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TEACHER SUPPLY AND TRAINING

Working Paper  
for the  
Primary Education Development Program

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## TEACHER SUPPLY AND TRAINING

### I. OVERVIEW

#### A. Purpose

The purpose of this working paper is to analyze the teacher supply and training needs for the proposed Primary Education Development (PED) Program in Pakistan. The ten year program will be implemented in the two provinces of Baluchistan and Northwest Frontier (NWFP). The program has two objectives: to increase the enrollment of primary age children, especially girls in rural areas, and to improve the efficiency and quality of the education program. A qualitatively better educational program will raise children's skill levels and encourage them to continue in school until they complete the primary level.

The program will fund the necessary components required to achieve the quantitative and qualitative program objectives. These include:

- o buildings and facilities;
- o training programs and incentives for teachers;
- o the development and distribution of instructional materials and teaching supports;
- o support for alternative educational delivery systems;
- o improvement in the administration, supervision, and management of educational resources; and
- o support for research, development, monitoring, and evaluation.

This Working Paper has three sections. The first is this overview which states the issues involved in teacher training and supply and the recommendations for this component. The second section reviews existing preservice and inservice training programs, including conventional, field-based and distance training, and summarizes external assistance in teacher training. The third section describes the major components proposed for the PED.

#### B. Issues in teacher supply and training

With the program focus on expansion at the primary level and improvement in the quality of instruction, PED resources must address questions of both teacher supply and quality. The central issues are:

- o how to increase the supply of teachers sufficiently to staff the expected expansion in the primary system;

- o how to attract more teachers to service in rural areas;
- o how to attract and keep more qualified teaching staff;
- o how to make training qualitatively better and more relevant; and
- o how to ensure that qualitative improvements in instruction reach the level of the classroom.

### C. Recommendations

The following paragraphs summarize the recommendations of this Working Paper. They include recommendations for policy changes and program interventions. The problems of teacher supply are most critical for females and therefore program resources should be committed in greater degree to increasing the supply of female teachers. Unless stated to the contrary these recommendations apply to both provinces.

#### 1. To increase the supply of teachers, especially female teachers

a. In NWFP, build GCETs for females so that every district has at least one and in Baluchistan at the divisional level so they GCETs will be within commuting distance of larger numbers of potential applicants; ensure sufficient hostel space and good security for boarders in these institutions; expand the overall number of trainees at both Primary Teaching Certificate (PTC) and Certificate of Teaching (CT) levels; take up the slack with the AIOU distance PTC and CT programs.

b. Build substantial numbers of middle schools near currently well-enrolled primary schools in rural areas, particularly in Baluchistan, and in small towns where there is a need to produce girls with the academic qualifications to teach.

c. Increase the present scholarship fund that pays incentives for bright children to go to middle school and allocate a substantial part of the increase to rural females.

d. Support the AIOU middle-level degree program, with a stress on serving girls in areas where such qualifications are needed to increase the teaching force.

e. Support the AIOU secondary-level degree program, with a stress on serving girls in areas where such qualifications are required to increase the pool of qualified teachers.

f. Give priority for places in PTC courses to rural females in areas where trained teachers are not available.

(This policy prevails in NWFP and should be continued; Baluchistan does not yet have the training capacity or the demand for training that allows for excluding anyone).

g. Continue an increased monthly stipend for girls in teacher training institutions, with the provision that those receiving the stipend agree to a specified number of years of government service.

h. End the age barriers for women wanting to enter or re-enter the teaching force.

i. Make it easier for women to return to the teaching force after raising families (i.e. allow them to return without losing the benefits they accrued during their earlier service).

j. Consider hiring retired males to teach in primary girls' schools where there is a scarcity of teachers; allow them to receive their pension in addition to a salary so there is a financial incentive to return to teaching.

k. Encourage coeducation and male teachers in areas where there are difficulties finding female teachers, and permit communities to agree to having male teachers in girls' schools where this is acceptable.

1. Recruit teachers for Baluchistan from other provinces.

2. To improve the distribution of teachers especially to rural areas

a. Equalize rural housing accommodation allowances with that for urban areas.

b. Provide conveyances or sufficient conveyance allowances for female teachers within commuting distance of rural schools, and in addition provide a small monthly allowance of perhaps Rs. 100/mo. to compensate them for the extra time it takes to commute long distances to rural areas (In some areas which are not regularly served by public transportation it is not enough to provide only a conveyance allowance --- actual transportation will need to be provided)

c. Provide a substantial difficult area allowance of Rs. 1,000/mo. for those female teachers who must live in remote villages away from their homes. (High allowances appear essential in Baluchistan where compensation must be offered for the privations of living in remote areas; these allowances would disappear when local girls become available to teach in local communities).

d. Provide housing accommodations for men and women teachers, with choukidars for unmarried women, in areas where it is difficult to find teachers and where it is reasonable to believe that a female teacher will occupy the residence; the residences can revert to classrooms when they are no longer needed as residences.

e. Provide a chaperonage allowance of Rs. 200/mo. for an appropriate person who will accompany a female teacher living in a remote rural area .

f. In Chitral, Dir, and Kohistan in NWFP and in Baluchistan where it is extremely difficult or impossible to find a matric graduate, lower the entry qualifications for teaching to middle pass for girls in local areas who are willing to teach and support them with a short, intensive practical training program, highly-structured teaching materials, and an annotated teacher's edition of the textbooks they are to use.

g. Assess the experiment with cluster hostels and expand the areas which they cover if it seems appropriate.

### 3. To strengthen teacher training

a. Improve GCET curriculum and training materials to make them more explicit, more practical to the context of teaching, and more closely tied to implementation of improved primary school texts; training materials should include the to-be-developed annotated teacher's edition for teachers.

b. Prepare teacher trainers to train teachers according to the requirements in "a." above; provide the trainers with orientation into the conditions of primary teaching, which most of them have not experienced; involve them in the testing of new materials and teaching methods.

c. Systematize and improve recurrent inservice training through improving the criteria and procedures used to select Learning Coordinators (LCs) through revising their role by placing them in the inservice components of the Curriculum Bureaus, through a more practical LCs' training program, and through involving them in the testing of new primary learning and teaching materials.

d. Develop a system of specialized training for administrators and supervisors to support the innovations in the primary school programs.

e. Concentrate preservice and inservice teacher training, orientation courses, and school administrators' training in the GCETs where all the courses can be coordinated to focus on the same schooling outcomes; this allows for more cost-effective use of facilities, staff, and enhancements such as libraries and well-equipped resource centers.

f. Support the replication of the Aga Khan Foundation's Field Based Teacher Development Program (TDP) of preservice and inservice teachers in Mansehra district of NWFP; evaluate its capacity to produce veritable improvements in learning and to decrease unit costs before disseminating further.

4. To improve the conditions of the teaching service, thereby attracting more and better qualified applicants

a. Pay teachers according to their qualifications rather than the level at which they teach.

b. Encourage teacher assignments to their home villages and assignment of their spouses to the same locations.

c. Prepare a plan for better career development opportunities for teachers.

d. Expand the system of incentives and rewards to teachers and schools for exemplary teaching and for increased completion rates (especially of girls).

e. Provide teachers with annotated editions of the textbooks; structured teaching materials with appropriate exercise or drill and practice materials; diagnostic, review, and mastery tests and correction keys; and charts, maps, globes, illustrative posters, and other easy-to-use teaching aids for which an adequate supply of replacement parts is available in the school.

5. To insure that program interventions achieve qualitative improvements at the school level

a. Assign an explicit instructional leadership role to the headmaster, headmistress, and/or head teacher, and provide them with the same materials-based training that teachers, learning coordinators, and other supervisors will receive.

b. Design improved training programs to address specific teaching problems with which teachers will be faced such as having to teach multigrade classes, or very large classes, or having to manage a classroom with very limited resources, i.e., having to "make do."

c. Using the annotated teacher's editions as the base, provide practical training to teachers that enables them to teach using the newly developed instructional materials.

d. Train the learning coordinators to fill an inservice training role under the direction of those responsible for curriculum and training; they would assist in methods and materials-oriented inservice courses and follow up the training by visits to teachers during the school year.

## II. EXISTING PROGRAMS

### A. Training courses

In Pakistan there are three types of primary level certification programs: conventional, field-based, and distance, depending on how the program is delivered. All award the Primary Teaching Certificate (PTC) upon completion of the certification examination. Official documents refer to courses awarding the PTC as "preservice" when referring to the instruction of those not yet teaching and as "inservice" when referring to those who are.

This use of the generic title "inservice" causes some confusion with the four short courses given explicitly as inservice training: the Provincial Education Department's Extension Center courses, the Aga Khan sponsored Refresher Training Course (RTC), the Open University's Primary Teacher Orientation Course (PTOC), and the Primary Nonformal Wing of the Ministry of Education's Inservice Training Course.

#### 1. Conventional PTC Program

The conventional program is offered in Government Colleges for Elementary Teachers (GCETs) and in some cases in small units connected to secondary schools to offer training to females in the more remote areas. The program takes 39 weeks to complete (two semesters), six weeks of which are to be devoted to teaching practice (observed as often in the breach as in fact, according to informed Pakistani observers).

The program requires each student to take nine courses. Eight are two-semester courses and one, Health and Physical Education, is offered in the second semester. The first three are general educational theory courses. The remainder are methods courses divided between "theory" and "practice," in which the students learn both the content, i.e., the subject matter itself, and methods for teaching the subject matter. Each semester is to be concluded by a practice teaching period, two weeks at the end of semester one, and four at the end of semester two.

The courses are:

- o Principles of Education and Methods of Teaching;
- o Child Development and Counselling;
- o School Organization and Classroom Management;

- o Language and Methods of Teaching;
- o Mathematics and Methods of Teaching;
- o Science and Methods of Teaching;
- o Social Studies and Methods of Teaching;
- o Islamiyat/Islamic History and Methods of Teaching; and
- o Health and Physical Education.

Students pay Rs. 380 for registration, tuition/course fee, examinations, workshop fee (includes practice teaching), books, and mailing fee.

## 2. Field-Based Teacher Development Program (TDP)

In a joint venture with the Government of Pakistan's Department of Education, the Aga Khan Central Education Board established the field-based teacher training program to reach uncertified teachers in the Gilgit Northern Areas. Trainers with aptitude are selected from local areas and taught how to carry out the course training in the schools of their region. The program is designed as a compensatory and innovative course to change traditional teaching practices by shifting the emphasis from a teacher-centered process to one centered on students, their needs, and their progress.

Though enrollees must study the regular theory sections of the PTC, most of the time is spent in practical classroom teaching. The course is school-based, with ten teachers trained in each school in the program. They are assigned in pairs to the five classes of a primary school whose regular teachers are moved to a neighboring school during the one-year training period. A Master Trainer and Assistant Master Trainer, who have themselves been trained in the newer pedagogy, supervise the ten teacher candidates in daily classroom instruction.

The program basically uses on-the-job training whereby each candidate teaches for one-half of each day while the other observes and acts as a peer trainer. The trainers teach demonstration lessons periodically as well as critique the teachers' performance each day. The teacher trainee pairs change grades each month so that by the end of the program they all have had experience in each of the five grades. The project staff has prepared a set of teacher's manuals and course materials for the non-teaching subjects that are tested in the PTC examination.

To date (March, 1989), the project has trained 180 teachers in its first, experimental stage, including 61 females. Sixty teachers are in training in the current (1988-89) school year. Under an ODA (UK) grant, a TDP has been launched this year in

the Chitral District of NWFP. An external evaluation was completed in mid-1986 and another is planned for September, 1989. Permission has been granted by provincial officials and a formal proposal has been submitted to USAID by the Aga Khan Foundation (October, 1988) to replicate the TDP in the Mansehra District of the NWFP. The adjusted cost of the proposal to train 550 PTC teachers and provide short-term inservice training for an additional 1,500 teachers is approximately \$500 per long-term trainee.

### 3. PTC Distance Teacher Training

Allama Iqbal Open University (AIOU) provides an inservice distance PTC program for untrained teachers. The program allows teachers to continue work while studying in their free time and during holidays. Since 1979, 4,591 men and 557 women have completed the program. The present total enrollment in NWFP is 726 (490 men and 236 women). In Baluchistan the enrollment is smaller, a total of 482 (418 men and 64 women).

For one year (1972) the AIOU distance teacher training program operated a CT program for males. Since then, however, it has concentrated on offering the PTC, focusing on increasing the supply of trained primary school teachers. Consequently the AIOU has not contributed significantly to the supply of middle school teachers.

Largely a correspondence and self-study program, the AIOU PTC program is thus easily expandable. A tutor and two supervisors are provided by the University for each 25 students to correct their completed correspondence lessons and provide other help needed. The 324 hours of self study are augmented by seminars and workshops held at study centers throughout the country. Students also receive three weeks of supervised practice teaching.

Students may also make use of audio cassettes supplied to supplement the written correspondence materials. With assistance from the United Kingdom, selected study centers recently have been improved with the addition of television sets, video cassette recorders, and a basic library of video tape materials.

The AIOU PTC distance training is the least expensive of the three programs. Unfortunately, there are no data available comparing the teaching performance of graduates of the AIOU PTC programs and those of the regular GCET programs. The evaluation of the TDP, however, did report that their graduates performed better as teachers than did graduates of the regular GCETs.

### 4. Inservice Extension Center Courses

Extension centers arrange inservice training of teachers to improve their teaching methods and subject matter knowledge. The courses range from one to four weeks. Teachers are supposed to

receive inservice training every five years, but in practice the majority have never received any training and the rest receive it only sporadically. In NWFP there is a backlog of 36,000 teachers who have not yet received any inservice training. At best, the extension centers can train only 1,000 a year, as currently operated and with their current capacity.

#### 5. Inservice Refresher Training Course

Sponsored by the Aga Khan Central Education Board for the Northern areas, the RTC is a 12-day course conducted once a year. About 200 to 250 trained and untrained teachers take the course which is aimed at improving teaching skills.

#### 6. Inservice Primary Teacher Orientation Course

The PTOC, sponsored by the AIOU, is a six-month course to acquaint teachers with changes in the school curriculum, upgrade their subject matter skills, and improve their teaching methods. One credit toward an Intermediate Certificate is given for completion of the course. The program is carried out in a manner similar to the AIOU preservice distance training through correspondence, tutorials, workshops, and radio broadcasts. By April 1984 over 28,000 teachers, more than a third of those who took the course, had successfully passed.

#### 7. Inservice Learning Modules Course

The Primary and Non-Formal (PNE) Wing of the Ministry of Education conducts an inservice program for teachers working in the World Bank sponsored Primary Education Project (PEP II, III). The training uses a three-tier model: master trainers are trained, who in turn train supervisors, who train the primary school teachers in project areas. The supervisors receive training at the headquarters of the Provincial Implementation Units (PIUs) of the project. The training helps teachers use learning modules, similar to teachers' guides, developed by the PNE to give directions and suggestions to teachers on ways to teach the integrated grades 1-3 classroom textbooks.

#### B. Location and capacity of training institutions in NWFP and Baluchistan

##### 1. North West Frontier Province

##### a. GCET preservice teacher training

There are sixteen teacher training colleges (GCETs) in NWFP. All but one devote the major portion of training to a one-year course leading to the Primary Teaching Certificate (PTC) to teach in grades 1 through 5. Two GCETs train already assigned teachers sent for certification, and one trains middle school (grades 6-8) teachers in the special subjects of agriculture, technical skills, and home economics. Five offer the two year course for

middle school certification (CT). In addition, two GCETs offer a Drawing Master teaching certificate program, though a recent visit to the Kohat school where only a few students were registered in this course raises questions about the official statistics shown in Table 1 below.

The two GCETs designated as "inservice" provide essentially the same PTC and CT courses as those designated preservice. The only difference is that candidates in these GCETs are usually older, are currently (though provisionally) assigned to a specific school, and have teaching experience of varying duration. While in training they continue to receive their regular salaries.

Table 1 shows the present number and capacity of GCETs by gender and certificate program. The annual preservice teacher training capacity for general teaching certificates for grades 1-8 is almost 2,500, and includes about 28 percent women. Of these almost 2,200 are preparing to teach at the primary level.

Only about 8 percent (207) of the total trainees in the province are preparing for teaching assignments at the middle school level. Of this 8 percent, about one-third are women. These data indicate that if schemes to increase primary school enrollment are even moderately successful, and if more children continue to the middle level as expected, there will be a shortage of trained middle school teachers. Since it is essential that more children, especially females, complete this and secondary levels to increase the pool of academically qualified individuals able to enter teaching, it will be important to increase the number of CT trained teachers.

#### b. Other teacher training certificate programs

The previously described AIOU distance program and the field-based TDP currently being replicated in Chitral and proposed for Mansehra are the only alternative certification programs available in NWFP. The current production of PTC trained teachers in the AIOU program in NWFP can easily be expanded to meet the increased need for primary teachers until the seven new GCETs to be constructed under the PED come on stream beginning in 1994. The Aga Khan TDP proposes training 550 teachers for the PTC and that an additional 1,500 receive inservice training.

#### c. Recurrent inservice programs

The NWFP Education Extension Center (EEC) in Abbottabad is responsible for recurrent teacher inservice training. They are hampered perennially by a shortage of staff and inadequate facilities. As a result, they are unable to provide recurrent inservice training to primary teachers, concentrating instead on secondary teachers, headmasters, and headmistress. To fill this gap of little or no recurrent inservice training, the Primary Education Project II (World Bank) inaugurated the Learning Coordinator (LC) Scheme. Five of the fifteen NWFP Districts are

TABLE 1

Teacher Training Institutions Offering Certificates  
in NWFP (1988-89)

Name	Capacity	PTC	CT(G)	CT(AT)	DM	Total
GEC(M) Haripur	265	265	--	--	--	281
GEC(M) Choriwala	130	130	--	--	--	163
GEC(M) Peshawar	210	210	--	--	--	306
GEC(M) Kohat	130	130	--	--	--	136
GEC(M) Mathra	120	120	--	--	--	116
GEC(M) Inservice, Peshawar	182	140	42	--	--	211
GEC(M) D.I.Khan	184	134	50	--	--	203
GEC(M) Barikot	203	160	43	--	--	308
GEC(M) Thana	276	193	--	--	83	286
GATTTC, Peshawar	90	-	--	--		90
GEC(F) Inservice	95	95	--	--	--	141
GEC(F) D.I.Khan	140	140	--	--	--	112
GEC(F) Khawaza Khela	110	110	--	--	--	110
GEC(F) Dargai	143	115	28	--	--	151
GEC(F) Kohat	105	60	--	--	45	113
GEC(F) Dabgari Peshawar	214	170	44	--	--	187
Total:-	2,597	2,172	207	90	128	2,974

PTC Program Teaching Certificate (grades 1 through 5)  
 CT Certificate of teaching (grades 6 through 8)  
 G. General  
 AT Agro-Technical  
 DM Drawing Master

provided LCs. Under the Learning Coordinator Scheme of the project, each teacher was to receive from one to four hours of on-the-job inservice training each month.

## 2. Baluchistan

### a. CEE teacher training

Baluchistan has relabelled the provincial teacher training institutions and they are now called "colleges of elementary education". There are presently six such institutions, five for males and one for females, and three more are planned (two male, one female). Eventually they hope to have one female college in each of their six divisions. None of the present seven institutions function as preservice training institutions, with the one exception of 40 "private" seats for females at the teacher training college of Pishin. All seven provide the PTC as an "inservice" program to persons already employed as teachers, even though completely untrained (see Table 2 following).

The current backlog of untrained teachers is about 8,000. Given the current annual training capacity of 675 males and 80 females, the system as currently configured hardly addresses the problem of providing training for this backlog of uncertified teachers. The AIU distance PTC program is some help, in that it has 482 trainees enrolled, though of these, only 64 are females, for which there is the greatest need.

The proposed three new CEEs will come on stream one per year beginning in 1994. This will increase the "inservice" training capacity of the CEEs by 120 females beginning in 1993, an additional 120 males in 1994, and another 120 males in 1995, for a total of an additional 360 places per year in 1995. Five or six rooms will be added to each of the CEEs and a "satellite" extension center with hostel will be built at each of the existing six CEEs, all of which will offer inservice training.

All of this together will virtually double the current capacity for inservice training, adding additional space for 660 trainees per year. If necessary, capacity can be increased even further by adding additional hostel space as the need arises.

Even without such additions, artful course scheduling, the use of an expanded AIU distance PTC program, and a re-thinking of whether the conventional two semester PTC program might well be modified, may allow Baluchistan to deliver enough PTC training to meet the expanded need. It would be particularly helpful if Learning Coordinators would use the annotated teacher's textbooks to provide on-the-job training, as well. It is still recommended, however, that the plan to have a female CEE in each division not be abandoned and move forward as the increased pool of eligible local females increases enough to warrant construction.

TABLE 2

Present Capacity and Number of Government Colleges of Education\*  
by Gender and Speciality in Baluchistan

<u>Preservice</u>	<u># of Inst.</u>	<u>PTC</u>	<u>CT</u>	<u>CT (Agr)</u>	<u>CT (Tech)</u>	<u>CT (H.Ec)</u>	<u>Drawing</u>	<u>Phys Ed/</u>	<u>Total</u>
Male	0	0	0	0	0	0	0	0	0
Female	0	0	40**	0	0	0	0	0	0
Sub-total	0	0	40**	0	0	0	0	0	0
<u>Inservice</u>									
Male	6	675	0	28	12	0	48	54	
Female	1	80	45	0	0	10	14	10	
Sub-total	7	755	45	28	12	10	62	64	
TOTAL	7	755	85	28(100)	12(100)	10(100)	62(100)	64	

\* All teacher training institutions are now labelled Government Colleges of Elementary Education

\*\* There are preservice women who have applied to become teachers. All other teacher training is for teachers inservice, i.e. they are hired and then trained later when their turn comes up.

### b. Other certification programs

As described above, almost all of the province's teacher training is for teachers who have been on the job for three to eight years. The advantage of this practice to the government is the greater assurance that the trainees will return to teaching. For the trainees, the advantage is that they continue to receive their salary while studying and when they return to teaching they will begin to receive the annual increments paid to trained teachers.

The main disadvantage of using this inservice mode to train teachers is that it is an excessively expensive way to certify teachers and, given the documented deficits of the curriculum, teaching staffs and supervised practice teaching associated with the existing program, it may well not measurably increase the quality of classroom instruction. In addition, the current ratio of only 12 percent female enrollment and the plan to open only one of three new colleges for females does not appear to reflect the GOP priority of increasing girls' enrollment.

### c. Recurrent inservice training

As in the NWFP, the Curriculum Bureau's Education Extension Center is responsible for recurrent inservice training. The Center's target of 20 percent of primary teachers per year receiving inservice has never been approached. Instead, most of the scarce resources of the Center are invested in preparing secondary teachers and school principals. The now almost decade old Learning Coordinator scheme originally was designed to cover this gap.

LCs were assigned to the six districts in the province covered under the PEP II (World Bank) project. With a reasonable case load of 15-20 schools, LCs were to provide each teacher in their schools from 1 to 4 contact hours of inservice training each two or three weeks. The LC element was incorporated into GOP planning as well as donor projects as a strategy to alleviate the overburdened inspectorate system. Studies are both underway and recommended for further assessment of whether this method has been successful and whether it is worth replicating.

### C. Summary of external funding for teacher training

Until recently external funding for primary education in Pakistan has been limited. Between 1975 and 1984, the UNDP financed approximately \$5.0 million for the entire education sector. These projects supported provincial educational administration, the Allama Iqbal Open University (AIOU), the Academy for Educational Planning and Management (AEPAM), and provided limited support for skill training and women's training.

UNICEF has supported primary education in selected districts through its Integrated Services Program. It is about to conclude an agreement with the GOP for a curriculum reform project to upgrade and improve instructional materials produced by the curriculum departments at the federal and provincial levels. Though not specifically focused on teacher training, funding is expected to support the development of materials with explicit instructions for teachers on how to teach textbook units. These materials can form the basis of training for teachers, administrators, supervisors, and managers.

The Asian Development Bank (ADB) is supporting secondary science education, including the establishment of an institute for science education, and is directly working on a primary education \$50 million sector credit for 5 years (1990-95), with a possible phase two loan of an additional \$60 million. This credit would supply girls' primary model schools and female teacher training using upgraded instructional materials.

The European Economic Community (EEC) and the Canadian International Development Agency (CIDA) recently have financed rural and women's vocational training. CIDA and the EEC are co-financing with the World Bank the Primary Education III Project in the Punjab.

ODA (United Kingdom) is supporting AIOU in a distance matriculation program, as well as the Aga Khan FBT program in the Chitral District of the NWFP. Bristol University (UK) has concluded an agreement to provide training, workshops, and seminars for most of the staff of the federal and provincial curriculum departments.

The largest foreign assistance program to date in the education sector to date has been the World Bank. Starting in 1977, the Third Education Project (Cr. 678-PAK), provided US\$15.0 million for the agriculture sector and some primary and teacher training. In 1979, with \$10 million, the Bank started the first of its series of projects (Cr. 892-PAK) with an experimental focus. The Sixth Education Project (Cr. 1602-PAK) of 1985, for SDR 53.0 million, referred to as PEP II, was limited to the Sind, NWFP, and Baluchistan provinces. It supported the development of Learning Coordinators, assistant teachers, inservice teacher training, instructional materials, and school construction.

The most recent third Primary Education Project (Cr. 1821-PAK) for \$160 million (1987-95) was negotiated in March 1988. The major focus is in Punjab, but the project includes national institutions as well. CIDA, UNDP, and the EEC are participating. The project builds upon the lessons learned thus far in the second Primary Education Project, and includes components for preservice and inservice training, action research studies, systemic policy changes, distance education, and the like.

The fourth Primary Education Project will focus on Sind province and will be a sector credit. As of April, 1989, the project is in the preparation stage with a possible starting date of September 1990. The credit is estimated at \$100 million for the period 1990-96.

### III. MAJOR PROGRAM COMPONENTS

#### A. Issues the PED must address

There are three major areas of concern regarding teachers which the PED must address. These relate to constraints on teacher supply, on distribution, and on quality. They can be summarized as follows:

##### 1. Supply

- o limited career options for teachers,
- o low status and low pay of teaching,
- o few women in rural areas who are academically qualified, and
- o norms restricting the employment of women,

##### 2. Distribution

- o urban teachers do not want rural assignments, (because of economic and other disincentives -- the lack of appropriate allowances; difficulty finding safe and adequate housing; problems securing transportation and an inadequate transportation allowance; lack of security; and other personal hardships such as restrictions on opportunities for children, for professional growth, for marriage, etc.)
- o problems with local communities (differences in dress, other norms, etc), and
- o few women in rural areas are academically qualified,

##### 3. Quality

- o large numbers of untrained teachers (especially in Baluchistan),
- o high absenteeism from work,
- o lack of guidance and support structures,

- o poor quality performance in the classroom,
  - use of harsh discipline,
  - instruction by rote,
  - examination system which encourages rote learning,
  - limited facilities and materials,
- o poor quality of training,
  - lack of preparation for conditions in the classroom,
  - lack of preparation in subject content,
  - lack of preparation in methods of teaching, and
  - teacher training staff without any primary experience.

## B. PED components

### 1. Expanding and improving the PTC program

Major expansion is needed in preservice and inservice teacher training capacity in the two provinces over the next decade to meet the demand for additional trained primary-school teachers, to meet middle-school training needs, and to cope with the backlog of untrained teachers. Table 3, following, illustrates the first of these expansion needs -- the annual need for additional trained primary-school teachers in NWFP and Baluchistan. The demand is to supply one trained teacher for each 35 students of the increased enrollment expected in the next decade.

Caution must be used in interpreting Table 3. First, the demand figures are driven by primary-school enrollment projections based on net flow rates. Second, they do not reflect teacher mortality, retirement, or other attrition. Third, the teacher supply figures reflect current training capacity, not necessarily current production, and disregard the likely effects of new construction on capacity, which can be seen in Tables 4 and 5.

Tables 4 and 5 show the additional primary teacher training capacity resulting from PED construction, the continuation of the AIOU's PTC program, the addition of the TDP in Mansehra (NWFP), and the addition of "satellite" Extension Centers in the two provinces. It is labelled primary teacher training capacity based on the assumption that all of it could be used for that purpose, not necessarily that it should or will be. In fact, from Tables 4 and 5, it is clear that both provinces can use some of the capacity to train middle-school teachers and to begin catching up with the backlog of untrained teachers.

The tables do not reflect any assumptions about the size of the pool of candidates eligible to participate in teacher training. Information from teacher trainees, their instructors, and knowledgeable officials indicate there should be no problem in finding enough eligible candidates in NWFP. In Baluchistan, however, there will be a problem, particularly with finding young

TABLE 3

Primary Teacher Supply by Gender from Existing GCETs and  
Additional Demand (1990-1999) to Meet Projections

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<u>NWFP</u>										
Demand*										
M	1,247	1,312	1,381	1,455	1,532	1,614	1,700	1,791	1,886	1,988
F	1,035	1,152	1,286	1,434	1,601	1,787	1,996	2,330	2,492	2,786
Supply										
M	1,482	1,482	1,482	1,482	1,482	1,482	1,482	1,482	1,482	1,482
F	690	690	690	690	690	690	690	690	690	690
Shortfall										
M	--	--	--	--	50	132	218	301	404	506
F	345	462	596	744	911	1,097	1,306	1,640	1,802	2,096
<u>Baluchistan</u>										
Demand*										
M	410	659	723	794	704	952	1,049	1,157	932	1,240
F	204	232	263	300	344	388	443	506	578	660
Supply										
M	675	675	675	675	675	675	675	675	675	675
F	80	80	80	80	80	80	80	80	80	80
Shortfall										
M	--	--	48	119	29	277	374	482	257	565
F	124	152	183	220	261	308	363	426	498	580

\*Demand is based on supplying one teacher for each 35 students.

Table 4

Additional Primary Teacher Training Capacity from Construction of New GCETs, TDP (Aga Khan), and  
AIOU PTC Program in Relation to Shortfall from Existing GCETs, 1990-1999 in NWFP

	1990		1991		1992		1993		1994		1995		1996		1997		1998		1999	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Short fall (Existing GCETs from Table 3)	-	345	-	462	-	596	-	744	50	911	132	1097	218	1306	309	1640	404	1802	506	2096
Supply																				
New GCETs*	-	-	-	-	-	-	-	120	-	240	-	360	-	480	-	600	-	720	-	840
Satellites	-	-	-	-	-	-	-	-	-	100	-	200	-	300	-	400	-	500	-	600
TDP (Aga Khan** Foundation)	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
AIOU PTC ***	<u>470</u>	<u>236</u>	<u>490</u>	<u>236</u>	<u>490</u>	<u>236</u>	<u>490</u>	<u>236</u>	<u>490</u>	<u>236</u>	<u>490</u>	<u>236</u>								
Sub-Totals																				
Supply	<u>745</u>	<u>511</u>	<u>765</u>	<u>511</u>	<u>765</u>	<u>511</u>	<u>765</u>	<u>631</u>	<u>765</u>	<u>851</u>	<u>765</u>	<u>1071</u>	<u>765</u>	<u>1016</u>	<u>765</u>	<u>1511</u>	<u>765</u>	<u>1731</u>	<u>765</u>	<u>1951</u>
Difference (between shortfall & supply	+765	+166	+765	+49	+765	(85)	+765	(113)	+715	(60)	+633	(26)	+547	290	+456	(129)	+361	(71)	+259	(145)

\*Assumes only three classes of 40 in each and one-year training.

\*\*Should be evaluated after 5th year. Could be expanded. Assumes an equal number of males and females in training.

\*\*\*Projected at 1985-89 enrollment. Program is easily expandable.

Table 5

Additional Primary Teacher Training Capacity from Construction of New GCETs (CEEs) and AIOU  
PTC Program in Relation to Shortfall from Existing CEEs, 1990-1999 in Baluchistan

	1990		1991		1992		1993		1994		1995		1996		1997		1998		1999	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Short fall (Existing CEEs from Table 3)	-	124	-	152	48	183	119	220	29	261	277	308	374	363	482	426	257	498	565	580
Supply																				
New CEEs*	-	-	-	-	-	-	-	120	120	120	240	120	240	120	240	120	240	120	240	120
Satellites**	-	-	-	-	-	-	-	-	-	100	-	200	100	200	200	200	300	200	400	200
AIOU PTC***	418	64	418	64	418	64	418	64	418	64	418	64	418	64	418	64	418	64	418	64
Sub-Totals (supply)	448	64	418	64	418	64	418	184	638	284	658	384	758	384	858	384	958	384	1058	384
Difference (between shortfall & supply)	+418	(60)	+418	(88)	+370	(119)	+299	(36)	+609	(23)	+381	+76	+450	+21	+376	(42)	+701	(114)	+493	(196)

\*Assumes only three classes of 40 in each. One new female CEE and two new male CEE's.

\*\*These are Extension Centers built as satellites to CEEs. Assumes they are used for PTC training only, four students per hostel room.

\*\*\*Projected at current enrollment, 1988-89. Can be expanded easily.

matric-level women who are willing and able to teach in small, remote, and rural village schools. (see section I. C., Recommendation 1. a through i).

Tables 4 and 5 are first-order approximations to be refined later, when more valid and reliable data are available, and after consultation with officials in the two provinces. They suggest the variety of ways that the available capacity can be used. The assumptions on which the figures are based are listed in their footnotes. Obviously a change in those will change the overall results. Details on the capacity of the PED new construction and a suggested construction schedule can be found in the Working Paper on Construction.

The present dual system of separate preservice and inservice training is wasteful of resources and staff and it is therefore suggested that eventually the two types of training be combined in a single facility. It is recommended that PED resources be used to construct eight new GCETs for females (7 in NWFP and 1 in Baluchistan). It might also be possible to designate that all three of the new facilities in Baluchistan be used for training female teachers. With the current GCETs there will then be available one GCET for females in each of the districts of NWFP and eventually one at each division level in Baluchistan.

To improve the quality of preservice training, technical assistance should be provided to help in:

- o developing practical materials-related instruction, using as a basis the annotated teacher's editions of the textbooks developed in conjunction with the curriculum components of the PED;
- o revising the curriculum to include courses in how to teach multigrade, large and small classes, and in other context specific conditions;
- o improving courses in child growth and development with guidelines for screening children with special handicaps (physical, mental, emotional);
- o adding more rural specific content about personal health and hygiene;
- o increasing the duration of supervised practice teaching; and
- o providing practical experience in teacher, parent, and community relations.

The approximately 250 current and additional GCET staff should be provided specialized training in the above topics as well as a

course in the training of primary education trainers. Their training should incorporate orientation into the conditions of primary level teaching in the classroom.

If economy and cost effectiveness are to be given due consideration, the institutional (GCET) teacher training programs eventually should be reserved mainly for teacher candidates without previous teaching experience, thus increasing the efficiency of the Government's investment in facilities and staff (teachers will not be withdrawn from the classroom while continuing to receive their salaries as now occurs in Baluchistan).

Teacher Resource Centers can be provided at each GCET for the use of preservice students, those taking part in on-the-job and distance education programs, and for recurrent inservice training students. Preservice teacher training should be supported with a limited civil works program, (see the construction working paper), in which an educational facilities plan will determine the potential teacher output of the improved and expanded GCET program.

At the initiation of the GOP and with concomitant agreements, U.S. Peace Corps volunteers can be assigned to GCETs for specialized teaching assignments in special education English language training, or other roles to be determined. Preservice teacher training could be supported under the program by the supply of furniture, equipment, books, expert services, fellowships, consumable materials, and operational and maintenance funds.

## 2. Training of uncertified teachers

Untrained teachers in service could have three possible ways to obtain PTC certification:

- o The field-based experimental project in Mansehra and Chitral districts of NWFP,
- o AIOU distance training courses, and
- o An "inservice" program which will be developed for the summer holiday period at the GCETs.

An agreement could be negotiated with the Aga Khan Educational Services to train uncertified teachers in the Mansehra District. The TDP system developed by AKES for the Northern FATA will need to be further adapted to meet NWFP specific conditions. In addition to culture specific NWFP adaptations for manuals, language, and the like, the TDP should add a multigrade teaching unit and practice to their course.

At the end of a five-year trial period, teacher performance should be analyzed and cost effectiveness decisions made about

whether to expand the TDP to the rest of NWFP and to Baluchistan. Consideration should also then be given to whether to incorporate the system into the mainline teacher training system.

PED funds could well be used to support the expansion of AIOU distance education programs for both the PTC and CT. Except in Mansehra and Chitral Districts of NWFP where the TDP program will be functioning and for those choosing the holiday accreditation courses in the GCETs, all uncertified teachers could be trained under the AIOU program while continuing on the job. The present distance education program could be improved in the following ways:

- o curriculum manuals and teacher guides could be improved and replaced by the annotated teacher's editions consistent with the on-going curriculum reform movement;
- o practice teaching could be increased to twelve weeks;
- o tutor/student ratios could be reduced;
- o peer teaching could be increased; and
- o lessons could be broadened to include the introduction of micro-teaching, multi-grade teaching, and units on teacher, parent, community participation.

The existing network of AIOU Learning Resource Centers could be utilized and upgraded consistent with their Model Learning Resource Center scheme. Additionally, the Teacher Resource Centers provided for GCETs should be utilized for tutorials, supervised peer teaching, and allied activities as appropriate.

The third scheme for inservice PTC certification is a program implemented through the GCETs during the summer times or during holiday break. Courses can be given then with credit toward a PTC certificate; depending on the length of the courses and after covering a required content, teachers could accumulate enough credits in a period of two to four years to receive the certificate.

Suggestions that the teacher training course be lengthened to two or three years should not be implemented until it is clear that teacher supply is sufficient to staff the necessary large scale expansion in primary education. There could also be some assurance that a lengthened program leads directly to improvements in learning, an outcome that is by no means assured. An alternative proposal might better be raising the academic qualifications of teachers (when it is clear that this will not reduce the number of teachers available to a critical level).

### 3. Increasing the candidate pool for preservice training

The number of individuals qualified (with matric or tenth grade completion) to enter the teaching force is very low, especially in Baluchistan. To increase their numbers over the long term requires an investment in programs for middle and secondary school certification and the time to wait the three to five years required before students graduate.

A somewhat shorter time could be required in the short term by utilizing AIOU programs to identify and bring remote rural village women to the appropriate qualification level in areas where it is difficult to find matriculate candidates for teaching. For these women, a program could be developed using the appropriate mix of the following:

- o a distance middle school degree program,
- o a distance secondary school degree (matric) program, and
- o a distance PTC program, either inservice or preservice,

If funding were available AIOU has plans to establish a middle school certificate program for women in rural areas where there are few matric level enrollments. Participants from 13 to 35 years of age will be accepted into the program if they can demonstrate acceptable levels of literacy. The method is based on the AIOU correspondence system where students receive materials through the mail, each is assigned a female tutor, and sessions are held in a conveniently located study center such as a primary school. Students submit assignments to tutors and are evaluated on the basis of these assignments and a final exam. A total of eight credits must be passed to complete the degree.

The AIOU middle school program is a logical extension of an earlier functional literacy program established to help women to achieve basic literacy and even primary level certificates. The methodology is therefore well-worked out and proven. The implementors have shown a great deal of concern for working out the details and personally supervising each element in the program. This should be an advantage in trying to tailor the course to the varied needs of the recipients.

AIOU sponsors a similar program for the secondary matric degree (tenth grade). This program is sponsored by the Woman's Division of the GOP and funded by the Netherlands Government. It is moving into its third phase with new centers opening in NWFP and Baluchistan. Course materials have been developed which are both functional and academic. Compulsory courses (for 5 1/2 credits) include Urdu, English, Math, Science, Islamiyat, and Pakistan studies. Elective studies include home economics, agricultural education, health education, vocational training, and teaching.

#### 4. Recurrent inservice training

Three strategies could effectively be used to systemize and improve recurrent inservice training. The first involves improving regular inservice training courses which will be conducted in GCETs, during the holidays for teachers and throughout the school year for administrators and supervisors. Short courses could be developed based on the explicit teaching materials and annotated teacher's editions produced with PED resources in the curriculum component. An effort could be made to design the courses so that they reinforce each other: so teachers know how to teach the materials, supervisors know how to support teachers using the materials, and administrators know how to manage the use of the materials.

The second strategy could be to develop an improved system of recruiting, training, and posting of LCs. Under this new system LCs could be connected with GCETs as assistant trainers in the inservice courses. They could follow up with teachers and headteachers or principals to provide continuous on-the-job inservice training. In addition, they could conduct demonstration lessons and after-school seminars with teachers. Each LC could be assigned no more than 15 primary schools or less, depending upon geography, so that each school can be visited once every three or four weeks. Each teacher, therefore, could receive from one to four contact hours of guidance during each visitation session.

Special agreements can be enacted precluding these LCs from becoming "mini-inspectors." However, as part of their duties they should monitor the progress of schools in their region to assess where extra support may be needed.

The third strategy recommended is to assign explicit authority and responsibility to school heads to assume an instructional leadership role in their schools, similar to the model used in the AKES Kharadar Primary School in Karachi. As noted above, special training for school head teachers or principals can and should be provided at the Learning Resource Centers associated with GCETs. This training can be scheduled during vacation periods so that hostels will be available.

Selected GCET staff as well as elementary education faculty from IERs could receive specialized training for this task. The program should also be supported with equipment, books, training materials, expert services, fellowships, and operational and maintenance funds, including stipends and honoraria for trainees and trainers. As teaching staff expands and there is more flexibility in the teaching force, the educational system could work toward recognizing the special role of principals. Their teaching responsibilities should be reduced to give them time for instructional leadership functions.

## 5. Research and development

A number of studies are required to give teacher training a better empirical grounding in actual conditions existing in the local schools. Several of the proposed PED activities are also experimental and require careful assessment of whether they produce the kind of impact expected. Phase 1 (years 1-3) should include a series of studies that will contribute both to the reforms recommended and to the evaluation of their impact upon the system. These studies can be undertaken by special agreement with IERs in the form of performance contracts. The studies could be coordinated by appropriate program staff.

The recommended schedule for the studies is:

Year 1: Studies One, Two, Three, Five, Eight

Year 2: Studies Six and Seven

Year 3-6: Study Four

### Studies Needed:

Study 1: An educational facilities/capacity survey for GCETs, including both the additional ones planned in NWFP and Baluchistan and the proposed improvements/expansions of existing institutions.

Study 2: A teacher training output projection by year that incorporates the findings of study one and forecasts the need for and expected supply of trained teachers. Assuming that teacher output is a constant after GCET expansion, the modular teacher certificate programs of the AIOU and the AKES can be expanded or reduced to balance demand/supply projections. A teacher attrition sub-study by gender and geographic area could be utilized and the criteria affecting improved teacher service factored into the teacher supply/demand formula.

Study 3: Analysis of teacher performance requirements matched to teacher certificate programs (GCET, AIOU, TDP) as judged by pupil performance measures. Included in this study would be an inventory of minimum content mastery and exemplary teaching practices.

Study 4: An evaluation of teacher training reform measures relative to pupil achievement, including multigrade teaching, screening for special education pupils, personal health and hygiene, increased student teaching, and extension of the GCET school year. Analysis of the preliminary data resulting from the Sind pupil nutrition program and, if replicated in the Baluchistan and NWFP provinces, a unit on school-based nutrition programs to be included in teacher teaching curriculum.

Study 5: A design for a teacher incentives and career development scheme, with built-in evaluation related to performance and attrition.

Study 6: Analysis of teacher supply effects of age restriction removal for entry and re-entry; include results in Study 2 of teacher demand and supply formula follow up.

Study 7: A study of present PTC and CT examinations related to desirable teacher content mastery and teaching practices (from Study 3). Reform examinations as appropriate.

Study 8: A tracer study of PTC and CT certified teachers to determine their entry into and longevity in the system.

## 6. Technical assistance

### a. Long-Term

Technical assistance for teacher training could be carried out by three bi-national teams, each consisting of one US and one Pakistani Teacher Trainer. Pakistani technical assistance will be recruited from IERs, Government, and private sector and will be provided initial two year contracts (or secondment agreement if from GOP government entities). The US and Pakistani teams will act as colleagues and as full partners. There could be one male and two female teams.

One female and one male team should be assigned to the eighteen preservice GCETs, one to each province. The Baluchistan team will have fewer GCETs with whom to advise and can assist in the NWFP as the workload dictates. The remaining team (female) will be responsible for all Certificate, OJT, and recurrent inservice technical assistance in both provinces.

The job qualifications for all the team members essentially should be the same: direct primary and middle-school teaching experience; professional responsibility for the design and implementation of teacher education programs, including curriculum design to increase achievement through increasing teacher competencies; supervision and management of teacher education and certification programs; rural education; experience in "emergency" teacher certificate programs; previous experience developing country education programs desirable, but the bi-national team approach may balance this factor more in favor of proven professional competence. Total technical assistance recommended is six persons for four years, or 24 person/years with additional technical assistance contingent upon on-line agencies meeting program objectives.

### b. Short-Term

A technical assistant to help with the evaluation of the teacher training certification program should be an advisor to the IERs

undertaking the research studies related to teacher training reforms, programs, teacher competence, and pupil achievement. This technical assistant should be at post for two months during years one, two, and three. The principal qualification for this person is extended design and research experience with teacher training program evaluation. A total of five person/years is recommended.

A technical assistant for educational technology should be posted at AIOU with the principal responsibility of assisting the AIOU video production team, in collaboration with their teacher educators, in the planning, design, and production of the visual data base of exemplary teaching practices. After "story boarding," there will be extensive travel in the two provinces with the production team to assure that representative single concept teaching segments are obtained from the wide variety of school structures (including shelterless schools).

This person should be at post for three months during year one, and three months during year two. One month during this short-term TA's five-year commitment might be to provide training for critical members of the AIOU's video production team at a sophisticated video education facility at the TA's home institution.

A teacher training curriculum expert will be needed for three months per year for years one, two, and three. This person may well also serve as a short-term TA for the curriculum and instructional materials component.

#### IV. ACTION PLAN

Year One:

- o Plan for, design, and contract with an IER or other suitable organization for research and development studies:

Study One:

An educational facilities/capacity survey for GEETs;

Study Two:

Teacher training output projection by year;

Study Three:

An analysis of teacher performance requirement;

Study Five:

A design for a teacher incentives and career development plan; and

**Study Eight:**

A tracer study of PTC and CT certified teachers.

(See B. PED Components, 5. Research and Development)

- o Meet with appropriate officials in the NWFP, in Baluchistan, with the Program committee, and with other relevant MOE officials to hold policy dialogues and get policy statements enacted that are needed to effect changes listed in the recommendations section of this paper.

(See I. OVERVIEW, C. Recommendations, i.e. through 5)

- o Plan for, design, and conduct a school census and survey of female students, grades 5 through 10, to determine probable size of present and future pool of potential female candidates for teacher training in Baluchistan and NWFP.
- o Assess private sector inservice training opportunities.
- o Assess private sector pre-service training courses; identify those useful to PED.
- o Begin study to improve GCET curriculum and training materials,

(see I. OVERVIEW. C. Recommendations 3. a.)

- o Begin development of specialized training program for admission and supervision, (see Recommendation 3. e.)
- o Fund the Aga Khan TDP replication in Manshera District, NWFP.
- o Fund the development of the AIOU middle-level degree program in Baluchistan (See Recommendation 1. d.) .
- o Plan for and begin recruiting teachers for Baluchistan from other provinces.
- o Fund the further development of the AIOU matric program for Baluchistan 8+ females who will commit to entering teaching.
- o Plan for and begin a program to place more women into the AIOU PTC program in Baluchistan and NWFP. It is particularly important to begin catching up with the back log of untrained teachers serving in both provinces.

- o Based on policy dialogues and subsequent policy and procedural changes; results of research and development studies one and two; school census/survey of female students; and preliminary success at recruiting appropriate teachers from other provinces to teach in Baluchistan, complete a master teacher training plan for each province.

Year Two:

- o Plan for, design, and contract for research and development studies:
  - Study Six:  
Analysis of teacher supply effects from removing age restrictions for entry and re-entry to teaching.
  - Study Seven:  
Study of present PTC and CT examinations. (See Research and Development Studies Needed).
- o Begin evaluation (with ADB program, if funded) of learning modules.
- o Complete policy dialogues, press for changes not completed in Year One, and for procedural changes based on policy changes adopted in Year One.
- o Begin assessing present cluster hostel experiment and feed information into construction plan.
- o Modify construction plan as needed from results of R & D studies one, two, and female student census/survey.
- o Begin assessment of Aga Khan TDP program.
- o Complete teacher career development/incentive plan from results of R & D study five.
- o Refine and complete GCET curriculum and training materials design and development based on results of R & D study three.
- o Refine and up-date master teacher training plan for the two provinces.
- o Continue AIOU middle level and matric programs in Baluchistan, expand as possible.

Year Three:

- o Begin R & D study four: An evaluation of teacher training reform measures.

- o Use results of R & D study six to refine master teacher training plans.
- o Use results of R & D study seven to refine teacher training GCET curriculum and materials development activities.
- o Use results of R & D study seven to re-design, develop, test, revise, and standardize examinations for PTC and CT - with emphasis on adding competency measures.
- o Follow up on policy dialogue/changes/and necessary follow-on changes in procedures in the two provinces.
- o Continue AIOU middle-level and matric program in Baluchistan, expand as possible.
- o Continue all formative evaluation activities (i.e. TDP, learning modules, cluster hostel program, teacher recruitment program for Baluchistan from other provinces, etc.)
- o Begin re-design of Learning Coordinator Program,  
(See Recommendation 5.d.)
- o Complete materials development (with materials and instruction component) of teacher training curriculum and other materials, integrating results of evaluation of learning modules.

V. BUDGET (US \$ millions)

ITEM	Years										Total	
	1	2	3	4	5	6	7	8	9	10		
<b>2. Teacher Training and Supply</b>												
2.1. Inservice (AIOU)	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
2.2. Inservice (Private)-Assess	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.025
2.3. Preservice (GCET)-Upgrade	0.100	0.100	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.450	8.800
2.4. Preservice (Other)	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030
2.5. Rural Teacher Incentives	0.125	0.125	0.125	0.125	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
2.6. Scholarships for females	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	2.500
2.7. W-B Modules- Integrate	0.050	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.075
2.8. Commodities Support	0.300	0.300	0.300	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.600
Sub-total	1.105	1.055	1.380	1.160	1.055	1.055	1.055	1.055	1.055	1.055	1.055	11.050

Budget notes

2.1. Inservice (AIOU)	2.1 Train 3,000 teachers/year at \$75/each for 10 years
2.2. Inservice (Private)-Assess	2.2 Staff support at \$25,000 for year 1
2.3. Preservice (GCET) -Upgrade	2.3 Upgrade costs of \$109,000/year for 2 years; train 3,000 teachers/at \$150/each for years 5/10
2.4. Preservice (Other)	2.4 Upgrade costs of \$ 50,000/yr for 2 yrs; train 200 teachers/yr at \$150 each for 8 yrs
2.5. Rural Teacher Incentives	2.5 Trial program with 100 teachers, at \$1,250/yr. each teacher for 4 years
2.6. Scholarships for Females	2.6 Teacher training and middle school scholarships for 5,000 female students at average \$50/student/year
2.7. W-B Modules- Integrate	2.7 Support costs of \$50,000 for yr. and \$25,000 for yr. 2
2.8. Commodities Support	2.8 Support costs of \$500,000/yr for yrs 1-3 (GCET) equipment, res.(enters) and \$100,000/yr for yrs 4-10

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