respondents came from the villages in which they were practicing. But, the resulting familiarity of the PC with his/her village brought mixed blessings. If the PC was formerly a quack, his ability to practice appeared to be enhanced. Further, some PCs appeared to lack self-esteem and confidence about their skills which was reflected in their inhibitions in discussing their fees. But the notion that one would

1. Project Identification Document for Palli Chikitsak 388-0055, pp. 5-6

seek health care from a former child observed growing up in one's own village placed some villagers in an awkward position. The benefits of this stipulation are derived from the fact that the PC is familiar with his/her own people, he/she will probably wish to remain a resident of the village of origin, and the acceptance process will be shorter for a PC who formerly lived in the village than for one who came from another area. Therefore, the benefits of maintaining this criterion appear to override the perhaps transient liabilities it presents.

Considering that the candidate was to be recommended by the Union Council and that a 5,000 Taka bond was to be executed, the investigators raised questions related to the socio-economic background of the candidates. On first glance, these criteria suggest a middle class candidate; yet the data reveal that in some instances no bonds were in fact executed. Nevertheless, the fact that almost half were responsible for their own bonds led the investigators to conclude that the program does not draw from a pool of poor village candidates.

B. Other Criteria for Selection

Interviews with trainees, trainers, and some current in-training students were held. Most felt that if housing, latrine and better living accommodations could be realized, the current number of 50 students per class would remain an acceptable number. Clearly, given the present methodology of lecturing for theory classes, the number is adequate. However, it is dubious that any meaningful clinical or field work

lences can be supervised for 50 students in a given afternoon, unless other approaches to clinical experiences are used.

One approach to assessing the wisdom to increase the percentages of quacks and women in the selection criteria was to assess whether or not and to what extent these graduates are practicing, and to whom they are rendering their services. Further, the trainers' perception of these two groups would be central to this issue.

Given the historical experience of the quacks in the village, and the traditional use by villagers, as well as data findings, the advantages of increasing their participation appears to outweigh the disadvantages which were listed as their limited facility in language and speed of learning. If a larger pool of candidates could be created and the program were streamlined, more discrimination in selection could be exercised and learning would be facilitated.

All women were reportedly practicing and rendering their services to all sexes and age groups. However, based on the data of male to female clients seen by all PCs, it appears that females, particularly those of child-bearing and child-rendering ages, could receive greater exposure to health care if more female PCs were available to render services, and if those female practitioners could be motivated to expand their practices. Thus, efforts to increase female recruitment seem warranted. If this were done, considerations for living accommodations at the THC would have to be taken into account.

The number of children a PC had was not a factor in affecting the number of patients seen, thus no restriction about family size as a criterion for selection appears to be necessary. Further, no significant relationship between age and number of clients seen existed, thus, no restraint appears necessary.

C. Program Findings

The PC Program was implemented to serve as a training program to teach basic curative care. Its purposes are listed on pages one and two of this report, and the expected behaviors of the graduates are listed on page five. Upon closer examination of the expected behaviors, one notes that 60% of them deal with preventive measures, including: immunization services, health teaching on hygiene, health and nutrition and participation in rural development. The curriculum includes 10 hours on vegetable growing, poultry raising, duck farming, pisciculture and cattle raising and 10 hours on knowledge of socio-economic conditions, rural development and leadership. Fourteen additional hours are devoted to health prevention and promotion. It appears that a first step toward improving the program would be a clarification and concise definition of the basic purpose of the program and articulation of the content areas absolutely required to meet the objectives appropriate to a technician type of program. Confusion was reflected in the THAs' mixed lists of purposes (preventive, promotive, curative), and in their forcefully verbalized frustrations about volume of content to be covered. In addition, some THAs saw the program as an MBBS education

collapsed into the time frame of one year. That is, what they were teaching was not for a technical-level, content-specific, basic preparation in curative care. Rather, they attempted to teach what they had been taught at a professional level. This is understandable, for all but two THAs had no preparation or pre-training instruction about the program. Some serious concerns were shared by very conscientious TMOs and THAs who reported receiving indications of gross malpractice negligence by some of their former students, now graduate PCs. This perception was supported by the study findings which showed 10% incorrect/damaging responses to case study items. The combined misunderstanding of the program coupled with negative feedback to the trainers could result in a deterioration of commitment and in a seriously altered teaching/learning environment for all concerned.

A second major area for improvement centers on the student's misconceptions about the purposes of the program. Some saw the experience as an opportunity to enter government service and, in turn, as a pathway to financial security. Some view themselves as bonafide physicians who feel it beneath them to refer cases to more qualified doctors and THAs. As discussed previously, some reflected a high level of discomfort in discussing their fee-for-service structure, the pivotal area upon which their program exists--that is, the structure of private practice. In turn, this discomfort and lack of confidence may have inhibited them from charging clients resulting in feelings of financial insecurity.

Disillusioned students at several thanas talked with the investigators and in some instances included lists of concerns. Financial security ranked as top priority.

D. Course Duration and Technical Content

As can be seen in the section on results, most students and THAs saw the program's one year duration as too short to cover the material. (Yet it should be noted that some students had no clinical experience at all, and in some thanas students were still waiting for the teachers at 10:30 or 11:00 a.m.) It seems, in the investigators' view, that given the educational level of the student, a time frame which clearly outlines technical-level content, guaranteed hours of theory taught as anticipated, and appropriate field work experiences, a one-year technician course is suitable. Areas of content appear to be comprehensive, but improvements would include: 1) streamlining of absolute number of disorders/diseases taught; 2) omitting selected content not consistent with the ultimate expected behaviors of the graduates; and 3) inclusion and/or amplification of the following areas:

- a) Observation, interviewing and physical assessment skills;
- b) Appropriate use of referral sources;
- c) Use and misuse of drugs including consideration of route of administration, accurate dosage and duration (particularly divided dosage for children), appropriateness of drug usage in treatment, side effects and contra-indications of drugs;

- d) Managerial aspects of patient with emphasis on:
 - i) Establishment of fee schedules;
 - ii) Intensive discussion of ethical issues;
 - iii) Concern for safety-factors;
- e) Relationship with and use of available community health resources;
- f) Methodology for keeping accurate and timely records.

E. Teaching Methodology

The most frequently reported method of teaching of theory was the lecture method. Both students and teachers verbalized the need for field work, noting concern for the diminished patient population due to the replacement of patient beds with student housing in the complex. Faculty requested assistance in learning how to conduct a discussion, evaluate students, and prepare classroom presentations; and students concurred on the desirability of these skills in their former teachers. Given the variability in the PC student body, the use of a variety of teaching modalities is imperative for transfer of learning to occur.

Visual illustrations, models, field trips, and teacher-made audio-visual materials as well as a simple, carefully prepared manual to supplement the M.OH manuals would enhance learning.

Clinical learning of field experience appears to create the greatest challenge for curricular improvement. Alternative approaches to the study of actual patient problems are sorely needed given the constraints

uncontrollable and inconsistent flow of patients with relatively unpredictable disorders. The limited and carefully planned use of models, culture-specific videotapes and slides might be one approach to providing 50 students daily field experience to study specific but limited types of patient problems.

F. Living Conditions

The issue of living conditions and the creation of an atmosphere for learning was discussed more by the THAs than by the students. Specifically, the need for separate student quarters, away from the patient population, was mentioned by at least half of the THAs. This concern was shared both for the student PCs' comfort as well as for patient space. Further, by reducing center beds, clinical cases for student learning were eliminated.

Space for eating, sleeping and learning were often one space which served all three purposes. A separate study/learning center to accommodate 50 students would facilitate learning and serve as a dining area for students away from the patient areas. Separate latrines to accommodate classes of 50 students are sorely needed.

G. Post-training Findings

All PC graduates interviewed had returned to their villages and 91% were practicing. All interviewed used their homes as a place of practice, a few also maintained separate pharmacies. In their homes, the PCs maintained the kits received during training, some had their

training manuals and some kept on hand a stock of drugs which they used for treatment. Most practitioners made home visits traveling by any or a combination of means including foot, bicycle, boat, and rickshaw. Some indicated the need for bicycles which would facilitate travel considerably.

Of the women practitioners, all reported they were seeing patients, but in three cases two of the investigators did not believe that the reported activities reflected actual behavior. Generally the women were extremely shy and lacking in self-confidence. At times their responses were controlled by relatives' prompting.

For the most part, quacks appeared involved, busy and self-confident. They verbalized appreciation for their educational experience and tended to rate the training as excellent.

As noted in the results section, 91% of the PC graduates were in active practice as of July 1980, and were seeing, on the average, 22.1 patients per day. The most frequently reported charge was between 2 and 10 Taka per place of work and between 5 and 20 Taka for home visits. Thirty-one percent kept records of patients seen, and men ranked the highest followed by children, the women.

Although levels of receptivity by the community and other health workers were unavailable at this early date, about half of the THAs saw the graduates as potential threats or competition to the practices of the other indigenous practitioners and half viewed the graduates as a

welcome addition to poor rural villages. Future studies are required to assess accurately the impact of the program on the community and to explore the desirability of reducing the final number of trainees per area.

It is the belief of the investigators that the concept of a paramedic in private practice is a viable one and should not be supplemented by government funds. It is a unique and new concept which will require interpretation and a realization that one's income is a function of performance which requires competence, effort and continuing desire to improve effectiveness. Reinforcement of these qualities through government-sponsored programs of adequate initial training and of continued monitoring will serve as motivation for the PCs already in practice. The need for careful monitoring of graduate PCs is further verified by the results of the case studies presented to the practitioners. Particularly the misuse of medications and the relative lack of judgment in handling sick children reflect a definite need to improve the delivery of care before additional serious errors are made. Further, community acceptance will be, at least in part, a function of the demonstrated level of skill of the PC graduate.

XII. Summary, Conclusions and Recommendations

Summary

After launching a countrywide program in 1978 to train village people to provide curative care to rural villages, the Government of Bangladesh is eager to improve the plan known as the Palli Chikitsak Program.

The present study is an attempt to assess the program, to address questions of concern related to selection criteria of candidates, program components, 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 affect the learner throughout his/her course of study.

To conduct the assessment, two pencil and paper, self-made instruments 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 Government of Bangladesh/USAID interest.

Findings, conclusions and recommendations were then shared with government officials and project administrators of USAID.

B. Conclusions

On the basis of literature reviewed, persons interviewed, thanas and villages visited, and analysis of all research findings, the following conclusions are presented.

Overall, the PC Program is 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 promotes an urgency for learning useful information and for seeking approaches to enhance one's effectiveness. Even the most casual on-looker cannot ignore the sense of pride and interest of the graduates; nor can it be minimized that the hard data reflects an overwhelming perception that the training program was just too short. In another respect, then, an incidental but most important effect of the program was the generation of feelings of motivation, involvement and personal investment in one's activities and development.

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

First, the basic structure of the program is in place and is being implemented. Second, 150 Thana Health Complexes have established P.C. courses at which one batch of 2,500 students has complete a year of training and a second batch of 7,500 is in training. And, third, graduates are practicing and serving the target population with relative degrees of success.

1. Recruitment

Students admitted to the program, for the most part, meet admission criteria, although the enforcement of the need to

execute a bond appears uneven in its implementation and dubious in importance. The need for intense recruitment efforts aimed at women and quacks would further ensure health care to more child-bearing and child-rearing women--the group found to be the least often served by the graduate FCs.

2. Curriculum

The overall curriculum and supporting materials are viewed as evolving in philosophy, purposes, end or terminal behaviors of the graduates, course content and theoretical and clinical application of required materials. This is as it should be. Clearly, the content is too extensive for a one year training program so that considerable measures should be taken to streamline the curriculum and purposes, and to realign theory and clinical hours into a sequenced, carefully defined series of manageable time frames for implementation.

To effectively train the unanimously agreed upon number of 50 students per batch, and to accommodate the learning environment to the unpredictable and seasonally-dependent clientele, alternatives to providing effective field experiences are urgently needed. Methodologies using simple technology are necessary to fill a critical gap in the training.

3. Follow-up and Quality Control

Concerning the actual practices of the graduates, it is concluded that the present system of a one year stipend of 100 Taka per month and no other government funding is and will be an effective way of assisting the new graduate to enter private practice. It is further concluded that the initiation of additional funding would undermine the implicit motivational assumptions which serve as incentives for growth and learning.

To encourage the implementation and continuation of sound health care delivery learned during training, a source of guidance and support at the district level should be provided. This source might most appropriately be the District Health Training Officer or the Additional Civil Surgeon who would have had an intensive orientation to the PC Program. They would receive explicit instructions concerning the expectations of the graduate, ways to elicit village feelings of satisfaction or dissatisfaction with performance, and the recording of essential components of a register to be kept on all patients. Further, the district officer would provide updated health-related literature and information on Thana Health Complex meeting activities to keep the graduates current and informed. To assure the public of a minimum level of safety and to assure quality control, intensive efforts are required.

Evaluation instruments and competency-based clinical exercises should be created, evaluated and standardized for use in all thanas. Basic levels of acceptable practice must be established and enforced throughout the program. The ultimate reputation, success, relative cost-effectiveness and longevity of the program are directly related to the expertise and effectiveness of the PC graduate. Emphasis on efforts to assure quality control must be extended to include specific course content related to referral sources, ethical issues and conditions presenting high margins of safety.

4. Needs for the Future

a. Teacher Training

To fully implement this program, the investigators have concluded that available resources should be committed at the level of training for the trainers. It is, indeed, difficult to teach in the field without having had exposure to role models who can clearly demonstrate how to maximize available learning opportunities. PCs were found to be enthusiastic, responsive and impressionable. The active and purposeful use of medical officers as role models who are highly competent and ethical practitioners would perhaps better serve to meet program objectives than the use of other possible strategies.

A one-month, intensive training program for medical officers from each thana would clarify the philosophy, purposes and scope and limitations of the training. Action-oriented, participative learning sessions would actively involve the medical officers in how to prepare a well-delivered lecture, use of slides, use of live patients, and how to create well-constructed evaluation instruments. Practice experiences in contemporary classroom techniques, and the use of culture-specific tapes would be incorporated. Thus, topics for such a training exercise would 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 quality of the teacher-student learning experiences can be enhanced and can serve a multitude student learning styles.

b. Materials

Streamlined student manuals are required along with videotapes of selected patient-centered topics to show medical officers how to teach interviewing, observation and physical assessment. Situational ethics vignettes are needed to assist medical officers in an effort to heighten the level of moral and ethical behavior of the PCs when in the practice setting,

particularly concerning referral.

The center for learning must be as effectively managed and maintained as, in turn, the thanas of each medical officer should be. The managerial aspects of maintaining a clean, aesthetically pleasant learning environment will be actively communicated to the participants.

Recommendations

On the basis of the above findings and conclusions, the following series of recommendations are made:

1. Pre-admission criteria

- a) Each annual batch of students be maintained at 50;
- b) The number of women and quacks be raised from 20 to 25% so that they represent 50% of each batch; considerable effort must be made to fill this quota which is presently less than 10% for women;
- c) A written commitment to return to the village upon completion of the course be submitted by each candidate prior to acceptance. The requirement to execute a bond be eliminated;
- d) An academic achievement level of matriculate be maintained as entrance criteria to the program. If, on personal interview, a woman or quack candidate appears capable of handling the program, admission criteria be relaxed.

2. Program Components

a. Curriculum

- i) The overall philosophy, framework objectives and course content be reviewed in order to identify clearly the specific behaviors expected of the PC graduate;

- ii) From these revisions, quarterly goals for student achievement be identified followed by creation of course content to meet those goals;
- iii) Content be divided among the quarters of the year, giving consideration to volume of content, mix of theoretical and clinical experiences, opportunities for reinforcement of learning, and introduction of content which proceeds from the simple to the complex;
- iv) The program maintain its length of one year with more reasonable and fully-utilized hours in each day;
- v) Medical officers receive assignments to teach clinically as they do for theory. Provisions be made for recording of student achievements in clinical practice without which progression is impeded.

b. Teaching Materials

- i) A short, pragmatic, well-developed and aesthetically appealing supplementary text be created, tailored to the level of the PC student, course scope and objectives of the community;
- ii) Simple equipment be purchased to produce colored slides for simple but effective illustrations. Videotapes be created in Bangladesh to teach physical assessment, observation and interviewing techniques, and identification of common disorders of patients;
- iii) Each thana be equipped with basic materials outlined above to enhance teaching and learning opportunities.

3. Evaluation, Follow-up

- a. An overall evaluation plan be created which emphasizes competencies gained rather than material taught. Modules of learning experiences, for theory and practice be devised to assure learning in the absence of live patients for practice;

- b. District Health Training Officers who would monitor PC graduates after graduation receive a one-week training course at the teacher training center to orient them to the program, the need for record keeping, and their role in program continuity and implementation;
 - c. The 100 Taka allowance be continued contingent upon review of records kept and interviews conducted by the District Health Training Officer;
 - d. Modified PC kits be distributed to each graduate. Each kit would contain the essential materials required to provide first aid, and obtain vital signs.
4. Training for Teachers
- a. A centrally located National Palli Chikitsak Teacher Training Center be created which would accommodate two classes at a time of 20 medical officers each. The center would serve as a model demonstration site for excellence in building maintenance, cleanliness, and management. The center would be equipped with essential audio-visual equipment to be used in the training of the trainers, and with the types of equipment which will be available at the thana level. Living, dining, classroom and laboratory facilities would be provided along with hand washing and latrine facilities.

- b. A physician team leader be assigned to manage the entire national project using the services of a national counterpart assigned for the duration of the project. This person would be responsible for overall planning, allocation of resources, coordination of teacher training center activities, supervision of District Health Training Officers, preparation of reports and completion of appropriate research documentation.
- c. Short-term consultants, working with national counterparts, provide on-site teacher training in selected areas of required expertise while simultaneously training national counterparts to carry out these activities for the duration of training. Such selected areas would include:
- i) Use and creation of audio-visual materials;
 - ii) Evaluation techniques;
 - iii) Methodologies for teaching and learning, i.e., use of role playing, discussion techniques, critical incident and/or case study approaches.
- d. Two long-term health/educational consultants to work with a national counterpart to coordinate and supervise the completion of manuals, audio-visual materials, distribution to Thana Health Complexes and provision of consultation at the thana level.

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Appendix A

Palli Chikitsak Curriculum
Course Content and Duration;
Detailed Syllabus and Hours¹

Course Contents and Duration	<u>Hours</u>
I. Theoretical lectures	600
(may be extended up to	700)
A. Course orientation	5
B. General science (physics, chemistry and biology)	15
C. General Anatomy and physiology	50
D. Microbiology, parasitology and physiology	30
E. Action, reaction and dose of medicine	50
F. Methods of recording disease, history, check up of patients, knowledge about common medicines, preparation of mixture, ointment, push injection, use of gauze, bandage, splint and use of simple surgical equipment, immunization, laboratory test and special investigation knowledge	75
G. Disease science (common diseases of rural areas, health and population problems)	260
H. Surgery	30
I. Female diseases and maternal welfare	30
J. Medical, surgical and emergency first aid	25
K. Different symptoms, diseases and conditions which may necessitate the PCs to refer patients to the hospitals	10
L. Vegetable growing, poultry raising, pisciculture, cattle raising	10
M. Knowledge of socio-economic conditions, rural development and leadership	10
Total	600
II. Practical	540
Grand Total	1,140

1. Palli Chikitsak Training Curriculum, Government of Bangladesh, pp. 11-18.

	A 2
Detailed Syllabus and Hours	<u>Hours</u>
I. Orientation	5
II. General Science (physics, chemistry, biology)	15
III. General anatomy and physiology	50
A. Human being from foetus	3
B. Orthopadi (sic)	5
C. Muscles	5
D. Heart, veins and arteries	6
E. Lungs and respiratory systems	5
F. Digestive systems	5
G. Urinary systems	5
H. Skin	3
I. Brain and nervous systems	3
J. Others (gland, reproduction system)	10
IV. Medicine science	50
A. Types of and differences between medicines	3
B. Benefits of common medicines	10
C. Antibiotics	5
D. Medicine for food-related diseases	9
i. Antacid	
ii. Laxative	
iii. Medicine for worms	
E. Medicine for anaemia	3
F. Others	15
i. Medicine for heart diseases	
ii. Medicine for respiratory tract	
iii. Medicine for bone joints	
iv. Medicine for poisonous actions	
G. Precautions about medicines and side effects of medicine	5
V. Theory of virus, parasitology, general pathology (general pathology -- inflammation, necrosis, oedoma, gangrine death, etc.)	30

	A 3
VI. Recording diseases -- history, methods of examination of diseases, various laboratory tests and general knowledge about special investigation	75
VII. Disease science (major diseases of rural areas, health and population problems)	260
A. Sound health, medical ethics, Bangladesh Health Services	2
B. Introduction to diseases, nature and causes of diseases	8
i. Infection	
ii. Hereditary	
iii. Metabolic	
iv. Degenerative	
v. Neoplastic	
vi. Stress, strain	
vii. Nutritional deficiency, etc.	
C. Diseases of rural areas	170
i. Malnutrition and anaemia	10
ii. Worms	15
iii. Infectious diseases	25
iv. Other diseases	
a. Lungs and respiratory systems disease	10
b. Intestinal system diseases	10
c. Heart diseases and high blood pressure	10
d. Skin and bone diseases (5 + 10)	15
e. Ear, nose, throat and general eye diseases	10
f. Kidney and gall bladder diseases	10
g. Nervous systems and general mental diseases	5
v. Nursing	5
vi. Others (other diseases, homicide, suicide, etc.)	10
D. Diseases of mothers	10
E. Child health and child diseases	20
F. Disease prevention -- immunization	5
VIII. Hygiene	
A. Epidemiology -- disease statistics and some theories	3
B. Environmental hygiene (housing, latrine, ventilation and water)	15
C. Personal Hygiene, personal habits	2

	A
D. Food and nutrition science	2
E. Promotive health care (health education, maternal and child welfare, etc.)	10
F. Disease prevention and control of major infectious diseases	10
G. Population control and family planning	20
X. Surgery	30
A. Introduction	2
B. Inflammation and treatment	5
C. Wounds and treatment	10
D. Burns and treatment	3
E. Others	10
i. Cancer	
ii. Piles	
iii. Hernia	
iv. Hydrosil	
v. Ulcer	
vi. Ligation	
vii. Vasectomy, etc.	
X. Female diseases and maternal welfare	50
A. Female sex organ	5
B. Menstuation	5
C. Pregnancy (normal and problems)	15
D. Delivery (problems and solutions)	10
E. General diseases of female sex organ	10
F. Others.	
XI. General medical and surgical emergencies and first aid	20
XII. Various symptoms, diseases and conditions which will indicate the Palli Chikitsaks to refer patients to appropriate doctors and hospitals	10

XIII. Vegetable, poultry, duck farming, livestock and agricultural development	10
XIV. Socio-economic conditions, rural development and leadership	10

Practical

Total 540
(may be more)

Anatomy, physiology through different models, charts identification of different common drugs and chemicals, in-door, out-door, dispensary, laboratory, maternity and child health, family planning, immunization, food adulteration and health education section (including immunization in the field).

Gathering disease and patient's history, observing treatment and nursing methods, writing prescriptions, preparation of mixture and ointment. Distribution of medicine, laboratory test -- stool, urine, cough, blood, etc. -- sterilization procedure, use of common surgical equipment. Delivery and IUD insertion (especially for women trainees), pushing injection, vaccination, measurement of blood pressure, artificial breathing, first aid, minor fracture reduction, use of splint, cleaning of wounded areas. etc.

Appendix B

Trainer Questionnaire

PALLI CHIKITSAK PROGRAM
Questionnaire - Trainer

Purpose: The purpose of this instrument is to gather data concerning the experiences and perceptions of the Trainers regarding the Program and the Trainees.

Directions: Tell the Trainer that you are interested in learning of his experiences with the P.C. Program. Tell him you are there to listen carefully so you can make recommendations to make the Program better.

Tell him that he will not be identified, so you hope he will express his feelings freely.

Do not leave any items blank.

Section I: Demographic Data

1. Age ____; 2. Sex ____; 3. Area of Specialization ____;
(M) (F)

4. Year of graduation ____ 5. Have you taken any additional
(Years) course(s) in how to teach

Number Course Length
(Mos.)

- a. _____
b. _____
c. _____
d. _____

6. How many hours do you work per week, including all professional activities ? _____

7. How many hours in a week are you involved in training P.C. ? _____

Section II: Perceptions of P.C. Program:

1. As you see it, what are the purposes of the P.C. Program?
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____

2. In your view, what medical activities will the P.C. able to carry out upon completion of his/her program (please be specific).
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____
 - g. _____
 - h. _____

3. After training, who do you see as the direct supervisor of the P.C.?
 - a. _____ medical assistants
 - b. _____ assistant health inspector
 - c. _____ Lady Family Welfare Visitor
 - d. _____ Thana Health and Sanitary Inspector
 - e. _____ Thana Health Administrator
 - f. _____ All of these

4. In your view, which population will the P.C. help the most? _____

5. In your view, which population will the P.C. help the least? _____

6. You have had experience teaching one complete batch of students. What are the best aspects of the Program?
 - a. _____
 - b. _____
 - c. _____
 - d. _____

7. What aspects of the Program need improvement?
- a. _____
- b. _____
- c. _____
8. How would you rate the usefulness of the Curriculum Guide you received?
- a. ___ Excellent; b. ___ Average; c. ___ Poor; d. ___ Did not receive.
9. To what extent do you use the Guide in preparing your lectures?
- a. ___ always; b. ___ sometimes; c. ___ never.
10. Medical Manual:
- a. ___ excellent; b. ___ average; c. ___ poor; d. ___ did not receive
- Surgery Manual:
- a. ___ excellent; b. ___ average; c. ___ poor; d. ___ did not receive
- Midwifery Man:
- a. ___ excellent; b. ___ average; c. ___ poor; d. ___ did not receive
- A-V/Teaching Materials:
- a. ___ excellent; b. ___ average; c. ___ poor; d. ___ did not receive
11. How difficult do you think the Manuals are for the Students?
- a. ___ difficult; b. ___ about right; c. ___ easy; d. ___ do not use
12. In your view, the content of the curriculum for a year is:
- a. ___ too extensive; b. ___ about right; c. ___ not extensive enough

13. The P.C. Curriculum obviously requires considerable teacher training. What kind of preparation did you receive?
- a. _____ none
 - b. _____ classes
 - c. _____ seminars/conferences to review curriculum
 - d. _____ intensive training
14. What kind of training do you feel would improve your teaching skills (please read a loud to trainer)
- a. ___ none, they are adequate
 - b. ___ making examinations
 - c. ___ classroom presentation
 - d. ___ use of A-V materials
 - e. ___ use of group methods
 - f. ___ evaluation methods
 - g. _____

15. Obviously, you have many talents to offer the community. Is the P.C. teaching activity one in which you would like to ?
- a. ___ continue
 - b. ___ discontinue
 - c. ___ modify to reduce teaching responsibility
 - d. ___ modify to increase teaching responsibility
16. In your view, how will the P.C. be received by other health practitioners in their area ?
- a. _____
 - b. _____
 - c. _____

17. How frequently are examinations held by the Thana?
- a. ___ end of first semester only
 - b. ___ end of second semester only
 - c. ___ end of both semesters
 - d. ___ no examinations have been given
18. What do you record in the Blue Book? (ask each, then /)
- a. ___ attendance
 - b. ___ activities
 - c. ___ type of cases seen
 - d. ___ skill in performance
 - e. ___ understanding of theory
 - f. ___ not used
19. What suggestions do you have concerning selection of trainees (rank in order of importance)?
- a. #1 _____
 - b. #2 _____
 - c. #3 _____
 - d. #4 _____
 - e. #5 _____
 - f. #6 _____
20. What suggestions for improvement do you have concerning the number of students in each batch (rank in order of importance)?
- a. #1 _____
 - b. #2 _____
 - c. #3 _____
 - d. #4 _____
 - e. #5 _____
 - f. #6 _____
21. What changes would you make in the timing/scheduling of the Program? (such as: spending 6 months in training then out to field for six months, or all theory then all field training, etc.)
- a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____

22. What suggestions do you have for improvement regarding the location of the training?

- | | |
|----------|----------|
| a. _____ | d. _____ |
| b. _____ | e. _____ |
| c. _____ | f. _____ |

23. How regularly do you receive payment?

- | | |
|----------------------------------|-----------------------------|
| a. _____ once a month | c. _____ every three months |
| b. _____ every two months | d. _____ have not been paid |

24. Considering the work you must perform, do you consider the payment

- a. _____ more than adequate
- b. _____ sufficient
- c. _____ not enough

Appendix C

Trainee Questionnaire

Appendix C

Draft #3
7/12/80
Page 1
Trainee

PALLI CHIKITSAK PROGRAM
Questionnaire Trainee
Graduate

Purpose: The purpose of this instrument is to gather information about the trainees characteristics, learning experiences and preparation, performance and clientele serve.

Directions: Use the exact wording as written the first time you ask a question. If the trainee does not understand, reword but be sure to keep to the same meaning of the question.

Introduce the session by saying that you have learned that he/she is currently practicing as a Palli Chikitsak (P.C.). Wait for answer. Say, "We are interested in making the training better, so we would be grateful if you would help us by answering some questions".

Be sure to say, "Your name will not be recorded, and you will not be identified".

Do not leave any items blank.

Section I: Demographic Data (Characteristics)

1. _____
2. Age _____
3. Sex
(M) (F)
4. Marital status: a. _____ Single
b. _____ Married
c. _____ Widcw
5. Number of Children _____
6. Number of children alive:
 - a. _____ 0 - 11 months
 - b. _____ 1 - 4
 - c. _____ 5 - 9
 - d. _____ 10 - 14
 - e. _____ 15 - 19
 - f. _____ 20 - 24

7. When did you complete your training as a P.C. ?

_____ (Month) _____ (Year)

8. When did you begin working as a P.C. ?

_____ (Month) _____ (Year)

9. How many years of schooling have you completed?

- | | |
|--------------|-----------------|
| a. _____ 8y | d. _____ Matric |
| b. _____ 9y | e. _____ I. A. |
| c. _____ 10y | f. _____ B. A. |

10. What type of work did you do before you became a P.C. ?

- a. _____
- b. _____

SECTION II: Training of P.C.

11. Why did you decide to become a P.C. ?

- a. #1 _____
- b. #2 _____
- c. #3 _____

12. How was the bond put up?

- a. _____
- b. _____

13. How would you rate the training you received about:

	<u>Excellent</u>	<u>Average</u>	<u>Poor</u>
a. Diseases	_____	_____	_____
b. Treatment	_____	_____	_____
c. Medicine	_____	_____	_____
d. Family Planning	_____	_____	_____
e. Pregnancy/delivery	_____	_____	_____

14. Was the length of the training

a. _____ too long; b. _____ too short; c. _____ about right.

15. In your training program, you were taught by:

- | | |
|---------------------|---------------------|
| a. _____ lecture | d. _____ slides |
| b. _____ discussion | e. _____ text books |
| c. _____ films | f. _____ field work |

16. Which methods helped you best to learn

- | | |
|---------------------|---------------------|
| a. _____ lecture | d. _____ slides |
| b. _____ discussion | e. _____ text book |
| c. _____ films | f. _____ field work |

17. If you were to be trained again, would you want the same teachers ?

a. _____ yes; b. _____ no

Reasons

SECTION III; Practice Experiences:

18. How many hours a day, on an average, do you work as a P.C.?

19. What other activities do you have in addition to your medical practice?

a. _____ none

b. _____ other

20. Do you maintain a register on your patients? If yes, the following question should be obtainable from the register.

a. _____ yes

b. _____ no

21. Is the following information recorded?

	<u>Yes</u>	<u>No</u>		<u>Yes</u>	<u>No</u>
Name of patient	___	___	Address	___	___
age	___	___	diagnosis	___	___
sex	___	___	treatment	___	___
			follow-up	___	___
			referral	___	___

22. How many patients did you see last week?
 (Multiply the average number of patients seen a day by seven)

Enter here _____

23. Among the _____ patients you saw last week, how many were seen at:

a. Place of practice _____

b. Home visit _____

24. Among the patients seen last week how many were

adult men # _____ % _____

adult female# _____ % _____

under 5

children # _____ % _____

25. Last week, how many cases did you see of:

	Men	Women	Under Five Years
a. Diarrhea/Dysentry	_____	_____	_____
b. Pneumonia	_____	_____	_____
c. Skin Diseases	_____	_____	_____

26. Do you do deliveries _____
 (yes) (no)

27. How many deliveries have you performed in the last month?

28. Are your patients

a. _____ only from the union

b. _____ mostly from the union

c. _____ about 50/50 from the union and the neighborhood

d. _____ mostly from outside the union

29. How much do you charge for:

Diarrhea:	<u>Consultation</u>	<u>Medicine</u>
Place of your practice		
Home visit (3 miles)		

30. Pneumonia:	<u>Consultation</u>	<u>Medicine</u>
Place of your practice		
Home visit (3 miles)		

31. Skin Diseases:	<u>Consultation</u>	<u>Medicine</u>
Place of your practice		
Home visit (3 miles)		

32. How far was the most remote home visit you made? _____
How did you go there? _____

33. Of the number of patients you saw last week, how many
did you refer? _____

34. To whom did you refer them?

- a. _____
- b. _____
- c. _____
- d. _____

35. Which types of diseases did you refer?

- a. _____
- b. _____
- c. _____
- d. _____

36. Do you attend monthly meetings at the Thana Health Center?

- a. ___ always; b. ___ sometimes; c. ___ never.

37. Do you supply the medicine to your patients yourself?

- a. ___ yes; b. ___ no; c. ___ sometimes.

38. List the medicines available during the interview. (Please look at drugs yourself.)

- | | | |
|----------|----------|----------|
| a. _____ | e. _____ | i. _____ |
| b. _____ | f. _____ | j. _____ |
| c. _____ | g. _____ | k. _____ |
| d. _____ | h. _____ | l. _____ |

39. Are you presently receiving the 100 Taka monthly allowance from the government?

_____ yes _____ no

SECTION IV: CASE STUDIES

40. Shakila is a 22 year old woman. She is eight months pregnant. She has a BP 150/100 and albumin in her urine. ~~What~~ do you do?

41. Ali is two years old. He has had diarrhea for four days. On examination, he is dehydrated, his pulse is 120/mm. and weak, what do you do?

42. Shika is three years old and has unilateral pneumonia. What medicine do you use?

What dose? _____

For how long? _____

43. If you could not charge for your services would you be willing to work for the union council for

a. _____ 500 Takas

b. _____ 750 Takas

c. _____ 1000 Takas

44. What percentage of your income do you receive in kind?

Appendix D

Palli Chikitsak Examination
Content and Scoring¹

First Semester Examination

<u>Examination</u>	<u>Hours</u>			<u>Total</u>
	<u>Theo- retical</u>	<u>Prac- tical</u>	<u>Perfor- mance in Class</u>	
A. Anatomy and physiology	100 (50 + 50)	50	25	125
B. Drugs and Pharmacology	50	50	25	125
C. Microbiology, parasitology and pathology	50	50	25	125
Total	200	150	75	425

Second Semester Final Examination

<u>Examination</u>	<u>Hours</u>			<u>Total</u>
	<u>Theo- retical</u>	<u>Prac- tical</u>	<u>Perfor- mance in Class</u>	
A. Medicine	150	100	50	300
B. Surgery	50	50	25	125
C. Nutrition	50	-	25	75
D. Population control and family planning	50	-	25	75
E. Child health	50	50	25	125
F. Female diseases and maternal welfare	50	50	25	125
Total	400	250	175	825

1. Palli Chikitsak Training Curriculum, Government of Bangladesh, pp. 21, 22.

Appendix E

An Example of One Final Written
Pali Chikitsak Examination
(English Translation)

Examination I

I. What are the courses of diarrhea?

What are the differences between bacillary dysentery and amoebic dysentery?

II. What is rheumatic fever?

What are its causes, its symptoms, its complications, its treatment?

or

What are the mechanisms of transmission of typhoid fever in the human body?

What are its symptoms and its treatment?

III. A. What are the different types of fractures?

If you fall on an extended hand, what type of fracture will result?

What is the shape of Colles fracture?

B. What are the differences between gastric and duodenal ulcers?

IV. A. What are the courses of conjunctivitis?

If a patient has had conjunctivitis for seven days, how do you give him penicillin drops?

B. Treatment of acute suppurative otitis media?

or

Define acute otitis media.

What are the symptoms, the treatment and the complications?

Examination II

- I. Define malnutrition.
What are the main nutritional problems in Bangladesh?
What are the causes and symptoms of malnutrition?
- II. What is population control?
What is the role of a PC in population control?
What are the different methods of family planning?
or
What are the symptoms of pregnancy?
What are the causes of postpartum hemorrhage?
What is its treatment?
- III. Write short notes on:
- A. Anti-partum hemorrhage
 - B. Twins
 - C. Sterility
 - D. Menstruation
 - E. Abortion
 - F. Eclampsia
 - G. Ectopic gestation
- IV. A. What care should be given to a newborn child?
B. Describe the food chart at:
1. One month
2. Six months
3. One year and a half
C. What are the causes of vaginal bleeding?
or
What are the different types of menstrual disorders?
What is the treatment of dymenorrea?

ANNEX H

AN ECONOMIC ANALYSIS OF THE PALLI CHIKITSAK
PROGRAM AND VILLAGE HEALTH CARE SYSTEM
IN BANGLADESH

by Dr. Howard N. Barnum, Economist

August 31, 1980

Health Services International, Inc.
Agency for International Development
United States International Development
Cooperation Agency

Technical Advisory Health Services (Palli Chikitsak)
in Bangladesh

388-0055

Table E. 4	Cases of Diarrhea , Pneumonia and Skin Diseases Seen by Age and Sex of Patients	23
Table E.5a	Average Number of Patients by Place Seen and Sex of PC	24
Table E.5b	Proportion of Patients by Place Seen and Sex of PC	24
Table E.6	Bangladesh: Per Capita Health Expenditure by Expenditure Group	25
Table E.7	Average Cost of Medicine for Selected Diseases by Sex of PC	26
Table E.8	Average Cost of Medicine for Selected Diseases by Previous Experience of PC	26
Table E.9	Total Average Cost Per Patient Including Both Medicine and Fees	27
Table E.10	Average Number of Patients Seen Per Week by Sex of PC and Sex and Age of Patient	28
Table E.11	Proportion of Patients Seen Per Week by Sex of PC and Sex and Age of Patient	28
Table E.12	Number of Patients Seen Per Week: <u>Quacks</u> Versus Non- <u>quacks</u>	29
Table E.13	Average Number of Patients Seen Per Week: <u>Quacks</u> Versus Non- <u>quacks</u>	29
Table E.14	Average PC Fees for Diarrhea , Pneumonia and Skin Diseases by Previous Experience of PC and Place of Visit	30
Table E.15	Average PC Fees for Diarrhea , Pneumonia and Skin Diseases by Previous Experience of PC , Weighted by Proportion of Patients Seen at Office and Home	30
Table E.16	Alternative Estimates of PC Monthly Income by Sex and Previous Experience	31

I. Introduction

The primary purpose of the Bangladesh Palli Chikitsak Project is to bring simple allopathic curative health care to rural areas. To do this the project will provide one resident health practitioner, trained in simple curative care, for every village in Bangladesh. The health agent, called a Palli Chikitsak, or village medic, will establish a private practice to provide services for fees and is not to be a government employee. Training of the Palli Chikitsak (hereafter called the PC) is done by Medical Officers, with MBBS degrees, at Thana Health Complexes throughout Bangladesh. The PC Training program began in 1978/79 and is currently continuing to be financed and carried out by the Bangladesh Government.

In examining the village level economics of a fee-for-service system, such as this one, one question which arises is equity: who becomes a PC and who is able to afford the services? This study sketches out the information presently available regarding fees charged by village practitioners, as well as the villagers' ability to pay for these health services. The ability of the PCs to earn a living by their health work alone versus the need to have a supplementary income source is summarized. The numbers of women, children and men served by the new PCs, is analyzed with particular reference to their sex and to their previous experience as quacks or non-quacks.

Recommendations for USAID involvement in the Palli Chikitsak Program based on this analysis are included another paper titled "A Study

to Assess the Implementation Status of the Palli Chikitsak Program in Bangladesh."

II. Equity of the Palli Chikitsak Program

This section seeks to examine the probable effects of the PC Program on different classes within the average rural village in Bangladesh. To clarify the class distinctions used it is convenient to rank rural households in order of total consumption expenditure and designate the bottom 40% as the "poor" or lowest class, the next 40% as the "lower middle" class, the next 15% as the "upper middle class" and the final 5% as the "high or wealthy" class.¹ Approximately the lowest one-third of the poor class is landless and the remaining two-thirds possess only minimal homestead land and so is functionally landless; the lower middle class possesses or cultivates sufficient land to provide for most or all of subsistence needs; the upper middle class possesses sufficient land to provide a modest marketable surplus and the upper or wealthy class earns a substantial part of total income as landlords.

Substantial evidence related to either the class from which most PC trainees come or the class of PC patients is not available. Primarily, reliance, in the analysis below, is placed on the responses to open-ended questions in a July 1980 random survey of THC trainers and recent PC graduates.² In addition, informal interviews were conducted with both

1. These categories are examined in some detail in World Bank, "Bangladesh Current Economic Position and Short-term Outlook," March 21, 1980, annex II.
2. The 1980 Palli Chikitsak Survey is described in the document "A Study to Assess the Implementation Status of the Palli Chikitsak Program in B/Desh."

trainers and PC graduates to examine the equity issues. Direct questions related to economic or class status were difficult to use and often elicited evasive or defensive, culturally expected, responses. Therefore much of what is reported below is subjective and impressionistic. Nevertheless, care has been taken to corroborate observations using several approaches to a given question and the results are felt to be qualitatively valid.

A. Distributional Effect of PC Services

1. What income groups do the Palli Chikitsaks serve?

A major objective of the PC Program is to bring static curative services to the poor majority of the isolated rural area. An indication of whether or not the program is meeting this objective is given from the tabulations of the responses to the trainer and trainee surveys. Trainers were asked which population groups they felt would benefit most and which groups the least from the PC services. The predominant response was clearly that the poor and lower middle class will benefit the most while the middle and upper class will benefit the least. In elaborating on their response to this question THAs explained that while upper income (upper middle and upper classes) groups might use the PC for emergency care, by preference and through ability to pay, the upper income groups use medical doctors whenever possible. In contrast, the lower middle income and poor groups, in the absence of PCs, use quacks and traditional village practitioners.

They very poorest groups, unskilled landless laborers and the unemployed, go without any medical care. Sample surveys conducted in 1976-77 sustain the observation of the THAs and reveal that 30% of the rural population does not consult anyone.¹

When asked in the survey why they had become PCs, most trainees gave an altruistic reason such as "to serve the poor of the village" as one of several reasons. A few of the respondents were asked, outside the survey, to describe their clients and in all cases responded that they were predominately poor. However, this claim is not corroborated by the survey in that 98% of PCs interviewed stated that payment is always made in cash Taka and payment in kind is not accepted.

Although the evidence cited above is scanty and the experience with the program is too short to justify an unqualified statement, the evidence is consistent in indicating that, if the fees are sufficiently modest, demand for the PC services can be expected to come largely from low and middle income groups. But it is probable that the very poorest group, without a stable cash income, will be served unevenly.

1. Pierre Claquin, "Private Health Care Providers in Rural Bangladesh," Social Sciences and Medicine (in press) and Lincoln Chen, "Are there Barefoot Doctors in Bangladesh?" Social Sciences and Medicine (in preparation.)

2. Are Palli Chikitsak Fees low Enough to Meet the Program Goals?

As assumption underlying the PC Program is that the Palli Chikitsak fees will be low enough to provide village access to allopathic care for common diseases. The argument is that, given their limited training, the PC will be viewed by the villagers as less qualified than doctors and will be forced to keep their fees low.¹ At the village level, although there are some MBBSs practicing, the major competition for the lower and the middle income clients is expected to come from traditional practitioners and quacks and PC charges would be expected, through competition, to be equal to, or perhaps only slightly more than, the charges of these alternative practitioners.

Estimates of the charges for PC services are obtained from responses to the survey of trainees. The first row of Table E.1 gives a breakdown of the average fees charged by PCs for diarrhea and pneumonia, office and home visits. The PC fee can be compared with the charges for these same diseases made by other types of practitioners in the villages without Palli Chikitsaks as revealed in 1976-77 survey on medical manpower and facilities in Bangladesh. The results of this survey, adjusted for changes in prices between 1977 and 1980 are given in the remaining rows of Table E.1.² The comparison indicates that the average PC charges are less than

1. USAID/Dacca, Project Identification Document, Palli Chikitsak Project, 1980

2. The results are summarized and discussed in P. Clauquin, "Private Health Care Providers in Rural Bangladesh."

for other types of qualified allopathic care and only slightly more than for unqualified allopathic care and traditional practitioners. Thus, the level of PC fees is consistent with the predictions made by the designers of the program.

Weighted over all diseases and by the relative proportions of home and office visits, the average PC fee charged per patient is 5.9 Taka (see Table E.3). This average charge can be compared with estimates of the average annual household per capita health expenditure for different expenditure groups in rural areas to gain an appraisal of the ability of villagers to pay for PC services. Estimates of the 1979/1980 per capita rural expenditures are presented in Table E.6 and are based on a projection of results from the Bureau of Statistics household surveys for 1976/77 and 1973/74. An estimate of the proportion of health expenditures as a proportion of total household expenditure is used to derive the annual per capita health expenditures in each expenditure class (Column 5 of Table E.6). In comparing this amount with charges for PC fees and services it should be born in mind that the estimate of annual per capita health expenditure covers all aspects of health care and not just practitioners and medicine.

For the poorest 40% in rural areas, the average annual per capita health expenditure is 19 Taka or approximately three times the average PC fee. As an occasional expense the fee is a feasible expenditure. For the next 40% of households, the lower

middle class, average annual per capita health expenditure is 37 Taka or six times the average PC fee. The fee is well within the average annual per capita household health expenditure of the lower middle class.

3. Are drugs available and affordable?

For many illnesses the fees are a less important expense than the medicines. In the survey of trainees, an inventory of available medicines in the village was made. It was found that in almost all villages appropriate drugs for the common diseases to be treated as part of the PC Program were available. The charges for the drugs for treating a case of diarrhea, pneumonia or skin diseases were also obtained in the survey. Comparing the average drug charges with the average fees in Table E.9 it can be seen that the cost of drugs is several times the average fee. The combined cost of drugs and fee is given in the right hand column and is 36 Taka for a case of diarrhea, 27 Taka for a case of pneumonia and 30 Taka for the average patient seen.

Comparing this average total charge with the average annual per capita health expenditure of the poorest 40% it is seen that the total cost of treatment is more than 150% of the annual per capita health expenditures. The total cost of treatment may be prohibitive for the poorest group in the village.

Comparing the average total charge with the health expenditures

for the average rural household in the lower middle class, it is found that the cost of treatment is almost 90% of the annual per capita health expenditure. For the average rural lower middle class household, treatment is feasible but still constitutes a substantial burden.

Finally, for the upper middle class, the average charge is 50% of annual household per capita health expenditures. For this group the PC charges are feasible.

In summary, considering only the distribution of health services within the village, the cost of drugs is high enough that the full service may be denied the lowest income group even though the Palli Chikitsak fee is reasonably low. Thirty-five to 50% of rural households are headed by landless laborers and the discussion above indicates that for most of these families the total cost of curative care will remain out of reach.

The discussion above also indicates that, from the point of view of middle class rural household income and expenditures, the PC Program is a feasible means of bringing curative care to rural households which have previously not had access to trained allopathic practitioners. Analysis of results from sample surveys demonstrates that where it is available there is a demand for allopathic care at the village level; the major factor restricting coverage of rural population by allopathic care is availability rather than demand. Properly trained, the Palli Chikitsaks are not

expected to reduce the cost of medical care substantially, but are expected to increase the availability and improve the quality of care at the village level so that mis-diagnosis and misuse of drugs will be decreased.

Thus, although the landless poor will, for the most part, continue to go unserved and the highest income groups will continue to use MBBS doctors, a previously unreached middle class will have greater availability of services. From this point of view the program will have a mildly positive effect on the distribution of services within the village.

B. The use of Palli Chikitsak Services by Women

An important objective of the PC Program is to increase the availability and use of curative care by women and children. Given the higher incidence of diarrhea and communicable diseases among children and the need for gynecological and obstetric care by women the requirement for medical care is expected to be disproportionately higher among women and children. But, because of cultural restrictions on the treatment of women by male practitioners and because of male dominance of the household, the distribution of benefits from the PC Program may not fall evenly over men and women. Data, from the survey of trainees, on the sex and age of patients is summarized in Tables E.10 and E.11. The proportion of patients seen who are male is .36, the proportion

seen who are female is .23, and the proportion who are children less than five years old is .41. Assuming that, except for neonatal deaths, the proportion of morbidity and required PC visits by age group and sex is directly related to the proportion of mortality by age and sex, the expected proportions of males (five years and over), females (five years and over) and the children (under five years of age) are .34, .34 and .31 respectively.¹ The proportions of patients from each of these categories can be compared with the expected proportion. Using a statistical test, it is found that the number of male visits to the PC is in proportion to need, the number of female visits is significantly less than needed, and the number of child visits is significantly more.

In an attempt to bring more services to women, 20% of the PC training slots have been reserved for female practitioners. Records for the first two batches of trainees from a subset of nine of the thanas in the survey showed that the actual percentage of trainees who are female was only 10%. Examination of the data

-
1. Based on life table probabilities of dying weighted by population in age and sex groups. Note that this procedure greatly underestimates the health care needed by women by omitting obstetric requirements. Life table reference is Table 1.6d from Bangladesh Health Profile, 1977, MCH Bangladesh, Health Information Unit, Population data is from 1974 census.
 2. A t-test is used to compare the difference between actual and expected proportions. The value of the t statistic is 1.63, 3.84 and 4.9 for men, women and children respectively. A 5% significance level has been used.

from the survey shows that while 22% of male PC patients are women 37% of female PC patients are women. An implication of this finding is that, if the services to females are to be increased, a larger proportion of women should be admitted into the PC program. It should be noted, though, that the proportionally greater number of female patients seen by women PCs does not offset the fact that male PCs see approximately twice as many patients per week.¹ Thus, if more women are to be treated, measures must be taken to increase the scale of female practices² as well as to increase the number of female trainees.

C. Distributional Effect of Palli Chikitsak Employment

A secondary objective of the Palli Chikitsak Program is to bring additional employment opportunities to rural areas, The question addressed in this section is whether or not the employment opportunities favor high or low income groups in the village.

1. Effect of Trainee Bond

As the program was originally designed each trainee was to be required to put up a 5,000 Taka bond as assurance

-
1. The difference between the mean number of total patients seen per week by male and female PCs is significant at a 1% confidence level ($t=16.7$)
 2. This may be difficult because the smaller practices of women are likely to be due to cultural and social causes. For instance, one reason for the smaller practices of women may be the greater demands on female time within the household.

that the trainee would practice in ^{the} thana upon graduation. The security against the bond was to be land, cash or the word of community leader. The requirement for the bond could act as an effective barrier against the entry of low and middle income groups into the program. To examine this possibility trainees in the survey were asked how the bond was put up. A tally of their responses shows that in practice the bond has not been a barrier to entry in the program. Twelve percent of the respondents replied that there was no bond or they did not remember signing the bond, 64% said either that they signed the bond or they knew about the bond, but that no collateral was required and only 24% of the respondents indicated that any security or non-family signature was required.

When questioned about the bond several THAs affirmed that the bond was not actually implemented in recruitment while others said that only a signature was required without any attempt to verify collateral. There were, however, a few thanas where the bond seemed to have been implemented. It is concluded that the bond has not prevented entry into the program in most thanas but its uneven implementation across thanas may have had discriminatory effects in a few cases.

2. Who Becomes a PC?

Some assessment of the class background of the PC can be

gained by looking at the educational level of the PC trainees. Forty-six percent of the respondents had an educational level of matriculate or better. Given that 80% of rural residents are functionally illiterate and that an educational level of matriculate or above is usually only attained by the middle or upper classes the program cannot be expected to have positive effects in re-distributing employment opportunities.

It can be mentioned, however, that in response to a question of their motives for becoming a PC several respondents stated that they had been unemployed or with insufficient income to support their families and had entered the program to gain income and security. Only a few respondents seemed to come clearly from the village upper classes with substantial surplus land or family backing. Perhaps the best indication of the class position of the respondents comes from the overall impression of the Bangladeshi interviewers who, looking at dress, mannerisms, confidence and other factors, assessed the majority of the PCs as coming from the lower middle class.

In summary, the program excludes the lowest classes but does not appear to be dominated by the upper class members of the community. Overall the distributional effects of the employment are assessed to be neutral.

IV. Can the Community Support the Palli Chikitsak?

The Palli Chikitsaks are intended to become self-supporting health practitioners who charge for service. By keeping the program private the government hopes to extend basic curative services to the villagers without incurring large recurrent cost budgetary expenditures or setting up bureaucratic structure that would be necessary for the technical supervision of 65,000 widely dispersed government employees.

For the program to be feasible, the Palli Chikitsak must be able to earn a sufficient living through the sale of their medical services to prevent their dropping out in search of alternative employment. To examine the adequacy of the PC income this section first provides estimates of present PC income and then looks at factors that are expected to affect PC income in the future as the program expands.

A. Estimates of present PC income

Estimates of PC income can be obtained from the survey responses to questions concerning the average number of patients seen per week and the charges for services. Using a weighted average of the charges for diarrhea, pneumonia and skin diseases, home and office visits, it is estimated that the average charge per visit is 5.9 Taka. With an average number of patients per week of 43 it is estimated that the average income from fees is approximately 250 Taka per week or 1,075 Taka per month.

Following the same procedure the estimated income from fees

can be obtained by category of Palli Chikitsak. For women the estimated average income is 735 Taka per month. In contrast, the estimated income for men is 1,170 Taka per month. The difference in these figures primarily reflects the significantly smaller number of patients seen per week by female PCs (See Table E.10).

Looking at the differences between PCs who were previously quacks or pharmacists and PCs with other backgrounds, as estimated income of 1,261 is obtained for quacks and 1,038 is obtained for non-quacks. The higher income for quacks reflects not only large differences in the number of patients seen (Table E.12) but also some differences in the average charges (Table E.15).

Some check on these figures is obtained by looking at the fixed income that PCs would be willing to receive in lieu of the privilege of charging for services. Presumably the desired fixed income represents the opportunity cost, or income foregone, from the loss of the privilege of charging fees. A question of this nature was included in the trainee survey. The average response was 727 Taka per month. For men the average response was 753 Taka per month, while for women the average was 630 Taka per month. Dividing the sample between PCs who had previous experience as quacks or pharmacists and others, the average desired fixed income in lieu of fees was 766 Taka per month quacks

and 710 Taka per month for others. This information is summarized in Table E.16 and compared with the estimated income calculated from the product of fee charges and average numbers of patients. The two estimates of monthly PC income are approximately consistent and are interpreted as indicating that monthly income for the average PC is in the range of 750 to 1,200 Taka per month.

PC income from fees is, in some cases, supplemented by additional sources of earned income. Thirty-two percent of the PC trainees surveyed stated that they had other, non-PC activities. The most common responses were farming on household plots (19%), and pharmacies (8%). A further supplement to income comes from the sale of medicine to patients. It is not possible to estimate the total Taka amount because the extent of mark up over purchase cost and the percentage of cases involving the sale of medicine are unknown. But, given the ready availability of medicines stocked by the PCs interviewed, a large percentage of patient visits may entail the purchase of medicines. Although no estimate of the Taka amounts are available it is probable that the value of home production and other activities comprises an important part of the monthly household income of PC families.¹

1. Some support for this statement can be obtained by looking at the general distribution of land and income from village land studies for several areas in Bangladesh. Most village households, except for landless laborers, a class not expected to be frequent among the PCs, derive a substantial part of total income from household cultivation. See, for instance, Bangladesh Rural Advancement Committee, Resources Allocation in Bangladesh Village, January 1980 (mimeographed).

In informal interviews, THAs were asked what they felt would be an "adequate" income for PC graduates. The responses were consistently in the range of 750 to 1,000 Taka. Although adequacy of income is a subjective matter and it is still too early in the program to know if the present income will be sufficient to retain PC participation in the program, the estimated average PC incomes from health services are within the 750 to 1,100 Taka figures and, including supplemental income, the present average income of a PC is estimated to be well above 1,100 Taka.

B. Factors affecting future income of PCs

It is difficult to use the income estimates from the trainee sample survey to make a projection of future Palli Chikitsak income. Positively effecting income, the fact that the respondents have been practicing only five to six months means that the average weekly number of patients seen can be expected to grow further as the community gains confidence in their services and as their reputation spreads. Offsetting this, a negative effect on income can be expected from the increased competition with other PC graduates as the national program expands in scale.

All trainers interviewed predicted that the present quacks and non-allopathic practitioners in the village would view the PCs as competitors and that a cooperative, referral framework would not arise. Papers by P. Claquin¹ and L. Chen² have set data clearly

1. P. Claquin, op. cit.

2. L. Chen, cp. cit.

showing that villagers have a preference for allopathic medicine and, given a choice, would prefer trained practitioners. The constraint to greater use of trained practitioners is availability and high fees. Because the PCs are trained practitioners available at competitive fees, their practices are expected to gain in size partly at the expense of the quacks and traditional practitioners. But this will take time for community acceptance (a possible reason for the larger present practices of PCs who were previously quacks.) The fact that they already enjoy community acceptance and have less competition from other practitioners in the village may account for larger present practices of PCs who were previously quacks.

Competition between PCs can be expected to grow, and average PC incomes to fall, as the number of practicing PCs approaches the goal of 55,000, or one PC for each village in Bangladesh. From the tabulation of responses to the trainee questionnaire, it is found that at present, the average PC makes home visits at a distance of up to four miles and has patients from more than one village. As the program expands, the catchment area can be expected to fall dramatically. Several PCs expressed alarm at the prospect of having a practice limited to their own village. With regard to the scale of the program, the interest of the villagers and those of the PC are in conflict. A smaller program will allow

larger practices and larger fees for individual PCs; while a larger program will increase the accessibility of PCs and act to keep fees low.

Potentially, the scale of the program could be large enough that PCs would drop out of practice and resources used for their training would be wasted.¹ Whether or not one PC per village will allow a viable practice is difficult to establish but an attempt to answer the question can be made by considering the total health expenditure available in an average village. A 1973/74 household study estimated that the average rural household spends 4% of monthly income on health care. If this percentage has remained stable over time, then with the current (1980) estimated average monthly income of 560 Taka per rural household, it can be estimated that 22 Taka per month per household is currently spent on health care. With approximately 225 households per village,² the average village will spend a total of 4,950 Taka per month on health care. This total covers expenditures for doctors, hospital care, clinics, medicine, health care products, traditional practitioners and quacks as well as Palli Chikitsaks. The breakdown of the total over these

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1. Because there is a possibility that the scale of the program will become too large, the adequacy of PC income should be monitored as part of a yearly evaluation based on a random sample of PC graduates. Program expansion could be made contingent on the results of the evaluation.
 2. The rural population is estimated at 83,000,000 for 1980. With an average household size of 5.7, there are 14,561,404 households. Given that there are 65,000 villages in Bangladesh it is estimated that the average village has 225 households.

items is unknown but the total is large enough that, as the village's most immediate source of trained allopathic care, the average PC could be expected to earn an adequate income.

**TABLE E.1: AVERAGE FEES FOR DIARRHEA AND PNEUMONIA
BY TYPE OF HEALTH CARE PROVIDER (1980 Taka)**

	Average Fee For Diarrhea		Average Fee For Pneumonia	
	Office	Home	Office	Home
Palli Chikitsak*	4.5	9	4	8
Qualified Allopathic **	10	14.5	6	8
Unqualified Allopathic	4.5	4.5	2.5	2.5
Homeopath	4.5	4.5	2.5	2.5
Ayurvedic	6	4.5	4.5	4.5

* From the Palli Chikitsak Training Survey, July 1980.

** From 1976-77 Survey of Medical Manpower. See P. Clauin, "Private Health Care Providers," Social Sciences and Medicine (in press), TABLE 4. The data is adjusted for price changes between 1976-77 and 1979-80, using an estimated inflation rate of .13. Estimates are rounded to the nearest .5 Taka.

TABLE E.2: AVERAGE PC FEES FOR DIARRHEA, PNEUMONIA, AND SKIN DISEASES BY SEX OF PC AND PLACE OF VISIT (IN TAKA)

	Diarrhea		Pneumonia		Skin Diseases	
	Office	Home	Office	Home	Office	Home
Male	4.1	8.3	3.7	8.1	3.0	6.2
Female	6.2	10.1	5.5	6.9	4.3	6.4
Both	4.4	8.8	4.1	7.9	3.2	6.3

TABLE E.3: AVERAGE PC FEE FOR DIARRHEA, PNEUMONIA, AND SKIN DISEASES BY SEX OF PC, WEIGHTED BY PROPORTION* OF PATIENTS SEEN AT OFFICE AND HOME. (IN TAKA)

	Diarrhea	Pneumonia	Skin Diseases	Row Average**
Male	6.1	5.8	4.5	5.7
Female	7.2	5.9	4.9	6.3
Both	6.4	5.8	4.6	5.9

* See Table E.5 for proportion of patients in office and home visits.

** The weight is the proportion, by disease, of the total number of patients seen for the three diseases. See Table E.4.

TABLE E.4: CASES OF DIARRHEA, PNEUMONIA AND SKIN DISEASES SEEN BY AGE AND SEX OF PATIENT

	Men	Women	Children	Row Total	Row Proportion
Female PC (n = 19)					
Diarrhea	29	28	77	134	.59
Pneumonia	-	5	12	17	.07
Skin Diseases	25	27	26	78	.34
					<u>1.0</u>
Male PC (n = 76)					
Diarrhea	463	308	557	1328	.64
Pneumonia	56	30	115	201	.10
Skin Diseases	206	128	211	545	.26
					<u>1.0</u>
Total (n = 95)					
Diarrhea	492	336	634	1462	.64
Pneumonia	56	35	127	218	.09
Skin Diseases	231	155	237	623	.27
					<u>1.0</u>

TABLE E. 5a: AVERAGE NUMBER OF PATIENTS BY PLACE SEEN AND SEX OF PC

	Place Seen		Total
	Home	Office	
Male (n = 78)	24.8	22.1	46.9
Female (n = 17)	19.5	7.6	27.1
Both (n = 95)	23.9	19.5	43.4

TABLE E. 5b: PROPORTION OF PATIENTS BY PLACE SEEN AND SEX OF PC

	Place Seen		Total
	Office	Home	
Male	.53	.47	1.0
Female	.72	.28	1.0
Both	.55	.45	1.0

TABLE E.6: BANGLADESH: PER CAPITA HEALTH EXPENDITURE BY EXPENDITURE GROUP
(CURRENT PRICES IN TAKA)

Expenditure Groups	Average Annual Per Capita Expenditure			Estimated Proportion Spent on Health****	Estimated Annual Per Capita Health Expenditure
	1973/74*	1976/77**	1979/80***		
	(1)	(2)	(3)	(4)	(5)
Bottom 40%	727	759	792	.024	19
Lower Middle 40%	1,070	1,110	1,151	.032	37
Upper Middle 15%	1,428	1,472	1,518	.041	62
Top 5%	2,126	2,171	2,216	.045	100
All Groups	1,020	1,070	1,122	.039	44

* Based on Household Expenditure Survey for 1973/74.

** Based on Household Expenditure Survey for 1976/77

*** Projection of 1973/74, 1976/77 expenditure to 1979/80.

**** Information on proportional expenditure on health by income groups has been used to approximate proportional expenditure on health by expenditure groups. Derived from Bangladesh Health Profile, 1977, Health Information Unit of Health and Population Control Division, Ministry of Health, Dacca, Bangladesh, September 1978, Table 11A, page 105.

References: World Bank, "Bangladesh Current Economic Position and Short-Term Outlook", March 21, 1980.
Bangladesh Bureau of Statistics, 1979 Statistical Yearbook.

TABLE E.7: AVERAGE COST OF MEDICINE FOR SELECTED DISEASES BY SEX OF PC (IN TAKA)

	Diarrhea	Pneumonia	Skin Diseases	Weighted Row Average
Male	31	21	13	25
Female	22	15	7	16
Both	30	21	12	24

TABLE E.8: AVERAGE COST OF MEDICINE FOR SELECTED DISEASES BY PREVIOUS EXPERIENCE OF PC (IN TAKA)

	Diarrhea	Pneumonia	Skin Diseases	Weighted Row Average
Quack	39	27	15	32
Non-quack	25	17	10	20
Both	30	21	12	24

TABLE E. 9: TOTAL AVERAGE CCST PER PATIENT VISIT
INCLUDING BOTH MEDICINE AND FEES (IN TAKA)

	Fee *	Medicine **	Total
Diarrhea	6	30	36
Pneumonia	6	21	27
Skin Diseases	5	12	17
Average	6	24	30

* See Table E. 3

**See Table E. 8

TABLE E.10: AVERAGE NUMBER OF PATIENTS SEEN PER WEEK BY SEX OF PC AND SEX AND AGE OF PATIENT

	Male (\geq 5 years)	Female (\geq 5 years)	Children ($<$ 5 years)	Total
Men (n = 79)	17.8	10.0	19.8	47.6
Women (n = 19)	5.3	8.6	9.6	23.5
Total (n = 98)	15.4	9.8	17.8	43.0

TABLE E. 11: PROPORTION OF PATIENTS SEEN PER WEEK BY SEX OF PC AND SEX AND AGE OF PATIENT

	Male (\geq 5 years)	Female (\geq 5 years)	Children ($<$ 5 years)	Total
Men (n = 76)	.37	.21	.42	1.0
Women (n = 19)	.23	.37	.41	1.0
Both (n = 95)	.36	.22	.41	1.0

TABLE E.12: NUMBER OF PATIENTS SEEN PER WEEK:
QUACKS VERSUS NON-QUACKS

	Male	Female	Children	Total
<u>Quacks</u> (n = 26)	477	297	476	1,250
<u>Non-quacks</u> (n = 69)	926	664	1,220	2,810
Total (n = 95)	1,403	961	1,696	4,060

TABLE E.13: AVERAGE NUMBER OF PATIENTS SEEN PER
WEEK: QUACKS VERSUS NON-QUACKS

	Male	Female	Children	Total
<u>Quacks</u> (n = 26)	18.4	11.4	17.9	47.7
<u>Non-quacks</u> (n = 72)	14.4	9.1	17.8	41.3
Both (n = 98)	15.4	9.8	17.8	43.0

TABLE E.14: AVERAGE PC FEES FOR DIARRHEA, PNEUMONIA, AND SKIN DISEASES BY PREVIOUS EXPERIENCE OF PC AND PLACE OF VISIT (IN TAKA)

	Diarrhea		Pneumonia		Skin Disease	
	Office	Home	Office	Home	Office	Home
<u>Quack</u>	4.5	9.3	4.0	7.9	3.1	5.7
Non- <u>quack</u>	4.4	8.6	3.8	8.0	3.2	6.5
Both	4.4	8.8	4.1	7.9	3.2	6.3

TABLE E.15: AVERAGE PC FEE FOR DIARRHEA, PNEUMONIA AND SKIN DISEASES BY PREVIOUS EXPERIENCE OF PC, WEIGHTED BY PROPORTION OF PATIENTS SEEN AT OFFICE AND HOME (IN TAKA)

	Diarrhea	Pneumonia	Skin Diseases	Row Average
<u>Quack</u>	6.8	5.8	4.3	6.1
Non- <u>quack</u>	6.3	5.7	4.6	5.8
Both	6.4	5.8	4.6	5.9

TABLE E.16: ALTERNATIVE ESTIMATES OF PC MONTHLY INCOME BY SEX AND PREVICUS EXPERIENCE

Type of PC	Product of Average Charges and Number of Patients/Week	Average Desired Fixed Salary in Lieu of Fees
By Sex:		
Men	1,170	753
Women	735	630
By Previous Experience:		
<u>Quacks</u>	1,261	766
<u>Non-quacks</u>	1,038	710
Total: (Men & Women or		
<u>Quacks</u> & <u>Non-quacks</u>)	1,075	727

ANNEX I:
POSITION DESCRIPTIONS AND QUALIFICATIONS FOR CONTRACTOR STAFF

The technical assistance will be provided by an American firm or qualified international research institution through a project financed, host country contract. In addition to project staff in Dacca, support staff will be provided at the contractor's headquarters.

Dacca Staff:

<u>A. Expatriate</u>	<u>Number</u>	<u>Per/10</u>
1. Advisor/Team Leader	one	24
2. Health educator	one	24
3. Health educator(short-term)	one	3
4. Evaluator(short-term)	one	2
<u>B. Bangladeshi</u>		
1. Administrator	one	26
2. Secretary I	one	26
3. Secretary II	one,	24
4. Clerk	one	26
5. Driver	one	24
6. Computer Programmer	one	24

Position Description Summaries

A. 1. Advisor/Team Leader

The team leader will be a physician with prior experience in health education in a developing country, preferably Asian. This advisor will be responsible for the planning and implementing of the project components described herein, for administration of the National Training Centre's programs during the project term, for liaison with the MHC, and for the overall supervision and guidance of all Contract staff in Dacca.

A. 2 and 3. Health Educators (Long and short term)

The health educators will have had prior experience in health education or directly related programs in a developing country, preferably Asian. Each will be qualified either by a Master of Public Health degree, an M.S. degree with H.N. diploma, or a directly related, graduate level degree in a health specialty.

The health educators will be responsible for developing the curriculum materials described herein. They will work under the direct supervision of the Team Leader.

If the Advisor/Team Leader is not a woman, then one of the long term Health Educators must be.

A. 4. Evaluator

The short term evaluator will be a generalist with prior experience in developing countries, preferably Asian. The person will be experienced in designing and administering evaluation instruments. The person will be skilled in writing evaluation reports based upon surveys and project analyses.

B. 1. Administrator

The administrator will be experienced as an administrator or assistant administrator in a bi-lingual office in Bangladesh and will have a Masters of Business Administration or comparable degree (Public Administration). A combination of BA in Commerce and experience could be acceptable. Under the general supervision of the Advisor/Team Leader the Administrator will be responsible for all day to day operations of the contractor's office and personnel. The Administrator will assign work, arrange schedules, procure supplies and services for the smooth running of the office.

The Administrator will be fluent in Bangla and English.

B. 2 and 3. Secretary I and Secretary II

The Secretaries will have had prior experience in a bi-lingual (Bangla-English) office in Bangladesh. Their typing skill will be 45 wpm minimum in both languages. They will perform secretarial and clerical services as assigned by the Advisor/Team Leader and other professional expatriate and local staff. Secretary I will be fluent in Bangla and English. Secretary II will be fluent in Bangla and competent in English.

B. 4. Clerk

The clerk will be responsible for filing, relaying messages, assisting in typing, reproducing and collating of materials, and assisting the Administrator in the daily management of the office. The clerk will be fluent in Bangla and competent in English.

B. 5. Driver

The driver will have had prior experience as a driver for a bi-lingual organization in Bangladesh. The driver will be required to pass a physical examination, including vision and hearing. The driver will have had experience in both rural and urban Bangladesh, driving two and four wheel drive vehicles. The driver will have a current, valid Bangladesh driver's license.

B. G. Computer Programmer

The computer programmer will have a B.A., B.S. or higher degree in mathematics, statistics or computer sciences. The programmer will be familiar with the programming languages BASIC and PASCAL. The programmer will be responsible directly to the Advisor/Team Leader for computer work relating to the project activities described herein.

ANNEX J

Bangladesh Palli Chikitsak Project

Procurement Plan

The MHPC will negotiate a host country contract under established IFB procedures for services with a qualified firm or educational or international research institution to conduct or supervise the implementation of the project. During the evaluation of bids, A.I.D., with the assistance of SER/COM, will determine whether or not the contractor has the capability to administer U.S.-source procurements. If the contractor selected does not have this capability, it will select a qualified Procurement Service Agent, on the basis of informal solicitation of offers. SER/COM's list of interested PSAs will be used in the selection process and the appointment of a PSA will be subject to the approval of A.I.D.

As soon as possible, but not later than 90 days upon signing of the T.A. contract, the contractor will submit to USAID/Dacca a complete listing of the equipment to be procured during the life of the project. The list will show the type and amount of equipment needed using non-restrictive specifications and identifying the anticipated source of purchase. This list will also designate which portion of the procurement package, if any, will be subcontracted to a PSA. List should contain estimated prices both FOB/FAS U.S. port of exit (if applicable) and C and F or CIF Bangladesh. In conjunction with the submission of the equipment list, the contractor will also furnish to USAID a proposed procurement schedule which should also outline the mechanics of delivery of goods to Bangladesh.

USAID/Dacca, with assistance from SER/COM, would be responsible for reviewing and approving proposed equipment list and procurement schedule. No procurements will be initiated until approval is obtained from A.I.D.

The TA contractor and/or PSA will be responsible for insuring that:

- (1) All procurements are accomplished in accordance with A.I.D. regulations (HB 11 Chapter 3),
- (2) A.I.D.'s marking requirements are met, and
- (3) Commodities meet A.I.D. source/origin requirements or that a waiver is obtained from A.I.D.

The MHPC and the TA contractor will determine, with the approval of A.I.D., the appropriate agency to transact local cost procurements

Equipment and Materials to be ProcuredNational Training Center (NTC)

1) OFFICE EQUIPMENT	ESTIMATED COST (US\$)
1 Small Refrigerator (220 V)	\$ 300
1 Typewriter (English) (220 V)	550
1 Manual Duplicating Machine	950
8 Air Conditioners	
5-13, 40000 BTU at the rate of \$770 (220 V)	3850
3-19, 000 BTU at the rate of \$970 (220 V)	2910
1 Microcomputer	9500
Other office furnishings, supplies and utilities	\$29350 (Local Costs)
2) AUDIO VISUAL EQUIPMENT (NTC)	
1 Screen	\$ 200
2 Slide Projectors	650
1 Overhead Projector	350
1 Opaque Projector	700
2 Projector Stands	400
1 Slide Duplicating Equip	300
2 Cameras W (1) Zoom Lens and (1) 55MM Micro Lens	2000
50 Rolls Slide Film and Processing	600
1 Polaroid Camera and Film	150
1 Cassette Video Tape Portapak	11,000
Audio Visual Equipment (THCS)	
325 Slide Projectors at the rate of \$325	105,625
325 Sets of 400 Slides at the rate of \$100	32,500
3) MEDICAL/LAB EQUIPMENT	
2 Human Models	2000
2 Scales, 5 Stethoscopes, 5 Sphygmomonometers	350 (US or Local)
Misc. (Thermometers, Splints, Bandages, Soap, etc)	4000 (US or Local costs)
*65,000 Sphygmomonometers at the rate of \$25	\$1,625,000
5,000 M/FP Kits at the rate of \$30	150,000 (Local Costs)
4) VEHICLES	
1 Carry All Project Vehicle	15,000
5) Waivers in order to purchase 2 motorcycles (Hondas assembled in Bangladesh)	2,000 (Local Costs)

* Procurement of Sphygmomonometers will be done under formal competitive procedures with standard Invitation for Bids developed within Mission and including appropriate bid as well as performance bond requirements to

guarantee quality of merchandise and timely delivery schedule. TA contractor, would be responsible for review of all documents involved in this procurement. In addition, Mission would also review all documents and send proposed bid package for sphygmomanometers for AID/W comments prior to formal issuance. The MIFC in consultation with A.I.D. will determine the responsibility for issuance of the IFB and participate in the evaluation of offers received. Other equipment will be purchased under informal solicitation of offers. All equipment purchases will be advertised in requisite publications.

The source and origin of materials and equipment will be the U.S., Bangladesh or Code 941 countries, unless otherwise agreed to by A.I.D.



From: Mr. M. M. Alam,
Joint Secretary.

Subject: ...
Date: ...

D.O. No. ERD/USA(P)-7/81

(Handwritten signature)

Date: July 23, 1981

Dear Mr. Kimball,

11/21/81
ACTION TO:
REPLY
DATE
INFO
DIR
DIR/II
PRO
RDP
ENG
FAOR
CLP
PHAW
TRG
CONT
MOT
PE
TRV
ELA
GSO
REPLY/NAN
Initl
Date
File

Please refer to our recent discussions on the proposed US assistance for the Palli Chikitsak Training Programme of the Ministry of Health & Population Control. In view of the importance of the programme and the need for donor support to it the Government would request the USAID to extend assistance to the programme for the following components:-

- 1). Foreign Adviser - Long term, ~~should be~~ limited² for 36 man-months each.
- 2). Foreign Adviser - Short term, ~~should be~~ limited to 1 for 8 man - months.
- 3). National personnel as per proposal of USAID vide Project Budget summary.
- 4). National Training Centre, lease equipment vehicles as per proposal of USAID vide Project Budget summary.
- 5). Perdiem, training, stipends as per proposal of USAID.
- 6). Midwifery/Family Planning Training as Proposed by USAID.
- 7). Supplier and equipment for P.C. training as proposed by USAID.
- 8). The Training equipment as proposed by USAID.
- 9). Hostel construction materials as proposed by USAID.

Saving due to the reduction in man-month of long term advisers may be utilized for augmenting the supply and equipments at item number 7) above.

The above will involve a commitment of funds to the tune of US dollars 6.932 million during USFY 1981.

In addition to the above, a few regional fellowships with additional funding may be provided.

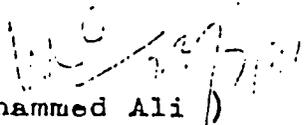
We would also suggest that the selection of consultants/ advisers be made through open competition where host country personnel also may be eligible to participate.



We would request you to kindly consider the above proposals and provide the necessary assistance for a successful implementation of the programme.

With regards,

Yours sincerely,


(Muhammed Ali)

To
Mr. Frank B. Kimball,
Director,
USAID Mission to Bangladesh,
Jibon Bima Bhavan (4th floor),
10,,Dilkusha Commercial Area,
Dacca,