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Report No. 905b-PAK

The Islamic Republic of Pakistan Appraisal of a Third Education Project

January 11, 1977

Education Projects Division
East Asia and Pacific Region

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CURRENCY EQUIVALENT

Currency Unit	=	Pakistan Rupee (PR)
US\$1	=	PRs 9.90
PR 1	=	US\$0.101
PRs 1,000	=	US\$101
PRs 1,000,000	=	US\$101,000

MEASURES

1 m	=	3.28 ft
1 m ²	=	10.76 sq ft
1 km ²	=	0.39 sq mi
1 hectare	=	2.47 acres

FISCAL YEAR

July 1 -- June 30

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PAKISTAN

BASIC DATA

General (1975)

Area	803,900 km ²
Population (1974 Mid-Year Estimate)	69 m
Annual Growth Rate	3%
Rural Population as % of Total	75%
Engaged in Agriculture as % of Total Labor Force	60%
Adult Literacy Rate	22%
GNP/Capita	US\$137

Enrollment (thousands) 1/

Primary School Stage (Grades 1-5)	5,093	
As % of 5-9 year age group		49%
Middle School Stage (Grades 6-8)	1,176	
As % of 10-12 year age group		21%
High School Stage (Grades 9-10)	417	
As % of 13-14 year age group		12%
Secondary Vocational Schools	40	
Arts and Science Colleges (1972/73)	200	
Professional Colleges (1972/73)	38	
Universities (1972/73)	22	

Public Expenditures on Education (1974/75)

As % of the Total Government Expenditure	6.2%
As % of GNP	1.6%
Per Capita	US\$2.30

1/ Data apply to 1975/76 and are estimated. Overage students are included.

Source: Draft Fifth Five Year Plan (1976-81) supplemented by Pakistan Education Statistics 1947-48 to 1972-73.

GLOSSARY

ABES	-	Adult Basic Education Society
ATI	-	Agricultural Training Institute
FME	-	Federal Ministry of Education
ICB	-	International Competitive Bidding
IRDP	-	Integrated Rural Development Program
LAU	-	Lyallpur Agricultural University
NWFP	-	North-West Frontier Province
PBC	-	Pakistan Broadcasting Corporation
PDE	-	Provincial Department of Education
PTV	-	Pakistan Television Corporation
SAU	-	Sind Agricultural University
TTI	-	Teacher Training Institute

PAKISTAN

APPRAISAL OF A THIRD EDUCATION PROJECT

SUMMARY AND CONCLUSIONS

i. This report covers the appraisal of the third education project in Pakistan for which an IDA Credit of US\$15.0 million is proposed. Two other education projects are being assisted under Credits 50-PAK (1964) and 206-PAK (1970) amounting to US\$8.5 million and US\$4.0 million, respectively. The first project aims at improving post-secondary polytechnic training and university agricultural education at Lyallpur Agricultural University (LAU). Project implementation has been seriously delayed, but the project was completed in June 1976. The quality of education has improved substantially at LAU during the project period and the manpower requirements of the Punjab Province are being satisfied. Facilities constructed under the second project, which relocates and expands the Government Engineering College in Karachi, were partly occupied in early 1976.

ii. Agriculture, which accounts for 60% of the labor force, grew in output by only 1% per annum between 1970-75. Weak agricultural extension services, among other factors, limited the spread of new agricultural technology and better farming practices. The Integrated Rural Development Program (IRDP), launched in 1972, is attempting to stimulate broad rural development through organization of cooperatives, better supplies of agricultural inputs, and provision of technical advice on farming. The expansion and effectiveness of the IRDP, however, has been limited partly by lack of persons with appropriate agricultural skills. An increased supply of qualified agricultural personnel is an important requirement for expansion of the IRDP and improvements in agricultural productivity.

iii. Despite recent substantial gains in expanding enrollments, education in Pakistan suffers from several basic deficiencies: (a) Educational opportunities are unequally distributed, particularly for females and in rural areas; (b) Training of agricultural technicians and professionals is both quantitatively and qualitatively inadequate; (c) Education is not practically oriented; (d) Expenditures on education have been exceptionally low; and (e) Available resources have not been used efficiently, as evidenced by high dropout rates. During the period, 1976-81, the Government plans to overcome many of these weaknesses, but staffing and financial constraints may impede the achievement of these plans.

iv. The proposed third education project is designed to help overcome some of these weaknesses. It is comprised of two parts, basic education and agricultural education, that seek to:

- (a) Increase the supply of qualified primary and middle school teachers, particularly for girls' schools and for rural areas; and

- (b) Improve the quality and output of trained personnel for agricultural and rural development.

v. Specifically, the project would include the following:

	<u>Grades</u>	<u>No. of Additional Student Places</u>
<u>Basic Education</u>		
(a) Teacher Training Institutes	11 or 13	2,200
(b) Experiment on Adult Functional Literacy	-	-
<u>Agricultural and Rural Education</u>		
(a) Agricultural Training Institutes		
Pre-Service Training	11-12	680
In-Service Training	-	180
Farmer Training	-	180
(b) Sind Agricultural University	16	120
<u>Preinvestment Studies</u>		
	-	-

vi. The proposed teacher training institutes (TTIs) would annually produce 2,200 additional primary and middle school teachers. By 1985 this would allow an additional enrollment of three million children in primary and middle schools. The assistance to agricultural training institutes would help to: (a) improve the curriculum and make it more practically oriented; (b) expand the annual output of middle-level agricultural and livestock workers from 250 to 640; (c) provide in-service training to about 1,800 extension workers in both areas annually; and (d) train 7,200 farmer leaders each year. The parallel training of both types of workers in a common institution would use better both staff and physical resources. The proposed investment in Sind Agricultural University would provide the University with a phased master plan for institutional development and would strengthen the currently weak preparation of university graduates to serve the Sind Province and the less developed regions of Baluchistan and Azad Kashmir. The proposed experiment on adult functional literacy program, and preinvestment studies on irrigation and water management, middle-level agricultural manpower, and female teachers would provide a basis for improving training in those subjects and for further investments in priority areas.

vii. The total project is estimated at US\$27.2 million, with a foreign exchange component of US\$11.1 million, or 41% of the total. The proposed IDA Credit of US\$15.0 million would finance the foreign exchange component and 24% of local costs.

viii. The proposed project would be administered by a project unit in collaboration with various provincial line departments. The Public Works Departments and private consulting firms would design and supervise civil works. Consulting architects have been selected, sketch plans substantially completed, preliminary equipment lists prepared, and most sites acquired. It is proposed that costs incurred for professional architectural services between April 1976 and signing of the Agreement be eligible for retroactive financing up to US\$40,000 equivalent.

ix. Contracts for civil works would be awarded on the basis of competitive bidding advertised locally in accordance with Government procurement procedures satisfactory to the Association. Foreign firms would be allowed to participate. Equipment and furniture contracts exceeding US\$50,000 would be awarded on the basis of international competitive bidding (ICB) in accordance with Bank Group Guidelines. Domestic manufacturers participating in ICB would be allowed a preferential margin of 15% over competing imports. Contracts for equipment and furniture that cannot reasonably be grouped in packages of at least US\$50,000 could be awarded without prior IDA approval on the basis of competitive bidding advertised locally in accordance with procedures acceptable to the Association. Books would be procured in accordance with standard Government procedures acceptable to the Association.

x. Subject to the conditions outlined in Chapter VII of this report, the proposed project provides a suitable basis for an IDA Credit of US\$15.0 million to the Government of Pakistan on standard IDA terms.

PAKISTAN

APPRAISAL OF A THIRD EDUCATION PROJECT

I. INTRODUCTION

1.01 In 1964, the Bank Group made its first credit for education to Pakistan (Credit 50-PAK) to improve and expand technical and agricultural education. The US\$8.5 million credit financed technical assistance for training technical teachers, equipment for six polytechnic institutes, and physical facilities and professional services for Lyallpur Agricultural University. The project was completed on December 31, 1976, eight years behind schedule mainly because of exceptional calamities (war, flood, and drought), weak project management, and more recently, price escalation (more than 20% annually). The project has substantially increased the proportion of trained technical staff and been successful in graduating high-level agricultural manpower required for the Punjab Province. A second credit for US\$4.0 million was made in 1970 to relocate the NED Government Engineering College, Karachi. The new facilities have been in partial use since early 1976 and are expected to be completed six months after the Closing Date, December 1976. Full implementation of the technical assistance program would bring the project to completion in December 1978. These projects are described in further detail in Appendix I.

1.02 This report presents the findings of an appraisal mission 1/ that visited Pakistan during April/May 1975 and a follow-up mission in August/September 1976, that appraised the third education project proposal consisting of: (a) pre-service education of primary and middle school teachers; (b) agricultural and rural education; (c) adult functional literacy experiment; (d) in-service education of teachers; and (e) educational equipment services. The project was prepared with UNESCO assistance. In-service education to teachers and educational equipment services were deleted during appraisal because of insufficient readiness and availability of assistance from other sources. Preinvestment studies were added to the proposed project on irrigation and water management, middle-level agricultural manpower, and female teachers, to provide a basis for future investments.

II. RURAL DEVELOPMENT AND MANPOWER NEEDS

Socio-Economic Background

2.01 Pakistan is divided administratively into four Provinces - the Punjab, Sind, Northwest Frontier, and Baluchistan - plus the State of Azad

1/ Messrs. M.H. You (economist), A. Stam (architect), O. Bergman (general educator) and W. van der Wal (agricultural educator, consultant). Messrs. S. Futagami (mass media specialist) and S. Sigurdsson (architect) joined the mission during the final ten days.

Kashmir and several centrally administered tribal areas located in the North-west. Some 40 million Punjabis constitute the majority in a population of 69 million. About 75% live in rural areas. Communication and education 1/ are complicated by language differences: Only 9% of the population speak Urdu, the national language, but Punjabi and Sindhi are spoken by 65% and 11%, respectively; the remaining 15% of the population communicate in more than ten other languages. Adult literacy is estimated at 22% (30% for males and 10% for females), one of the lowest rates in the world (Comparative Education Indicators). The Federal and Provincial Governments recognize that the high rate of illiteracy in the rural areas impedes its efforts to teach modern agricultural techniques.

2.02 Pakistan faces difficult development problems. GNP growth, adjusted for population growth (about 3% per annum), averaged only about 0.3% per capita annually (at 1972 market prices) during 1970-75. Income is unequally distributed among population groups. Only 8% of the total income is shared by the lowest quintile, compared with 42% for the highest quintile. The agricultural sector continues to dominate the economy, employing nearly 60% of the labor force and contributing 36% of the 1974 GNP (measured at factor cost). During 1970-75, agricultural production increased only about 1% per annum. Sustained improvement of agricultural production will require a more effective extension service.

2.03 The Bank's Agricultural Sector Survey Mission which visited Pakistan in March/April 1975, identified weaknesses in the existing extension network. Coordination was weak among different agricultural services, and agents had not been adequately trained in the technical aspects and practical problems of irrigated agriculture and water management systems, although irrigation should be the core of the agricultural development of the country. Agents were trained either in crops or animal husbandry and, therefore, were not fully able to serve farmers who traditionally practice mixed farming.

Rural Development Program and Manpower Requirements

2.04 The purpose of the Integrated Rural Development Program (IRDP) (Appendix II), launched in 1972, is to provide the various services required to increase agricultural productivity and stimulate broad rural development. The main instrument to achieve these objectives is the markaz 2/, which operates through interagency coordination and local participation. The markaz provides facilities, such as the services of government departments, supply of inputs, credit, machinery workshops, storage, marketing, health, and education, to between 50 and 100 rural villages. All the provinces have adapted the objectives and instruments of the IRDP to their specific priorities and needs. The establishment of the markaz has been slow in most areas

1/ Primary level education is generally conducted in the local language; Urdu is used at the secondary level, and English is generally used at higher level.

2/ Markaz (plural marakaz) means center or central place.

of the country; only 130 marakaz have been organized up to June 1976 (many are still understaffed) compared with the Government draft plan to establish 500 and 700 marakaz by 1981 and 1984, respectively. According to the IRDP, each markaz would need roughly 18 professionals trained in agriculture or related areas and 225 subprofessionals, (including 50 agricultural field assistants, 10 livestock assistants, and 100 village-level adult literacy instructors) to implement rural development activities. It is unlikely that such staff requirements could be fully met. Since the mobility of skilled manpower among provinces is limited, larger provinces develop their own training programs to meet their specific manpower requirements.

2.05 The assessment of the 1981 manpower requirements for agriculturalists based on planned IRDP expansion (500 marakaz by 1981), which considers the 1976 stock, the 2% attrition per year, and additional supply between 1976-81, shows the following (see Annex 1 for details):

<u>Province</u> ^{/a}	<u>Deficit (-)/Surplus (+) in thousands</u>		
	<u>Professionals</u>	<u>Field Assistants</u>	
		<u>Agriculture</u>	<u>Livestock</u>
Punjab	+1.3	-7.8	-0.4
Sind	-0.5 ^{/b}	-4.2	-0.6
N.W.F.P.	n.a.	-4.5	n.a.
Baluchistan	n.a.	-1.0	n.a.
Other	n.a.	n.a.	n.a.

/a Requirements for education, research, and private sector are not included.

/b Includes Baluchistan and Azad Kashmir whose source of recruitment of professionals is Sind Province.

The cost implications of training and posting such a large number of rural development personnel are significant. An allocation of PRs. 1,540 million has been proposed by the Planning Commission of Pakistan (Draft Development Perspective, 1976-81). This planned fund allocation would be adequate to carry out the program, but it is doubtful that the planned allocation can be realized because of overall budget constraints. Moreover, the planned expansion of the IRDP may not be feasible because of difficulties in formulating specific operational programs and achieving interdepartmental coordination.

III. EDUCATION SECTOR^{1/}

Structure and Characteristics

3.01 The general education system consists of the following levels: primary (grades 1-5), middle (grades 6-8), high (grades 9-10), intermediate (colleges, grades 11-12) and degree (colleges and universities, grades 13-14 plus) (Chart 1). The Ministry of Education is responsible for all education and training except for the universities, which are semiautonomous, and certain vocational and professional programs, which are run by Agriculture and Health Ministries to train present and future employees. The Provincial Governments share administrative responsibilities with the Federal Government. The Provinces administer schools and supply operating budgets, and the Federal Government provides development finance, policy formulation, and coordination.

Summary Evaluation

3.02 Pakistan has made great strides in the expansion of enrollments, but the following problems remain:

- (a) Education is less developed for females and in rural areas. The grade 1 enrollment ratio averages 99% for males and 47% for females but is below 10% for females in several areas in Baluchistan. Disparities are equally great at the secondary level;
- (b) Too little emphasis has been put on quality and relevance of education. Examinations bar advancement at several stages, and rote learning predominates;
- (c) Vocational subjects are rarely offered in the middle or high stages, (less than 10% in vocational streams in the high stage);
- (d) There is insufficient capacity for the training of agricultural subprofessionals in all provinces, and the quality of training is low. These weaknesses also exist in the training of agricultural professionals in Sind;
- (e) Resources are not used efficiently. About 50% of the primary and 25% of the middle-level entrants leave school without completing the cycle and because male and female education are almost completely separate for social reasons, small schools result; and

^{1/} See Appendix III for a more detailed description of the education system in Pakistan.

- (f) Expenditures on education have been exceptionally low. This reflects the low priority given to education and the comparatively low teacher salaries. Total public expenditure on education during FY1971-75 averaged less than 5% of the total Government expenditure and less than 2% of the GNP.

Levels and Types of Education

3.03 Primary level education in 1975/76 enrolled about 3.7 million boys and 1.4 million girls, or 68% and 29% of the corresponding age groups. These low enrollment ratios were caused by low initial attendance among girls and an overall dropout rate of about 50% during the five years of primary schooling. The low enrollment ratios for girls may partially be attributed to tradition. There are a number of factors that contribute to the high overall dropout rate. Physical facilities are poor and inadequately maintained, instructional material is scarce, the curriculum is academically oriented, and the opportunity costs of attendance are often high. Although most teachers are formally qualified, their education and training are often inadequate. In some districts about 50% of the primary level teachers have had less than 10 years of schooling. In 1971-73 the Government instituted a crash program to train 50,000 new teachers. This was done in anticipation of a rapid expansion of primary school enrollments that never materialized, and most of these teachers are now without jobs; however, by 1980, all of them are expected to be employed. 1/ Further studies by the Government are needed to clarify the causes of the low internal efficiency and the high enrollment differentials of the primary school before fully effective measures can be proposed to improve the system.

3.04 Secondary level education included about 1.3 million boys and 290,000 girls in 1975-76. Enrollment ratios for the middle and high levels were, respectively, 32% and 20% for boys and 8% and 4% for girls. Less than 5% of the students specialized in vocationally oriented subjects. Enrollment in secondary vocational schools, which are separated from general high schools, is about 10% of the total enrollment at this level. Most of the teaching staff is formally qualified.

3.05 Teacher training is conducted in one-year courses at three different levels as follows:

1/ See Appendix III para. 35 and Annex 3 for projected demand for and supply of primary and middle school teachers.

<u>Institution</u>	<u>Entry Level</u>	<u>Enrollment</u>	<u>Certificate</u>
(a) Teacher Training Institute (TTIs)	grade 10	)	Primary Teachers Certificate (PTC)
)	
(b) Teacher Training Institutes	grade 12	)	Certified Teachers (CT)
)	
(c) Colleges of Education or Universities	grade 14 or 15	4,000	Bachelor of Education (B Ed)

Facilities of the teacher training institutes (TTIs) are usually poor. There are often no laboratories and workshops, almost no equipment, and furniture is of the wrong type. Several institutes are in disrepair and need to be reconstructed. Furthermore courses often do not last more than six months, and many students register late during the year. The annual output of the TTIs, 8,000 males and 3,000 females, is insufficient to meet the needs of the primary and middle schools. Female TTIs are unable to supply enough teachers to achieve any substantial increase of enrollment ratios for girls 1/. Teachers for secondary and higher education are in particularly short supply for agriculture, home economics, industrial arts, and science.

3.06 Higher education facilities in 1972/73 included eight universities, 76 professional colleges and 362 arts and science colleges, of which two-thirds provide degree-level courses. These institutions enroll 260,000 students; 38,000 of these are in professional colleges. The annual output at the degree-level is approximately 40,000; 10,000 of these are females. The Government acknowledges that higher education has received relatively large budgetary allocations. It plans to contain enrollment increases so that the limited funds can be allocated to other educational priorities.

3.07 Adult education, including literacy training, is conducted independently on a small scale by several Government and voluntary agencies. Large scale literacy campaigns, undertaken during the last three years, failed as a result of materials inappropriate in both content and approach, and poorly prepared teachers. The most successful organization so far, the Adult Basic Education Society (ABES), has focused on improving materials and teacher training and succeeded in reducing dropout rates to under 20%. The ABES approach is now being modified for mass media support in an experiment to make 24,000 adults literate. The draft Fifth Development Plan calls for reaching one million population (0.6 million male and 0.4 million female) from ages 15 to 23. It is estimated that the literacy rate for the population of 5 years and older will increase from 22% to 28% (41% for male and 15% for female) by 1980-81 as a result of the proposed primary and adult education programs.

1/ See Appendix III para. 35 and Annex 3 for projected demand for and supply of primary and middle school teachers.

Agricultural and Rural Training

3.08 Agricultural field assistants are currently trained in two-year post matriculation courses (Grades 11-12) offered by five Agricultural Training Institutes (ATIs) under the Provincial Departments of Agriculture. Their output capacity of 250 per year is clearly incapable of bridging the gap between the present corps of 4,200 field assistants and the estimated additional need of about 19,000 (para. 2.05). The training is inappropriate to the needs of the country. The rural population practices mixed farming, the extension agents study either crops or animal husbandry. Moreover, animal husbandry training has not been formalized and now consists mainly of "apprenticeships" to animal hospitals. There are too few courses in relevant fields such as rural sociology and irrigation and water management, and too little field work. In addition ATIs have insufficient books and equipment.

3.09 Lyallpur Agricultural University (LAU), which was assisted under the first education project (Credit 50-PAK), currently enrolls 3,000 students and its capacity is 4,200. The quality of professional training at LAU has improved, as indicated by increased staff qualifications (30% PhDs). LAU was originally intended to serve professional manpower requirements in agriculture for all of what was then West Pakistan. However, since the reorganization of the Government into four Provinces, LAU has concentrated on the supply of professional agricultural manpower required for the Federal Government and the Punjab Province. Sind Agricultural University (SAU) produces graduates for work primarily in Sind, Baluchistan, and Azad Kashmir. It has about 1,420 students (August 1976) ^{1/}, including about 400 graduate students. SAU has three faculties: Agriculture, Agricultural Engineering, and Animal Husbandry. SAU intends to open new departments during the plan period (1976-81). However, before any further expansion takes place SAU will with the assistance of a group of external consultants, prepare comprehensive plans for institutional development. SAU has received no external assistance, and the quality of education is inferior to that of the LAU. Only 6% of its teaching staff have doctoral degrees, compared with nearly 30% at LAU. The laboratories, workshops, and library are poorly equipped, and the curriculum needs to be focussed on practical work. The research capability in applied sciences is limited, space facilities are insufficiently used and management needs strengthening. Instruction in irrigated agriculture, including water management, is particularly weak.

3.10 Training of staff to implement IRDP is limited to the Pakistan Academy for Rural Development in Peshawar, North-West Frontier Province (NWFP), and a second academy is being built in Quetta, Baluchistan. Although the Academy was established as a national institution for rural development personnel, so far it is fully used only by the NWFP. The present programs and future requirements or rural development training programs are being studied to support the planned expansion of IRDP.

^{1/} This enrollement may be reduced by phasing out the first two years of certificate courses (200 students).

Educational Policy and Strategy

3.11 In its draft Fifth Five-Year Plan (1976-1981), the Government stresses: (a) Free and universal education, initially for the primary level and subsequently to grade 10; (b) Equal access to education for all; (c) Design of new curricula to reflect changing socio-economic needs, including a shift toward agrotechnical education; (d) A massive literacy program; (e) Use of mass media for education; and (f) At the higher level, improvement of science and technical education, and strengthening of post-graduate education and research, especially in science, engineering, agriculture, and the national language.

3.12 Under this plan, efforts will be made to equalize access to education for females and in rural areas. New school construction (11,500 schools for the five-year period) will be planned to minimize walking distances. The primary curriculum will be revised to include more local content and more balanced academic and practical training. It will also encourage exploration, practical work, and creative expression. At the middle and high levels the teaching of home economics, agriculture, and industrial arts will be expanded. Although admission to intermediate and degree-level courses in arts will be held constant, increased enrollments in science will be encouraged. Extensive use of mass media is proposed for an adult education literacy program for one million, mainly farm and factory workers, before 1981.

3.13 The following table compares the quantitative goals of the Plan with actual achievements from 1968 to 1973 and provides an estimate of the number of teachers required through 1981:

Level	Grades	Enrollments ^{/a} (thousands)			Growth Rate (percentages p.a.)		(thousands) Teachers Required 1976-81
		Estimated 1975/76	Target 1980/81	Increase 1976-81	Planned 76-81	Actual Rate 68-73	
Primary	1- 5	5,100	7,900	2,800	9.3	3.4	117
Middle	6- 8	1,200	1,800	600	8.3	4.9	
High	9-10	420	610	190	8.0	8.3	41 ^{/b}
Inter- mediate	11-12	160	200	40	4.5	5.5	-
Degree ^{/c} plus	13-14 plus	66	81	15	4.2	6.0	-

^{/a} See Annex 2 for detailed enrollment data.

^{/b} For middle and high levels.

^{/c} Excluding professional colleges and universities for which goals were not quantified, their annual growth rates 1968-73 were 8.5% and 9.7%, respectively.

3.14 Plan Evaluation. The enrollment targets of the Plan at the primary and secondary levels seem optimistic in light of traditional patterns and failure of the Plan to develop a strategy to combat the causes of slow growth (para 3.03). At the degree level, the proposed expansion seems more realistic, and the greatest relative increases seem appropriately placed on home economics (700 to 2,700) and agriculture (1,100 to 4,200).

3.15 Staffing. Any expansion and improvements will depend on the supply of teachers and their ability to implement planned reforms. Teachers for female primary and secondary education are expected to be particularly limited since existing womens' TTIs can supply only 27% of the teachers needed to meet targets. Qualified staff are particularly lacking for the introduction of practical courses in home economics and agriculture.

3.16 Finance. Inadequate provision of funds (para. 3.02) has been a serious constraint on educational development in the past. The education development expenditure proposed by the Planning Commission for 1976-81 is PRs 7 billion, compared with PRs 1.8 billion during 1971-75. Recurrent expenditures would be PRs 12 billion over the next plan period compared with PRs 5 billion over the last five years (Annex 5). The Government recognizes that low budgetary allocation to education has seriously impeded educational development and intends to authorize the planned fund allocation for the five-year period 1976-81. Nonetheless, it is not yet clear whether the Government can implement these plans in view of expected continued pressures to expand colleges and universities.

IV. THE PROJECT

4.01 The proposed project would pursue the following major objectives:

- (a) Improve and expand primary and middle-level education by increasing the supply of qualified teachers, particularly for rural areas and females; and
- (b) Supply trained personnel for agricultural and rural development.

4.02 The project items are as follows:

<u>Project Item</u>	<u>Grades</u>	<u>No. of Insti- tutions</u>	<u>Enrollment Capacity</u>			<u>Additional Output Per Year</u>
			<u>Existing</u>	<u>Added</u>	<u>Total</u>	
<u>Basic Education</u>						
(a) Teacher Training Institutes	11 ^{/a} or 13 ^{/b}	17	2,800	2,200	5,000	2,200
(b) Experiment on Adult Functional Literacy	-	-	-	-	-	-
<u>Agr. and Rural Education</u>						
(a) Agricultural Training Institutes						
- Pre-Service Training	11-12	5	600	680	1,280	340
- In-Service Training	-	5	0	180	180	1,800 ^{/c}
- Farmer Leader Training	-	5	0	180	180	7,200 ^{/d}
(b) Sind Agr. University	16	1	1,420	120	1,540	120
<u>Preinvestment Studies</u>	-	-	-	-	-	-

^{/a} For Primary Teacher's Certificate (PTC).

^{/b} For Certified Teacher (CT) training.

^{/c} One-month courses (on average), ten courses per year.

^{/d} One-week courses, 40 courses per year.

4.03 The Government would establish a monitoring system covering each project institution to collect information on: (a) the number of applicants, number accepted, and enrollment at the beginning of each school year; (b) the number of graduates who have completed the course within the prescribed duration of the course, compared with the original intake; and (c) the number of graduates employed within six months, one year, and three years after graduation. The tracer study would also include other data needed to improve efficiency of training programs. During negotiations the Government agreed that it would establish such a monitoring system and would annually provide the Association with summaries of the above information during the project implementation period and for five years thereafter.

Basic Education

Teacher Training Institutes (Proposed Outlay: US\$8.1 million 1/)

4.04 The project component would help to construct, reconstruct, expand, improve, and equip the TTIs as follows:

Type of Assistance	Male		Female		Total	
	Insti- tutions	Enroll- ment	Insti- tutions	Enroll- ment	Insti- tutions	Enroll- ment
Construction	-	-	3	770	3	770
Reconstruction	1	210	3	1,190	4	1,400
Expansion and Improvement	6	1,890	4	980	10	2,870

Relatively small institutions (140-350 students) would be financed under the project because of two factors: (a) separation of sexes; and (b) the need to keep enrollment areas small since teachers tend not to accept posts in any rural areas other than where they live. The above number of institutions was arrived at after careful review at provincial level of the anticipated demand for teachers and constraints on expansion. The number of female institutions chosen represents the maximum expansion feasible, given the shortage of qualified applicants. The number of male institutions indicates modest expansion for quality improvement of selected TTIs. The project would help introduce the recently revised primary and middle stage curricula, and promote basic education for hitherto poorly served groups, particularly females and children in rural areas. Further expansion of both male and female training will be needed (Appendix III para. 35 and Annex 3).

4.05 To prepare teachers for introducing the new curricula, the TTIs would be provided with multipurpose workshops, laboratories, teaching aids, and adequate furniture. Application schools would be provided by the Government for practice teaching and demonstration of teaching methods. Facilities for training middle-level teachers of agriculture, home economics, and industrial arts are included in the project. The TTIs would operate with rotating classroom organization and a standard class size of 35 pupils. The project would finance 2,440 boarding places to serve students for whom commuting distances are excessive.

4.06 The proposed investment would create a 10% expansion in male teacher training capacity (from 7,800 to 8,600), and a 50% expansion in female teacher training capacity (from 3,000 to 4,500 places). Although the country currently has a surplus of male TTI graduates (para. 3.03), the modest increase called for appears reasonable in light of projected increases in school enrollments. The increase in the capacity of female TTIs in some locations initially will

1/ Proposed outlays exclude contingency allowances.

outpace available high school graduate candidates. While the number of graduates increase unused TTI classrooms would be used for female high school classes (see Annex 3 for projected demand for and supply of teachers). During negotiations the Government agreed that, within 18 months after the Credit agreement is signed, a study of the projected supply and demand for female primary teachers by province for the period 1977-87 and specific plans for overcoming any imbalances would be submitted to the Association.

4.07 Teacher training programs in Pakistan would be lengthened to a minimum of nine months (para. 3.05). In addition, at least one project institution would experiment with an alternative curriculum in which the students would be given outside teaching and study assignments to supplement the nine months of training. This new dimension could be added without altering capacities or costs. During negotiations the Government agreed that, within one year after the Credit Agreement is signed, nine months of effective work in an approved institution would be made a requirement for all teacher certificates and that experiments with alternate curricula would be carried out.

Experiment on Adult Functional Literacy Program (Proposed Outlay: US\$0.3 million)

4.08 The proposed Credit would help to: (a) purchase 240 TV receivers and other audio-visual aids; (b) update and revise about 100 educational TV programs; (c) finance reading materials and in-service training for the teachers involved; and (d) finance evaluation of the experiment. The proposed program would constitute a second phase of an experimental adult literacy program currently being conducted with UNICEF assistance. It would refine techniques used in the first phase and extend coverage of the target group from 24,000 to 96,000 villagers (about equally divided between males and females). Adults would be taught reading, writing, and simple arithmetic from teaching materials on nutrition, hygiene, child care, and basic agricultural skills. There would be two six-month cycles of instruction. TV lessons, classroom monitors (selected from school teachers and IRDP staff), and readers would be the principal means of teaching. About 1,600 monitors have been trained. Another 200 community viewing centers would be added, and participants would receive one 35-minute TV lesson each weekday (156 programs altogether). Experience gained from the first and second phase experiments, and the results of a comprehensive mass media feasibility study, financed by bilateral aid, would provide a basis for the development of a comprehensive nationwide education program.

Agricultural and Rural Education

Agricultural Training Institutes (Proposed Outlay: US\$3.6 million)

4.09 The five existing Agricultural Training Institutes (ATIs) would be improved by the project. Four would be expanded and one would be reconstructed at a new location. The goal is to increase the number of graduates and improve their training. All five ATIs would offer both pre-service, in-service, and farmer leader training. The pre-service training capacity would be expanded from 600 places to 1,280 (about 640 output per annum) and provide 180 places

each for in-service training and training farmer leaders. The number and size of ATIs were selected to ensure: (a) a balance between projected supply and effective demand for agricultural and livestock field assistants; and (b) an appropriate geographical distribution of the supply. The quality of the pre-service and in-service training would be improved by: (a) integrating part of the present separate crop and animal husbandry course (para. 3.08); (b) making the training more relevant by introducing new courses, such as rural sociology and irrigation and requiring that at least 50% of the two-year course be spent in farming practice and field demonstration; (c) providing for more frequent farm visits and participation by the students in markaz activities; (d) improving physical facilities and equipment; and (e) establishing, at each ATI, farmer leader training programs from which the ATI courses would profit.

4.10 Students would be recruited from among high school leavers; preference would be given to those with science and rural backgrounds. To operate the five ATIs, a total of 110 staff would be required by 1981, 80 more than at present. The major sources of teacher recruitment would be LAU and SAU. No recruitment difficulties are anticipated. During negotiations the Government agreed that: (a) within six months after the signing of the Credit Agreement, an Advisory Committee, comprising representatives of relevant government agencies and the research station, selected model farmers, and a selected agricultural university official, would be established at each ATI to advise on academic improvements, the relevance of the courses to agricultural needs, and other matters related to institutional development; and (b) within 18 months after the signing of the Credit Agreement, the Government would submit a study of the projected demand and supply of middle level manpower to 1987 in livestock and agriculture by province and proposals for overcoming any imbalances.

Sind Agricultural University (Proposed Outlay: US\$3.6 million)

4.11 IDA financing would be provided to SAU to help remodel, expand, and equip the existing academic facilities and construct and furnish facilities for housing and boarding 80 students. The primary objectives of this component are to: (a) improve the quality of on-going teaching and research activities of three existing Faculties (Agriculture, Agricultural Engineering, and Animal Husbandry/Veterinary Medicine); and (b) establish a new Department of Agricultural Education, Extension, and Short Courses, which would offer a program of teacher training in agricultural education and extension. The University's teaching and research capability would be strengthened by: (a) upgrading the qualification of staff 1/ through fellowship programs (para. 4.14); (b) designing more relevant curricula through specialists' services (para 4.14); and (c) remodeling the physical facilities, and procuring library books. SAU management would also be strengthened with specialists' assistance for formulating a long-term development plan and establishing student records and placement services. The proposed new Department would

1/ Of the total University staff of 148 only nine have doctoral degrees, 126 MSc degrees, the remaining 13 BSc degrees (para 3.09).

accept 40 to 60 students for a one-year post-graduate program, after a four-year BSc agricultural course; about 40 students would take in-service training courses, and about 40 trainees would take short courses in specific agriculture subjects. It would also need seven additional staff, probably graduates of Lyallpur Agricultural University, with further training abroad under the proposed fellowship plan. Maintenance repair facilities for equipment would be included in the proposed component.

4.12 Some 1,200 university students ^{1/} would come from Sind Province and about 50 students from Baluchistan Province and Azad Kashmir under a quota system. Graduates of the three Faculties are expected to be employed in Sind and Baluchistan Provinces and Azad Kashmir (para. 3.09) by the IRDP organizations, agro-economic research institutions, and private organizations. The 40 to 60 yearly graduates from the proposed new agricultural teacher training program are expected to be engaged in teaching agricultural and related subjects at secondary and intermediate levels and at ATIs. A 500 enrollment boys' school located at the University campus would be utilized by students of the Department for teaching practice. During negotiations the Government agreed that: (a) A ten-year educational development plan (1977-87) would be prepared within 18 months after the signing of the Credit Agreement, that would project by department enrollments in relation to manpower requirements, staff requirements, teaching programs, and research and extension activities; and (b) the University would not expand enrollments further until the comprehensive development plan for SAU had been completed and discussed with the Association. Disbursements of funds, other than for professional services, for the University would be contingent on an agreement, satisfactory to the Association, with an institution, acceptable to the Association, for provision of specialists' services provided under the the proposed component.

Preinvestment Studies (Proposed Outlay: US\$0.5 million)

4.13 Study on Irrigation and Water Management Training. The Agricultural Sector Survey Mission, which visited Pakistan in March/April, 1975, stressed the need for a comprehensive study of training requirements in irrigation and water management. The purpose of the proposed study (see Annex 6 for draft terms of reference) is to: (a) assess the status of the existing curricula related to all aspects of water resources and management; (b) assess the long-term requirements for personnel at all levels trained in water resources, management, and irrigated agriculture husbandry as well as rain-fed agriculture husbandry; and (c) recommend feasible investment and development programs. Manpower studies would also be conducted under the project on the projected supply and demand for female primary teachers (para 4.06) and middle-level agriculture and livestock assistants (para 4.10). These studies would be designed and undertaken by local experts to the extent possible to stimulate local interest and participation.

Technical Assistance

4.14 The proposed project includes financing for 28 man-years of specialists' services and 60 man-years of fellowships for the project schools and the proposed study (see Annex 7 for details) as follows:

^{1/} See footnote to para 3.09.

- (a) Teacher training institutes - three man-years of specialists' services on equipment and training methods;
- (b) Agricultural training institutes - four man-years of expert services on organization and course development and three man-years of fellowships for administrators or heads of instructional staff to study similar operations abroad;
- (c) Sind Agricultural University - 13 man-years of expert services for curriculum development and University management and 57 man-years of fellowships for advanced studies abroad; and
- (d) Preinvestment studies - five man-years of expert services for designing and conducting the irrigation and water management study and three man-years of expert services to conduct manpower studies on supply and demand of female teachers and middle-level agriculture and livestock field assistants.

During negotiations the Government agreed that selection criteria and procedures for awards of fellowships, general programs of study abroad, terms of reference and appointment of specialists, and terms of reference for the proposed studies would be acceptable to the Association.

V. PROJECT COSTS, FINANCING, IMPLEMENTATION, AND DISBURSEMENTS

Cost of the Project

5.01 The estimated costs and foreign exchange component of the project are given in Annexes 8, 9, and 10 and are summarized below:

	<u>PRs (million)</u>			<u>US\$ (million)</u>		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
A. <u>Basic Education</u>						
Teacher Training Institutes	62.2	29.5	91.7	6.2	3.0	9.2
Adult Functional Literacy Program	<u>0.4</u>	<u>2.1</u>	<u>2.5</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>
Subtotal	62.6	31.6	94.2	6.3	3.2	9.5
B. <u>Agricultural and Rural Education</u>						
Agricultural Training Institutes	26.7	15.9	42.6	2.7	1.6	4.3
Sind Agricultural University	<u>12.8</u>	<u>23.4</u>	<u>36.2</u>	<u>1.3</u>	<u>2.4</u>	<u>3.7</u>
Subtotal	39.5	39.3	78.8	4.0	4.0	8.0
C. Project Management and Preinvestment Studies	8.7	5.0	13.7	0.9	0.5	1.4
Base Cost Estimates	110.8	75.9	186.7	11.2	7.7	18.9
Contingencies						
Physical	11.1	7.6	18.7	1.1	0.8	1.9
Expected Price Increases	<u>38.0</u>	<u>26.4</u>	<u>64.4</u>	<u>3.8</u>	<u>2.6</u>	<u>6.4</u>
TOTAL PROJECT COST	<u>159.9</u>	<u>109.9</u>	<u>269.8</u>	<u>16.1</u>	<u>11.1</u>	<u>27.2</u>

5.02 Base cost estimates refer to December 1976 prices. Construction costs have been estimated on the basis of functional and economical sketch plans prepared for the project institutions and unit building costs derived from recent construction in Pakistan. Base-unit building costs range from US\$87/m² for residential facilities to US\$98/m² for academic and communal facilities. Additional allowances have been made for regional price disparities and earthquake resistance.

5.03 Preliminary equipment lists have been prepared for all project components; they have been reviewed and revised by the Association and are reasonable in scale and cost. Technical assistance costs are estimated at US\$55,000 per man-year for expert services and about US\$9,000 for fellowships. Professional services are estimated at 7% of construction cost.

5.04 Costs of academic and communal facilities per student place amount to US\$857 for the TTIs and US\$1,558 for the ATIs. These costs are reasonable for the accommodations to be provided. A detailed breakdown of unit costs is shown in Annex 11.

5.05 Estimated project costs include the following contingency allowances: (a) physical contingencies, estimated at 10% of base cost for unforeseen factors; and (b) price contingencies, calculated on the base cost plus physical contingencies on the assumption that construction would take about 3-1/2 years, start in mid-1977, and would increase in cost annually through 1979 by 12% for construction and 8% for equipment and technical assistance. Corresponding annual increases after 1979 would be 10% and 7% respectively.

5.06 The foreign exchange component is estimated at US\$11.1 million, or 41% of the total project cost. This overall foreign exchange cost was derived from the following estimates: 30% for civil works and furniture; 85% for equipment and technical assistance; and 10% for professional services.

5.07 The total customs duties and taxes on civil works and locally produced furniture and equipment would amount to US\$2.1 million or 11% of the estimated cost of these items, including contingencies. No import duties are levied on imported educational equipment. Pakistan does not participate in any regional arrangement that allows reduced import duties for specified import supplies.

Project Financing

5.08 The total project cost of US\$27.2 million would be financed as follows: (a) the proposed IDA Credit of US\$15.0 million (60% of the total project cost net of taxes) would meet 100% of the foreign exchange cost and 24% of local costs; and (b) the Government would finance the remaining costs of US\$12.2 million. The detailed financial plan is as follows:

	<u>Government of Pakistan</u>	<u>IDA</u>	<u>Total</u>
1. (a) Civil Works and (b) related Professional Services	6.9	5.6	12.5
2. Furniture & Equipment	0.5	2.9	3.4
3. Technical Assistance (a) Experts Services (b) Overseas Training	-	2.0	2.0
4. Project Unit Cost	<u>0.8</u>	<u>0.2</u>	<u>1.0</u>
Sub-Total	8.2	10.7	18.9
Contingencies (physical and price increases)	<u>4.0</u>	<u>4.3</u>	<u>8.3</u>
TOTAL	12.2	15.0	27.2
Less Duties and Taxes	<u>2.1</u>	<u>-</u>	<u>2.1</u>
Net Project Cost	10.1	15.0	25.1

Local cost financing would cover US\$2.0 million for civil works and related professional services, US\$0.6 million for locally procured furniture and equipment, US\$0.3 million for technical assistance and US\$0.9 million for contingency allowances or locally procured items.

Implementation

5.09 Administration. The project would be implemented by existing line agencies in the provinces, supplemented as necessary by additional staff. Posts for these additional staff have been established in all the provinces. This arrangement is appropriate in view of the large number of provincial departments involved in the project and the relatively small size of works pertaining to each provincial department. In Baluchistan, NWFP and the Punjab, the teacher training component would be implemented by the respective Departments of Education, and the agricultural training component by the respective Departments of Agriculture. The project unit in charge of the engineering education project in Karachi (Credit 206-PAK) would be responsible for implementing both the teacher and agricultural training components in the province of Sind. The management of the Sind Agricultural University (SAU) would be responsible for implementing the SAU project component. These provincial agencies would be responsible for provision of architectural services, selection of fellowship candidates, and local procurement of civil works, furniture, and equipment. A project unit, already established and staffed in the Federal Ministry of Education, would be responsible for coordinating the provincial government agencies involved. The functions of the project unit include:

(a) coordination of the work of the provincial agencies and provision of guidance in problem areas; (b) international procurement in collaboration with the Department of Investment Promotion and Supplies and the provincial Directorates of Industries; (c) recruitment of specialist services and administration of technical assistance; (d) supervision of the project studies; and (e) reports to the Association. During negotiations the Government agreed that: (a) the project unit would be maintained throughout the project period; (b) qualified staff acceptable to the Association would be retained on a full-time basis in the positions of Director, educator, procurement officer, architect, and accountant in the project unit; and (c) qualified officers in sufficient number would be made responsible for project implementation in the various provincial line agencies.

5.10 To prevent delays in project execution caused by rupee shortages, as experienced in the first education project, the Government agreed during negotiations that a special revolving fund and the initial deposits in such funds would be established as a condition for the effectiveness of the Credit Agreement for each provincial implementing agency. The establishment of special revolving funds and the initial deposit in such funds would be a condition for the effectiveness of the Credit Agreement. The funds would be administered by each project implementing agency and would be replenished quarterly to maintain minimum balances of PRs 100,000 plus expected local expenditures in the following three months.

5.11 Under the proposed project, about 95% of the cost of equipment and vehicles required for the project administration and execution would be financed from the proposed Credit to ensure efficient functioning of the various Government agencies implementing the project. Funds for this purpose would be limited to US\$200,000.

5.12 Professional Services. The respective provincial Public Works Department have already prepared acceptable sketch plans for all project institutes in the Punjab and Baluchistan and will also prepare tender documents and supervise construction in these provinces. Sketch plans for the NWFP are being prepared under the guidance of the architect of the project unit. Tendering and supervision in the NWFP is expected to be done by the local Public Works Department. A local architectural consulting firm in the Sind Province has been appointed and is preparing sketch plans for all project items in Sind, and is expected to provide complete design and supervision services for these project items, including master planning for SAU.

5.13 Sites. Sites for most project schools have been acquired and are judged suitable. Additional land will be required for staff housing at several existing TTIs. During negotiations the Government agreed that title to all sites would be acquired before the scheduled start of construction.

5.14 Retroactive Financing. It is recommended that the Bank Group provide retroactive financing up to US\$40,000, for professional service incurred in preliminary works between April 1976 and the signing of the proposed Credit Agreement.

5.15 Implementation Schedule. Construction would start in mid-1977, and physical facilities are expected to be completed by 1981. The implementation of the technical assistance program would start in early 1977, and overall project implementation is expected to take about five years (Annex 12). The key steps to be taken in the first 18 months are shown in Annex 13.

Procurement

5.16 Previous experience with education projects in Pakistan suggests that the relatively small size of the civil works contracts 1/, the geographic dispersion of the sites and the competitiveness of the local construction industry make it unlikely that foreign firms will bid. Contracts for civil works would therefore be awarded on the basis of locally advertised competitive bidding in accordance with Government procurement procedures acceptable to the Association. Foreign firms would be allowed to participate. Prior IDA review would be required for contracts over US\$200,000.

5.17 Equipment and furniture contracts exceeding US\$50,000 would be awarded on the basis of international competitive bidding (ICB) in accordance with Bank Group procurement guidelines. Local manufacturers participating in ICB would be given a preferential margin of 15% over competing imports, or the existing rate of import duties, whichever is the lower. Contracts for equipment and furniture that cannot reasonably be grouped in packages exceeding US\$50,000 would be awarded without prior IDA review on the basis of competitive bidding advertised locally in accordance with procedures acceptable to the Association. The value of equipment and furniture to be procured by local bidding is estimated at about US\$1.8 million. There is adequate competition and foreign firms would be allowed to participate. Miscellaneous equipment and furniture, subject to a maximum of US\$10,000 for each contract and an aggregate total of US\$250,000, could be procured by local shopping when local bidding is inappropriate or would not yield lower prices than local shopping. Books would be procured in accordance with standard government procedures.

Disbursement

5.18 The proposed Credit of US\$15.0 million equivalent would finance 60% of the total project costs net of taxes (all foreign exchange costs and 24% of local costs). The Credit would be disbursed over a period of about five years to meet: (a) 100% of the foreign expenditures for furniture and equipment or 100% of the ex-factory cost of locally manufactured furniture and equipment, or 85% of local expenditures for furniture and equipment purchased off-the-shelf; (b) 45% of the total expenditure for civil works and related professional services; and (c) 100% of the foreign expenditures of overseas

1/ These vary from US\$0.1 million to US\$0.6 million, based on the expectation, reinforced by previous experience, that academic and communal buildings and housing and boarding facilities will be let separately in the case of new institutions.

training and 100% of total expenditure for project specialists. Any savings in the technical assistance program would be cancelled from the Credit, although savings under any physical facilities category would be available to cover overruns in other categories. Any savings in the proposed Credit on the Closing Date would be cancelled. An amount of up to US\$40,000 could be disbursed retroactively to finance the consultants services (para. 5.12). Annex 14 shows the estimated disbursement schedule. Disbursement is expected to be complete by mid-1982.

VI. BENEFITS AND JUSTIFICATION

6.01 The proposed investment in 17 TTIs would help improve the quality of pre-service teacher education and expand their capacity by 2,200 places. This component would facilitate: (a) introduction of new primary and middle-level curricula by training teachers in their use; and (b) expansion of primary enrollments particularly for girls, from the present 5.1 million to 7.5 million by 1985. The proposed experiments with the adult literacy program would be conducted to develop a comprehensive strategy for improving educational opportunities among less well served regions and groups.

6.02 The proposed assistance to five ATIs would: (a) improve the quality of training by introducing partly integrated training programs with emphasis on practical preparation; (b) expand the annual output of middle-level agricultural workers from 250 to 640; (c) improve the training of existing middle-level agriculture and livestock extension workers (1,800 per year); and (d) provide training on specific skills and technologies to about 7,200 farmer leaders per year. The additional output would enable the Government to reduce the ratio of field agricultural assistants (public service) to farmers from 1:900 to 1:450 by 1986. The proposed investment in Sind Agricultural University would strengthen the quality in preparation of agricultural graduates to serve Sind Province and two less developed regions, Baluchistan and Azad Kashmir. The IRDP organization's requirements in Sind and the two other regions in 1986 could be met by some 1,300 graduates to be produced. The proposed preinvestment studies would identify specific needs for training programs and provide a basis for future investment.

VII. AGREEMENTS REACHED AND RECOMMENDATIONS

7.01 During negotiations, the Government agreed to the following points:

- (a) establishment of a project monitoring system (para. 4.03);
- (b) preparation of two manpower studies (paras. 4.06 and 4.10) and a development plan for Sind Agricultural University (para. 4.12);

- (c) establishment of a minimum of nine months effective work required for a teacher's certificate and experiments with alternative curricula (para. 4.07);
- (d) establishment of Advisory Committee for each ATI (para. 4.10);
- (e) No further expansion of the present enrollment at Sind Agricultural University until the educational development plan is completed and discussed with the Association (para. 4.12);
- (f) selection criteria and procedures for the awards of fellowships, terms of reference and appointment of technical specialists, and terms of reference for the proposed studies (para. 4.14);
- (g) maintenance of the project unit throughout the project period and appointment of qualified staff in sufficient number for project implementation (para. 5.09); and
- (h) acquisition of title to every site prior to the scheduled start of construction (para. 5.13).

7.02 A condition of effectiveness of the Credit Agreement would be the establishment of special revolving funds and the initial deposits in such funds (para. 5.10).

7.03 Disbursement of funds (other than professional services) for Sind Agricultural University would be contingent upon the conclusion of an agreement for specialists' services with an institution acceptable to the Association (para. 4.12).

7.04 Subject to the above conditions, the proposed project constitutes a suitable basis for an IDA Credit of US\$15.0 million equivalent to the Government of Pakistan on standard IDA terms.

Summary of Previous World Bank GroupEducation Projects in PakistanEducation Project I (Credit 50-PAK)

1. The first education project in Pakistan was signed and became effective in 1964. Total estimated project cost was US\$17.0 million, of which US\$8.5 million was financed under the Credit. The principal objective of the project is to improve and expand agricultural and technological manpower in Pakistan.
2. The project provides the Lyallpur Agricultural University (LAU) in the Punjab with needed facilities in the form of construction, consultant services, and equipment, expanding its capacity approximately four times; teaching equipment for five existing (three in the Punjab and two in Sind) and one new polytechnic institute (in the Punjab); and technical assistance for training of technical teachers at two other institutes. Enrollment at the agricultural university was 3,000 in 1976 (excluding those students in short courses and the affiliated College of Animal Husbandry, Lahore). Enrollment capacity of the university is about 4,200. The quality of education increased substantially at LAU during the project period and applied research and extension have recently been given high priority by the university management. LAU has successfully met manpower requirements from the Punjab Province. Present enrollment at the technical institutes, including teacher training is about 4,000, only half of the enrollment forecast at appraisal for 1973.
3. The project was completed seven and a half years behind schedule. Reasons for the delay include: (a) two wars, (b) floods, and (c) shortages of materials and sharp price increases with subsequent suspension of work. The project has, however, also been delayed because of: (a) cumbersome implementation procedures, (b) unfamiliarity of project staff with IDA procedures, and (c) late appointment of consulting architects. The project was finally completed on December 31, 1976, a fourth postponement of the Closing Date. Total project cost is now estimated at US\$17.9 million, 4% above the original estimate in dollar terms. Final disbursements amounted to 96% of the Credit amount.
4. The experience gained from the implementation of this project has been:
 - (a) Enrollment targets for the agricultural university have not been reached because of delayed project implementation. Furthermore, manpower needs have been reduced as a result of changes in the provincial structure of Pakistan since appraisal. Enrollment at the technical institutes is only 50% of appraisal forecast because of employment difficulties of the graduates, caused by inadequate and overly academic

training. Enrollment at the technical teacher training program falls far short of expectations because of lack of pre-service facilities and difficulties in releasing teachers for in-service training because of staff shortages (about 35%).

- (b) Equipment at the polytechnic institutes is underutilized because of overly theoretical and poorly designed curricula and the absence of repair and maintenance funds and facilities.
- (c) Delays and problems in implementation are partly attributable to the project executing agencies' unfamiliarity with IDA procedures, as well as to the lack of a coordinating implementation unit for all project items.

Education Project II (Credit 206-PAK)

5. The Second Pakistan Education Project was signed in 1970 and became effective in 1971. The main objective of the project is to improve the quality of engineering education in Pakistan. The US\$4 million Credit is financing physical facilities, expert services and fellowships for a new engineering college to replace and relocate the NED Engineering College, Karachi. The current cost estimate is US\$5.6 million about 90% of the appraisal estimate. Disbursement had reached US\$2.5 million, in December 1976 about 63% of the appraisal estimate.

6. The new campus is designed for an overall enrollment of 1,500, but current enrollment is 1,650 students and present intakes will lead to an enrollment of 1,900 students within four years if not checked. The College offers degree courses in civil, mechanical and electrical engineering.

7. Execution of the project is approximately two years behind schedule. The new facilities have been in partial use since early 1976 and are expected to be completed six months after the current Closing Date, December 1976. The technical assistance program, will take three more years. Extension of the Closing Date beyond December 1978 is however not likely to be necessary. The delay has resulted mainly from the Government of Sind's reluctance to use Credit funds for foreign experts and fellowships. Other causes of delays are the same as in the first education project, namely, cumbersome implementation procedures and project staff unfamiliarity with IDA procedures.

8. The problems encountered and experience gained from the second education project can be summarized as follows:

- (a) Weaknesses among college staff threaten to impede the project's effectiveness. While the appraisal report envisaged 89 staff members, about 60% are presently on the job. Furthermore, only 23 hold a master's degree and four a doctor's degree. Staff salaries are low compared with those offered by local and foreign industries and BSc degree holders are not eager to complete

M.Sc. studies locally. The situation shows however an improvement tendency, particularly since early 1976 when salaries were increased by about 40%.

- (b) The staffing problem has been further aggravated by student unrest and lack of control in student intake due to external pressure on the college authorities. Student enrollments should not be increased until staff training has been improved.
- (c) Problems encountered in procurement has mostly been of practical nature, for instance, difficulties in opening letters of credit and in obtaining books through prescribed ICB procedures. Flexibility in procurement methods is thus of great importance and the Association has waived ICB procedures where justified.

5. Applicable experience gained in the implementation of previous projects in Pakistan has been taken into account in the project design of the Third Education Project as follows:

- (a) A co-ordinating project implementation unit with the necessary powers and staff has been established in the Federal Ministry of Education;
- (b) Key project implementing staff have been invited to attend a Bank sponsored seminar to familiarize themselves with IDA procedures in project implementation;
- (c) To prevent delays in the provision of technical assistance, conclusion of a technical assistance agreement would be a condition of disbursements for other project items (except professional fees) at the Sind Agricultural University (SAU);
- (d) The Government has agreed to freeze enrollments at the SAU until long term development plan and manpower studies have been undertaken to determine man-power needs; and
- (e) The Government has agreed to specific maintenance budget allocations for all project institutes. Maintenance repair facilities for equipment are included in the Project.

INTEGRATED RURAL DEVELOPMENT PROGRAM AND FIELD ASSISTANTS

Integrated Rural Development Program (IRDP)

1. The IRDP was launched in 1972 as the country's primary effort toward rural development and has been given top priority. All of the provinces have included an increase in agricultural production, particularly in foodgrains, among the other objectives of the IRDPs. This is the sole objective in the Punjab Province, but only part of a much broader set of objectives in other provinces, with village cooperative organization as the primary objective in the North-West Frontier Province (NWFP). The main instrument to achieve these objectives is the markaz which operates through inter-agency coordination and grass roots participation. Markaz provides supporting facilities such as the services of government departments, supply of inputs, credit, machinery workshops, storage, marketing, agro-based industries, health and adult education to the rural population of the assigned area of 50-100 villages.

2. Essential to implementing IRDP would be a master plan for the delivery of development services and inputs to ensure their timely and adequate availability. None of the provinces has yet completed such a master plan. Annex 1 gives an estimated number of professional and sub-professional staff presently available, and the expected manpower surplus or deficit that will result by the year 1981 1/, taking into account the IRDP typical staff structure of a markaz 2/, and the expected supply between 1976-1981 by the various training institutions. Most markaz have only recently been established and the number of line department staff is limited, except in NWFP. As a result practical courses for farmers in crops, animal husbandry, water management, functional literacy and other support programs which would normally be conducted by line department staff, have begun only on a limited scale.

3. The Bank Group Rural Development Project Preparation Assistance Mission which visited Pakistan in March/April 1975 reports that although training of staff and beneficiaries is considered an important element of the IRDP, training for rural development is still limited. The Pakistan Academy for Rural Development in Peshawar, NWFP, is the major training institution and another rural development academy is being established in Quetta, Baluchistan. It was established as a national training institution but only the NWFP has, as yet, fully utilized its capacity. The Peshawar Academy provides pre-service and in-service training programs for both IRDP

1/ Date when the IRDP expects to have the 500 markaz in full operation following the provincial distribution shown in paragraph 2.04.

2/ All provinces will not have, however, the same markaz staff structure.

staff and line departments; the Quetta Academy for IRDP staff only. The federal level is not now providing assistance or encouragement to provincial training programs. A comprehensive study is needed to determine the present status of pre-service and in-service courses for both IRDP and line staff, and to recommend a feasible investment project for meeting anticipated demands for rural development manpower.

Field Assistants and Training institutes

4. Present middle-level field assistants 1/ are generally incapable of providing the practical advice and assistance that farmers need. The farmer is usually engaged in both crop and animal husbandry and requires simultaneous advice in both fields. The agricultural field assistant who is expected to operate at village level within the staff structure of a markaz should then be capable of providing the small farmer advice on crops and on the broader and routine problems of animal husbandry. He should detect those problems on animal husbandry for which he would require further support (particularly animal health problems), and seek that support from specialized staff in that area, e.g., from stock assistants (Union Council level) or Animal Husbandry/Veterinary Officer at markaz level. Concurrently, the stock assistant should be able to provide specialized livestock farmers with services in animal husbandry and health under the supervision of the animal husbandry/veterinary officer.

5. Field agricultural assistants and stock assistant training are currently of low quality. The ATIs' instructional staff are poorly motivated and trained. The ATIs lack laboratory and workshop equipment and farm implements, machinery and animals. While the duration of courses at the ATIs has recently been increased from one to two years post-matriculation, stock assistants will frequently have no formal training and are only "apprenticed" to officers at district and animal hospitals, whose own professional training is predominately in veterinary medicine rather than animal husbandry. This is, however, being changed in the Punjab Province's Lyallpur University, with the opening of an undergraduate course on animal husbandry separate from that on veterinary science.

6. Integrating the training of agricultural field assistants and stock assistants in a common institution is essential. Training should be of two years duration, based upon a revised curriculum which should include a common core of agricultural science subjects, farm management, rural sociology and some specialization in crop or animal husbandry. At least half of the instruction should be practical and specifically related to the type of farming predominant in the area. These approaches have been adopted in the proposed ATIs.

1/ "Middle-level" implies staff with less than degree qualifications (usually post-matriculation course of two years duration) such as field assistants for crops, stock assistants for animal husbandry compounders for animal health.

7. There are no firm estimates of the demand for field agricultural assistants and stock assistants or of the Government's capacity to support them. According to the official IRDP report 1/ 1973 requirements for sub-professional agriculturalists was estimated at 50 agricultural field assistants and 10 stock assistants per markaz. The original proposal was that 500 markaz should be established by 1975/76 and 700 markaz by 1980/81, creating a theoretical need for 35,000 agricultural field assistants and 7,000 stock assistants. Neither of these targets is likely to be reached. In fact, the 500 markaz target has been postponed to the year 1981 and there is evidence that even this new target will not be met by some of the provinces. Also, the manpower considered necessary is too ambitious as judged by the planned final ratio field agricultural assistants/farm families. However, some provinces have modified the original staff structure of the markaz. There are now about 5,700 extension workers, of whom about 700 are agricultural graduates and 5,000 field agricultural assistants. In addition there are nearly 2,500 stock assistants and compounders who are engaged mainly in animal health programmes. The annual output of the five ATIs is about 250 which would barely provide for the annual turnover of current staff and would not cover even one-half of the relevant staff requirements projected by the IRDP for the 500 markaz. Intensifying extension services to smaller farmers in Pakistan, whether through the IRDP or the provincial agricultural departments, would require improving the orientation and quality of pre-service training and frequent in-service training.

1/ Report of the International Seminar on Integrated Rural Development
p. 135, Table I.

THE EDUCATION AND TRAINING SYSTEMStructure

1. The education system is divided into the following stages: primary (grades 1-5), middle (grades 6-8), high (grades 9-10), intermediate (grades 11-12) and degree (grades 13-14 plus). Secondary education includes the middle and high stages (Chart 1).
2. School attendance, limited by shortage of facilities as well as social and cultural factors, is low: in 1975/76 primary, middle and high stage enrollments were estimated to 49%, 21% and 12% of the corresponding age groups. About three times as many boys as girls were attending school.
3. Male and female education is generally separated in terms of physical facilities, staffs, and supervision by inspectors. The required separation could economically be achieved by separate morning and afternoon shifts for boys and girls, rather than duplicating buildings within each catchment area. Although encouraged by the Government, two shift schools remain, however, less common.
4. There is no strict organization of schools by stage. Middle stage education, for instance, is either provided in separate middle schools or attached to primary or high schools and expansion beyond the primary stage is to a considerable extent achieved through upgrading primary schools to middle standard and middle schools to high standard. This illustrates the rather weak position of education planning.
5. Vocational education is largely provided by separate vocational schools where enrollments corresponded to less than 10% of the high school stage. In order to give the general education system a more practical orientation and to expand vocational education, the Government plans to merge vocational and high schools. 1/
6. High education is provided by over 400 colleges, the majority of which offer degree-level classes, and eight universities. Due to social pressures, Government investments have favored higher education. 2/ Development has now reached a point where further investment in general university and college education seems to be associated with a negative rate of return while the investments in primary education have been so marginal that additional investments are estimated to return 15%-20%. 3/

1/ Source: Draft Fifth Five-Year Development Plan, 1976-81.

2/ Actually allocated amounts, as fraction of budgeted, have been lower for primary schools, than universities (76% and 111% respectively in 1970-72).

3/ Source: Pakistan Education Sector Assessment, 1974.

7. Adult education, including literacy, is fragmented and no large-scale operations have yet been successfully undertaken. However, several private and public bodies have, independently, been involved in adult education and/or literacy, and in the process valuable experience has been gathered. An administrative structure suitable for a nationwide effort may be forthcoming through the Integrated Rural Development Program.

Administration

8. The Federal Ministry of Education and the Education Secretariats of the Provincial Government share the responsibility for formal education in Pakistan. In broad terms, the constitution charges the Federal Ministry with the duty of overall planning, policy formulation and coordination whereas institutional planning and management is made a provincial responsibility. However, a directorate within the Ministry is in charge of a number of Federal Government institutions and certain areas of Pakistan are under Federal administration (Tribal areas, Azad Kashmir and Northern areas). Curricula and study materials are centrally approved for the whole country. Development work is done by the National Bureau of Curriculum and Textbooks in collaboration with the appropriate Provincial Bureau.

9. In a program of nationalization begun in September 1972, the Government has taken over private schools and practically all schools are now public. School fees have been abolished up to matriculation (grade 10), but contributions are often charged for materials or school support funds. Formally, universities are autonomous, but for budget reasons they are linked with the Provincial or Federal Departments of Education. In recent years, student pressure groups have taken control over important management decisions and strongly influenced academic work.

10. Departments other than Education (Health, Agriculture, Veterinary, Labor Activities or Industries, etc.) give training programs related to their fields. These include the training of nurses, lady health visitors, field assistants, farmers, skilled craftsmen, handicraft training, etc., and account for approximately 8% of Government education expenditure.

General Education

11. For primary education grade one enrollment includes approximately 74% of all children. ^{1/} However, the dropout rate is considerable and less than half the initial entrants remain through grade five. Commonly quoted causes include inadequate physical facilities, poorly qualified and motivated teachers, poverty requiring or encouraging child labor and social prejudices. It is unlikely that parent's negative attitudes towards schooling, as reflected in the high dropout rates and their poor responses to physical need of their village schools, will be overcome in a short period

^{1/} As automatic progression was only recently introduced, these figures include an unknown amount of repetition.

of time. In fact, primary school development has been sluggish in recent years; the growth rate 3.4% p.a., barely exceeding the population growth (see Annex 2).

12. Educational opportunities are unevenly distributed by sex; close to 100% of the 5-year old age group of males is enrolled in Grade 1, compared to only 47% of females. 1/ In addition, female dropout rates are significantly higher than male so that Grade 5 provides schooling for three times as many boys as girls. Regional inequities are also sizable. Whereas in 1972/73 the female primary enrollment ratio for Karachi Division was 47%, the ratio for Hyderabad Division was only 12%, and in the Tribal Areas the supply of educational services to girls had barely begun.

13. The Education Policy 1972-80 has led to a number of reforms in primary education including (a) a revision of the primary curricula to ensure greater activation of the children in accordance with their stages of development, (b) the abolition of annual examinations in favor of a continuous assessment, and (c) the introduction of automatic progression. New primary texts are being procured by the National Textbook Foundation and kits, including small implements and texts for use by teachers and children, are being developed and tried in the field.

14. Teachers now entering the profession have ten years of schooling (matriculation) and one year professional training. However, many teachers with only eight years of schooling remain in the profession; approximately half of the teacher force in Sind and NWFP is of this type. Following large-scale in-service teacher training programs conducted by the Provincial Governments, most teachers are formally qualified. The need for in-service training, particularly for the introduction of the new curricula is nevertheless great.

15. The normal class size is 40 pupils, but a considerable over-enrollment occurs in the lower grades, and despite dropouts the average pupil/teacher ratio is 39. Schools are usually single stream, with one teacher assigned to each class, but smaller schools, notably single teacher-schools, exist in rural areas. The planned expansion of education to under-privileged areas will require a lower pupil/teacher ratio since otherwise catchment areas would become too large. 2/

16. Middle stage education is characterized by many of the problems mentioned under previous headings (poor facilities, scarcity of teaching materials, etc.). Educational opportunities are more unevenly distributed by sex and region, but the dropout rate is smaller. Enrollment ratios are in 1975/76 estimated to 32% for boys and 8.2% for girls (see Chart 2).

1/ Gross enrollments including overage pupils estimated for 1975/76.

2/ The projections of teacher requirement in this report have been based on a teacher/pupil ratio of 1:33.

17. Among educational reforms stemming from the 1972-80 Education Policy, the introduction of agrotechnical education is of particular significance to the middle level since it is envisaged that all schools will be involved in this reform and that boys will take either agriculture or industrial arts and girls, home economics. The weekly time allocation is approximately 18% and the syllabi have a fair bias towards general science education. Although the reform would increase the value of schooling to most pupils, care should be exercised in implementation. Teachers are not available in sufficient numbers while courses need to be experimented with and materials tested.

18. The required teacher qualification is 12 years of schooling (Intermediate degree from College), plus one year of professional training. However, an admixture of graduate staff is preferred. 1/ Because of the frequent attachment of middle stage classes to primary schools (see para. 4) and the reporting techniques used, it is not possible to specify actual teacher qualifications for the middle stage.

19. High school education is in 1975/76 estimated to be available to 12% of the 14-15 year old age group (male 20%, female 4.5%). The unequal regional distribution of the schools is an obstacle to development in rural areas because urban graduates are usually unwilling to accept rural employment after professional training. The scarcity of high school graduates for teacher training limits primary school expansion in certain areas. 2/ High school teachers are required to have a university degree and professional training.

20. Agriculture, industrial arts and home economics are offered as high school subjects, but the number of matriculates have so far been low (800, 1,700 and 1,300, respectively, p.a.). In agriculture, for instance, the low output precludes that a high school background presently be made a requirement for entry to Agricultural Training Institutes or to middle stage teacher training in agriculture. The only other common vocationally oriented study group in the high school is commerce. Together these groups of study represent only 5% of the matriculates.

21. While vocational and technical education at the secondary level has been expanding at a rate of almost 12% p.a., much greater than other areas of education, it still represents only 10% of overall enrollment. In 1972/73 there were 149 male and 135 female institutions enrolling respectively 30- and 13-thousand pupils. Vocational Institutes for boys (minimum grade 8 entry) train semi-skilled and skilled workers in various technical fields, such as carpentry, painting and carpetmaking. Vocational Institutes for girls (minimum grade 5 entry) provide one or two-year courses in various handicrafts and secretarial work. Commercial Institutes provide one or two-year course and Polytechnics (grade 10 entry) provide three-year courses essentially for boys.

1/ In Karachi, the supply of graduate teachers is so great that essentially only graduates are being recruited.

2/ Proposed project items have taken this into account by giving preference to rural sites and by increased boarding capacities, particularly for female institutions.

22. Particularly in technical fields, graduates from formal training institutes have encountered employment difficulties which may be explained by the strong role that apprentice training plays in Pakistan through family enterprise and, as a result, polytechnic institutes have not expanded as originally anticipated.

23. Vocational and technical education is a priority area under the 1972-80 Education Policy. However, future expansion is envisaged to take the form of integrated secondary education.

24. Higher education is provided by 362 Arts and Science Colleges, 76 Professional colleges and eight universities (1972/73). Degree colleges go beyond the Intermediate examination (12th year) to the Bachelor's degree (14th year). Universities provide Honors' degrees (usually three years beyond intermediate) and post-graduate programs. The professional colleges provide training varying in length from one to six years in agriculture, engineering, commerce, law, medical fields, home economics, education and some other smaller professional areas. Female enrollment is low (15% of total) and concentrated in the latter three fields.

25. Higher education has received an unduly large share of previous development budgets. This fact is acknowledged by the Government and expansion will, according to the Working Paper for Development Perspective (1975-80), be limited to backward areas and to subject areas other than the Arts (which now account for over half of the enrollment).

Development Perspectives, 1976-81

26. The Education Policy announced by the Government of Pakistan in March 1972 forms the basis for a number of important reforms and expansion plans. The qualitative or administrative reforms include: free education up to Grade 10 and nationalization of private schools, curriculum reform, abolition of examinations through Grade 9 and increased emphasis on agro-technical education including home economics.

27. Demanding quantitative goals were, however, also set forth both for in-school and adult education. The detailed plans set forth in the draft Fifth Five Year Plan (1976-81) envisage primary enrollment ratios to reach 85% and 49% respectively for boys and girls by 1981, with growth rates for enrollment averaging 9.3% per annum. Expansion rates of this order of magnitude are also planned at middle and high school levels. To achieve these goals, double shifts would be extensively used to minimize new construction. New facilities would be created for teacher training, and in addition teachers would also be trained at high schools and colleges. The following table displays the actual and projected enrollment ratios for 1972/73 and 1980/81 together with the average annual growth rates achieved or required for the preceding five-year period:

	<u>Enrollment Ratio</u> ^{/a}		<u>Annual Growth Rate</u>	
	<u>Actual</u>	<u>Projected</u>	<u>Actual</u>	<u>Projected</u>
	72/73 %	80/81 %	68-73 % p.a.	76-81 % p.a.
<u>Primary:</u> Female	26	49	4.1	13.9
Male	<u>62</u>	<u>85</u>	<u>3.2</u>	<u>7.2</u>
Male & Female	45	68	3.4	9.3
<u>Middle:</u> Female	7.3	13	3.5	11.6
Male	<u>31</u>	<u>42</u>	<u>5.2</u>	<u>7.5</u>
Male & Female	20	27	4.9	8.3
<u>High:</u> Female	4.3	5.9	8.4	9.3
Male	<u>19</u>	<u>24</u>	<u>8.2</u>	<u>7.7</u>
Male & Female	12	15	8.3	8.0

/a Enrollment as fraction of age groups including overaged students. Vocational secondary schools are not included as enrollments were not projected.

28. Considering that the present low enrollment ratios are largely due to high dropout rates - which in turn seem to be caused by factors which are only slowly changing (see para 11) - there is reason to doubt the realism of these projections. Crash programs of teacher training attached to high schools and colleges, which are due to poor quality of training, might even counteract primary school expansion, should this not be considered at present.

29. For literacy the goal of the 1972 Education Policy was to reach as much of the population as possible (about 11 million) through ten thousand centers established at women's education centers, schools, factories and youth centers. Mass media were to be extensively used. (The number of illiterates was then estimated to 40 million and to be growing at over one million per year).

Teacher Training

30. The main staff categories desired 1/ within the three stages of the school system are:

1/ In addition there are a number of other specialized categories (drawing masters, oriental teachers, etc.), but generally speaking, their training and level of service falls within this pattern.

Teacher Qualification, Years of Schooling and Training:	Area of Service and Salary Range:
: Primary Teachers' Certificate : (PTC) 10 + 1	: : Primary Stage : PRs 165 -315
: : Certified Teacher : (CT) 12 + 1	: : Middle Stage : PRs 200 - 480
: : Bachelor of Education : (B Ed) 14 + 1 : or higher degree	: : High Stage : PRs 350 - 1000

A composite staff--certain degree teachers, for instance, working at the middle stage--is desired and practiced. However, the composition of the staff is essentially determined by the availability of teachers, and varies considerably by location 1/. While such variations are important in local planning, national estimates of teacher requirements may, with reasonable accuracy, be made on the assumption that all new posts in the primary stage should be filled by PTC-level staff and most middle stage posts by CT-level staff.

31. There are 55 institutions training teachers of PTC and/or CT standard with an overall annual output of about 11,000. The proportion of CT intakes can in most cases be adjusted at short notice. Although exceptions exist, the training is usually of poor quality and geared to provide a formal certification rather than professional skills. Lack of workshops for crafts, laboratories, suitable furniture and equipment, favor a lecture - style education which the curriculum reform introduced by the 1972 Education Policy attempts to avoid. The teaching staff generally has a poor understanding of the methods required by the new curriculum, and there is a strong need for extensive reorientation courses. From time to time short courses of this nature are arranged by Provincial Extension Centers, 2/ the People's Open University, Islamabad and some other University departments.

32. Present non-degree pre-service programs (PTC, CT and equivalent) are poorly organized, and last barely six months. In addition, the professional atmosphere and standards are adversely affected by improper admissions

1/ Because of their availability, only degree teachers are recruited to male middle stage posts in Karachi Division. This occurs less frequently in other areas.

2/ One to two institutions per Province, primarily responsible for in-service training of school teachers but also connected with curriculum development.

late in the year - even up to a few months before the end of the course. A lengthening of the courses to a minimum of nine months of effective work and termination of late admissions was recently agreed to by the Government. Teacher qualifications may now also be earned by appearing as an external candidate without having taken professional training. This practice should be abolished.

33. In-service training of school teachers is the responsibility of the Provincial Extension Centers together with the People's Open University. The former are organizing large-scale courses to introduce the new curricula. The goal is that all primary teachers should be reached within three to five years. The courses are short and conducted by "master-trainers" who themselves have had only brief training. The People's Open University is planning longer radio and correspondence courses, primarily for the academic upgrading of teachers.

34. Graduate level teacher training is organized as a one-year post-graduate professional course at Universities or Colleges of Education. There are special programs for training technical teachers.

35. As can be seen from Annex 3, the present supply of trained male teachers will not constrain implementation of the plans for expanding primary and middle school education for boys. The estimated shortfall of 5,000, out of 85,000 required to meet the planned expansion, would be covered by a surplus of graduate teachers, and expansion will for other reasons probably not be as dramatic as envisaged (see para. 28). If the existing stock of 40,000 unemployed teachers trained in crash programs is absorbed, primary schools could enroll 80%-85% of the age group by 1980. However, a capacity expansion of about 1,500 male teachers p.a. would be required by 1980 solely to maintain that enrollment ratio between 1980-85.

36. The supply of female teachers is, however, a severe constraint to the development of female education. Present sources would provide only 15,000 or 27% of the 55,000 required in the period 1976-81 (see Annex 3). Female teacher training should accordingly be expanded as fast as feasible. The major difficulty here is the lack of qualified candidates for teacher training in rural areas. Plans for further investments will require reassessment of the situation after about two years.

Agricultural Education and Home Economics

37. Recognizing that much of Pakistan's population is engaged in agricultural activities, the 1972 Education Policy calls for a "shift from general education to more purposeful agrotechnical education." Agriculture is thus being introduced as a science-oriented subject in middle schools with a time allotment of eight periods per week. It is planned that 70%

of all male schools 1/ will participate. Foreign experts are helping develop curricula for agriculture and other agrotechnical subjects.

38. Agriculture is studied to matriculation level by only a small fraction of secondary school students (Approx. 800 of 150,000). The Government proposed an increase for the present planning period; if plans materialize, approximately 6% would specialize in agriculture.

39. Field assistant training is offered in five Agricultural Training Institutes under the Provincial Departments of Agriculture. 2/ These terminal two-year post matriculation courses specialize in either crop or animal husbandry. Annual outputs have been in the range of 250 p.a. for all institutes together (see Appendix II for more detailed information).

40. Degree level courses, requiring five to six years of post matriculation studies, are offered by five colleges or universities in Pakistan:

- (a) College of Agriculture, Peshawar University, NWFP;
- (b) Pakistan Forest Institute, Peshawar, NWFP;
- (c) Sind Agricultural University, Tandojam;
- (d) Agricultural University, Lyallpur, the Punjab; with affiliated
- (e) College of Animal Husbandry, Lahore, Punjab.

Total outputs at bachelors' and master's levels numbered 729 and 253, respectively in 1971.

41. Signs of employment difficulties have been noted for agricultural graduates. There is, however, a severe shortage of teachers for the proposed expansion of agricultural education in middle and high schools and resources should be diverted in that direction by one-year teacher training programs for agricultural graduates. Agricultural teacher training programs are now only offered by Lyallpur University through a three-year integrated course (recent outputs approx. 20 p.a.). Under the proposed project Sind Agricultural University will develop one-year post-graduate program in agricultural education.

42. Several non-formal programs related to rural development or agriculture are arranged by agricultural colleges or universities, the Pakistan Academy for Rural Development, cooperative colleges, directorates of agriculture and rural development, the Pakistan Television Corporation (PTV),

1/ This figure is based on a proposal that female students will be offered home economics and male students will be offered either agriculture or industrial arts, the latter in 80% of the urban schools and 8% of the rural. The rural population is estimated to be 70% in 1980.

2/ Peshawar (NWFP), Sakrand (Sind), Sarghoda (the Punjab), Rahimyar Khan (Punjab) and Quetta (Baluchistan).

the Pakistan Broadcasting Corporation (PBC) and private enterprises. The larger programs include: (a) the training of farm guides or farm home guides in two-week to two-month courses at Lyallpur Agricultural University; (b) half-hour daily radio programs, including recorded discussions among farmers, organized in collaboration with lectures from the PBC and agricultural departments; and (c) a whole series of short applied courses of one week to three months duration for farmers.

43. Home economics is currently given the same emphasis for girls as agriculture is for boys. It is being made a compulsory subject in middle schools and emphasized in high schools. At present, 3.2% of matriculates have majored in the field and the subject is offered at degree level at three colleges. The number of graduates have been just over 200 p.a.

44. The content of the courses offered are the same for urban and rural girls. They include food and nutrition, clothing and textiles, child development and family relations, various arts, crafts and some general science. Very little is offered of relevance to agricultural occupations. A reform in this respect is urgent since the women play an important role in the rural economy. Pilot programs are planned by the Lyallpur Agricultural University.

Literacy and Adult Education

45. Relatively large-scale literacy campaigns have been attempted by Provincial Governments through the People's Works Program. Some 20,000 teachers, generally educated but unemployed persons or school teachers, were instructed in literacy techniques by 650 master trainers. Primers, wall charts, and in some cases, radio broadcasts supported the program. The effort was, however, not particularly successful and the program has been cancelled in Sind and the Punjab. The reason for failure was probably poor project preparation, with the result that the participants did not contribute their time and effort.

46. Several other organizations have launched independent adult education programs. These include Pakistan Broadcasting Corporation, Adult Basic Education Society (ABES), the Girl Guides Association, Universities, Ministries and recently the People's Open University which was founded with adult education as one of its functions.

47. ABES, which has developed its techniques over several years, has been recognized as one of the most successful organizations in the field. Its target groups have been illiterates and neo-literates in cities and villages along main roads. With class sizes averaging 12 adults, drop-out rates below 20% were achieved. Courses are run on a part-time basis. Centers have been chosen so as to be easily accessible to ABES supervision. Basic literacy and short functional courses, supported by reading material, aim at improving participant's abilities to perform as more self-reliant citizens. Several booklets graded according to linguistic ability have been developed and in 1973/74, over 100,000 books were sold. Although still

reaching only a small fraction of the population (1,700 were made functionally literate in 1972-73), the ABES pilot effort may have laid the groundwork for future large-scale operations. Its material and experience have been utilized for a first phase experimental program conducted in 1975/76 by the PTV with UNICEF assistance.

Education Finance

48. The Federal Government has the primary responsibility for providing development expenditure to the Provincial Governments; the latter are responsible for recurrent expenditures. This budgetary system has led to certain distortions and imbalances in the growth of the educational system, inter alia, relatively capital intensive higher education. Implementation of the Government priority of developing education facilities in less developed areas seems to require that it provides recurrent expenditure to the least educationally developed provinces.

49. The following table summarizes expenditure trends since FY1971 and provides a projection for FY1980. More complete data are presented in Annex 5.

	<u>(PRs. millions)</u>		<u>Per Annum Rate of Increase</u>	
	<u>1970/71</u>	<u>1974/75</u>	<u>1970/71-1974/75</u>	<u>1980/81</u> ^{/a}
Total Government Expenditure	9,671	25,761	28%	
Total Government Expenditure on				
Education	583	1,594	29%	5,972
Development	167	486	31%	3,000
Recurrent	416	1,108	28%	2,972
Government Expenditure on Education as a % of Total Government Expenditure	6.0%	6.2%		

^{/a} Source: Government of Pakistan Planning Commission, Draft Fifth Five-Year Plan 1976-81, January, 1976.

50. During the fiscal period 1971-75, the Government's education expenditures increased at an average rate of 29% p.a., as compared to a growth of consolidated Federal and Provincial budgets of about 28% p.a. During the same period the overall inflation rate was estimated at more

than 20% p.a. An increase in development expenditure from PRs. 167 million in FY1971 to PRs. 486 million in FY1975 was insufficient because of cost escalation in construction, equipment, furniture, and materials. Teacher salaries in nationalized private and public school largely accounted for increases in recurrent expenditure from PRs, 416 million to PRs. 1,108 million. Government education expenditure as a percent of GNP increased from 1.3% in 1970 to 1.8% in 1975; as a percent of total Government expenditures, it increased from 6.0% to 6.2%. Education spending per capita in FY1975 was estimated at Rs. 30. These figures are among the lowest in the developing countries (Comparative Education Indicators) and the Government intends to improve them during FY1976-81.

51. Despite the high priority given to education, the budgetary allocation to this sector has been insufficient (para. 50). The shortfall between targets and actual performance was mainly due to calamities (two wars, flood and drought) which pre-empted required resources. The draft Development Perspective (1976-81) proposes to increase per capita education spending to Rs. 63 by FY1981 and the Government education expenditure as a percentage of GNP to 3.2%. The projection of expenditure for FY1981 is based on the following planned increases in enrollments and teacher requirements: primary level from 47% in 1974/75 to 73% in 1980/81; secondary level from 17% to 26%; 166,000 primary school teachers; and 30,000 secondary school teachers during 1976-81. The enrollment at diploma level is planned to increase from 156,000 in 1974/75 to 220,000 in 1980/81 and enrollment at degree level from 66,000 to 91,000. However, some of these projections seem overly optimistic.

52. Unit costs of education (in PRs) are summarized in the following table:

<u>Level</u>	<u>Development</u>	<u>Annual Recurrent</u>
Primary	38	100
Secondary	270	350
Technical		
Diploma	2,000	2,000
Degree	5,000	4,500
College	800	1,000
University	15,000	5,000

Source: Government of Pakistan Planning Commission, draft Development Perspective (1976-81).

The above data show that for each place created in a university nearly 400 places could be created at primary level and the annual recurrent cost per student in university is 50 times the recurrent cost per student at primary level. In the past, whenever reduced funds required reallocation of the education budget, higher education was well protected at the expense

of primary education. A crucial factor in implementing education policy for the period 1976-81 will be the Government's ability effectively to resist social pressures to expand colleges and universities and not to divert funds earmarked for the primary level.

COMPARATIVE EDUCATION INDICATORS

(DECEMBER 30, 1976)

ANNEX O
Page 1

	POP. YR1 (000)	GNP/CAPITA AT MARKET PRICES (US\$)	% GNP DEVOTED TO EDUC. ONLY	% TOTAL PUBLIC EXP. TO EDUC.	% OF PUBLIC EXP. TO PRI. SEC. EDU.	% OF PUBLIC EXP. TO TERT. EDU.	% OF PUBLIC EXP. TO UNK.	LITERACY RATE (% OF ADULTS)	PRI. ENROLLMENT RATE (% OF NET PRY)	COMPLETION RATE FOR PRY (% OF NET PRY)	PRI. STUDENTS PER TEACHER	AV. PRI. SALARY PER TEACHER	PROGRESS FROM PRI. TO SEC. (%)	SEC. ENROLLMENT RATE (%)	SEC. STUDENTS PER TEACHER	HIGHER ENROLLMENT RATE (%)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
ADVANCED																	
AUSTRIA	73	7.5	3,510	4.3	9.9	470	250	200	99	98	93	26	2.0	99	51	19	8.00
CANADA	72	22.10	5,4500	7.7	19.4	30	38	19	98	89	98	24	2.0	99	82	17	9.00
GERMANY F. REP.	72	61.00	5,3200	4.2	14.2	...	74**	26	99	91	99	33	...	99	91	22	17.00CY
JAPAN	71	108.30	3,6300	4.3	20.7	39	38	12	99	990	99C	25C	2.0	99C	94D	20C	28.000
NETHERLANDS	72	13.40	4,3300	8.5	19.1G	32	45	19	99	95	95	29	3.0	97	73	20	11.00
NEW ZEALAND	73	2.9	3,680	5.2	...	39	24	29	99	99	99	26	...	99	67	19	24.00
NORWAY	72	3.90	4,6600	7.0	15.2	58	23	13	99	99	98	20	1.9	99	76	14	11.00
SWEDEN	73	8.1	5,910	6.9	16.0	36	14	13	99	99	99	17	...	90	85	10	30.00
U.K.	72	55.00	3,0600	6.3	12.7	26	39	22	98	99	...	26	2.0	...	63	17	11.00
U.S.A.	72	210.40	6,2000	6.0	15.4	...	73**	27	99	99	99	25U	2.0	...	93	19U	29.00
EUROPE																	
GREECE	71	8.90	1,8700	2.2	11.1	54Y	29Y	14Y	82A	95Y	...	32Y	...	70A	58Y	43Y	11.00
IRELAND	72	3.00	2,1500	5.1	13.90	43Y	41Y	14Y	98	97Y	99A	35	...	95A	75	19	7.00A
PORTUGAL	72	9.00	1,4100	...	...	...	...	...	...	91XY	...	...	...	...	65XY	...	7.60Y
SPAIN	71	34.70	1,7100	2.4B	15.2A	49Y	22Y	15Y	94A	91A	...	35A	...	...	29A	30	6.00A
AFRICA																	
ALGERIA	75	15.7	778	7.5	...	41G	32G	18G	30	76	62E	42E	6.0G	49E	17	25	4.00
BENIN	73	2.9	110	5.3	32.0	47	23	10	11	32XB	70R	50R	25.0B	43R	7B	39B	0.44CY
BOTSWANA	74	0.7	300	5.0	20.0	38	20	15	25	70X	75	35	5.0	24	13X	18	0.30Y
BURUNDI	74	3.5	92	2.5	19.90	47R	41R	12R	10	20X	30?	38	10.0	14	2X	18	1.0
CAMEROON	73	6.2	250	5.9	20.0	38Y	29Y	17Y	...	74	...	510Y	...	...	9	23CY	0.90CY
C.A.R.	70	1.70	1600	4.0N	20.0	56	19	...	...	64CY	25	69CY	...	18	5CY	27BY	0.07Y
CHAD	75	4.00	800	3.0	10.0	78	22	...	15	29XB	30	69BY	15.0	8	2XB	30	0.01BY
CONGO(B)	74	1.3	450	6.0	19.3	40	32	21	50?	133X	63	63	6.0	48	33X	22	3.40
EGYPT	74	36.4	280	5.3	...	29	36	24	40	74X	45	40	...	64	39X	28	11.00
ETHIOPIA	73	26.5	90	3.1	20.0	42	29	18	7	17C	42	50	3.0	63	2	30	0.20
GABON	73	0.5	1,310	5.0	20.6	25	9	11	...	184XB	25C	46C	5.0	18A	20C	21C	1.40CY
GHANA	71	9.30	3000	4.7	24.4DR	38Q	15Q	23Q	...	56XC	62	30CY	...	14	11X	16CY	0.74BY
IVORY COAST	72	5.80	3800	6.3	24.7	27BY	33BY	13Y	9A	52	57A	46	...	...	10	25	1.20BY
KENYA	73	12.4	170	6.4N	27.0	63	11	11	40	73	...	40	8.0	14	12	23	1.03BY
LESOTHO	75	1.2	110N	12.0P	23.0	49	18	20	40	85	50	52	7.0N	81	10	26	1.00
LIBERIA	75	1.5	410	2.4	13.2	27	15	20	73	58	...	35	2.0	...	12	26	1.10AY
MADAGASCAR	74	8.6	1500	3.2	22.1	51	24	25	40	68X	30	63	15.0	48	9X	26	1.00
MALAWI	74	4.80	1100	3.1	20.9	...	...	...	25	56X	60	50	7.0	40	4X	20	0.26CY
MALI	74	5.30	700	4.6N	32.3	368	528	128	100	18A	22A	40A	14.0B	37A	4A	17A	0.16AY
MAURITANIA	70	1.20	2000	4.5	21.0	...	...	...	10	15X	...	22	...	...	3	24	...
MAURITIUS	72	0.80	4100	3.7	11.70Q	71	10	4	80	86	99	31	...	...	31	30	1.47CY
MOROCCO	74	15.9	320	5.0C	16.5	44	47	9	26?	54X	21	37	...	31	13X	21	2.00
NIGERIA	71	71.20	2100	3.2N	...	40A	24A	20A	...	39XC	...	34CY	...	...	4	20CY	0.37CY
RWANDA	73	3.90	700	3.2C	28.00	...	...	...	23	52	...	51	...	...	2	13	0.23CY
SENEGAL	71	4.00	2800	4.0N	22.5DR	38A	42A	5A	10	38X	...	46	...	...	11X	25	1.71CY
SIERRA LEONE	73	2.7	160	3.4	23.4	31	36	30	15?	34X	45	32	4.0E	68	13X	21	0.53BY
SOMALIA	75	3.2	100	3.70	10.80	490	160	190	50?	34X	86	35	10.0	60	3	15	0.10
SUDAN	72	17.00	1300	4.5	13.2	43	29	28	15	38	75	45	4.0	25	11	20	1.23Y
SWAZILAND	75	0.5	400	4.5	18.0	37	31	13	50	70	50	38	3.0	84	19	22	2.00
TANZANIA	74	13.20	1100	5.1N	17.0	36	...	12	63	44X	...	49	...	...	7	2	21C
TUNISIA	73	5.40	4600	6.3	23.4	37	43	18	55	72	81	41	6.0	31	14	21	3.00
UGANDA	70	10.80	1500	5.2N	17.6CR	40Q	22Q	25Q	25A	48XC	...	36	...	14A	4XC	21	0.58BY
UPPER VOLTA	72	5.70	700	4.0	23.9	65	10	6	5	10	...	45	18.0	20	2	23	0.01BY
ZAIRE	73	23.4	140	5.2CN	21.3C	54C	17C	29C	15	63	38	44A	6.0	43	8	24	0.968Y
ZAMBIA	74	4.7	482	5.3	14.2	34	18	16	43	88	80	47	9.0	20	13	22	1.00
CENTRAL AMERICA AND THE CARIBBEAN																	
COSTA RICA	71	1.80	7100	5.2	22.7	57	25	12	89	86CY	65	29	3.0	58	22CY	25	12.11CY
DOMINICAN REP.	72	4.40	5200	3.0	13.9	42	24	22	51	80	17	54	3.00	63	13.5	24	7.00
EL SALVADOR	75	3.70	3500	3.6	23.8	61	5	22	60B	65C	...	39CY	...	39	13XC	21CY	4.35BY
GUATEMALA	73	5.1	500	1.9	16.0	55	23	14	47	64	26	35	3.0	69	8	25	4.09Y
HAITI	72	4.40	1300	0.9	6.60	61	11	8	20B	22	25?	45	5.0	50	3	23	1.00?
HONDURAS	72	2.70	3200	3.9	26.5D	64	13	18	52	81X	18	37	6.0	75	14X	14	3.00
JAMAICA	72	1.90	9900	6.5Y	19.7	33Y	22Y	7Y	86	106XY	...	52	...	...	32XY	19	4.79Y
MEXICO	70	56.00	8900	2.6	9.3	54	24	12	76	71	31	46	3.0	63	19	23	6.32CY
NICARAGUA	74	2.00	5400	2.5	14.2	61	13	13	57	65	21	37	2.0	93	17	24	7.00
TRINIDAD & T.	71	1.00	1,3100	5.1	18.9	53	27	12	90	95X	87	35	4.0	15	49	25	2.56AY
SOUTH AMERICA																	
BOLIVIA	76	5.8	315F	5.0	17.5F	...	...	...	38	17B	29D	24	5F	...	4B	18D	...
BRAZIL	74	101.10	7600	4.3	12.0C	42	20	37	79	80X	...	27CY	...	...	18B	15CY	6.00B
CHILE	72	10.20	7200	4.6Y	10.6AY	36Y	14Y	36Y	...	111XD	...	37BY	...	...	48XD	...	...
COLOMBIA	70	22.50	4400	4.0	10.9	35	18	20	73	67	20	36	4.0	90	17	14	4.00
ECUADOR	72	6.70	3800	3.7	27.7C	450Y	420Y	100Y	69	72	...	38	...	...	18	14	4.97BY
GUYANA	74	0.7	4100	5.8N	14.7Q	47	35	14	83A	92X	39	33	6.0	19	62X	24	1.00
PARAGUAY	74	2.40	374	1.8	11.0	55	13	22	81	82	26	30	1.9	65	17	12	5.00
PERU	71	14.50	6200	4.5	24.10	50	22	15	72	80	38	39DY	3.0	70	30	23DY	12.00
VENEZUELA	73	11.2	1,630	4.6	19.9	30Q	28Q	35Q	77A	81	...	33	2.4	...	33	...	12.63CY

COMPARATIVE EDUCATION INDICATORS (CONTD)

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(DECEMBER 30, 1976)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)			
	GNP/	% GNP	% TOTAL	% OF PUBLIC	% OF PUBLIC	LITER-	PRI.	COMPLE-	PRI.	AV.PRI.	SEC	SEC	SEC	SEC			
	CAPITA	DEVOTED	PUBLIC	EDUCATION	EDUCATION	ACY	ENROLL	ITION	DENTS	SALARY	ION RATE	ENROLL	DENTS	HIGHER			
	AT	TO EDU.	EXP.	RECURRENT	EXP	EXP	PER	PER	PER	PER	PER	PER	PER	PER			
	MARKET	(PUBLIC	DEVOTED	EXP ALLOCATED	EXP	EXP	RATE	RATE	RATE	TO GNP/	TO SEC.	NET	TEACH-	RATIO			
	PP.	PRICES	EXP.	TO	TO	(% OF	NET	PRI.SCH.	TEACH	TO GNP/	TO SEC.	NET	TEACH-	RATIO			
	YR.(000)	(US\$)	(ONLY)	EDU.	PRI.	SEC.	HI.	ADULTS)	(%)	PER	PER	(%)	PER	(%)			
AFGHANISTAN	74	16.3	90?	...	...	39P	23P	16P	10	26X	24	41	5.0	78	8X	21	1.00
BANGLADESH	73	74.0	80	1.2	20.2	...	...	...	23	56X	...	48	...	...	23X	28	...
CHINA(TAIWAN)	73	15.4	660	3.2	14.0	28	41	22	82	98C	94	40	14.0	84	61C	26	20.00C
INDIA	71	581.9D	1200	2.6VY	...	...	...	...	29	79X	...	43A	...	...	28X	20AY	4.00AY
INDONESIA	73	124.40	1300	1.8	11.0	63	23	14	62	63	40	32	5.0	91	12	16	2.00
IRAN	73	32.1	870	3.3	12.6	50B	18B	12B	50	77	74A	32	5.0B	80A	24	32	4.32CY
IRAQ	72	10.40	850D	6.7	16.3DR	...	...	...	26	61CY	...	22	...	...	26XCY	26	6.28CY
JORDAN	73	2.5	340	7.0	8.8	52	15	21	59	91X	76	38	5.0	84	50X	22	4.00
KOREA	73	32.9	400	2.9	20.1	64	26	8	92	97	90	53	3.0	71	46	37	6.00
LEBANON	72	2.90	940D	3.5	18.0	39	40	10	68	86	65	19	2.0	63	26U	25	23.00
MALAYSIA	74	11.7	670	6.4	28.0	44	31	11	60C	96F	90	32	4.0D	83F	44F	27F	3.00F
OMAN	72	0.6D	840D	1.7N	3.8	96	-	-	20	24X	99	33	7.0	...	0.4X	9	...
PAKISTAN	75	69.0E	130E	1.6	6.2	45	25	18	22	49X	50	39	2.0	...	17X	18	6.00
PAPUA N.G.	75	2.6	410	5.6	16.1	38	16	24	32	57?	73P	31	11.0	90	12X?	24	0.90?
PHILIPPINES	74	40.2D	280D	2.5	14.9	73	15	12	87	104X	...	34	15.0	...	46X	...	21.00
SINGAPORE	72	2.2D	1,830D	3.1	16.2	44	31	15	75A	96Y	72A	33	...	99A	57Y	24	8.25Y
THAILAND	73	39.4	270	4.0NF	20.7F	65	9	15	82	87X	93C	32	3.0 U	91C	21X	24	2.00
TURKEY	72	37.9D	600D	...	13.0DR	...	...	...	...	105XC	...	34DY	...	...	22XY	27DY	5.31BY
YEMEN	73	6.3	100	0.5	4.0	45P	21P	23P	10	15X	18	36	5.0	75	2X	19	0.05BY
YEMEN P.D.R.	72	1.5D	110D	2.3A	12.6	79	12	-	10	70X	31	29	10.0	99	12X	20	0.08AY

SUMMARY FOR DEVELOPING COUNTRIES:

NUMBER OF COUNTRIES:	75	72	69	68	68	70	78	54	77	52	54	78	74	73
RANGE:	(0.5-12.0P)	(3.8-32.3)	(25-96)	(0-52)	(0-40)	(5-98)	(10-184X)	(17-99)	(19-65)	(1.8-25.0)	(7-99)	(.4-75.0)	(9-43)	(.01-23.0)
QUARTILES:UPPER :	5.2	22.1	55	31	22	75	87	75	46	8	80	29	26	6.0
MEDIAN:	4.0	18.0	45	23	15	50	71	50	38	5	63	16	23	2.00
LOWER :	3.0	13.9	38	16	12	21	52	30	33	3	25	9	20	.9

SYMBOLS: ... DATUM UNAVAILABLE A=1970 OR BEFORE M=CURRENT PRICES SOURCES:
 - MAGNITUDE NIL OR NEGLIGIBLE B=1971 N=GDP P=INCLUDING FOREIGN AID COLUMNS: 1 AND 2 WORLD BANK ATLAS
 ? QUESTIONABLE C=1972 Q=CENTRAL GOVT. ONLY 3 TO 14 IBRD MISSIONS OR IBRD MISSIONS
 * INCLUDES PART-TIME STUDENTS D=1973 R=MINISTRY OF EDUCATION (MOE) ONLY AND/OR UNESCO
 ** COMBINED WITH PRIMARY E=1974 S=MOE AND STATE GOVT. ONLY STATISTICAL
 F=1975 T=EXCLUDING CENTRAL GOVT. YEARBOOK
 G=1976 U=PUBLIC ONLY
 V=INCLUDING PRIVATE EXPENDITURE
 X=INCLUDING OVERAGED STUDENTS
 Y=UNESCO SOURCES

COMPARATIVE EDUCATION DATA ARE USEFUL IN THE EVALUATION OF VARIOUS EDUCATION SYSTEMS AND ANALYSIS OF RELATIVE STAGES OF EDUCATIONAL DEVELOPMENT BETWEEN VARIOUS COUNTRIES. HOWEVER, ON THE BASIS OF THE PRESENT DATA, CROSS-NATIONAL COMPARISON SHOULD BE APPROACHED WITH GREAT CAUTION. DATA PRESENTED IN THE ABOVE TABLE HAVE BEEN COLLECTED LARGELY BY THE BANK MISSIONS FROM GOVERNMENT SOURCES; THE REMAINDER ARE STAFF ESTIMATES OR DATA FROM UNESCO. EFFORTS HAVE BEEN MADE TO STANDARDIZE DEFINITIONS AND WITHIN LIMITS, TO CHECK THE ACCURACY OF THE DATA. NEVERTHELESS, SUCH DATA ARE STILL IMPERFECT IN SEVERAL RESPECTS AND THE BANK IS WORKING TO IMPROVE THEM

PROGRESSIVELY ON THE OCCASION OF ITS OPERATIONAL WORK. IN THE USE OF THESE DATA, THE FOLLOWING QUALIFICATIONS SHOULD BE BORNE IN MIND:

- "EDUCATION" AS DEFINED IN THE TABLE INCLUDES ALL EDUCATION AND TRAINING, FORMAL AND NON-FORMAL;
- "PRIMARY EDUCATION" REFERS TO EDUCATION AT THE FIRST LEVEL AND "SECONDARY" EDUCATION REFERS TO ALL EDUCATION AT THE SECONDARY LEVEL REGARDLESS OF TYPE (E.G. GENERAL, TECHNICAL, AGRICULTURAL);
- "LITERACY RATES"(COL.6) ARE OFTEN OBTAINED FROM COUNTRY CENSUSES, IN MANY COUNTRIES THEY ARE ONLY APPROXIMATIONS AND IT IS DOUBTFUL THAT ANY UNIFORM DEFINITION OF "LITERATE" HAS BEEN FOLLOWED CONSISTENTLY;
- "PUBLIC EXPENDITURE IN EDUCATION"(COLS.3,4 AND 5) REFER TO ALL CAPITAL AND RECURRENT EXPENDITURES DEVOTED TO EDUCATION BY PUBLIC AND QUASI-PUBLIC AGENCIES;
- "ENROLLMENT RATIOS"(COLS. 7, 12 AND 14) REFER TO SCHOOL YEAR AND MEAN THE PERCENTAGE OF ELIGIBLE CHILDREN ENROLLED FULL-TIME IN THE APPROPRIATE SCHOOL, PUBLIC AND PRIVATE BY LEVEL. THEY ARE OFTEN SUBJECT TO A WIDE MARGIN OF ERROR IN THE DEVELOPING COUNTRIES DUE TO VARIATION IN THE ACCURACY OF BASIC DATA(I.E. AGE-SPECIFIC POPULATION AND ENROLLMENTS). ENROLLMENT FIGURES FREQUENTLY ARE HIGHER THAN THE NUMBER OF STUDENTS ACTUALLY IN SCHOOL, OVERAGED STUDENTS WHOSE INCLUSION IS INDICATED BY FOOTNOTES ALSO CAN INFLATE THE RATIOS.

PAKISTAN EDUCATION PROJECT III

ASSESSMENT OF THE 1981 MANPOWER SITUATION OF TRAINED AGRICULTURALISTS

(Theoretical Projected Requirements Based on IRDP Planned Expansion to 500 Marakaz by 1981)

(in thousand)

Province	(i)			(ii)			(iii)			(iv)			(v)		
	1976 Stock			1976 Stock in 1981 2% attr. per year)			Additional Supply between 1976-1981			Total Force Required by 1981 ^{a/}			(v)=(iv)-[(ii)+(iii)] Deficit (-) or Surplus (+)		
	Prof.	Field Asst.	Agric. Stock	Prof.	Field Asst.	Agric. Stock	Prof.	Field Asst.	Agric. Stock	Prof.	Field Asst.	Agric. Stock	Prof.	Field Asst.	Agric. Stock
Punjab	4.0	3.5	1.8	3.6	3.1	1.6	1.8	0.5	0.25	4.1	11.4	2.2	+1.3	-7.8	-0.35
Sind	1.2	0.8	0.4	1.1	0.7	0.36	0.63	0.25	n.a.	2.2 ^c	5.2	1.0	-0.47	-4.2	-0.64 ^d
N.W.F.P.	n.a.	0.8	n.a.	n.a.	0.7	n.a.	0.25	0.25	n.a.	1.9	5.5	1.1	n.a.	-4.5	n.a.
Baluchistan	n.a.	0.4	n.a.	n.a.	0.36	n.a.	-	-	n.a.	-	1.4	0.28	n.a.	-1.0	n.a.
Other	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-	-	n.a.	-	1.4	0.3	n.a.	n.a.	n.a.

^{a/} This force does not include requirements for research, education, and semi-Government and private organizations.

^{b/} Considering only first degree supply and that graduate output will be balanced by first degree output entering graduate courses.

^{c/} Includes Baluchistan and Azad Kashmir whose source of recruitment is Sind.

^{d/} Does not include 1976-1981 supply which is unavailable.

PAKISTAN

Comparative Enrollment Data for Five-Year Periods 1968-73 and 1976-81

A. Actual enrolment by sex and kind of institution and average annual growth rate 1967/68 - 72/73.

		Enrolment (000's)						Annual
		67/68	68/69	69/70	70/71	71/72	72/73	Growth Rate (%)
Primary stage	M	2760	2820	2880	2930	3010	3230	3.2
	F	990	1010	1030	1060	1110	1210	4.1
Middle stage	M	629	676	714	771	781	811	5.2
	F	164	170	175	180	198	195	3.5
High stage	M	225	240	275	271	293	334	8.2
	F	50	56	62	68	71	75	8.4
Secondary vocational	M	16.0	16.0	19.5	24.5	27.8	30.0	13.4
	F	8.4	8.0	9.0	10.0	11.6	13.0	9.1
Arts & Science Col.	M	119	119	130	149	137	150	4.7
	F	34.1	40.0	45.0	50.2	48.9	50.0	7.8
Professional Colleges	M	21.5	26.2	29.4	32.6	31.2	32.1	8.3
	F	3.5	3.9	4.2	4.6	5.0	5.4	9.3
Universities	M	12.9	10.8	12.6	13.8	15.8	17.8	(10) ^{1/}
	F	3.0	2.7	3.3	3.9	4.2	4.5	(10) ^{1/}

B. Projected enrolment by sex and kind of institution and required average annual growth rates 1974/75 - 79/80.

		Enrolment (000's)						Annual
		75/76	76/77	77/78	78/79	79/80	80/81	Growth Rate (%)
Primary stage	M	3680	3880	4090	4400	4780	5220	7.2
	F	1410	1510	1680	1930	2260	2700	13.9
Middle stage	M	957	1010	1070	1140	1240	1380	7.5
	F	219	236	251	271	318	380	11.6
High stage	M	342	361	388	419	456	497	7.7
	F	74	79	85	93	103	116	9.3
Intermediate level:								
Arts	M&F	87					88	0.2
Science	"	58					70	3.8
Others	"	16					43	22.0
Degree level:								
Arts	M&F	38					40	0.8
Science	"	15					26	11.0
Others	"	13					15	4.3

^{1/} Growth rates averaged over 6 years.

Note: Comparison between data-sets A and B should be done with care, breakdowns are different and data is derived from different sources:

- A) Pakistan Education Statistics 1947-48 to 1972-73
 B) Draft Five Year Plan (1976-81)

PAKISTAN

Projected Demand for and Supply of Teachers

	Male (000)			Female (000)		
	Primary	Middle	Total	Primary	Middle	Total
1. Estimated enrollment 1975/76	3,680	957	4,640	1,410	219	1,630
2. Projected enrollment 1980/81	5,220	1,380	6,600	2,710	380	3,090
3. Additional teachers required	46.7	12.8	59.4	39.4	4.9	44.2
4. Replacement 1976/81	<u>20.2</u>	<u>5.3</u>	<u>25.5</u>	<u>9.4</u>	<u>1.4</u>	<u>10.7</u>
5. Total requirement	66.9	18.1	84.9	48.8	6.3	54.9
6. Supply from existing TTIs 1975/80			40			15
7. Available unemployed stock ^{1/}			<u>40</u>			<u>-</u>
8. Total supply 1976/81			80			15
9. Shortfall			5			40
10. Enrollment (and enroll. ratio) possible to achieve 1981 with full utilization of supply ^{2/}	5,100 (84%)	1,400	6,500	1,620 (29%)	250	1,870
11. Supply from expanded TTIs 1981-85 (See Annex 4)			44			22
12. Enrollment (and enroll. ratio) possible to achieve 1986 ^{2/}	5,500 (78%)	1,500	6,900	2,000 (31%)	300	2,300
13. Annual requirement around 1985 if universal primary and middle education has been achieved (3% growth rate of population)	12.8	7.2	20.1	11.7	6.6	18.3

Note: Projected requirements are based on the primary and middle stage enrollment data of the Fifth Five Year Plan, 1976-81 (Draft), a teacher student ratio of 1:33 and a replacement rate of 3% p.a. The supply corresponds to recent outputs from existing training institutions. Figures do not add due to roundings.

^{1/} The stock of unemployed teachers, currently estimated at 30-50,000, was created by now discontinued crash programs at High Schools. According to reports from District education officers these are largely male.

^{2/} The assumption was made that only non-degree teachers are employed in the middle schools, which is pessimistic. The following more-realistic primary enrolments would be achieved if approximately 1/3 of the estimated demand (line 5 for middle stage) is of graduate level:

	Male	Female
1981	5300	1700
1986	6000	2100

PAKISTAN

Teacher Training Institutes by Province and Sex

	M/F	Present		Proposed	
		Enrollment 1975	Boarding ^{1/} Capacity	Enrollment	Boarding ^{1/} Capacity
<u>Baluchistan</u>					
Mastung	M	100	Hired	210	180
Pichin ^{2/}	F	100	40 ^{3/}	140	140
Non-project TTIs	M	240		345	
Sub-total	M	340	-	555	180
	F	100	-	140	140
Total Baluchistan		440	-	695	320
<u>NWFP</u>					
D.I. Khan	F	108	83	245	227
D.I. Khan	M	250	210	350	210
Jamrud	M	105	48	245	156
Peshawar	F	150	80	245	224
Non-project TTIs	M	461	-	591	-
Sub-total	M	816	258	1,186	366
	F	258	163	490	451
Total NWFP		1,074	421	1,676	817
<u>Punjab</u>					
Gakhar	M	412	144	350	144
Kamalia	F	120	100 ^{3/}	350	288
Lalamusa	M	226	140	350	212
Multan	F	202	60	350	204
Shahpur Sadar	M	194	80	245	152
Islamabad/Rawalpindi	F	-	-	350	288
Non-project TTIs	F	943		1,029	
	M	4,348		4,765	
Sub-total	M	5,180	364	5,710	508
	F	1,265	60	2,079	780
Total Punjab		6,445	424	7,789	1,288

^{1/} Indicates only boarding places in schools where construction is provided.

^{2/} Relocation from Quetta.

^{3/} Relocated institution. Boarding capacity at old site not included in totals.

	M/F	Present		Proposed	
		Enrollment 1975	Boarding ^{1/} Capacity	Enrollment	Boarding ^{1/} Capacity
<u>Sind</u>					
Khairpur	F	82	60	140	96
Karachi ^{2/}	F	692	-	700	288
Mithiani	M	69	26	350	206
Moro	F	-	-	210	180
Larkana	F	-	-	210	180
Non-project TTIs	F	589	-	589	
Non-project TTIs	M	1,429	-	1,429	
Sub-total	M	1,498	26	1,779	206
	F	1,363 ^{3/}	60	1,849 ^{3/}	744
Total Sind		2,861	86	3,628	950
<u>TOTALS PAKISTAN</u>					
Project TTIs	M	1,356	648	2,100	1,260
	F	1,454	283	2,940	2,115
	M&F	2,810	931	5,040	3,375
Non-Project TTIs	M	6,478		7,130	
	F	1,532		1,618	
	M&F	8,010		8,748	
<u>All TTIs</u>	M	7,834	648	9,230	1,260
	F	2,986	283	4,558	2,115
Grand Total	M&F	10,820	931	13,788	3,375
<u>Annual Outputs</u> (95% of enrollment)			<u>Male</u>	<u>Female</u>	<u>Total</u>
With proposed project			8,769	4,330	13,099
Without proposed project but including other planned expansions			8,062	2,918	10,980
Added by Project			707	1,412	2,119

- ^{1/} Indicates only boarding places in schools where construction is provided.
^{2/} Operates on two shift basis.
^{3/} The high enrollment of female teachers in Sind results mainly from the acceptance of co-education in Karachi division if teacher is female.

PAKISTAN

Actual Public Expenditure on Education by Purpose for 1972-76 and Project for 1977-81
(in millions of Rupees)

Financial Year: Purpose	<u>1971/72</u>		<u>1972/73</u>		<u>1973/74</u>		<u>1974/75</u>		<u>1975/76</u>		<u>1972-76</u>		<u>1977-81</u>		<u>Analysis of Recurrent Expenditure</u>		<u>Annual Growth</u> <u>Rate (%) 1972-76</u>
	<u>Dev.</u>	<u>Rec.</u>	<u>Dev.</u>	<u>Rec.</u>	<u>Dev.</u>	<u>Rec.</u>	<u>Dev.</u>	<u>Rec.</u>	<u>Dev.</u>	<u>Rec.</u>	<u>Dev.</u>	<u>Rec.</u>	<u>Dev.</u>	<u>Rec.</u>	<u>Percentage Distribution</u> <u>1972-76</u>	<u>1977-81</u>	
I. Primary	8.1	268.0	37.0	315.1	23.4	368.7	56.7	617.2	60.0	725.1	185.2	2,294.1	2,800.0	5,406.0	46.3	44.7	28
II. Secondary	30.0	91.2	46.0	138.4	53.2	145.3	75.3	279.5	105.7	357.6	310.2	1,012.0	1,600.0	2,799.0	20.4	23.2	40
III. Teacher	3.5	9.7	7.6	9.8	8.9	13.1	15.4	26.8	21.1	31.7	56.5	91.1	270.0	224.0	1.8	1.9	35
IV. Technical	18.1	15.0	22.5	16.3	44.4	24.9	52.8	27.6	72.8	38.6	210.6	122.4	385.0	285.0	2.5	2.4	35
V. College	12.6	48.7	15.3	74.8	29.6	143.0	66.6	143.5	77.5	199.5	201.6	609.5	665.0	1,403.0	12.3	11.6	42
VI. University	19.6	46.9	34.7	45.2	33.2	61.5	52.6	73.1	58.0	96.8	198.1	323.5	350.0	670.0	6.5	5.5	20
VII. Scholarships	19.3	2.6	24.4	0.1	29.7	0.1	42.3	6.1	58.0	5.0	173.7	13.9	365.0	-	0.3	-	18
VIII. Adult Education													100.0	-		-	
IX. Miscellaneous	10.2	38.1	32.4	70.3	87.1	112.6	150.2	161.6	186.3	105.7	466.2	488.3	465.0	1,300.0	9.9	10.7	29
Sub-total	<u>121.4</u>	<u>520.2</u>	<u>219.9</u>	<u>670.0</u>	<u>309.5</u>	<u>869.2</u>	<u>511.9</u>	<u>1,335.4</u>	<u>639.4</u>	<u>1,560.0</u>	<u>1,802.1</u>	<u>4,954.8</u>	<u>7,000.0</u>	<u>12,087.0</u>	<u>100.0</u>	<u>100.0</u>	<u>32</u>
Total Public Expenditure on Education:	<u>641.6</u>		<u>889.9</u>		<u>1,178.7</u>		<u>1,847.3</u>		<u>2,199.4</u>		<u>6,756.9</u>		<u>19,087.0</u>				

Source: Government of Pakistan Planning Commission, Draft Fifth Five Year Plan (1976-81), January 1976.

October 1976

PAKISTANDraft Terms of ReferenceStudy on Curricula Related to Irrigated Agriculture,
Rainfed Agriculture and Agriculture at Large Including
Animal Husbandry

1. The basic objective would be to recommend an irrigated agriculture--specific and rainfed agriculture--curricula as they are envisaged to apply in Pakistan's ecology and under her national agriculture development objectives over the next decades. Consequently, the recommended curricula should be goal-oriented with the goals derived in dialogue with authorities responsible for formulating national targets for agriculture and education sectors.
2. The consultants would pay special attention, but not necessarily limit their activities, to the following:
 - (a) To assess the status of agriculture and irrigation engineering education related to all aspects of water resources and water management, irrigated and rainfed agriculture and agriculture at large including livestock husbandry as such education is given by agricultural and engineering universities, colleges, institutes and in-service training courses.
 - (b) To assess long-term requirements for qualified personnel at all levels in the agricultural sector as defined above; in particular, assess the personnel required to match macrodevelopment strategy in the agricultural and water resources sector so that projected benefits are not limited by management constraints.
 - (c) To evaluate the educational objectives, curricula, methods, and any other relevant factors as to assure their consistency with the ecology of the country and with national development objectives in the above subsectors of agriculture.
 - (d) To prepare necessary modifications to curricula and outline their implementation.
 - (e) To formulate a broad educational strategy to meet long-term personnel requirements in the agricultural sector and prepare estimates of financial and human resources needed. The strategy should indicate the rate at which the present system can be improved.

- (f) To investigate how additional staff at field level can be made available for extension work in water management, irrigated agriculture and other agricultural development activities so that a substantial Governmental impact can be made in these specific fields referred to and other technical activities of Government.
3. The study would require the following experts:
- (a) Team Leader - Agricultural Economist/Economist with educational experience as a senior member of a faculty or educationist
 - (b) On-Farm Water Management Expert
 - (c) Agronomist - irrigated crops and their production
 - (d) Irrigation Engineer - Planner
 - (e) Agronomist - rainfed agriculture
 - (f) Specialists on short-term assignments (including agricultural economist if the team leader is not an agricultural economist.
4. Senior experts should be assigned to this project in order to ensure a high-level dialogue with Pakistan authorities.

PAKISTANTechnical Assistance Programs

	<u>Man-Years</u>		<u>Estimated Cost (US\$ 000)</u>
	<u>Specialist Services</u>	<u>Fellowships</u>	
<u>Basic Education</u>			
(1) Teacher Training Institutes			
- Short-Term Specialists	3		165
<u>Agricultural and Rural Education</u>			
(1) Agricultural Training Institutes			
- Curriculum Specialists	4		220
- Fellowships		3	27
(2) Sind Agricultural University			
- Curriculum Specialists	10		550
- University Management Specialists	3		165
- Fellowships		57	513
<u>Preinvestment Studies</u>			
- Specialists' Services			
Irrigation and Water			
Management	5		275
Manpower Studies	<u>3</u>		<u>165</u>
Total Specialists' Services	28		1,540
Total Fellowships		60	<u>540</u>
TOTAL COST			2,080

No.	PROJECT ITEM	ESTIMATED COSTS IN '000 OF (197 PRICES)											EST. TOTAL COSTS					
		Site Development	BUILDINGS				FURNITURE			EQUIPMENT			TOTAL PHYSICAL FACILITIES Excl. Prof. Fees	PROFESSIONAL SERVICES CONFRUTE. Arch.	TECHNICAL ASSISTANCE	in '000 of	in '000 of US \$*	
			Academic, Admin. & Communal	Boarding	Staff Housing	Total	Academic, Admin. & Communal	Boarding	Total	Academic, Admin. & Communal	Boarding	Total						
A.	Basic Education																	
A.1	Mastung, Baluchistan	1,200	1,935	3,462	601	5,998	250	447	697	250		250	8,145	504			8,649	
A.2	Quetta, "	1,025	1,653	2,771	701	5,125	214	358	572	250		250	6,972	431			7,403	
	Sub-total	2,225	3,588	6,233	1,302	11,123	464	805	1,269	500		500	15,117	935			16,052	
A.3	D.I. Khan(F) N.W.F.P.	574	871	1,998	-	2,869	130	269	399	150		150	3,992	241			4,233	
A.4	D.I. Khan(M) N.W.F.P.	40	113	-	89	202	175	-	175	150		150	567	17			584	
A.5	Jamrud "	299	-	1,496	-	1,496	-	202	202	150		150	2,147	126			2,273	
A.6	Peshawar "	528	282	1,998	358	2,638	120	269	389	320		320	3,875	222			4,097	
	Sub-total	1,441	1,266	5,492	447	7,205	425	740	1,165	770		770	10,581	606			11,187	
A.7	Gakhar, Punjab	54	272	-	-	272	175	-	175	190		190	691	23			714	
A.8	Kamalia, "	1,552	1,702	4,630	1,428	7,760	227	616	843	250		250	10,405	652			11,057	
A.9	Lalamusa, "	369	689	1,157	-	1,846	175	154	329	150		150	2,694	155			2,849	
A.10	Multan, "	599	680	2,314	-	2,994	175	308	483	150		150	4,226	252			4,478	
A.11	Shahpur Sadar, Punjab	381	540	1,157	208	1,905	125	154	279	150		150	2,715	160			2,875	
A.12	Islabamad, "	1,552	1,702	4,630	1,428	7,760	227	616	843	350		350	10,505	652			11,157	
	Sub-total, Punjab	4,507	5,585	13,888	3,064	22,537	1,104	1,848	2,952	1,240		1,240	31,236	1,894			33,130	
A.13	Khairpur(F) Sind	236	282	452	446	1,180	70	50	120	290		290	1,826	99			1,925	
A.14	Karachi "	1,248	2,047	3,588	606	6,241	272	478	750	250		250	8,489	524			9,013	
A.15	Mithiani "	666	803	2,240	287	3,330	175	298	473	150		150	4,619	280			4,899	
A.16	Moro "	947	1,449	2,240	1,047	4,736	193	298	491	350		350	6,524	398			6,922	
A.17	Larkana "	947	1,449	2,240	1,047	4,736	193	298	491	350		350	6,524	398			6,922	
	Sub-total	4,044	6,030	10,760	3,433	20,223	903	1,422	2,325	1,390		1,390	27,982	1,699			29,681	
A.18	Adult functional literacy program									2,475		2,475	2,475				2,475	
A.	Technical Assistance																1,633	
	Sub-total A	12,217	16,469	36,373	8,246	61,088	2,832	4,102	7,711	6,375		6,375	87,391	5,134	1,633		94,158	
	(US\$'000)	(1,234)				(6,171)			(779)			(644)	(8,827)	(519)	(165)		(9,511)	

* Currency Equivalent: US\$1.00 = 9.9 Rupees

Project: IBRD/IDA Education Projects Architects' Appraisal Form II-A
 Country: PAKISTAN
 Project: EDUCATION III
 Date: D.H. Lewis/December 1974
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 ANNEX B

PAKISTAN EDUCATION PROJECT III

Estimated Costs by Categories of Expenditure

<u>Project Item Groups</u>	<u>PRs. (millions)</u>			<u>US\$ (millions)</u>			<u>% of Total Project Cost</u>
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
1. <u>Civil Works:</u>							
Site development	16.437	7.045	23.482	1.660	.712	2.372	8.7%
Construction	<u>65.041</u>	<u>27.875</u>	<u>92.916</u>	<u>6.570</u>	<u>2.815</u>	<u>9.385</u>	<u>34.4%</u>
Sub-total	<u>81.478</u>	<u>34.920</u>	<u>116.398</u>	<u>8.230</u>	<u>3.527</u>	<u>11.757</u>	<u>43.1%</u>
2. Professional Services	15.202	.815	16.017	1.536	.082	1.618	6.0%
3. Furniture	7.596	3.256	10.852	.767	.329	1.096	4.0%
4. Equipment	3.424	19.401	22.825	.346	1.960	2.306	8.5%
5. Technical Assistance	<u>3.088</u>	<u>17.500</u>	<u>20.588</u>	<u>.312</u>	<u>1.768</u>	<u>2.080</u>	<u>7.6%</u>
Base Cost Estimate:	<u>110.788</u>	<u>75.872</u>	<u>186.680</u>	<u>11.191</u>	<u>7.666</u>	<u>18.857</u>	<u>69.2%</u>
<u>Contingencies</u>							
(a) Physical	11.004	7.586	18.590	1.119	.767	1.886	6.9%
Base Cost + Physical Contingencies	121.792	83.478	205.270	12.310	8.433	20.743	76.1%
(b) Expected Price Increases	<u>38.147</u>	<u>26.420</u>	<u>64.567</u>	<u>3.847</u>	<u>2.667</u>	<u>6.514</u>	<u>23.9%</u>
Sub-total (contingencies)	<u>49.151</u>	<u>34.006</u>	<u>83.157</u>	<u>4.966</u>	<u>3.434</u>	<u>8.400</u>	<u>30.8%</u>
Total Estimated Project Cost	<u>159.939</u>	<u>109.898</u>	<u>269.837</u>	<u>16.157</u>	<u>11.100</u>	<u>27.257</u>	<u>100%</u>

PAKISTAN

Areas and Costs per Student Place or Living Unit

<u>Type of Facilities</u>	<u>Gross Area</u> <u>m² per Stu-</u> <u>dent Place or</u> <u>Living Unit</u>	<u>Costs in US\$</u>					<u>Total</u>
		<u>Site</u> <u>Develop-</u> <u>ment</u>	<u>Build-</u> <u>ings</u>	<u>Furni-</u> <u>ture</u>	<u>Equip-</u> <u>ment</u>		
<u>I. Teacher Training Institutes</u>							
Academic and Communal	6.0	114	568	75	100	857	
Hostels, including dining facilities	14.2	287	1,437	200	-	1,924	
Staff Housing	77	1,463	7,313	-	-	8,776	
<u>II. Agricultural Training</u> <u>Institute</u>							
Academic and Communal (including farm buildings)	10.0	189	944	122	303	1,558	
Hostels, including dining facilities	12.8	389	1,943	251	-	2,583	
Staff Housing	99	2,707	13,535	-	-	16,242	

The above-mentioned areas and costs have been calculated for all new project institutes. Dining and kitchen areas/student amount to 1.9m² and are included with the boarding facilities. While above costs are not readily comparable with those for similar institutions in other Bank Group-financed projects, due to differences in construction unit costs and conditions peculiar to each project, they are reasonable for the accommodation to be provided on the basis of area/students for the various facilities. Areas for the ATIs are similar to those in other recent Bank projects. Costs are based on December 1976 prices and are net of contingencies and consultants' fees.

PAKISTAN THIRD EDUCATION PROJECT
Initial Project Implementation Schedule

Main Activity	Responsible Authority	CALENDAR YEAR AND QUARTER																						
		3		4		1		2		3		4		1		2		3		4				
		1975	1975	1976	1976	1976	1976	1977	1977	1977	1977	1978	1978	1978	1978	1978	1978	1978	1978	1978	1978			
1a. Preparation of terms of reference for the Federal Project Coordinating Unit	Federal Ministry of Education (FME)	█																						
1b. Preparation of terms of reference for the Baluchistan Project implementing agencies.	Provincial Department of Education & Agriculture in the various provinces (PDE and PDA)			█																				
1c. Preparation of terms of reference for the N.W.F.P. Project implementing agencies.				█																				
1d. Preparation of terms of reference for the Punjab Project implementing agencies.				█																				
1e. Preparation of terms of reference for the Sind Project implementing agencies (PPIAs) ^{1/}	PIU in charge of Cr. 206 and Sind Agric. University			█																				
2a. Appointment of staff for EPCU	FME Approval by IDA				█																			
2b. " " " " PPIA Baluchistan	Provincial Departments of Education & Agric. in the various provinces in consultation with IDA				█																			
2c. " " " " N.W.F.P.					█																			
2d. " " " " Punjab					█																			
2e. " " " " Sind					█																			
3a. Budgetary provisions for EPCU	Federal Ministry of Finance and FPCU Project Director						█																	
3b. Budgetary provisions for PPIA Baluchistan	Provincial Departments of Finance designated project officers																							
3c. " " " " N.W.F.P.																								
3d. " " " " Punjab																								
3e. " " " " Sind, including funds for gas and electricity to SAU																								
4a. Establish offices for EPCU	FME and EPCU																							
5. Preparation of (i) terms of references and (ii) personnel recruitment for study of irrigation and water management																								
6. Experimentation with Adult Functional Literacy program:																								
6a. Training of monitors	ABES																							
6b. Experiments	ABES and PTV			█																				
6c. Initial evaluation	FPCU and IDA																							
6d. Second phase experiments	ABES and PTV																							

1/ PPIA refers to the various agencies responsible for project implementation in the provinces.

PAKISTAN THIRD EDUCATION PROJECT

Initial Project Implementation Schedule

Main Activity	Responsible Authority	CALENDAR YEAR AND QUARTER															
		3 1975	4 1975	1 1976	2 1976	3 1976	4 1976	1 1977	2 1977	3 1977	4 1977	1 1978	2 1978	3 1978	4 1978		
14. Execution of the Irrigation and Water Management Study	FPCU and experts																
15. Preparation of bid documents for local procurement of equipment and furniture in:																	
15a. Baluchistan	Local PPIAs																
15b. N.W.F.P.																	
15c. Punjab																	
15d. Sind																	
16. Preparation of bid documents for ICB procurement of equipment (and furniture)	FPCU Directorate of Industries																
17. Prequalification of civil works contractors in:																	
17a. Baluchistan	PPIAs approvals by IDA																
17b. N.W.F.P.																	
17c. Punjab																	
17d. Sind																	
18. Preparation of working drawings and bid documents for civil works in:																	
18a. Baluchistan	Consultants, PWD Approvals by PPIAs																
18b. N.W.F.P.																	
18c. Punjab																	
18d. Sind																	
19. Invitation of bids for local furniture and equipment procurement, evaluation of bids, approvals and contract award in:																	
19a. Baluchistan	PPIAs, approvals by IDA																
19b. N.W.F.P.																	
19c. Punjab																	
19d. Sind																	
20. i) Notification to suppliers, invitation for ICB of equipment and furniture, ii) evaluation of bids, approvals and contract award.	FPCU and Directorate of Industries, Approval by IDA																
21. Invitation of bids for civil works, bid analysis, approvals and awards in:																	
21a. Baluchistan	PWD, Consultants, PPIAs, Approvals by IDA																
21b. N.W.F.P.																	
21c. Punjab																	
21d. Sind																	
22. Local (i) production, procurement and (ii) delivery of furniture and equipment in:																	
22a. Baluchistan	Contractors and PPIAs, Approvals by IDA																
22b. N.W.F.P.																	
22c. Punjab																	
22d. Sind																	
23. International (i) production and (ii) delivery of furniture and equipment	Contractors, FPCU and Directorate of Industries																
24. Construction of institutions in:																	
24a. Baluchistan	Civil Works contractors, PPIAs																
24b. N.W.F.P.																	
24c. Punjab																	
24d. Sind																	

June 1981

June 1981

March 1981

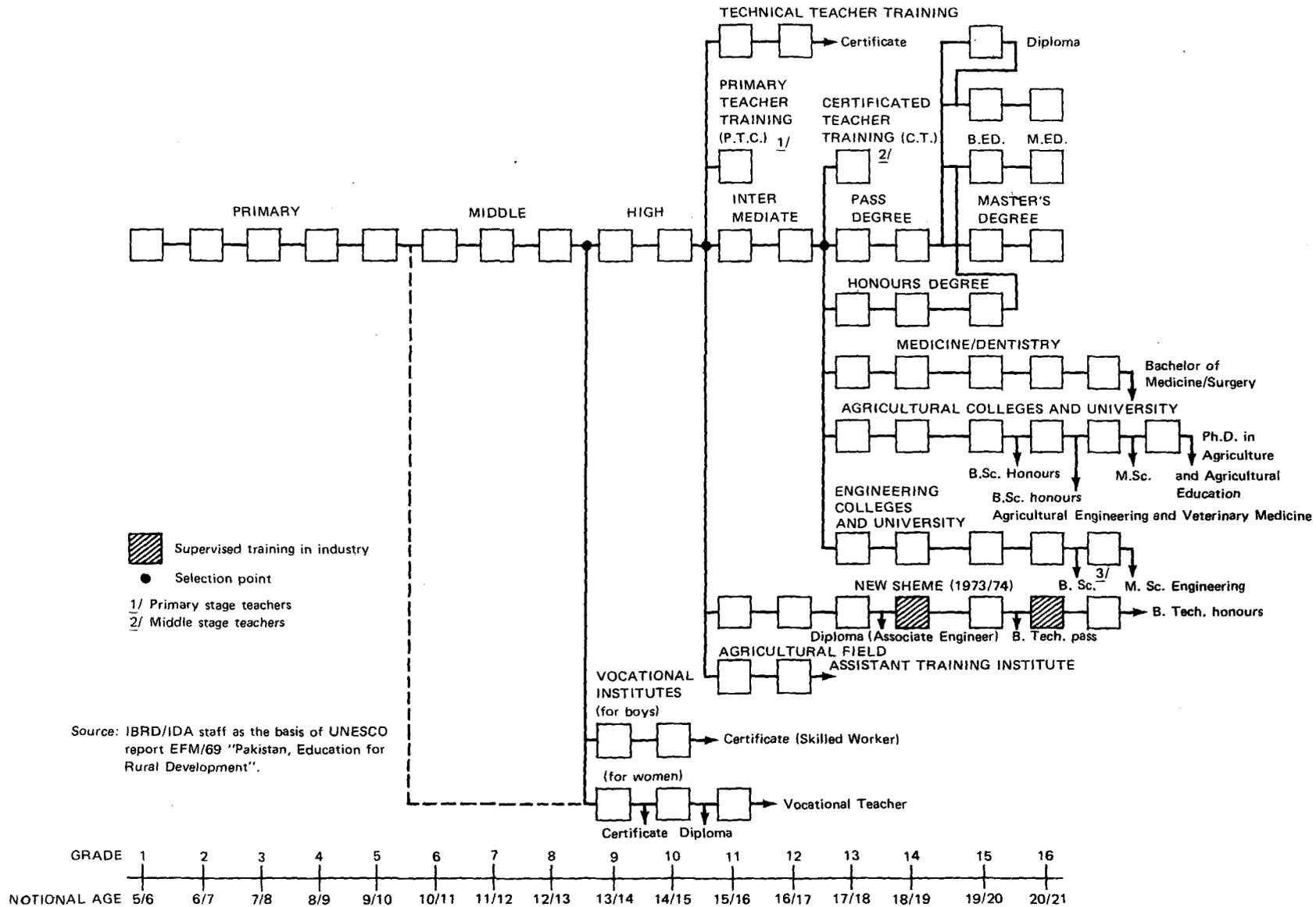
PAKISTAN THIRD EDUCATION PROJECT

Forecast of Disbursements

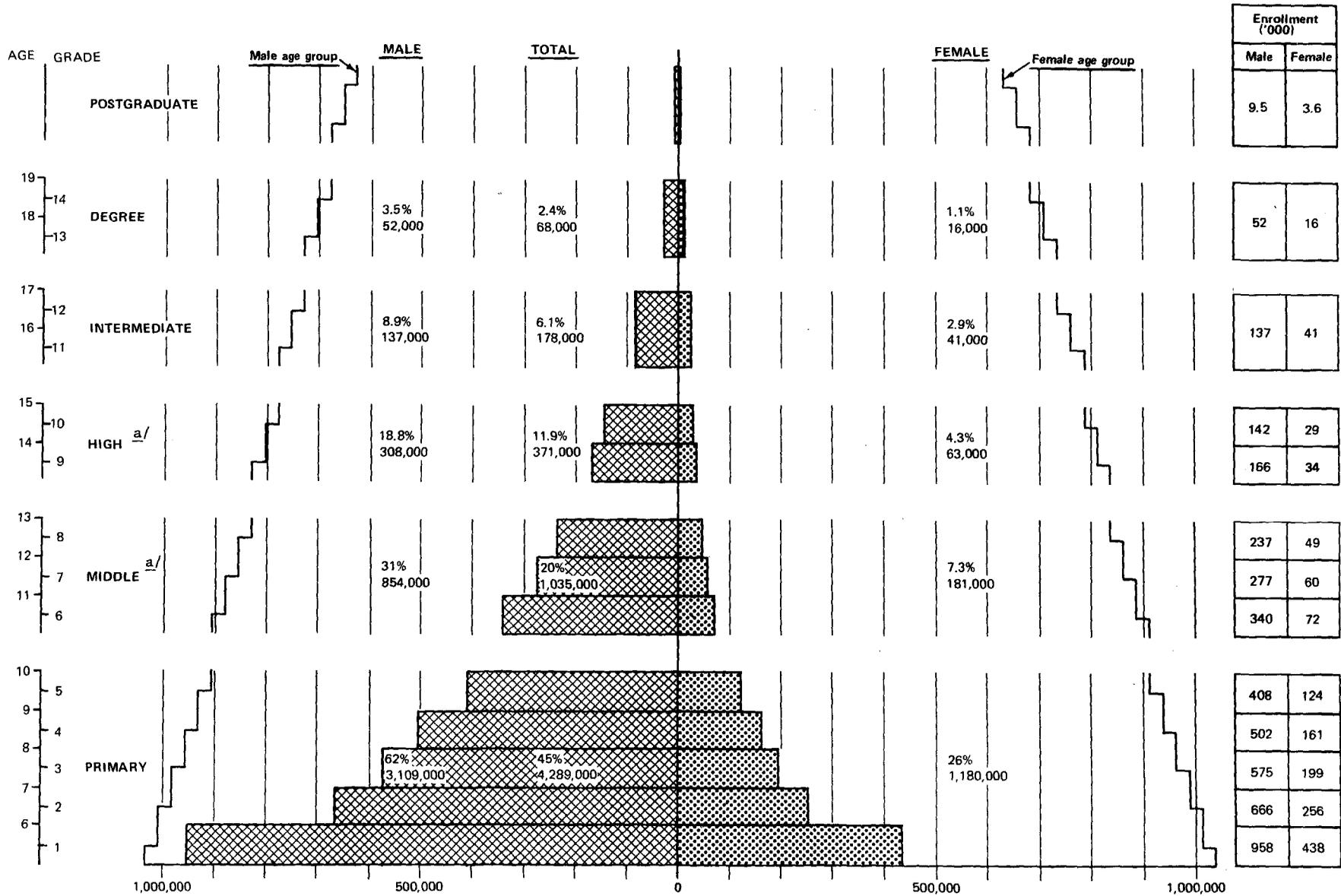
Implemen- tation Quarter /1	Disbursement				Undisbursed Balances	
	Quarterly		Cumulative		'000 US\$	%
	'000 US\$	%	'000 US\$	%		
1977	1				15,000	100
	2				15,000	100
	3	-	-	-	15,000	100
	4	100	1	100	14,900	99
1978	1	100	1	200	14,800	98
	2	300	2	500	14,500	96
	3	300	2	800	14,200	94
	4	300	2	1,100	13,900	92
1979	1	400	2	1,500	13,500	90
	2	600	4	2,100	12,900	86
	3	700	5	2,800	12,200	81
	4	700	5	3,500	11,500	76
1980	1	900	6	4,400	10,600	70
	2	1,100	7	5,500	9,500	63
	3	1,300	9	6,800	8,200	54
	4	1,400	9	8,200	6,800	45
1981	1	1,700	11	9,900	5,100	34
	2	1,500	10	11,400	3,600	24
	3	1,200	8	12,600	2,400	16
	4	800	5	13,400	1,600	11
1982	1	600	4	14,000	1,000	7
	2	500	3	14,500	500	4
	3	300	2	14,800	200	2
	4	100	1	14,900	100	1
1983	1	100	1	15,000	-	-
	2					
	3					
	4					
Total	15,000	100	15,000	100	-	-

/1 IBRD Fiscal Year and Quarter

PAKISTAN
STRUCTURE OF EDUCATIONAL SYSTEM 1975 (Formal only)



EDUCATIONAL PYRAMID PAKISTAN 1974/75
Enrollment and Enrollment Ratios by Stage

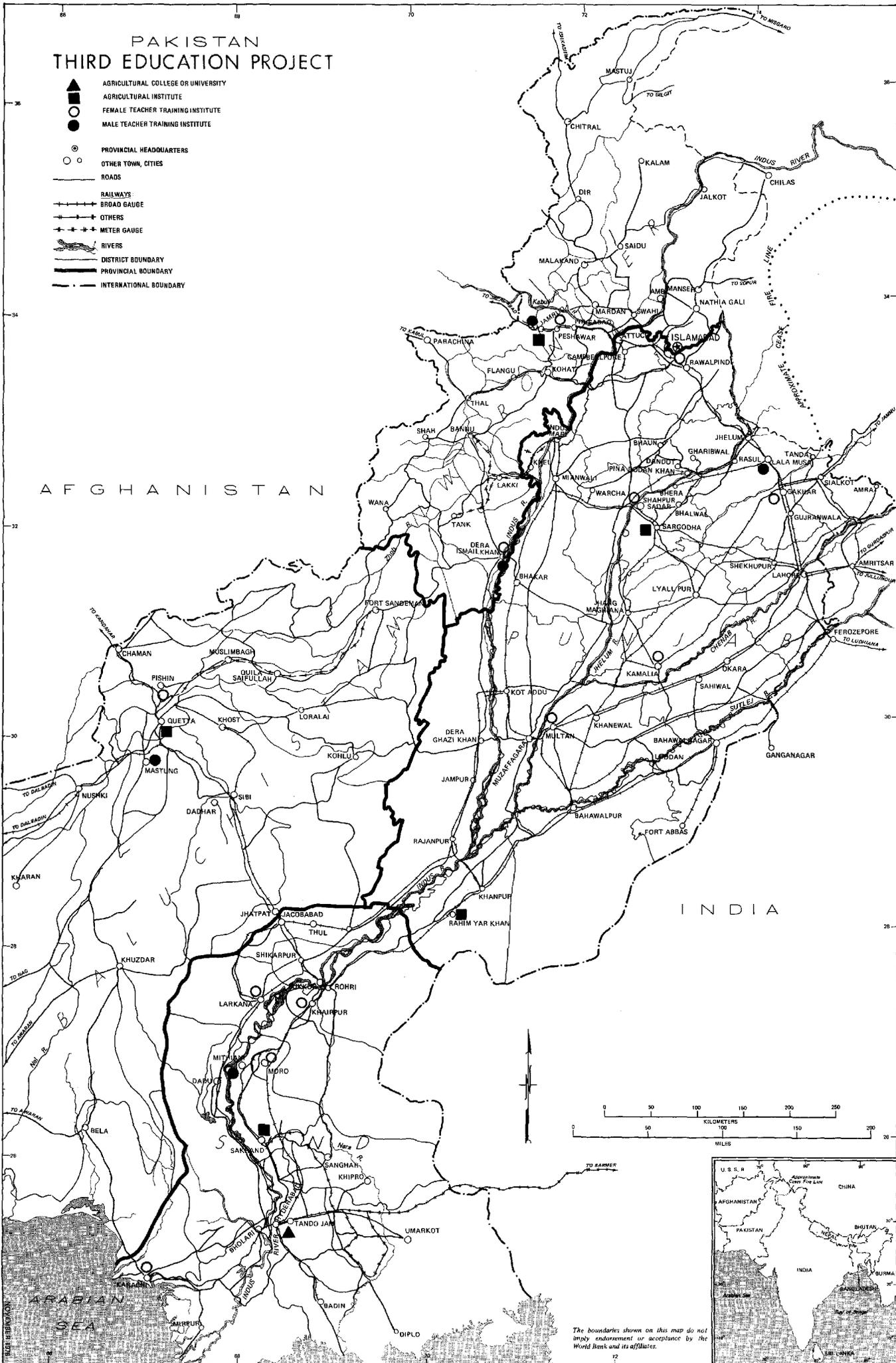


^{a/} Excluding 30,000 male and 13,000 female students in Secondary Vocational Schools for which enrollment by grade is unavailable.

- Source: 1) Working papers for the development perspective (75-80).
2) Pakistan education statistics 1947-48 to 1972-73.
3) IBRD staff.

PAKISTAN THIRD EDUCATION PROJECT

- ▲ AGRICULTURAL COLLEGE OR UNIVERSITY
- AGRICULTURAL INSTITUTE
- FEMALE TEACHER TRAINING INSTITUTE
- MALE TEACHER TRAINING INSTITUTE
- ⊙ PROVINCIAL HEADQUARTERS
- OTHER TOWN, CITIES
- ROADS
- RAILWAYS
- BROAD GAUGE
- OTHERS
- METER GAUGE
- RIVERS
- DISTRICT BOUNDARY
- PROVINCIAL BOUNDARY
- INTERNATIONAL BOUNDARY



The boundaries shown on this map do not imply endorsement or acceptance by the World Bank and its affiliates.

BRD-11726