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# DIRECTORATE OF PRIMARY EDUCATION
# GOVT. OF N.W.F.P. PESHAWAR
# PRIMARY EDUCATION DEVELOPMENT PROGRAMME

13

## STUDY OF MANAGEMENT OF THE CONSTRUCTION AND MAINTENANCE OF PRIMARY SCHOOLS IN N.W.F.P.

## FINAL REPORT

MAY, 1991

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CONSULTANTS

Engineering Associates

CONSULTING ENGINEERS ARCHITECTS
ECONOMISTS AND PLANNING EXPERTS
ECONOMIC WING (EDUCATION SECTOR)

FINAL REPORT OF
MANAGEMENT STUDY FOR CONSTRUCTION AND MAINTENANCE
OF PRIMARY SCHOOLS IN N.W.F.P.

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## ACKNOWLEDGEMENTS

The Consultants are deeply indebted to the officials of Education, Planning & Development and Communications & Works Departments of North Western Frontier Province (N.W.F.P) for their guidance and assistence in collection of requisite data, details and information for the purpose of this study. We would also like to express our sincere appreciation to the officials of USAID for their help in this study.

Our thanks are particularly due to Mr. Shah Jehan Khan, Director Primary Education, Mr.Fida Hussain, Deputy Director Primary Education, Dr.Wade Robinson, Chief of Party, Primary Education and Mr.Nadir Abbas, Project Engineer, USAID for their support and assistance in the successful completion of this study.



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# SUMMARY

The Education Department NWFP in collaboration with the USAID has embarked upon an ambitious programme in the Primary Education. The success of the Programme in addition to other factors will depend upon timely, efficient and good quality construction of primary schools in the Province.

Therefore, the Director Primary Education, NWFP commissioned M/s. Engineering Associates to undertake a detailed study of the existing system of management of construction and maintenance of primary schools and to look into various possible alternatives available to the NWFP Province for an efficient and economical management of the same.

This is the Final Report of the study conducted by the Consultants. It incorporates comments of Directorate of Primary Education and USAID Officials on the Draft Report submitted earlier. Additional data was also collected and further discussions were held with various Government officials and additional site visits to some Primary Schools in NWFP were also made in order to confirm the conclusions drawn in the study. Interviews with private sector Architect/Engineers and their users were also made to ascertain their performance.

In the Annual Development Plan 1990-91, a total of 586 primary schools are proposed to be completed during the year in addition to rebuilding of 64 existing schools and construction of additional rooms for 28 schools at a total cost of Rs.173 million. Besides Foreign Aided schemes for construction of 176 primary schools under Girls Primary Education Project of Asian Development Bank, construction of 2000 rooms under Primary Education Project-II of the World Bank, construction of 500 primary schools under Primary Education Charsadda Project and construction of 3330 primary schools under Primary Education Development Programme from the funds being provided by USAID are also in hand.

Beginning from the year 1991-92, it is expected that a total of approx 1000 primary schools shall be constructed annually both from local resources as well as from foreign funds upto the year 1998-1999. Thus the construction work load would increase considerably and the total amount is expected to be around Rs.475 million per annum on an average.



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The C&W Department undertakes design, cost estimation, tendering, construction supervision and maintenance of primary schools in NWFP. The Consultants have examined the existing system of the Department, inspected 30 school buildings constructed and maintenance by C&W Depratment in 7 districts of the Province, discussed difficulties experienced in the present system with the concerned officials.

Due to the reasons highlighted in this report including a large work load of other more important and bigger schemes, timely and good quality construction and maintenance of primary schools under the present system is difficult to achieve. This results in an inappropriate design, poor quality and uneconomical construction and maintenance. The present system of undertaking work and its monitoring is also required to be improved considerably to assure more efficiency and good quality construction and maintenance of primary schools in NWFP.

The Consultants have looked into various alternative systems and have concluded that the best way to have an efficient and economical implementation of primary school construction and maintenance programme in NWFP is to get the work executed through a newly created Project Directorate in Education Department. The Project Directorate will have skeleton technical staff and all technical work of design, cost estimation, preparation of the schemes, construction supervision shall be undertaken with the technical inputs from a Consulting Engineer/Architect Firm to be appointed as General Consultants on a competitive basis. This will ensure good quality and economical construction of primary schools and the maintenance of buildings shall also be of a good quality. There shall also be proper control and adequate progress monitoring of construction and maintenance works. Similar Project Directorates are successfully functioning in the Education Departments of other Provinces in the Country.

As for the construction work, it can either be let out by grouping schools in a district into a package for attracting bigger Contractors or by ensuring selection of competent and experienced Contractors with good past record. This will improve the quality of construction works. The annual maintenance work can also be looked after by Project Directorate and special maintenance





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work can be undertaken with the technical support from the Consultants. Petty repairs can be left to the Headmasters/Headmistresses of the schools as is being done at present.

The Consultants are quite confident that if these recommendations are implemented, timely and good quality construction work of primary schools in NWFP can be ensured.

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STUDY ON

MANAGEMENT OF CONSTRUCTION AND MAINTENANCE OF PRIMARY SCHOOLS IN NORTH WESTERN FRONTIER PROVINCE (N.W.F.P)

# I. INTRODUCTION

## A. Study Assigned

1.01 The Director Primary Education, NWFP, Peshawar, entrusted to M/s Engineering Associates, Karachi, the job of undertaking a detailed study of the present system, as well as possible alternatives, of management of construction and maintenance of primary schools as well as other primary education facilities. An agreement to that effect was signed at Peshawar on 20th November, 1990.

## B. Background

1.02 The Department of Education N.W.F.P. in collaboration with the United States Agency for International Development (USAID) is undertaking an ambitious programme in the primary education at a total cost of US $ 160 million. The Government of Pakistan and USAID have signed an agreement in Washington in June 1989 for ten years programme which envisages hundred percent increase in the enrolment in the primary education.

1.03 The successful implementation of Primary Education Programme depends upon a number of factors. Construction and upgrading of a large number of primary schools in various districts of the Province are some of the most important components of the programme. Therefore, the Programme Steering Committee decided to initiate the present Study.

## C. Scope of the Study

1.04 The scope of the Study is clearly defined in the Terms of Reference given in Annexure-I of this Report. In brief the present Study examines existing management system and procedures for planning, design, tendering, construction supervision, quality control and progress monitoring of construc- tion and maintenance of new and existing primary school buildings. It looks into the volume of primary school cons-truction and maintenance works and discusses various possible alternatives available to the Province for an efficient and economi-



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cal management of construction and maintenance of primary schools. The Report also recommends the most suitable alternative for future management of construction and maintenance of primary schools in the Province.

D. Data Collection and Site Visits

1.05 The Consultants initiated the Study immediately after signing of the agreement. A detailed questionnaire was prepared, programme for collection of relevant data and information was chalked out. Meetings were arranged with various concerned officials of Provincial Education, Planning and Development and Communication & Works Departments. Requisite data and information was also collected from them. List of Officials contacted for the Study is given in Annexure-II.

1.06 The Consultants also visited 30 randomly selected schools in Peshawar, Charsadda, Mardan, Swabi, Kohat, Abbottabad and Haripur districts of the Province to examine their existing construction and maintenance conditions. Meetings were also held with concerned Education and Communication & Works Departments' staff at these sites. The site visits were found to be quite useful and provided to the consultants a fairly good idea of construction and maintenance of primary schools in the Province. Some of the observations recorded in case of 30 randomly selected schools visited are given in Annexure-III of the report.

E. Final Report

1.07 The Consultants have prepared the Final Report of the Study based on the comments of Directorate of Primary Education, NWFP and USAID officials on the draft report submitted earlier. Existing data was cross checked and additional information and details were collected by revisiting the concerned officials in Peshawar. Inspection of six schools in Peshawar district was also undertaken to confirm the findings of the earlier inspections.

1.08 In order to ascertain the performance of private sector Architects/Engineers, interviews were held with selected Architect/Engineers who have designed and supervised building works in NWFP. The works undertaken by them were also inspected.



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## II. VOLUME OF PRIMARY SCHOOL CONSTRUCTION

### A. Primary Schools in the Province

2.01 The Provincial Government is giving greater attention to primary education for increasing the literacy in NWFP. A large number of primary schools were constructed in the past and the Education Department has plans to construct a number of new primary schools in all the districts within the next few years. According to the available statistical data, there are 14,395 primary schools including 4102 mosque schools and 785 middle schools in NWFP which impart primary education to the students of age group 5-9 years. The total enrolment is about 1.5 million children against the projected population of 2.54 million children of this age group. The participation rate is 59%.

2.02 Table 1 shows district-wise number of primary schools (classes I to V) and middle schools (classes I to VIII) in the Province. The highest number of schools are in Abbottabad district followed by Mansehra district. Fig. 1 illustrates total number of primary and middle schools in each district.



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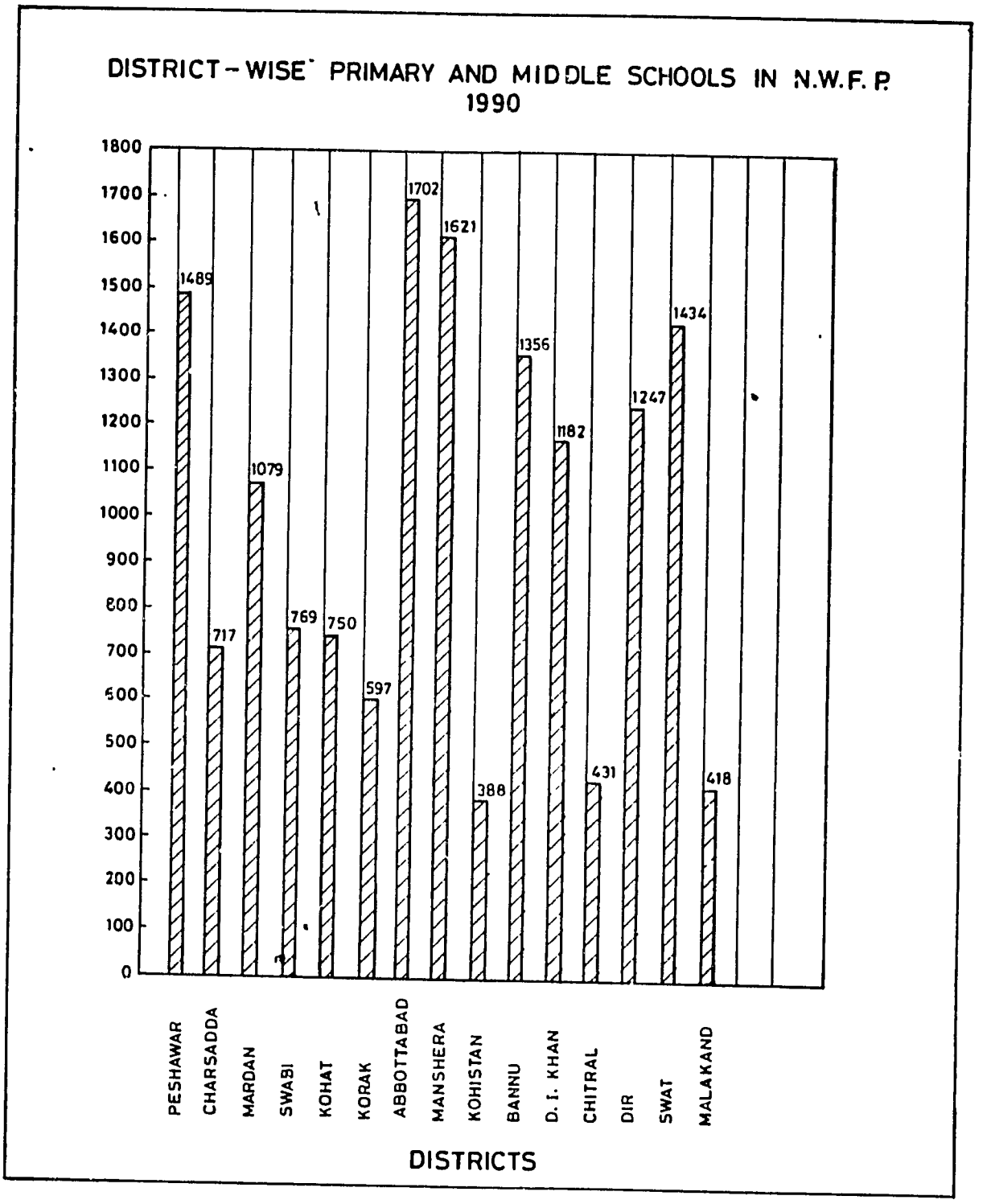


FIG-1

SOURCE: EDUCATION DEPARTMENT N.W.F.P.
DETAILS IN ANNEX IV

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TABLE - 1

**DISTRICT-WISE PRIMARY AND MIDDLE SCHOOLS IN NWFP**

| DISTRICT | NUMBER OF PRIMARY SCHOOLS | | | NUMBER OF MIDDLE SCHOOLS | | | Total Primary Middle Schools |
|---|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total | |
| PESHAWAR | 1062 | 345 | 1407 | 62 | 20 | 82 | 1489 |
| CHARSADDA | 523 | 165 | 688 | 24 | 5 | 29 | 717 |
| MARDAN | 783 | 250 | 1033 | 37 | 9 | 46 | 1079 |
| SWABI | 544 | 195 | 739 | 25 | 5 | 30 | 769 |
| KOHAT | 564 | 157 | 721 | 24 | 5 | 29 | 750 |
| KORAK | 437 | 138 | 575 | 14 | 8 | 22 | 597 |
| ABBOTTABAD | 1185 | 408 | 1593 | 84 | 25 | 109 | 1702 |
| MANSEHRA | 1195 | 330 | 1525 | 75 | 21 | 96 | 1621 |
| KOHISTAN | 368 | 17 | 385 | 3 | - | 3 | 388 |
| BANNU | 923 | 359 | 1282 | 57 | 17 | 74 | 1356 |
| D.I.KHAN | 844 | 286 | 1130 | 39 | 13 | 52 | 1182 |
| CHITRAL | 314 | 80 | 394 | 28 | 9 | 37 | 431 |
| DIR | 945 | 231 | 1176 | 61 | 10 | 71 | 1247 |
| SWAT | 1084 | 264 | 1348 | 75 | 11 | 86 | 1434 |
| MALAKAND | 299 | 100 | 399 | 16 | 3 | 19 | 418 |
| TOTAL | 11070 | 3325 | 14395 | 624 | 161 | 785 | 15180 |

Source: Education Department, NWFP.
Details in Annexure-...



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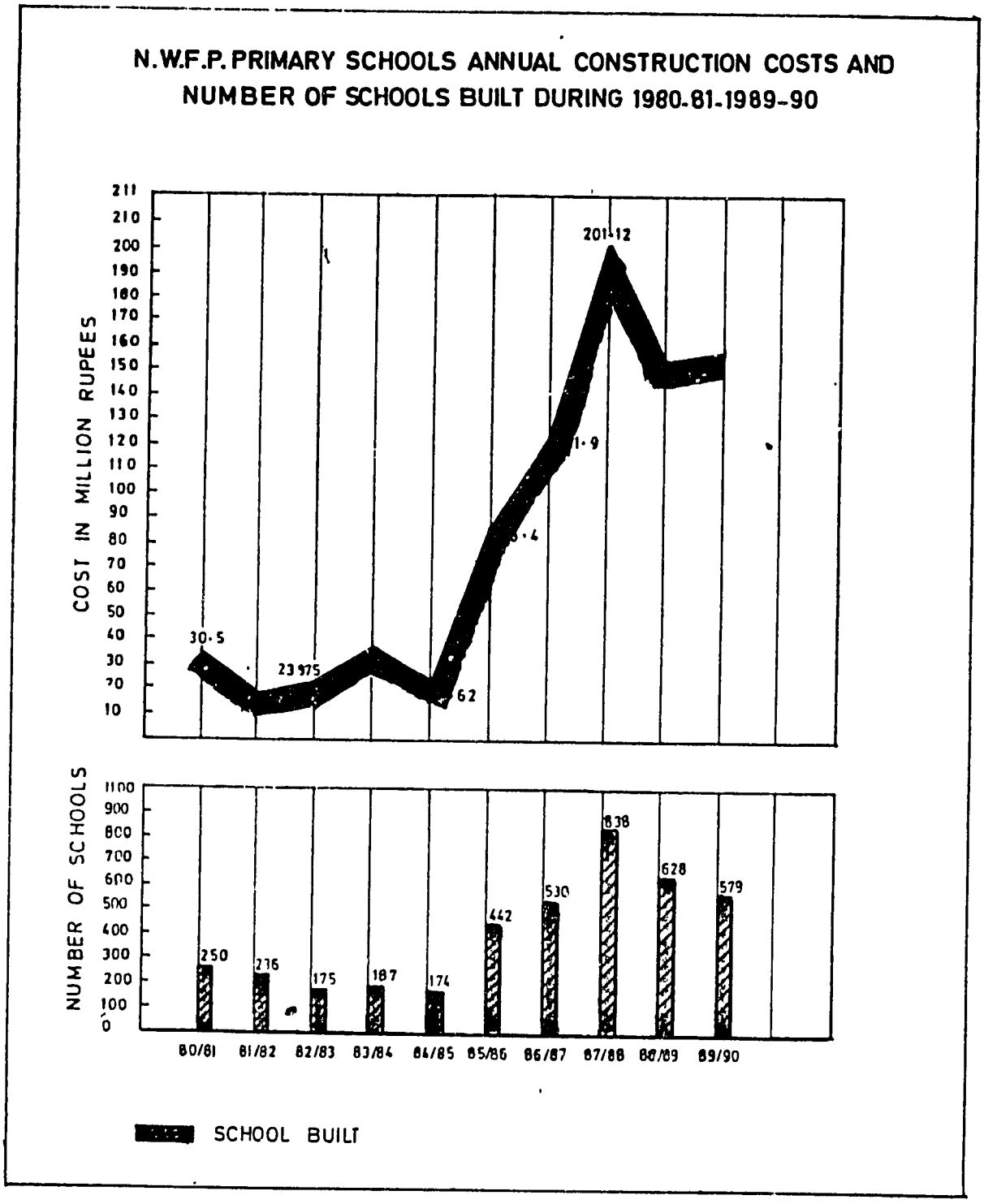


FIG- 2

SOURCE: EDUCATION DEPARTMENT, N. W. F. P.
DETAILS IN ANNEX IV

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NOTE:

THESE FIGURES MAY NOT DEPICT THE TRUE PRICTURE AS EXPENDITURES ARE SHOWN EQUAL TO ALLOCATIONS DURING ALL THESE YEARS.

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2.03 Between the years 1980-81 and 1989-90, 4039 primary schools were completed and 651 primary schools were upgraded to middle school level at a total cost of Rs.876 million and Rs.306 million respectively. Table-2 shows primary school construction and upgradation costs and their numbers during the last 10 years. Fig.2 illustrates, annual construction costs and number of primary schools completed and upgraded during this period. The Consultants are skeptical about these figures which may not depict the true picture as expenditures are shown equal to allocations during all these years.

**TABLE - 2**

**N.W.F.P PRIMARY SCHOOLS CONSTRUCTION COST IN MILLION RUPEES FROM 1980 - 81 TO 1989 - 90**

| YEAR | PRIMARY SCHOOLS Rs.in Million | UPGRADATION PR.TO MIDDLE Rs.in Million | PRIMARY SCHOOLS Nos. | UPGRADATION PR.TO MIDDLE Nos. |
|---|---|---|---|---|
| 1980-81 | 30.500 | 16.016 | 250 | 52 |
| 1981-82 | 18.880 | 9.930 | 236 | 30 |
| 1982-83 | 23.975 | 14.070 | 175 | 42 |
| 1983-84 | 37.400 | 18.400 | 187 | 46 |
| 1984-85 | 22.620 | 27.000 | 174 | 54 |
| 1985-86 | 88.400 | 11.600 | 442 | 29 |
| 1986-87 | 121.900 | 21.600 | 530 | 54 |
| 1987-88 | 201.120 | 57.600 | 838 | 128 |
| 1988-89 | 157.000 | 61.800 | 628 | 103 |
| 1989-90 | 173.700 | 67.800 | 579 | 113 |
| Total | 875.495 | 305.816 | 4039 | 651 |

Source: Education Department, NWFP.

Details in Annexure-IV.



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B. Existing Volume

2.04 In the NWFP ADP 1990-91 out of a total outlay of Rs.2489 million for all sectors, a sum of Rs.559 million was originally allocated to 136 ongoing and 123 new schemes of Education and Training Sector. The allocation works out to be 22.46% of total ADP. The allocation has been revised to Rs.585 million during the year. Table-3 illustrates original and revised allocations in the Education and Training Sector:

TABLE - 3

ADP 1990-91 ORIGINAL AND REVISED ALLOCATIONS IN EDUCATION AND TRAINING SECTOR

| SUB SECTOR | ORIGINAL ALLOCATION Rs. in Million | % | REVISED ALLOCATION Rs. in Million | % |
|---|---|---|---|---|
| Primary Education | 212 | 37.9 | 173 | 29.6 |
| Secondary Education | 242 | 43.3 | 280 | 47.8 |
| College & other Education Sub-sectors. | 105 | 18.8 | 132 | 22.6 |
| TOTAL | 559 | 100.0 | 585 | 100.0 |

2.05 In the ADP 1990-91 Primary and Secondary Education subsectors were given 81.2% of the total allocations of the Education Sector originally which has been reduced to 77.4% in the revised allocations. The share of the Primary Education subsector was reduced from Rs.212 million to Rs.173 million in the revised allocations and its present share is about 30% of the total sectoral allocations as against 38% in the original ADP. The share of Primary Education is still quite significant.

C. 1990-91 Physical Targets

2.06 There are 21 ongoing and 40 new schemes of Primary Education included in ADP 1990-91. The physical targets for the year are establishment of 586 primary schools, construction of additional classrooms in 28 schools, reconstruction of 64 existing primary school buildings and purchase of equipment for 900 mosque schools. Upgrading of primary schools into middle school status comes under Secondary Education. Table-4 shows district-wise targets for completion of construction works during 1990-91.

TABLE - 4



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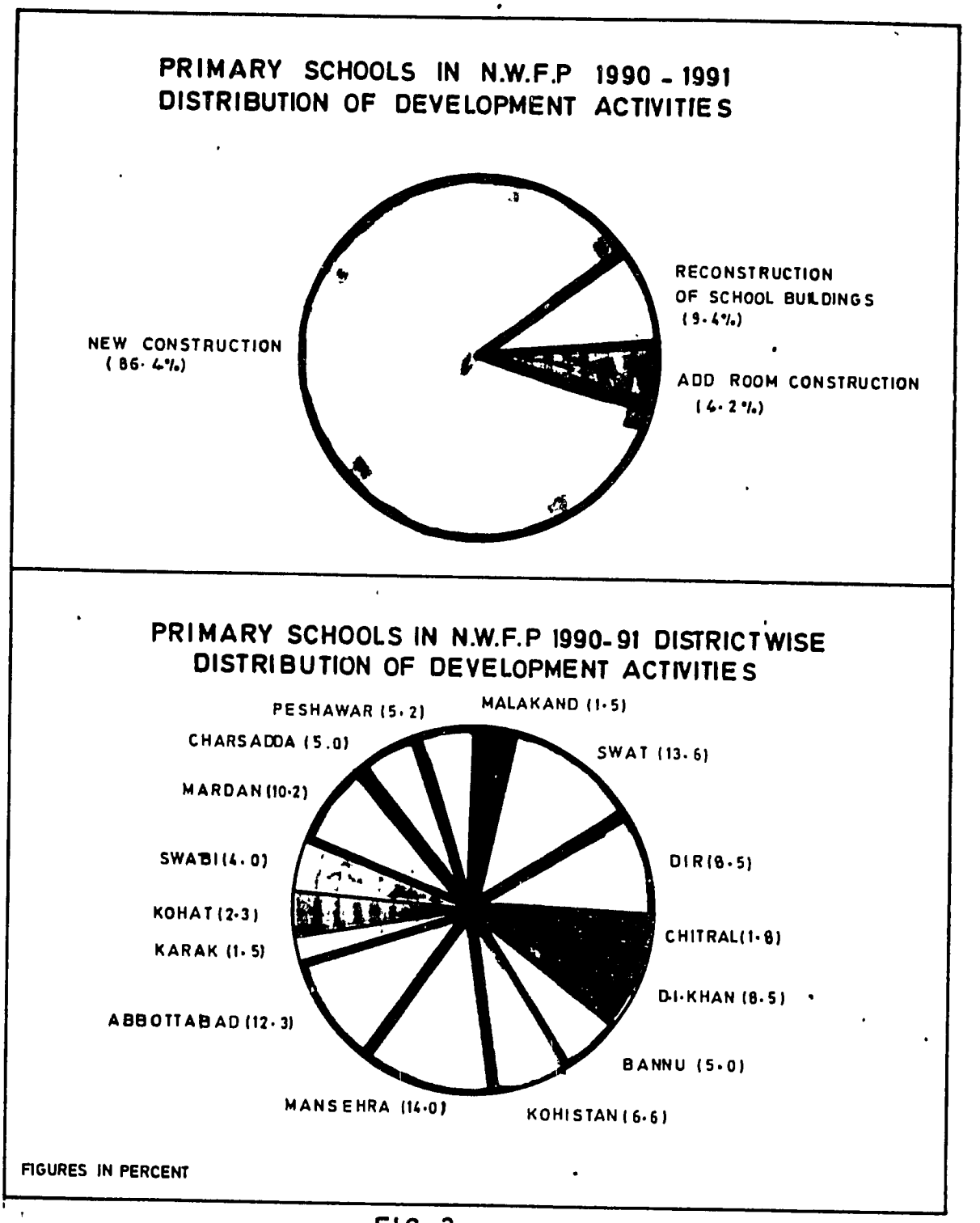


FIG. 3

SOURCE: EDUCATION DEPARTMENT N.W.F.P.
DETAILS IN ANNEX IV

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## DISTRICT-WISE TARGETS FOR PRIMARY SCHOOLS

## DURING 1990-91

| | New Schools | Reconstruction of P.S. buildings | Add. Rooms | Total |
|---|---|---|---|---|
| Peshawar | 35 | - | - | 35 |
| Charsadda | 33 | 1 | - | 34 |
| Mardan | 48 | 21 | - | 69 |
| Swabi | 16 | 11 | - | 27 |
| Kohat | 16 | - | - | 16 |
| Karak | 13 | 2 | - | 15 |
| Abbottabad | 84 | - | - | 84 |
| Mansehra | 80 | 2 | 6 | 88 |
| Kohistan | 30 | 3 | 12 | 45 |
| Bannu | 21 | 13 | - | 34 |
| D.I.Khan | 50 | 8 | - | 58 |
| Chitral | 12 | - | - | 12 |
| Dir | 48 | - | 10 | 58 |
| Swat | 90 | 3 | - | 93 |
| Malakand | 10 | - | - | 10 |
| Total | 586 | 64 | 28 | 678 |

Source: Education Department, NWFP.
Details in Annexure-IV.

2.07 During 1990-91 construction of new primary schools forms the major portion of development works (86.4%). Swat district has the highest number of school construction activities followed by Mansehra and Abbottabad districts. Fig.3 illustrate district-wise and construction-wise distribution of primary school development activities in the Province during 1990-91.



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## D. Foreign Financed Projects

2.08 In addition to construction of new Primary Schools under the Annual Development Programme of NWFP, there are a number of foreign financed projects of construction of primary school and addition of class rooms. Only local costs of these projects are reflected in the ADP. The information related to these projects are briefly given below:

i) Primary Education Project II - This is a World Bank financed project costing Rs.350 million including Rs.98 million in local cost. It envisages construction of 2000 class rooms in the existing primary schools. The project is in hand and is scheduled to be completed by June 1992.

ii) Primary Education Girls Project - This is an Asian Development Bank financed project. It envisages construction of 176 primary schools for girls between 1990-95. These will have six rooms. Five class rooms and one room for the Headmistress.

iii) Primary Education Charsadda Project - This is Pak-German financed project. It envisages construction of about 500 primary schools during 1991-94.

iv) Primary Education Development Programme - It is USAID financed project prepared at a total cost of US $ 160 million (Rs.3200 million) for 10 years period (1989-99). It envisages construction of 3330 new primary schools, upgrading 360 girls primary schools to middle school status, construction of hostels, buildings and extension centres.

v) Other Primary Education Projects - According to the information received from Planning Officer of Education Department, a number of projects related to primary education are currently under discussion and are to be undertaken in future from funds available from foreign as well as from Provincial and Federal Government resources. Since these have not been finalized, therefore, Consultants have not considered them in this report.



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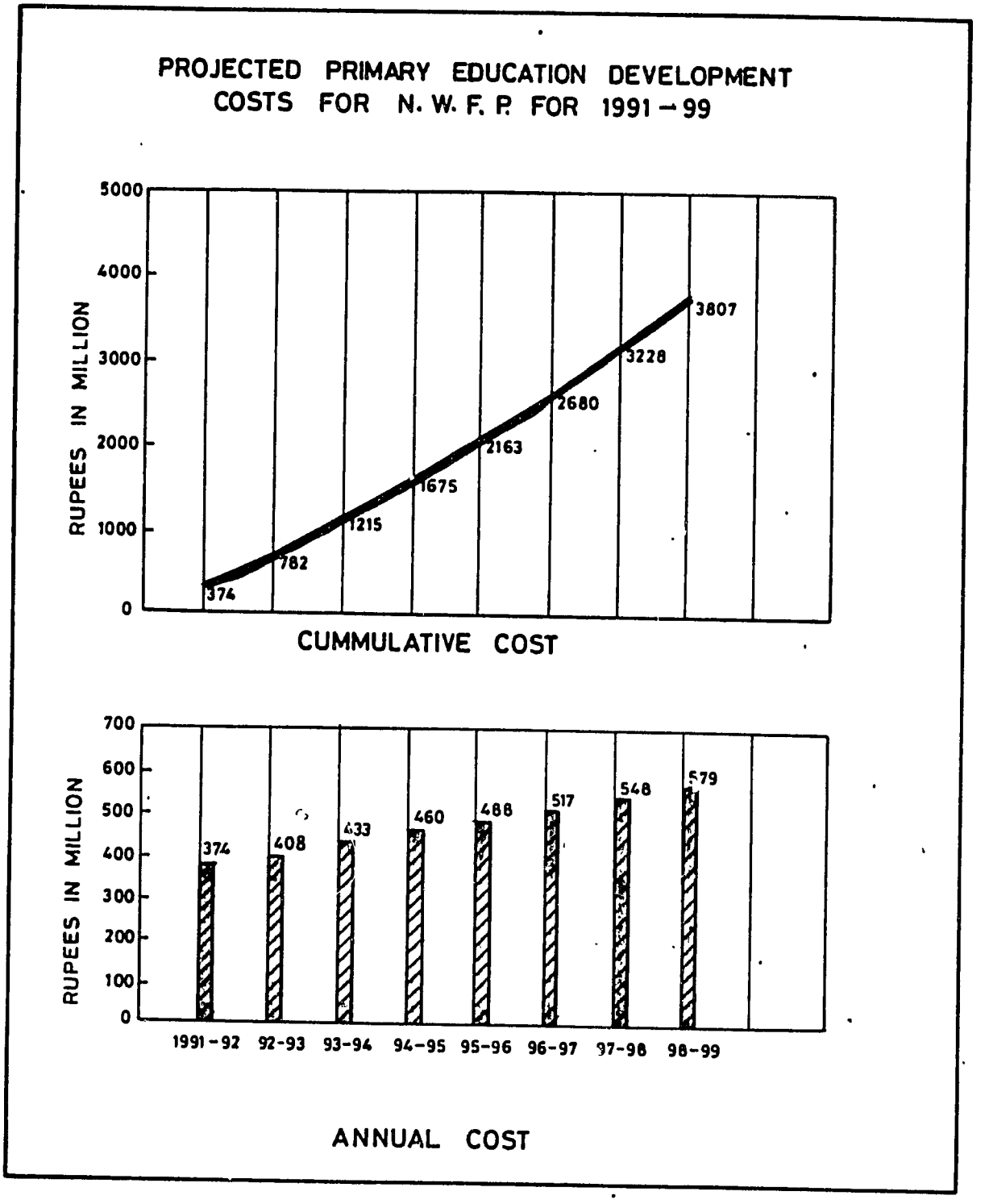


FIG-4

SOURCE: PC-I OF USAID PRIMARY EDUCATION DEVELOPMENT PROJECT AND CONSULTANTS ESTIMATES

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## E. Projected Volume of Construction Activities

2.09 Construction of new primary schools, for all intents and purposes, forms the major portion of constructional activities in case of Primary Education in NWFP. It is 86.4% of total development activities. Other activities such as construction of additional rooms and reconstruction of existing primary school building are only 13.6% of the total activities during 1990-91. There are exceptions to above when a foreign financed project is prepared for certain works such as World Bank Primary Education Project for construction of 2000 additional class rooms.

2.10 Considering the ADP allocation for primary education and its projections based on 5% annual increase in the allocations for future years and present commitments of foreign financed projets of primary school construction, the amount likely to be spent on developmental activities of Primary Education upto 1988-99 in NWFP is given in Table-5.

TABLE - 5

PROJECTED PRIMARY EDUCATION DEVELOPMENT BUDGET
FOR NWFP FOR THE YEARS 1991-92 TO 1998-99

(Rs. in Million)

| YEAR / DESCRIPTION | 91-92 | 92-93 | 93-94 | 94-95 | 95-96 | 96-97 | 97-98 | 98-99 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| ADP Project | 229 | 241 | 253 | 266 | 279 | 293 | 308 | 323 | 2192 |
| USAID Project | 115 | 132 | 140 | 149 | 159 | 169 | 180 | 191 | 1235 |
| OTHER Projects | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 380 |
| TOTAL | 374 | 408 | 433 | 460 | 488 | 517 | 548 | 579 | 3807 |

Source: Education Department and Consultants Estimates.

Notes:
1. 5% annual increase in the ADP allocations for Primary Education.
2. Phasing of expenditure of USAID financed PED Project is as per approved PC-1.
3. Details shown in Annexure-IV.



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2.11 The amount of work required to be undertaken over next 8 years is estimated to be Rs. 3800 million which works out to be an average of Rs.475 million per year. This amount is more that two and half times the present allocations. Fig.4 illustrates annual cost of construction work under Primary Education upto 1998-99 and its cummulative amount for this period. During this period it is expected that on an average every year about 1000 new primary schools shall be constructed, 80 existing primary school buildings shall be reconstructed and about 50 class rooms shall be added.

F. Volume of Maintenance Work

2.12 The Education Department spends approximately over Rs.100 million every year on maintenance of their buildings. This amount includes special and annual maintenance works of Primary and Secondary Schools. C&W Department undertakes all the maintenance works, except for the petty repairs which are arranged by the Headmasters/Headmistresses. In the year 1989-90, Rs.106,014,000 were spent on maintenance. Out of this Rs.1,363,000 was spent on minor or petty repairs done in 487 schools (i.e. about Rs.2,800 per school). The rest of the maintenance allocation of Rs.104,651,000 was utilized by C&W Department in annual and special maintenance of the school buildings during 1989-90. Table-6 shows annual maintenance cost of Education buildings during the past years. This includes all buildings of Education Department of NWFP.



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**TABLE - 6**

**ANNUAL MAINTENANCE COST OF EDUCATION BUILDINGS IN N.W.F.P.**

| Y E A R | ANNUAL MAINTENANCE COST RS. IN MILLION |
|---|---|
| 1985-86 | 99.2 |
| 1986-87 | 254.8 |
| 1987-88 | 213.7 |
| 1988-89 | 129.4 |
| 1989-90 | 106.0 |
| 1990-91 | 110.0 |
| TOTAL | 913.1 |

Source:- Education Department, NWFP.

Notes: 1. During 1986-88 construction work was also undertaken from maintenance budget. This has been strictly prohibited by Finance Department thereafter.

2. 1990-91 figures are budget estimates. Utilization figures shall be available after the end of the year.

G. Projected Volume of Maintenance Work

2.13 The volume of maintenance work of Education buildings including primary and secondary school buildings shall increase considerably over next few years with the construction of new buildings every year. A large number of existing school and college buildings are required to be rehabilitated and maintained properly. Every year newly constructed buildings shall be added to the list of buildings requiring annual and special maintenance. The maintenance budget allocated every year for the existing buildings is not sufficient for adequate or reasonable maintenance of existing educational buildings. According to a conservative estimate of the Consultants atleast Rs.150 million shall be required for maintenance of existing buildings of Education Department. There should also be 5 percent annual increase in the maintenance budget allocations for maintaining educational buildings satisfactory. However, the cost of major or special maintenance can be reduced considerably if the construction quality of these buildings is improved.



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## III. CURRENT PROCEDURE FOR ESTABLISHMENT OF PRIMARY SCHOOLS

### A. Initial Request

3.01 The request for setting up of a primary school is usually initiated by the community of the area. The parents of school-age children communicate their requests through government or public officials of their area. This request passes through the channels of local bodies, elected representatives, and the members of the Provincial Assembly (M.P.A.s) of the concerned District.

### B. Criteria for Establishment of Schools

3.02 For establishing a new primary school in any locality, the following criteria have to be met:

i) The population of age-group 5-9 years for boys or girls should be 80 or more.

ii) No primary school already exists within a radius of 1.5km of the catchment area.

iii) A plot of two kanals is offered to the Education Department free of cost for the construction of the school by any individual, agency or community.

### C. District Planning and Development Advisory Committee (DPADAC)

3.03 All the proposals for the establishment of new primary schools in various districts, that meet the above referred criteria, are scrutinized by the respective DPADACs. They also study the locations proposed for the schools and select the appropriate sites for school construction for the next financial year.

3.04 Each DPADAC is composed of Members of Provincial Assembly (MPAs) of the concerned district, one of whom is nominated by the Chief Minister as the Chairman. The Committee also co-opts the district heads of the concerned departments such as:

- C&W (Executive Engineer)
- Health (District Health Officer)
- Education (District Education Officer)
- Local Government (Asstt. Director, who also works as the secretary of the Committee).



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3.05 The departmental heads place their expertise at the disposal of the Committee. All the matters are discussed and the views of these experts are considered. The Executive Engineer (C&W), for example, determines the technical suitability of the sites selected for the schools and his professional advice on the issue is generally accepted by others. The schemes are prepared by Education Department based on the technical inputs provided by the Communication & Works Department and are submitted for approval of the Authorities according to their financial powers.

D. Approving Authorities

3.06 The financial powers delegated to various officials and Committees for approval of schemes are as under:

| Authority | Ceiling |
|---|---|
| - Director of Primary Education | Rs.1.0 million |
| - Secretary Education | Rs.1.5 million |
| - Departmental Sub-Committee of the Education Department | Rs.7.5 million |
| - Provincial Development Working Party headed by the Additional Chief Secretary, P&D Department | Exceeding Rs.7.5 million. |
| - Executive Committee of National Economic Council (ECNEC), headed by the Prime Minister | Rs.60.0 million and above |

The ceilings for Director Education and Secretary Education are on lower side and are required to be enhanced.

3.07 The Departmental Sub-committee which examines and approves various schemes is composed of the following members:

1. Secretary, Education (Chairman)
2. Dy. Secretary, Finance (Member)
3. Additional Secretary/Chief of Section in P&D Deptt. (Member)
4. Superintending Engineer, C&W (Member)
5. Director of Education (Member)



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## FLOW CHART FOR PRIMARY SCHOOL CONSTRUCTION AND MAINTENANCE

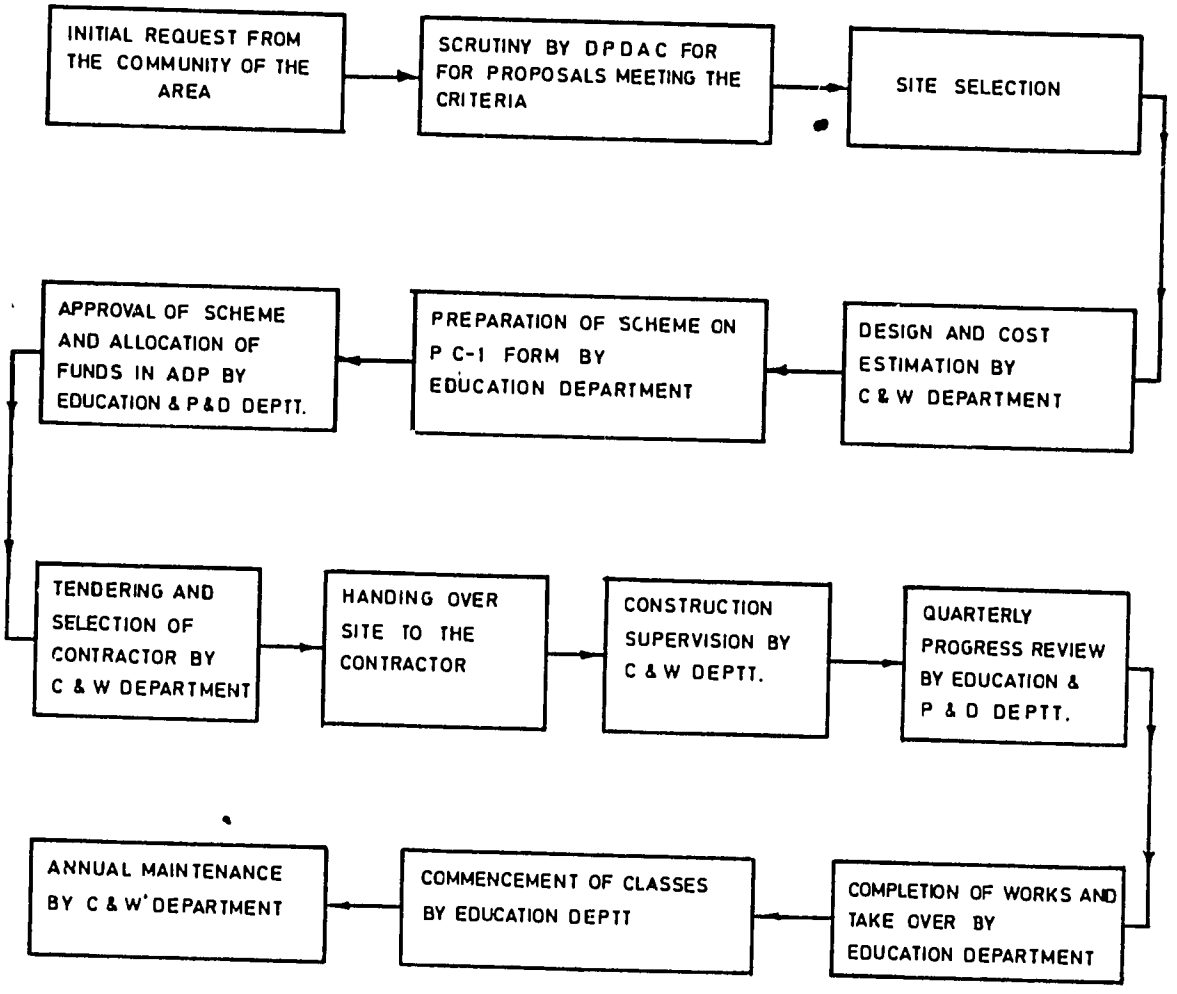


FIG - 5

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E. Finalisation of Proposals

3.08 The approval accorded by the Departmental Sub-Committees for various schemes are normally finalised in the first and second quarter of each year. C&W Department's advice in the Sub-Committee, as in the District Planning and Development Committees, is an important factor in the selection of school-sites. C&W Department is also kept abreast of all the developments in site selection so that they can make necessary provisions for the planning, design and costing of the construction of schools.

F. Suitability of the Site

3.09 There are two main considerations in the selection of sites for new primary schools. These are given below:

i) It should be capable of getting desired number of students enrolled.

ii) It should be suitable for construction of the school and should have proper approach so that children may have easy access to the school.

3.10 The first aspect forms the part of the overall planning of establishment of new primary schools and involves educational proffesionals. The second part comprises visiting the site and gathering information related to local, general and social conditions by concerned officials. The location is selected by the Education Department on the recommendations of the DPADAC concerned while site/land is arranged by the MPA. The justification is recorded on the location chart which is signed by both District Education Officers (Male and Female) and the Chairman DPADAC. Work on the site is started when it is technically approved by the C&W Department.

3.11 After submission of cost estimates by C&W Department, the scheme is prepared on PC-I form by Education Department and requisite funds are provided in the ADP by P&D Department. The scheme is approved by Education or P&D Department depending upon the ceilings of the concerned officials. The work is then tendered and supervised by C&W Department. The entire process for establishment of primary schools is illustrated in the flow chart given in Fig.5.



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# ORGANIZATION CHART OF COMMUNICATION & WORKS DEPARTMENT. N.W.F.P.

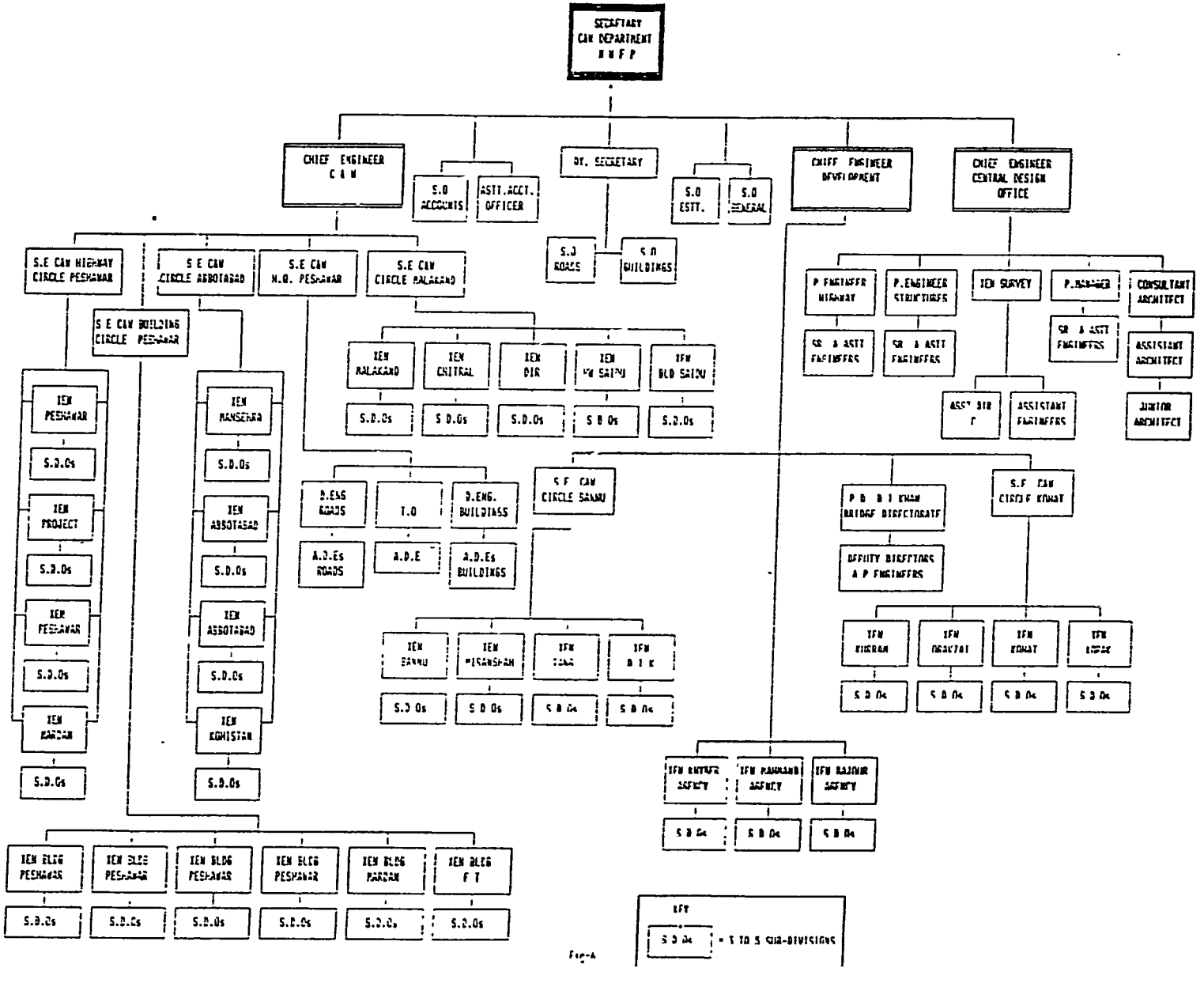


Fig-A

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## IV. EXISTING PROCEDURES OF C&W DEPARTMENT FOR CONSTRUCTION AND MAINTENANCE OF PRIMARY SCHOOLS IN THE PROVINCE

### A. Communications & Works Department

4.01 The Communications & Works Department of N.W.F.P. is mainly responsible for construction and maintenance of roads, bridges, residential and non-residential Government buildings and other Civil Works in the Province. It also undertakes building works of other Provincial Departments except Forest and Police Department. The C&W Department is self sufficient and handles all technical matters related to the works assigned to it. Developmental funds are provided annually through the Provincial Annual Development Plans (ADPs). The Consultants have not been able to obtain officially the total work load of C&W Department. However according to an estimate, it handles original works as well as works of maintenance and repairs amounting to Rs. 1500 million per year. Primary Education construction work constitutes approx. 11.5% of total work load of C&W Department.

4.02 The C&W Department is headed by the Senetary to Government of N.W.F.P. having its own secretariate consisting of one Deputy Senetary, five Section Officers and a Budget Officer. There are three Chief. Engineers. Chief Engineer C&W has 5 Circles and 22 Divisions under him while Chief Engineer Developments has 2 Circles and 15 Divisions. The Chief Engineer Design heads Central Design Office (CDO). Each Circle is headed by a Superintending Engineer, each Division by an Executive Engineer and under each Division there are 3 to 5 Sub-Divisions depending upon the work load of each Division. The Sub-Divisions are headed by Sub-Divisional Officers. Required number of other supporting staff for the offices of the Engineers such as Sub-Engineers, Surveyors, Quantity Surveyors, Draughtsmen, Typists, Clerks, Peons etc are also provided according to the approved yard stick. The Department also employs temporary staff as Work Charge Establishment for which provision is made in the cost estimates. C&W Department's Circles, Divisions and Sub-Divisions are spread over the entire N.W.F.P. and F.A.T.A to look after works assigned to it. As per current practice a Sub Division is created for works amounting to Rs.12 million. Creation of a Division is justified over 3 to 4 Sub-Divisions. Similarly on 4 Divisions, a Circle is created. Project Directorates can be created with the approval of competent authorities for special works where justified. Fig.6 shows organizational chart of C&W Department of N.W.F.P.



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TYPICAL DESIGN OF PRIMARY SCHOOLS FOR
BOYS IN N.W.F.P. PREPARED BY C & W DEPARTMENT

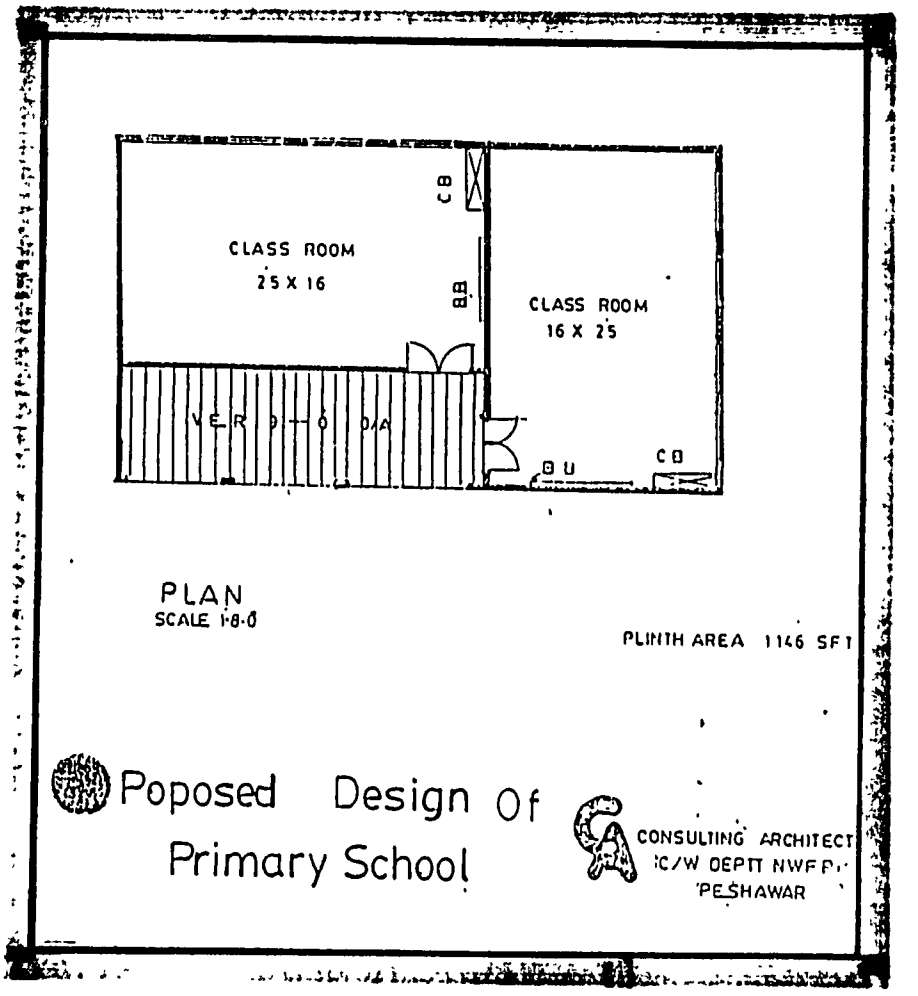


FIG-7

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4.03 The C&W Department receives funds from NWFP Government, Federal Government and from other Govt. Departments and agencies for execution of the work assigned to it. Funds for new works are provided in the ADP while annual maintenance fund and establishment charges of C&W Department are provided in the non-development budget. C&W Department used to charge 12% fee for Deposit Works undertaken in the past. The Consultants have reviewed existing procedures of C&W Department for undertaking construction and maintenance of primary schools in NWFP. These are described as under:

B. Planning & Design

4.04 Planning of establishment of a primary schools is basically the function of Education Department. Based on the population of 5 to 9 years age group, number of schools to be established in each district is planned taking into consideration availability of the resources. Primary schools are being built in NWFP to a standard design produced by C&W Department's Central Design Office based on the requirements of Education Department. This design is being used for the past many years with out any significant modification. A typical primary school design consist of two rooms 25'x16' and one verandah 25'x9' in the front. These sizes are standard sizes given by Education Department. The total area works out to be 1146 Sq.ft. for brick masonry. In case of stone masonry, the total area is 1231 sq.ft. 300 rft. of boundary wall is also provided in case of girls' school with 54 sq.ft. toilet. Provision for water supply and external and internal electricity is also made in the cost estimates. However, toilets and boundary walls are not sanctioned for boys' schools. Teachers and children are supposed to discharge their natural functions in the fields. Orientation of the building depends on the shape of the piece of land and available access rather than sun and wind directions.

4.05 Although the C&W Department has a regular work load of construction of primary schools in various districts of the Province, there is no proper system for long term planning depending upon increase and decrease of work load for optimum utilization of available resources and manpower for timely completion of primary schools.

4.06 Fig.7 illustrates a typical design of boys primary school prepared by Central Design Office of C&W Department. The information related to design of the school is not sufficiently detailed and is available in the form of only a single contract drawing. Structure of



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the school generally comprises of 24"x12" RCC beams at 5' center to center and a 5" to 6" thick RCC slab which appears to be a conservative design. There are a few exceptions to this which are as a rule dictated by local customs rather than any engineering considerations. The contract drawing is usually an architectural plan developed by Central Design Office without the following information:

- Structural details of beams, lintels, roof slab.
- Elevations of the building.
- Details of doors, windows and finishes.
- Lighting and fan points
- Reinforcement details for roof slab, beams, foundation, lintels, bearing pads and expansion joints etc.
- Concrete and steel specifications.

These details are said to be standard and are supposed to be understood by the contractors and the supervisors alike.

C. Cost Estimation

4.07 Since 1976, the C&W Department has stopped the practice of revising and using the 'Schedule of Rates' for preparing Cost Estimates for construction works. It is reported that recently the 'Schedule of Rates' have been revised but it is still under discussion and has not yet been approved. At present for each school scheme the concerned S.D.O. or Sub-Engineer develops his own item rates or rates per sft. from the rates quoted in previous jobs in his Sub-Division and updates these rates from his knowledge of the local market conditions. The cost estimates thus developed are vetted by the Executive Engineer who approves them for use in his Division. Due to this method of estimating the cost and lack of technical knowledge of the estimator in the rate analysis, the cost of the schools are not correctly estimated and are found to be about 20 percent higher than the normal.

D. Registration of Construction Contractors

4.08 The C&W Department registers contractors/construction firms in different categories depending upon the size of the project in terms of cost which the firms are considered capable of handling. This registeration is required to be renewed every year by the contractor on payment of fixed renewal charges. Enlistment of firms under various categories is approved by the appropriate committees as given in the table below:



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TABLE - 7

CATEGORIES OF ENLISTMENT OF CONTRACTORS

| S.No. | Contractor's Category | Value of Work Rs.in million | Approving Committee |
|---|---|---|---|
| 1. | NO LIMIT | above 50.0 | Chairman (Chief Engineer), Staff Officer (S.E.), (SE of Civil Circle, SE of Elect/Mech Circle), Members, Secretary (XEN (Q.S.)) |
| 2. | 'A' | up to 50.0 | As above |
| 3. | 'B-1' | 10.0 | As above |
| 4. | 'B' | 5.0 | Chairman (S.E. of Operative Circle), Members (2 XEN's), Secretary (A.E./S.D.O). |
| 5. | 'C' | 1.0 | As above |
| 6. | 'D' | 0.5 | Chairman (XEN of Operative Division), 2 Members (A.E.s/S.D.O.), Secretary (Head Clerk) |
| 7. | 'E' | 0.1 | As above |
| 8. | Petty Contractor | 0.025 | XEN |

KEY

S.E - Superintending Engineer
XEN - Executive Engineer
S.D.O - Sub Divisional Officer
A.E - Assistant Engineer



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E. Criteria For Enlistment Of Contractors

4.09 While registering the name of a construction firm as an enlisted contractor of the department, his applicaiton is exmined by the concerned committee and following aspects are considered:

- Financial status of the firm.
- Availability of Technical and qualified personnel.
- Availability of Constructional equipment, tools and plants etc.
- Past experience of executing works.

4.10 Depending upon Contractor's capability evaluated on the basis of these four criteria, the applicant is enlisted in any of referred eight categories mentioned in Table-7. An enlisted contractor is then entitled to submit quotations for building construction works in his category or financial limit when the tenders are advertised by C&W Department.

F. Tendering and Award

4.11 The tender procedure of C&W Department calls for an open competition by inviting tenders for all works of construction, large or small. The Finance Department and the Accountant General of NWFP are very particular in this regard and insist on wide publicity of 'Notice Inviting Tenders' through newspapers and award of work to lowest bidder. However, only the enlisted contractors of relevant category can quote for the jobs. Any response to the tender advertisement by non-enlisted bidders is ignored. The main advantage of wide publicity of the tenders is thus lost to a considerable extent.

4.12 Tenders for primary schools are opened by a competent Committee in the office of Executive Engineer or Chief Engineer, as required by the Rules, in presence of concerned bidders on the fixed date and time. A minimum of 3 sealed quotations should be received before Tender opening. The quotations received are checked arithmetically and evaluated for workability of rates. A tender report is made and sanction of relevant authority obtained before issuing the "work order" to the contractor. In this process there is no participation of the Education Department. In almost all cases, the work is awarded to the lowest bidder, apparently because of the long chain of resulting audit objections in the exceptional cases. Every XEN/SDO always tries to avoid such a situation.



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4.13 As the Executive Engineers can accept tenders upto Rs.0.5 million, almost all tenders for the primary schools are approved and awarded by XENs. Delay in site selection however, frequently results in delaying the tendering and award of work. After the tender opening, in most cases, the work is awarded to a firm within a relatively short period of time. However, handing over of sites to contractors is frequently delayed. This is one of the major causes of delays in completion of works and cost over-runs which could be of the order of 20 to 30 percent.

G. Construction Supervision

4.14 After the award of the works to the successful Contractor, C&W Department supervises construction work through its field offices in the area. A Sub-Engineer gives the building/foundation layout soon after handing over the site to the Contractor and the work commences. The Sub-Engineer identifies approved brick-kilns and aggregate quarries for use in the construction work. In certain cases cement and steel are supplied from the stores of C&W Department. The concerned XEN and SDOs are required to visit the under construction work frequently and check the quality of construction. As a rule testing of material and checking the ratio of concrete mix is also required. In the absence of proper testing equipment the Sub-Engineer uses his experience and judgement in approving the work. During the course of construction work, the Contractor is given progressive payment based on the quantities of work executed. After completion of the work, the school site is handed over to Education Department which takes action for commencement of classes in the newly constructed school.

H. Maintenance of Primary Schools

4.15 For the purpose of maintenance of primary schools, the works undertaken are categorized as follows:-

i) Annual Repairs: General cleaning & repainting of the premises. repair of plaster, flyproofing, carpentary, repairs to minor floor & wall damage, levelling the ground, etc.

ii) Special Repairs: Major Repairs/replacement of flooring, woodwork, roof water proofing, large concrete/masonry areas developing cracks, foundation settlement, re-building of some parts of the school, etc.



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4.16 The C&W Department prepares repair plan of primary schools every year based on priorities and available funds. Generally no designing is involved in it, unless a structural modification is required for any major fault noticed in the structure. For large structural failures, an enquiry is conducted for study of the causes of the failure, and the recommendations of the Enquiry Committee are considered and works executed accordingly. The concerned S.D.O./Sub-Engineer prepares estimates for the repair works and obtains quotations for the repair works to be undertaken in the financial year. Work is awarded and supervised in the same manner as that of construction work.

4.17 Minor day to day repairs known as petty repairs are undertaken by the Headmasters/ Headmistresses of the concerned school from the maintenance budget allocated for this purpose. It is not more than 1.5 percent of maintenance budget. In view of minor nature of work, supervision of petty repairs is usually left to the concerned Headmaster/Headmistress.

I. Current Monitoring System

a) New Construction

4.18 The C&W Department provides regular monthly and quarterly progress reports to the Education Department in the coordination meetings covering the physical progress and uptodate expenditure/cost incurred on the works. The reports do not provide item-wise breakdown of costs which the Education Department could use for identifying the items of work undertaken. The joint site visits by concerned staff of C&W and Education Departments for verification of reported progress at site seldom take place due to lack of sufficient coordination in the site visits by the two Departments. All construction contracts awarded by C&W, Department clearly mention the time limit within which the work must be completed and handed over i.e. the dates of construction commencement and completion are clearly defined. A bar-chart for construction schedule, however, is not prepared. A rough programme indicating approximate time likely to be taken for reaching various broad work stages (e.g., foundations, plinth, lintel level, walls, roof, slab, etc.) is prepared before starting the job. This makes the progress monitoring job of Education Department rather difficult.



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b) Maintenance Work

4.19 There is no comprehensive and planned monitoring system for maintenance works of primary schools, except for the monthly and quarterly reports mentioned above. The amount spent during each quarter on maintenance works are recorded and figures of utilization against the allocations are compiled.



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## V. REVIEW OF THE PRESENT SYSTEM

### A. Views of the Education Department's Officials

5.01 The Consultants discussed the existing system of management of primary school construction and maintenance and its drawbacks with the officials of Education Department of NWFP and interviewed Director and Deputy Director Primary Education, USAID Advisor, Planning Officers, District Education Officers, Primary Education (male & female), Headmasters and Headmistresses of primary schools of various districts. All of them were unhappy and dissatisfied with the present state of affairs and the product handed over to them by C&W Department. They were also very vocal about the poor quality of work performed.

5.02 Some of the deficiencies pointed out by various officials of Education Department concerning construction and maintenance of primary schools are summarized below:-

i) Inconvenient design, poor ventilation and lighting.

ii) Five to six classes are required to be taken in two roomed primary schools.

iii) Location of the site and its approach in many cases is not attractive.

iv) No water supply and toilets in boys primary school.

v) No external electricity provided in most of the schools although internal electric fittings and fans are provided.

vi) No insulation provided. The class rooms are hot during summer and cold during winter.

vii) Most of the roofs of the schools are found to be leaking. Resulting dampness is unhealthy for the school children.

viii) Built-in black boards on the wall cannot be used due to bad quality of work.

ix) Cupboard thicknesses are so small that it is difficult to keep registers inside.

x) Dangerous structural cracks are found in most buildings some of them were recently constructed.



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xi) Floor and wall finish is poor. Plaster is coming out.

xii) Some staircases in middle schools are without railing and are dangerous for the students.

xiii) One year construction programme of primary schools in most cases is delayed some time for 2 to 3 years.

xiv) C&W Department Senior Staff do not visit the construction site and the work is left to lower or Work Charge staff.

xv) Inspite of repeated requests maintenance of buildings are not properly attended to.

xvi) Buildings which are not complete from Education Department's point of view are handed over to Education Department.

xvii) Maintenance work starts on many buildings immediately after construction due to poor quality of construction.

xviii) Targets set by Education Department are not completed frequently and funds provided in ADP either lapse or are utilized in other schemes.

xix) Education Department has provided through ADP certain technical staff in C&W Department for implementation of schemes of Primary Education but there is hardly any improvement of quality of work.

xx) No consultation with Education Department is done at the time of award of work or for extra expenditure upto 15%. Sometimes works are awarded at higher rates.

xxi) In certain cases works are sub-let by the main contractors after receiving their profit, to smaller contractors who reduce the quality of work to make up for their own profit margin.

xxii) C&W Department gives little attention to the complaints of Education Department concerning quality of construction.



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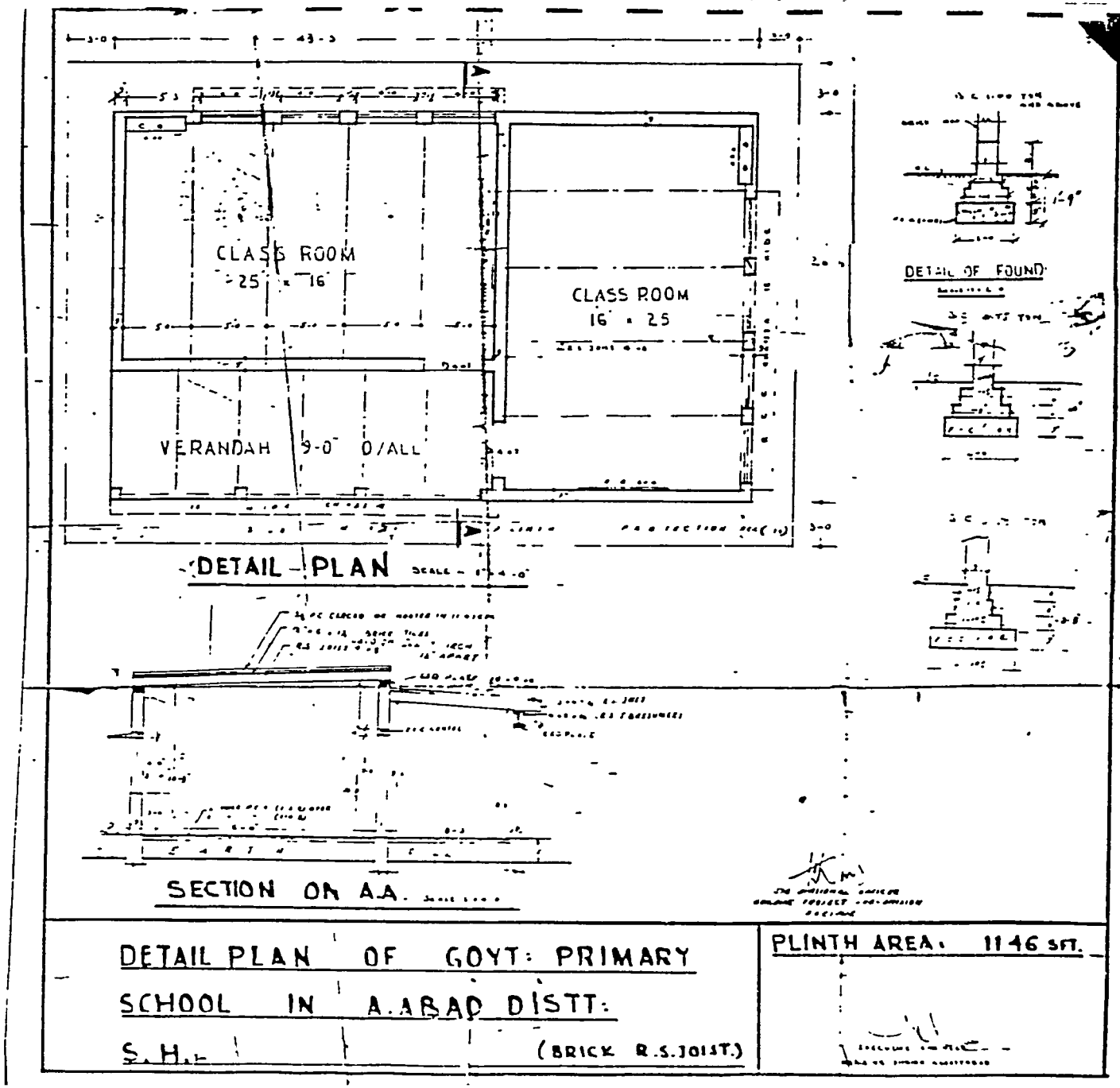


PHOTOCOPY OF A TYPICAL DRAWING
USED BY C & W DEPARTMENT FOR CONSTRUCTION PURPOSES

FIG - 8

SOURCE : C & W DEPARTMENT, N.W.F.P.

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5.03 During the course of the present study, Consultants came across similar complaints from general public, parents of the students going to these Govt. primary schools and newspapers reporting about poor maintenance of school buildings. According to a UNICEF Report on Health Education in Primary Schools, it was reported in case of Malakand district that only 8 out of 95 girls schools and 28 out of 215 boys schools had piped water. None had latrines. Most class rooms did not have sufficient light or ventilation. Only 58 schools out of 310 schools had electricity. Teachers prefer to hold classes outside rather than suffer the poor conditions during summer months. Due to insufficient ventilation and heat inside the class room and lack of shade outside, children were sent home mid-morning.

B. Assessment of the Consultants

5.04 During the present study on management of construction and maintenance of primary schools in NWFP, the Consultants have examined the existing system of the C&W Department and the difficulties encountered in efficient and smooth implemen-tation of construction work of the desired quality. The Consultants have formed their opinion on the basis of discussions held with officials of Education Department who are the end users, site visits to 30 schools in 7 districts and study of documents and reports. The observations of the Consultants on the schools visited are given in Annexure-III. Photographs taken during field visits are included in this chapter. The assessment of the Consultants is described below under various heads:

C. Planning

5.05 Planning of primary schools and preparing the schemes is the responsibility of Education Department. As per Education Policy of the Government and overall physical and financial targets in five years and annual plans, the Department makes provision of funds in consultation with P&D Department and prepares the schemes for implementation. The planning process is presently being done smoothly and should remain with the Education Department as at present. However proper planning of construction and and maintenance works, availability of resources, regional/site conditions and capability of the Contractors becomes the responsibility of the implementation agency. At present C&W Department undertakes this aspect of planning as a matter of routine.



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D. Work Load

5.06 The construction work load of primary schools in NWFP over next 8 to 10 years is expected to be of the order of Rs.3800 million or Rs. 475 million per annum on an average. This is more than two and half times the existing load. This is about one third the existing work load of C&W Department in a year. Work of such a large magnitude cannot be implemented without proper prior planning of manpower and material resources required. Unplanned works result either in poor construction or delays in completion.

E. Availability of the Site

5.07 As per rule the plot of land for construction of primary schools must necessarily be donated by the owner free of cost. This very often results in offering of land by the community or an individual which may not be suitable for school construction. Sometimes plots near graveyards or in a nullah were given. In one such instance school was constructed in low lying area on marshy land. Dangerous settlement cracks have appeared in all rooms and the structure is not fit for occupation. Picture of one such school can be seen in Photo Plate No.1. Since the cost of land has increased considerably in urban areas in recent years and the land in rural areas is also becoming expensive, the method of obtaining the land free of cost for school construction should be discontinued atleast in the urban area and proper financial provision should be made for the purchase of suitable land if schools are required to be constructed on proper locations.

F. Design

5.08 The typical design being used at present for construction of 2 roomed primary schools is not at all satisfactory. It lacks basic ammenities such as toilets for boys schools and water supply for both boys and girls schools. Regardless of the likely number of students to be enrolled in different locations, only two rooms are provided for six classes (Class I to V + Junior Class). It is physically impossible for imparting proper education to the children in such schools especially in large villages and urban areas where number of students enrolled is quite high. This results in classes being taken in open and shelterless places as shown in Photo Plate No.6. The design of the school is required to be



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modified and adequate number of rooms should be provided from the very begining where necessary instead of constructing additional rooms at a later stage which is an expensive proposition in view of higher cost in future.

5.09 The Central Design Office (CDO) of C&W Department is generally engaged in routine work and is not in a position to review and revise the design on a regular basis to account for the needs of Education Department or the site conditions. No advantage is taken of the development in the construction techniques. This rigid approach has resulted in construction of overdesigned, uneconomical and inconvenient school buildings in the Province. In certain cases the CDO itself recommends hiring of private sector Engineer/Architect for works which can not be handled in-house due to the work load or especialized nature of work.

5.10 Fig.8 illustrates a typical design of primary school for boys in Abbottabad district. It gives three foundation sections for the soil bearing capacities of 0.5, 0.75 and 1.0 tons per sft. The foundation depth are 2'-8", 2'-2" and 1'-9" respectively. Wider foundation for weaker soil is understandable but deeper foundation for low bearing capacity shown in the drawing may not be necessary. In actual construction, the bearing capacity of the soil is usually assumed without any laboratory testing or site investigations. Hence a conservative design of the foundation is used. The difference between the values is not much and it hardly merits three separate foundation designs. 9" thick lean concrete pad is too heavy instead 3" thick pad should be adequate. Due to this overdesign of foundation 3 to 4% extra cost is borne by Education Department which could be avoided or used for sulphate resisting cement in locations where salts are likely to corrode the foundation. For hilly areas of Abbottabad, use of stone masonry would have been more logical as stone is readily available in the vicinity at cheaper rates. Alternatively, the whole foundation below ground level could be cast-in-situ concrete without any significant cost increase, while ensuring better quality compared to poor brick masonry produced.

5.11 As seen from the beams and slab sections adopted at various sites, it appears that the structural design of the school buildings is not based on any formal calculations. For example, for single storey primary school construction, where staircase is not provided and the



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roof is not accessible, heavy RCC beams 24" x 12" @ 5' centers with 5" to 6" uneconomical to say the least. This apparently results in a large avoidable cost to the Education Department when multiplied by nearly 600 schools which are constructed every year. Instead, 10"x8" beams and a 3" thick slab would have sufficed. Alternatively the number of beams could be reduced to one, in the centre, with two-way slabs on both sides. This would save atleast 2 to 3% in the cost.

Most of the NWFP lies in zone No.III of seismic classification. No provision is made for Earthquakes in the design. Primary school buildings should be designed for the horizontal force, even if it costs little more for safety considerations. This extra cost can come from savings by avoiding overdesigned structures. It may therefore, be advisable that:

- R.C.C. bands are given around the openings (doors & windows);
- Window openings should not be very close to the corners;
- Several windows should not be placed in one wall unless the necessary long, R.C.C. bands are provided over the windows.

5.12 Construction firms are required to submit bids on the basis of a single sheet of typical architectural drawing which, normally, does not provide the necessary structural finishing, and even architectural details. The Contractors are not able to price their bids correctly and it results in higher costing of bids by 10 to 15%. On the site, these details conform to the traditional style. No initiative for developing better plan and economical design is evident in the present system. However, use of timber structure and trusses in hilly areas, like Kohistan, or use of stone masonry in place of brick masonry in some parts of Abbottabad have been adopted by C&W Department. In some schools steel beams, T-Sections and brick tiles have also been provided for the school roofing. These deviations from the typical R.C.C. beams and slab arrangement, therefore, seem to have been adopted more as exception rather than for any engineering or architectural considerations. R.C.C. roof structure and brick masonry have also been used in some other schools in Abbottabad by the C&W Department. It is required to improve upon the practices of design as well as "Preparation of Tender



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Documents" in order to obtain properly costed bids. The flaws in structural design also needed to be removed. The relevant detailed specifications, conditions of contract, Bill of Quantities with detailed description and special conditions related to the particular sites should also necessarily form part of the tenders, even for small jobs like primary schools. On large scale schools constructions, such incomplete contract documents could be serious contractural hazard in terms of compromise on quality of construction, safety, extra cost and Contractor's claims.

G. Construction Supervision

5.13 Construction supervision is the most important aspect of construction of primary schools. Discussions with District Education Officers and . site visits to 30 schools in 7 districts of NWFP have shown that required attention is not being given to construction supervision work by C&W Department. No testing equipment or laboratory exists at the sites of the works. Senior Engineers do not visit the site of construction and work is left to lower staff and sometimes to work charge staff who do not have adequate technical skill. According to District Education Officers, Sub-Engineer visits the site of work once a week, SDO once a month and Executive Engineer on project completion. The lack of proper supervision of works was evident to the Consultants during inspection of 30 schools in 7 districts of NWFP. The observations recorded by the Consultants on these schools are given in Annexure-III. The results are summarized below:-

a) Quality of Construction: - Construction work of almost all the schools visited was of inferior quality and not strictly according to speicifications. Floor and stair finish was poor. Plaster was brittle and comes out easily with fingers showing a bad mix, wood and its joinery was of a poor quality, buiit in black boards of concrete not useable, structural cracks in the roof and walls were observed in some schools which are dangerous.

b) Inconvenient Orientation: - The buildings are generally orientated to suit the shape of the land. No consideration is given to the movement of the sun and direction of wind. This results in most classrooms being undue warm or cold in summer and winter seasons, respectively, which is very inconvenient for the yound pupils and teachers alike.



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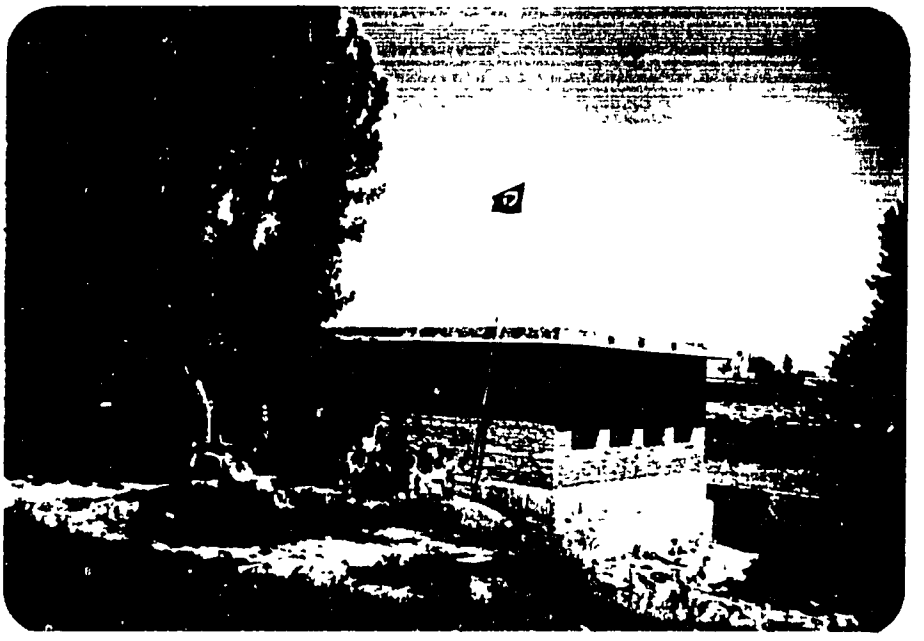
PHOTO PLATE NO. 1



PRIMARY SCHOOL RECENTLY COMPLETED AND OPENED IN APRIL 1991. SETTLEMENT OF FOUNDATION AND DANGEROUS CRACKS HAVE APPEARED DUE TO ITS CONSTRUCTION ON UNSUITABLE MARSHY & LOW LYING LAND.

BLACK BOARD BUILT BY THE CONTRACTOR CAN NOT BE USED DUE TO POOR FINISH. A WOODEN BLACK OCCUPYING EXTRA SPACE HAS TO BE USED IN SCHOOLS.

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PHOTO PLATE NO. 2

POOR CONCRETE AND FINISH OF THE STAIRCASE IN THE MIDDLE SCHOOL. THERE ARE NO RAILINGS AND IS DANGEROUS FOR THE CHILDREN.

POOR FINISH OF THE FLOOR OF THE PRIMARY SCHOOL RECENTLY COMPLETED.

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PHOTO PLATE NO. 3

INCOMPLETE TOILET WITH NO SANITARY FITTINGS BEING USED AS A STORE IN THE MIDDLE SCHOOL WITHIN MUNICIPAL AREA OF PESHAWAR

INCOMPLETE PRIMARY SCHOOL AT JATIBALA, PESHAWAR
LEFT UNATTENDED - ADP 1988-89 SCHEME.

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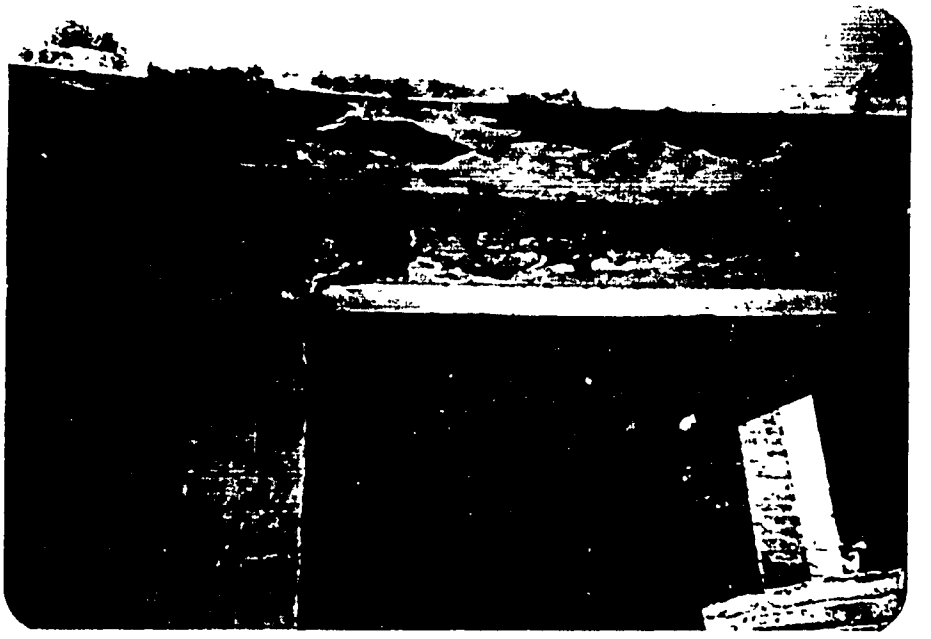

POOR MAINTENANCE CONDITION OF THE PRIMARY SCHOOL. EXPOSURE OF STEEL REINFORCEMENT AND ITS RUSTING CAN BE NOTED.

POOR MAINTENANCE OF THE FOUNDATION OF PRIMARY SCHOOL. FAST DETERIORATION AND DAMAGE IS TAKING PLACE DUE TO SALTS.

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DAMPNESS AND POOR CONDITION OF MAINTENANCE OF THE CLASS ROOM. THE STUDENTS HAVE MADE A HOLE IN THE WALL FOR VENTILATION AND LIGHT. ELECTRIC WIRES WITHOUT FITTING ARE DANGEROUS FOR THE STUDENTS. FANS EXIST BUT NOT EXTERNAL ELECTRICITY PROVIDED.

NEGLECTED MAINTENANCE OF THIS SCHOOL IN PESHAWAR.

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DUE TO OVERCROWDING HEAT, AND LACK OF LIGHT AND VENTILATION STUDENTS SIT OUTSIDE THE SCHOOL FOR THE STUDY.

A VIEW OF THE CLASS BEING TAKEN OUTSIDE THE SCHOOL.

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PHOTO PLATE NO. 7

POOR MAINTENANCE OF PRIMARY SCHOOL
RECENTLY UPGRADED AS MIDDLE SCHOOL

POOR FINISH AND SUBSTANDARD WORK OF RECENTLY CONSTRUCTED CLASS ROOM. NO ELECTRICITY AND WINDOW PANES PROVIDED. STUDENTS HAVE COVERED THEM WITH GUNNY BAGS AND PAP ER SACKS TO AVOID COLD WINDS.

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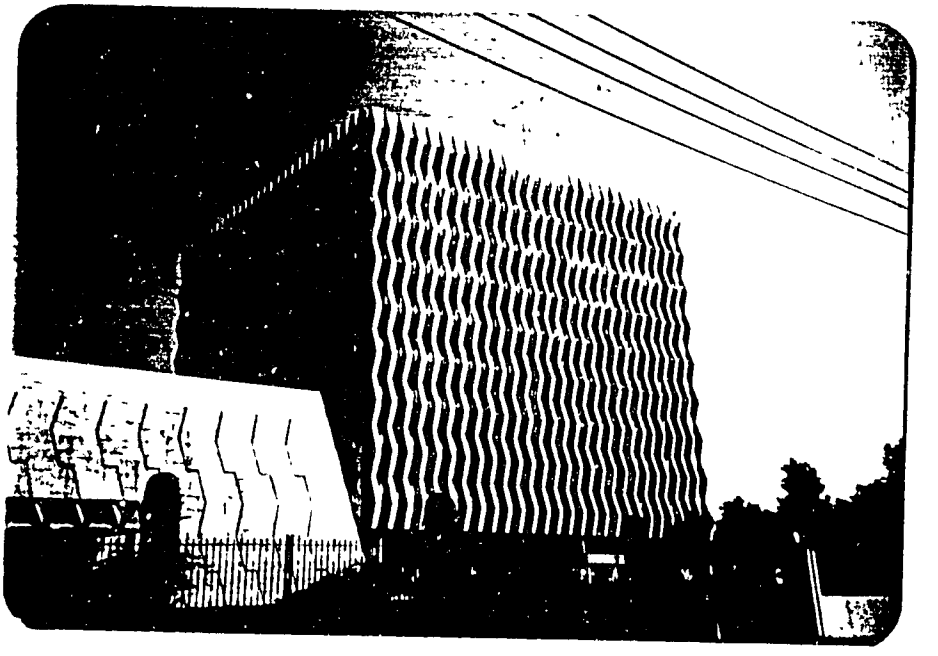

TYPICAL VIEW OF STATE BANK OF PAKISTAN BUILDING AT PESHAWAR BUILT BY MIAN NIZAMUDDIN G. RASOOL CONTRACTOR. IT IS DESIGNED AND SUPERVISED BY PRIVATE SECTOR ARCHITECT/ENGINEER M/S. SALEEM AHMED AND ASSOCIATES

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c) Drainage: - In the bathrooms of Upgraded Primary Schools, the slopes in the floor, floor traps and sewerage ventilation, etc, appear to have been ignored.

d) Internal and External Electricity: - Safe electrical hooking up and proper earthing with earth pits are seldom done carefully. No external electrification in most of the schools has been provided. In certain cases internal electrification and fans are provided but no electricity was there due to no external connections.

e) Water-Proofing & Insulation: - Almost all th roofs and walls of school buildings showed signs of dampness. The system of damp proof course (DPC) in walls at the plinth level is inadequate for preventing the sub-soil moisture from rising by capillary from the floor area. Use of moisture barier (bitumen & polythene memberane) on the floor area, with sufficient quality control, is required but not provided. The polythene sheets spread over the bitumen layer on roof slab was found torn and damaged at several places. Some of the polythene had turned brittle and crakced by long exposure to hot summer sun. With the condition of the ineffective waterproofing, frequent marks of water leakage in most of the schools, were not a surprise.

f) Materials & Workmanship Control: - In addition to the above, some observations on materials used and workmanship in case of primary schools inspected during the site visits are given as follows:

i) At the sites like Meelo Seri in Karak, locally available fine/pit sand with high silt content was used.

ii) Mortar or concrete is made without any control on mix or proportion of constituents. Mixing is done on natural grade (earth).

iii) Standard of bricks with reference to their compressive strength is not checked. At many sites brick quality is poor.



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iv) Dry bricks are used in masonry with little control on width of joints. The bricks should have been damp/soaked in water. At least 20% joints are either hollow or so small that mortar could not be provided there.

v) Door and Window wood frames and panels are neither properly seasoned nor treated against termite/ infestation. At most places, these have warped. Timber with cracks and large number of knots has been used in many schools. Timber frames are usually coloured (without using primer) while the surfaces in contact with bricks masonry/concrete is not even bitumen painted.

vi) Old flooring is chipping off and breaking down in most of the schools. As a result the glass strips used in floor panels get exposed and cause injuries to children. The main reason is that, insad of using 2" thick good quality 1:2:4 concrete required by the drawing, lean concrete finished with thin layer of cement slurry is used, which does not stand the wear and tear for long.

vii) Line, plumb and finish of plaster is not adequately controlled. At some places heavy thickness of mortar is used in one layer to make-up the uneven surface of brick masonry. Most of such plaster looses bond with the masonry in due course of time, resulting in excessive cracks.

5.14 Photographs taken during the field visits are shown in Photo Plate Nos.1 to 7. These depict some of the observations recorded by the Consultants. These are self explanatory and do not require detailed description.

H. Maintenance of Schools

5.15 Due to poor and inferior quality of construction, maintenance of buildings is required to be undertaken immediately after its construction. The maintenance standard of the school buildings inspected was poor. This is partly due to bad workmanship and partly because of inadequate allocation of funds for each building. The life of newly constructed buildings should be 40 to 50 years but poor construction reduces the life



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to a much lesser period and necessitates costly maintenance every year. According to a rough assessment of the Consultants, due to poor construction the maintenance cost of buildings increases by 25 to 30 percent.

I. Progress Monitoring

5.16 - The existing system of progress monitoring is not very effective. Quarterly progress reviews prepared by Education Department from the progress reports received from C&W Department indicate differences in the figures between Education Department and C&W Department. In March 1991 report of Eduction Department it is reported that out of a total 702 new sites, 652 sites have been handed over and work was started on 370 sites. The C&W Department report states that only 509 sites were taken over and work was started on 248 sites (vide Annexure IV, Item 6 of Third Quarterly Review of ADP 1990-91). Similarly at the time of completion of work dispute occurs between C&W Department and Education Department for taking over schools which is considered in complete by Education Department and complete by C&W Department. Due to political pressure and need to commence classes, such schools are reluctantly taken over by Education Department. Construction work is sometime delayed due to one reason or the other such as a court stay order on an under construction primary school, non payment to contractors and other similar causes. An effective system of progress monitoring and proper coordination can help in sorting out such problems and thus delays in completion of work can be avoided.

J. Interviews with Private Sector Engineers/Architects

5.17 In order to assess the performance and efficiency of private sector Engineer/Architect, the Consultants undertook interviews with two of them. Survey and interview of greater number of Engineers/Architects was beyond the scope of the present Study, hence for the purpose of the present report it is considered adequate. The details are given below:-

a) State Bank of Pakistan Building, Saddar, Peshawar:
This is a beautiful building completed on 2 May 1984 at a total cost of Rs.65 million. The Architect was M/s Saleem Ahmed Associates and the Contractors were Mian Nizamuddin, G.Rasool and others. Mr.Mukhtar Hussain was Supervising Engineer on behalf of the Client. The Architect fee was 3% plus cost of top supervision. The overall cost of planning, design, construction supervision and owner's management charges works out to be 6.5%.



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The building was inspected by the Consultants on 6 May, 1991 and was found to be in perfect condition. No major repair of any nature was undertaken since 1984 only petty repairs of routine nature have been done. The building is not only a show piece of beauty and elegance but it also speaks of good quality control and undertaking work strictly according to specifications. Due to proper construction supervision, cost of repairs has been minimal. Photo Plate No.8 shows a typical view of State Bank of Pakistan building in Peshawar.

b) Construction of Secretaries' Residences:
Construction of state guest house and 21-Secretaries residences at a total cost of Rs.29.85 million at the Civil Secretariat Peshawar is in hand by C&W Department. The Consultants are Nayyar Ali Dada and the Contractors are Ghulam Siddique, Ghulam Habib Pvt. Ltd. Work was inspected and discussions were held with the Site supervisors. Mr.Dada could not be contacted as he was in Lahore. The Consultants fee for original work is 3% and for the type design to be used in case of Secretaries residences it is 0.7%. Planning and design and top supervision is Engineer/Architect Nayyar Ali Dada's responsibility while full fledged supervision is C&W Department's responsibility. The work was found to be of good quality and to be according to specifications. The presence of Private Sector Engineer/ Architect, in our opinion, has made the difference as the Engineer/Architect would not compromise on the quality of construction and earn bad reputation.



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## VI. POSSIBLE ALTERNATIVES FOR CONSTRUCTION AND MAINTENANCE OF PRIMARY SCHOOLS

### A. General

6.01 In the previous chapter review of the existing system of management of construction and maintenance of primary schools in NWFP has been given and the deficiencies of the system pointed out. In view of the importance of good quality and timely construction of new schools under Primary Education Programme, it is essential to look into all possible alternatives available to the Provincial Government and to recommend the most efficient and economical solution for implementation. An early decision by the Government would go a long way in the successful completion of primary schools construction programme according to the schedule in NWFP.

6.02 The number of primary schools to be built in NWFP are planned according to the 5 Year Plans. These targets, however, are influenced by national as well as other socio-political compulsions. On an average, 1000 new primary schools are expected to be built every year for the next several years. The annual quantum of construction and maintenance works in the coming years is, by any standard, quite substantial. The existing system cannot boast to be very efficient and has its own drawbacks. Hence there is sufficient justification to look for alternatives. The possible alternatives for different stages of work are discussed below:

### B. Planning, Design and Tendering Stage

6.03 During this stage the work would involve planning and selection of primary school locations in various districts of the Province based on public demand, annual and 5 years development plans, preparation of design taking into consideration local conditions and specifications, contract drawings, cost estimation of the schools, preparation of schemes and obtaining their approvals from competent authorities. Preparation of tender documents, advertisement, tender opening and evaluation, recommendations for award of the work and issue of work order shall also be undertaken during this stage. This work can be executed by the following Departments or Agencies:



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# FLOW CHART OF ALTERNATIVES

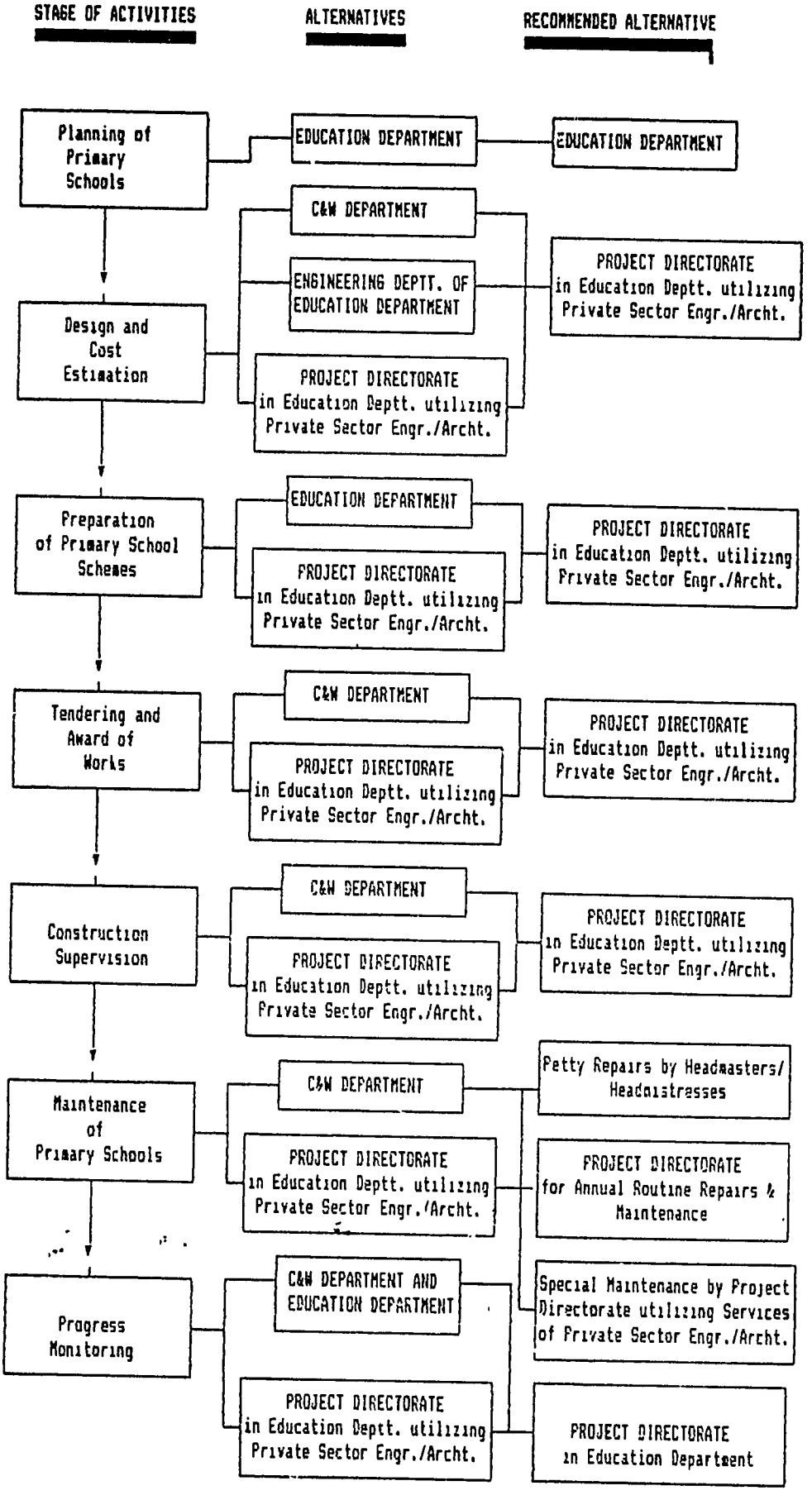


FIG - 9

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1. By C&W Department

The C&W Department of NWFP since a long time is already undertaking the work of this stage except the long term planning of primary schools and preparation and approval of the primary school construction schemes. In the previous chapter deficiencies and drawbacks of the present system has been discussed. The desired results and efficiency is not possible under the existing setup and system. This results in uneconomical design and selection of Contractors who do not bother for quality of construction. Sufficient consideration is not given to the Education Department's views since the work is not under their control. Hence the present arrangement cannot be considered efficient and satisfactory. In view of similar difficulties, Provinces of Sindh and Baluchistan had to get the works undertaken through Project Directorates created within their Education Departments.

2. By Education Department's Engineering Department

The Education Department can also undertake the work of this stage through a newly created full fledged Engineering Department within the Education Department. In such case the Engineering Department is required to be manned with adequate number of engineers and technical staff for undertaking the work. The work load may not justify a large number of staff who would still be handicapped in case of specialised nature of work for which they may not have requisite expertise. Besides it would be an expensive proposition considering the annual work load and may end up like existing C&W Department, though the Education Department would have full control of the work. In view of the above this alternative is not considered feasible.

3. By Project Directorate in Education Department Utilizing Services of Private Sector Engineers / Architects

In this alternative the work of planning, design and tendering stage is undertaken by a newly created Project Directorate in Education Department having skeleton staff. The Directorate shall appoint General Consultants on permanent basis to provide requisite technical support and services during this stage of work. The Project Directorate would be headed by a Project Director of the level of a Superintending Engineer under whom three Engineers of Executive Engineers level would function. There shall be minimum supporting staff of Assistant Engineers, Sub-Engineer, Clerks etc. This Directorate can manage the work very efficiently and promptly.



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C. Construction Supervisi. n Stage

6.04 During this stage, the work would involve handing over the site to the Contractor, approval of program of work and material and quarry sites, supervision of construction, checking and testing the quality of work, measurements of work done, preparation of payment certificates, progress reporting, certifying completion of works and its take over by Education Department. The alternatives available for undertaking the work during this stage are given below:

1. By C & W Department

The construction supervision of primary schools is being undertaken at present by C&W Department. As stated earlier, the work of the Contractors is not being supervised properly and services provided by the Department are not satisfactory. It is resulting in delays, expensive and poor quality work. Significant improvement in the existing system is not at all possible. Hence it is not considered adviseable to continue with the present arrangement.

2. By Education Department's Engineering Department

As mentioned earlier the construction supervision work of primary schools can be handled by creation of an Engineering Department within Education Department and staffing it adequately to look after this work. This would involve large number of staff to supervise the work in 15 districts of the Province and would not be an economical proposition.

3. By Project Directorate in Education Department Utilizing the Services of Private Sector Engineers / Architects

The work of construction supervision of primary schools can be undertaken by a newly created Project Directorate in the Education Department having a skeleton management staff who would utilize the services of a Private Sector Consulting Engineer/Architect's firm for undertaking construction supervision of primary schools. In such case best possible technical advice can be made availabe to the Department at a nominal cost and greater benefits shall be available in the form of better quality control, technical support, economical and timely construction and reduced maintenance costs. A well defined supervision system with the minimum site staff would be introduced by the Consulting Engineer. Assistance of Education Department's



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field staff could also be utilised in reducing the supervision cost as and where possible. Expert and specialised supervision support, from competent Architect/ Engineer's staff shall be available for these services'. Necessary planning, including bar charts of construction resources procurement and other quality, cost and time controls would be introduced on the lines these Consulting Engineers employ on their construction management assignments. The Education Department can easily cancel the agreement with the Consulting Firm if satisfactory service is not provided by them.

4. By Local Bodies or Communities

Construction supervision of primary schools in isolated locations can be entrusted to local bodies or communities. Though such a method could reduce supervision cost but proper quality control, technical support and monitoring would still be the main difficulty. Besides managerial and coordination problems would be serious drawbacks. Hence this suggestion would not generally be a suitable proposition but can be tried in exceptional circumstances.

D. Maintenance Stage

6.05 The work during this stage can be performed by the following Departments and Agencies:

1. By C&W Department

At present C&W Department is executing all maintenance works of primary schools except petty repairs. The work is not given required attention and is not at all satisfactory. By providing adequate planning, control and monitoring capability, C&W Department could be used for better maintenance. However, given the arguments under supervision of construction above, the Consultants do not expect much improvement.

2. By Project Directorate of Education Department

Annual and routine maintenance of primary schools buildings can be managed completely by Education Department through the Project Directorate to be created within Education Department. At the district levels concerned Engineers of Project Directorate can handle it in collaboration with District Education Officers. In this way, a better quality and economical mainte-



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nance work would be possible. Petty repairs can be handled by Headmasters/Headmistresses as at present. Special repairs can be undertaken with technical inputs from the private sector Engineer/Architect Firm appointed for construction supervision work.

E. Merits and Demerits of the Management Alternatives

6.06 Merits and Demerits of the various management alternatives are described in Table-8 given below. The management cost of planning, design, tendering, construction supervision and maintenance of primary schools in terms of percentage of value of the work is estimated to be as under:-

| | | |
|---|---|---|
| i) | By C&W Department | 12 - 18% |
| ii) | By Education Department's Engineering Department | 14% |
| iii) | By Project Directorate in Education Department utilizing services of Private Sector Engineer/Architect. | |
| | Construction | 7% |
| | Maintenance | 4% |

It is quite obvious that creation of a Project Directorate in Education Department which will utilize the services of a Private Sector Consulting Engineer/Architect Firm is the cheapest and most suitable alternative for management of construction and maintenance of primary schools in NWFP. Fig.9 illustrates flow chart of various alternatives and recommended alternative for each stage of activities.



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**TABLE - 8**

**ALTERNATIVES FOR PRIMARY SCHOOLS CONSTRUCTION MANAGEMENT.**

| SL. NO. | ALTERNATIVES | COST IN TERMS OF % AGE OF PROJECT VALUE. | MERITS | DE-MERTIS. |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 1. | By C&W | New Work 12-18% | - Experienced Staff.<br>- Old system & procedures.<br>- Effective Accounting Control. | - Staff complascent & lacks initiative.<br>- No flexibility in the system for adopting new approaches based on site conditions.<br>- Little concern for quality.<br>- Pre-design site-investigations & lab.testing for specs compliance, not practiced.<br>- Low salaries and extensive powers may lead to mal-practices.<br>- little incentive for good work and no penalty for poor performance.<br>- Old primitive methods followed and the site work left to Sub-Engineers with little engineering knowledge. |
| | | Maintenance 12-18% | - Same as above | - Repair work not well-controlled<br>- User's complaints not attended |



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| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| | | | | - No coordination with the Department of Education for planning and programming repair work in various schools. |
| 2. | By Department of Education with C&W Engineers under the Administrative control of Secretary Education | * New Work 14% | - Technical Staff comes under Education Deptt. to get rid of the present apathy towards the schools projects. | - Strength of technical Staff would gradually increase & would grow into MINI-C&W with all of its present draw-backs. |
| | | | - Possible mal practices would be controlled. | - Existing Casual attitude and practices could also creep in Education Deptt. Engineering section. |
| | | | - Being part of Education Department commitments of Deptt.of Education will be binding on the engineers. | - Unless the Knowledge of modern systems of management made available to the staff and its use made compulsory, no improvement could be expected in the performance of Engineering Sect-made up of staff from C&W Department. |
| | | Maintenance 14% | - Closer coordination between Engineers and Education Officers at all the levels | The large design office would, for most part, become redumdent after the design of the schools is completed |



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| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 3. | Project Directorate under the Education Deptt. with skeleton Technical Staff utilizing services of Consultansts (Architects/ Engineer) | New Work 7% | - Reliable pre-project planning and design.<br>- Satisfactory Contract Documentation.<br>- Input of modern systems & techniques from Consultants.<br>- Effective quality and cost control ensured.<br>- Project monitoring by Project Director would provide effective control of Education Deptt. at all stages.<br>- For unsatisfactory service Consultants' can easily be replaced which is not the case with C&W Department.<br>- Schedules agreed for design & construction can be met i.e. better time management is possible.<br>- Architect/Engineer would produce better design and professional services to ensure improved construction. | - Some C&W Staff may be under-utilised or may become redundent, on withdrawl of of Schools projec from C&W. |



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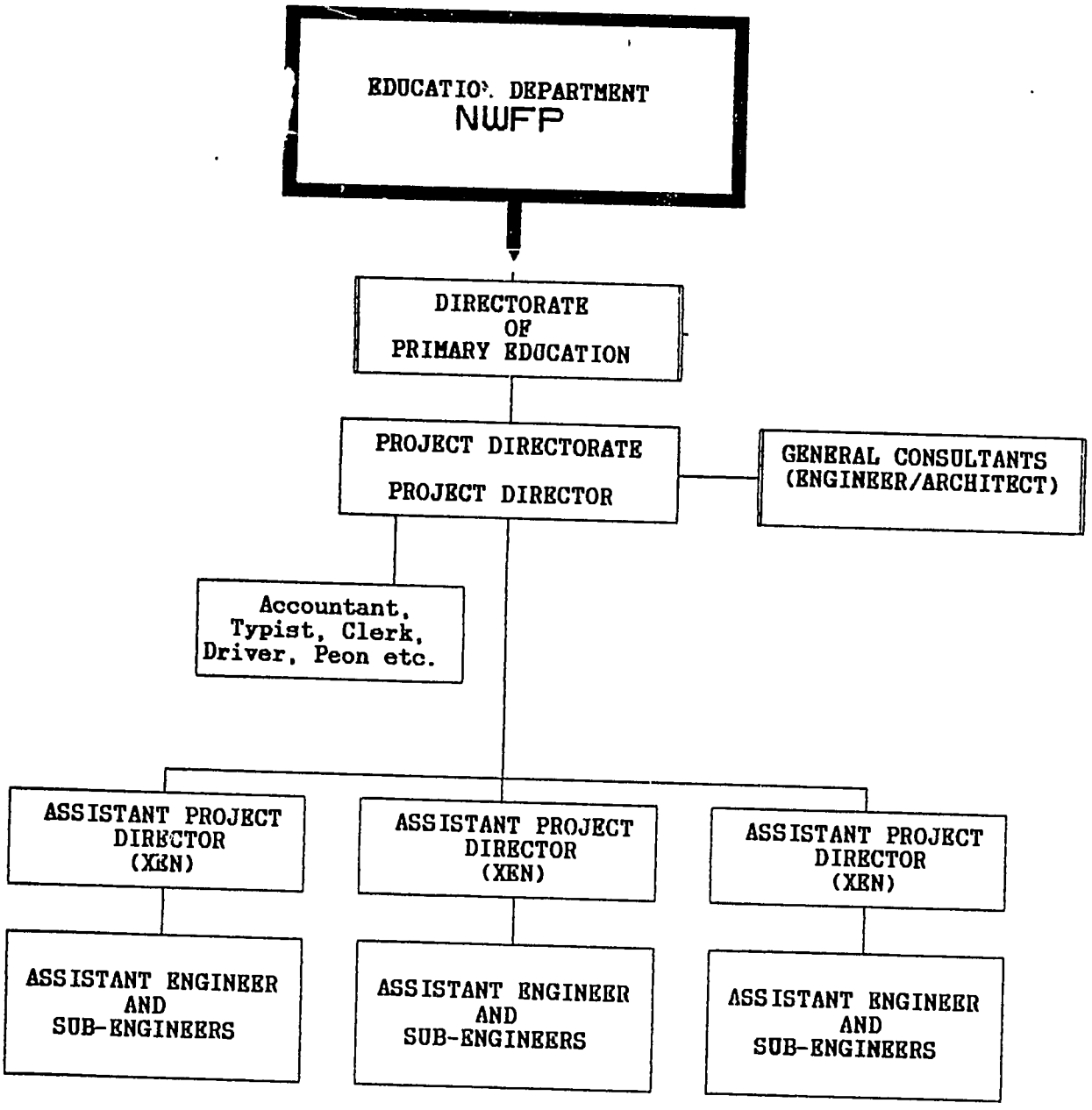
CONSTRUCTION AND MAINTENANCE OF PRIMARY SCHOOLS

IN N.W.F.P.




NOTE:- THE PROJECT DIRECTORATE SHALL BE ATTACHED TO THE DIRECTORATE OF PRIMARY EDUCATION FOR THE PRESENT. LATER ON WHEN IT EXPANDS TO HANDLE ALL BUILDING CONSTRUCTION WORKS OF EDUCATION DEPARTMENT, IT WOULD BE SHIFTED AND PLACED UNDER SECRETARY EDUCATION.

FIG - 10

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| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| - Maintenance | 4% | - Planning of Maintenance can be improved considerably.<br>- Economical and timely maintenance of buildings is possible.<br>- Better control and progress monitoring. | - Architect / Engin will charge fee providing servi during maintena Hence maintenance vices should handled by Proj Director with min input from Consult | |

Note:- The Cost figures given in this Table are in term percentages of the work and are based on exis practices of C&W Department, its estabilish charges, discussions with Private Sector Engine Architects and Consultants Analysis.



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F. Contractors for Construction Work

6.07 The alternatives available for awarding construction of primary schools to contractors are given as under:

1. Small Local Contractors Employing Conventional Methods

Small contracting firms could be useful for the construction of schools specially for far-off villages for ensuring Contractor's physical presence on the site with his direct attention to the work. Use of small village contractors has its own advantage and disadvantages. Small Contractors hardly have any engineering staff and little experience of working on specifications. Both these factors are detrimental to quality and control of construction works. These drawbacks could be eliminated by proper prequalification and selection of the bidders with good past record and effective quidance from the Consultants staff.

Assigning the construction to small contractors could be cheaper as their overheads and expected mark-up may not be high but it may prove to be expensive proposition if the works are badly executed. Smaller contractors, may perform well if they get the opportunity of building the schools under the guidance of Architect/Engineer. Such exercises would also create skilled workforce in the rural areas, necessary for good standard buildings. Smaller contractors could therefore be trained to become good and useful builders of schools in the villages. Local firms of small contractors, if found suitable for undertaking good quality work in far flung locations, should be encouraged to work within their own Tehsil or District on one or more primary schools under strict control/guidance of the supervising Consultants.

The work load on small contractors could be restricted to their capacity. It may also be more logical to confine these small contractors to the school construction in their respective villages only. However, this may not be very attractive in view of greater technical support required for small Contractors, but may be necessary in special cases at remote sites.

2. Large Firms for Economical Packages Using Connventional Methods

Large construction firms bring much improved technical



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management as well as vast experience. They also care for their reputation and strive to comply with the specifications. Their higher overheads however render them non competitive against small contractors. But they could be attracted to primary school construction if the value of the work is made substantial by grouping the schools into bigger and economical packages. Better management of bigger firms is possible and quality of construction and its timely completion can be ensured. Higher turnover of the package would compensate for lower-profit rates. This package contract system would be sucessful if they are found to be economically viable for bigger Contractors.

3. Large National/International Joint Ventures and Turn-key Arrangements Using Non-Conventional Methods

Where climate, time or resources such as materials and labour present serious constraints, big local contractors on their own or in joint-venture with specialist foreign contractors, could be invited to submit construction proposals using innovative methods for cutting the cost and time. Import of advanced technology for building contruction and various proven building systems utilized by other countries, could be adopted in joint-ventures if the magnitude of work and cost justify it.

If the construction packages comprising primary schools and other education building are large enough and the designs adopted are commensurate with the present day cost saving techniques used overseas, joint ventures between large Pakistani firms and their suitable counter-parts abroad could be very useful.

For the fast construction of low-cost buildings, techniques that may not be presently very common in this country, have been used in advanced countries since long and their use by local contractors could be considered for primary school construction as well. However, in view of the magnitude and nature of work involved for Primary school construction, this alternative could be included as an option in bid/proposal packages and analysed based on the merit of the proposals submitted.



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4. Public Sector Employing Departmental Labour

Construction of primary schools could be undertaken through Departmental labour. This system is advantageous only if already a large technical staff of all categories exist in the Department. However, it is highly uneconomical and inefficient and would require greater control and management of the labour. Public Sector construction companies have not been very successful in Pakistan. Hence this alternative is not considered feasible.

G. Contractors for Maintenance Works

6.08 A large number of small Contractors are found in various districts of NWFP who can undertake petty and annual repairs of school buildings satisfactorily provided they are controlled and supervised properly. Given proper guidance the routine maintenance work can easily be handled by these small contractors. Contractors for especialized maintenance works should be carefully choosen by the Project Directorate through a system encouraging better and technically qualified Contractors on a regular basis similar to the construction works.

H. Administration

6.09 Creation of a Project Directorate within Education Department of NWFP was found to be an economical and feasible alternative for construction and maintenance of primary schools in the NWFP as a result of the analysis of various management alternatives available to the Provincial Government. The Education Department would have effective control over planning, design, construction and maintenance of primary schools. It is proposed that the Project Directorate should be attached to the Directorate of Primary Education for the present so that better coordination could be possible. Later on when it is required to handle all the building construction work of Education Department, this Directorate could be shifted and placed under Secretary to Education Department.

6.10 The Project Directorate would assist in planning, implementing, and procuring all the development activities related to construction and maintenance of primary schools. For the design, cost estimation, construction supervision, and special maintenance activities, the Directorate would hire Consultants. The Project Directorate shall also help the Department in implementation of the plans prepared by the Consultants (Engineer/Architect).



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6.11 The Project Directorate shall serve as the nerve centre for allocating assignments/awarding the contracts for all the activities and monitoring the progress of work. Once the pattern, formats and system for the administration of the construction projects are established, it would be effective and adequate for controlling all aspects of primary school construction through the Consultants. Similar system is successfuly functioning in the Education Departments of Sindh and Baluchistan Provinces and the Consultants are confident of its success in NWFP also.

6.12 The Project Directorate, as an administrative unit would be the most important agency for laying down the policy for:

1. The number of Schools to be built each year and

   budget estimates for Consultants and Contractors for construction and maintenance.

2. Desired location of the schools.

3. Design parameters for the schools.

4. Prequalifying the consultants and, through them, enlisting of contractors.

5. Selecting the consultants and getting the design and documentation completed.

6. Overseeing the bidding and selection of contractors.

7. Award of Works as well as monitoring the progress and quality through the consultants.

8. Construction Supervision and quality control procedures.

9. Timely handing over of schools to the community, watching their effective maintenance and, based on this experience, re-casting future designs of schools.

10. Progress monitoring and sorting out difficulties in implementation.



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6.13 Fig.10 illustrates the proposed organisation chart of the Project Directorate. The cost of undertaking the work in this manner shall be much lower than that of the existing system. The benefits would be substantial in terms of better quality, timely and economical construction and maintenance of school buildings. The overall management cost of the Project Directorate in terms of percent of the works is estimated to be as under:

| | | |
|---|---|---|
| i) | Design Cost 2 - 3% on original works | |
| | 0.7% on the repeated design | |
| | Average | 1% |
| ii) | Construction Supervision | 4% |
| iii) | Cost of Project Directorate | 2% |
| | TOTAL | 7% |

These figures are based on the discussions with Private Sector Engineers/Architects and the Consultants estimates.

The overall management cost could be lower than 7% depending upon magnitude of the work and selection of Engineer/Architect through competitive bidding.



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## VII. CONCLUSIONS AND RECOMMENDATIONS

### A. Conclusions

7.01 In the financial year 1990-91, under Primary Education a total of 586 schools are proposed to be built in addition to reconstruction of 64 existing schools and additional room construction for 28 schools. Rs.173 million have been allocated for this purpose in the Revised ADP of NWFP while Rs.110 million are allocated for maintenance of Education buildings during the year. Beginning from the next financial year it is expected total 1000 primary schools shall be constructed annually upto year 1998-99. The construction workload shall increase to Rs.475 million on an average per annum upto 1998-99.

7.02 The work load and the amount involved is quite substantial and cannot be left to the existing routine system if success of Primary Education Programme is desired. Timely handing over and good quality construction and maintenance of primary schools are most important factors of the Primary Education Programme. Under the existing system conservative and unsatisfactory design of primary schools is being used. Preparation of tender documents and drawings and selection procedure of Contractors are also required to be improved to obtain correctly priced bids. Construction supervision and quality control methods are inadequate which have resulted in poor quality of construction and expensive maintenance at later stages. Completion of work is also delayed due to reasons which could be avoided by improving the progress monitoring system. According to Consultants assessment substantial savings in the cost of works can be achieved in the following items through greatly improved design, tender preparation, construction supervision and progress monitoring under Project Directorate of Education Department:-

| | | Percent of Cost |
|---|---|---|
| i) | Savings in Design, Cost estimation and bid prices | 20% |
| ii) | Savings by eliminating delays in completion of work | 25% |
| iii) | Savings in maintenance costs through strict supervision and quality control of construction. | 30% |



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7.03 Considering the average annual work load of Rs.475 million per year, the overall saving cost can be of the order of Rs.70 million per year or 560 million in 8 years period through improved design, better construction supervision and quality control and completion of construction of primary schools in time. Due to the reasons and difficulties in existing system highlighted in this report, it will not be possible for Provincial C&W Department to provide an efficient and economical service to Education Department for construction and maintenance of Primary Schools in N.W.F.P. The present work load of C&W Department is already quite large which is expected to increase over the years. Therefore, it may not be advisable to give the extended scope of work under Primary Education Development Programme to C&W Department.

7.04 The Consultants have looked into various possible alternatives for managing planning, design, tendering, construction supervision and maintenance of Primary Schools in NWFP. The alternatives for these services are:

- By C&W Department (existing system)
- By Education Department through its own full-fledged Engineering Department.
- By Education Department through a newly created Project Directorate utilizing the services of Private Sector Consultants (Architect/Engineer)

Similarly the alternatives for execution of construction and maintenance work looked are:

- By small local Contractors
- By large national contracting firms
- By international firms/joint ventures and turn key arrangements.
- By Departmental labour

7.05 Based on the results of the present study, the Consultant have concluded that the best possible alternative for efficient technical services for good quality and economical construction and maintenance of primary schools in the NWFP is creation of a new Project Directorate in the Education Department to look after all the works of Primary Schools to begin with. The Project



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Directorate should hire either General Consultants for providing them requisite technical support on a permanent basis or appoint the Consultants on job to job basis depending upon the needs. Similar Project Directorates are successfully functioning in the Education Department of other Province. This would be much more economical and better than the existing system of undertaking the work.

7.06 As for undertaking actual construction and maintenance works, the work can be undertaken by grouping schools in a district into a package for attracting bigger Contractors or Construction firms. Selection of competent Contractors with good past records and system of black listing Contractors with poor performance records can also ensure improvement in construction and maintenance works. International firms or Joint Ventures between local and foreign Contractors are not considered suitable because the cost of these works will not be of such a magnitude that the International firms shall be interested to bid. For construction of single primary schools in isolated and far flung areas, small local Contractors should be encouraged for economy and developing local skills. Similarly maintenance works can also be undertaken by small Contractors in far flung areas who could be trained for such works.

B. Recommendations

7.07 As a result of the present study on management alternatives, the Consultants recommend the following:-

i) A Project Directorate with skeleton staff should be created within the Education Department under the Directorate of Primary Education for construction and maintenance of primary schools. Later on it could be expanded to takeover all the works of Education Department and shifted and placed under Secretary Education. The Project Directorate would consist of a "Project Director" and three Executive Engineers each looking after works of primary school of 5 districts. The Project Director and Executive Engineers could be directly recruited by Education Department. Requisite minimum sub-ordinate staff and transport shall also be provided to the Directorate. The Directorate's personnel shall be exclusively responsible to the Director Primary Education and would be full time involved in managing the works of primary school construction and maintenance.



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ii) The Project Directorate should procure services of a Private Sector Consulting Engineering Firm for planning, design, tender preparation, construction supervision, and monitoring of primary school construction works.

The Consulting Engineering Firm could be hired for two to three years on the basis of nation-wide competition. The competition should, however, be limited to prequalified firms to ensure that only best qualified bidders participate in the competition. The Directorate will be responsible for administering and supervising the Consulting Engineering Firm. Working with the Project Directorate, the Consulting Engineering Firm shall develop strategies and implementation plans for all construction and special maintenance works of primary schools. The Consultants shall also assist the Project Directorate in all technical matters for carrying out construction and special maintenance of primary schools through Contractors.

iii) Annual routine maintenance work can be undertaken by Project Directorate through Contractors under their own supervision while petty repairs should be left to the Headmasters/Headmistresses as is being done at present. Coordination with District Education Officers should also be done in all construction and maintenance activities.

iv) An improved progress monitoring system should be introduced at the level of District Education Officers and immediate necessary action taken to remove the causes of delays in completion of construction works.

v) Selection of competent Contractors with good past record and system of black listing the Contractors who have badly performed in the past should be used.



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**ANNEXURE - I**

**TERMS OF REFERENCE**

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# MANAGEMENT STUDY FOR CONSTRUCTION

## TERMS OF REFERENCE.

Contents


I. Background
II. Scope of Services
III. Submittals
IV. Schedule
V. Proposals
VI. Evaluation and Selection Criteria


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**Background**

The North West Frontier Province (NWFP) Department of Education (DOE) in aboration with the United Stated Agency for International Development (USAID) is undertaking an ambitious program in the Primary Education. The agreement for the ten year program was signed between the Government of Pakistan and USAID in Washington in June 1989. The program envisages that the enrollment in the primary education will be doubled over the next ten years.

Success of the program will greatly depend, among other factors, on the timely completion of thousnads of new primary schools as well as dozens of other facilities such as teacher training institutes, hostels, warehouses, and offices over the next ten years.

Currently, all construction as well as maintenance are the responsibility of the C&W department. The design, award and supervision of construction is done by C&W. Construction is accomplished through contracts for one or two schools with small local private firms using conventional methods based on a, more or less, standard design. Most routine maintenance is carried out by the C&W personnel. Private firms are hired for major rehabilitation works.

In view of the importance of the construction component the program steering committee, chaired by the Additional Chief Secretary and including the Secretaries of Education, Finance, P&D, and C&W, has decided to initiate a study of the current management of the primary education construction as well as the alternatives available to the province. Implementation of the recommendations of the study, it is hoped, will greatly enhance both the qualitative as well as quantitative aspects of the province's primary education construction program.

The study will be entrusted to an engineering firm which can demonstrate considerable experience in the management of construction of similar nature and magnitude. Experience in conducting similar studies will be an additional asset.

## II. Scope of Services

The study willlook into C&W's procedures for planning, design, tendering, construction supervision, quality assurance, and progress monitoring of the construction as well as maintenance of the existing and new buildings under primary education program. The study will examine the volume and the quality of construction done by C&W in a normal fiscal year.

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The study will look into the alternatives available to the province for the management of construction and maintenance under the primary education program. Relative merits of the current as well as alternative management organizational structures for each of the discussed management alternatives.

Alternatives will include, but not be limited to one or a combination of the following:

1. Planning, preparation of design, and tendering

   a. By C&W
   b. By private sector (PS) architect/engineer (A/E)

2. Construction Supervision

   a. By C&W
   b. By PS A/E
   c. By local communities for isolated work on individual small school.

3. Construction, private sector firms

   a. Contracts will small local firms for one or two schools using conventional methods.

   b. Contracts with larger national firms for economical packages of schools/other buildings using conventional methods.

   c. Contracts with large national/international/joint venture arrangements for economical packages of schools on a turn-key basis using tehnology proposed in the bids, conventional or nonconventila methods.

4. Maintenance

   a. Development of a data base to facilitate scheduling and monitoring of maintenance.

   b. Identification of various categories of maintenance works.

   c. Maintenance using C&W personnel, contracts with small local firms or larger national firms, or by local communities on self-help basis.

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5. Administration

The primary responsibility for the implementation of the primary education program is with the Education Department. Therefore, it is vital that the department monitors the construction activities closely and on a continuous basis. The study sould look into the possibility of setting up an engineering group, reporting directly to the education department, to coordinate, administer, and monitor all agencies involved with various stages of construction whether C&W or private sector.

## III. Submittals

On completion of the study, the firm will submit 12 copies of a report. The report will include Table of Contents, Background, Objectives and Methodology. For each of the three main activities, namely planning and construction, and maintenance; the report will discuss current analysement, Alternatives, Costs and Organizational Setups for Each alternative, Relative Merits of Current and Alternatives; and present conclusions, and recommendations. This list, however, is only tentative. The final list will be approved in the form of an outline as discribed under schedule belew. All information, records minutes, data, used in the comilation of the study will be appended to the report.

## IV. Schedule

| Activity | Completion, calendar weeks after the date of the NTP. |
|---|---|
| - Submit draft outline | -- 1 |
| - Review and approval by committee* | 2 |
| - Field Work | -- 8 |
| - Submit Draft Report | -- 10 |
| - Review and approval by committee | -- 11 |
| - Submit final report | -- 13 |

* Comprising Secretaries of Education, Finance, C&W, P&D, and USAID representative.

The Schedule may be received with the prior approval of the committee for provision of a "phased" submittal. The section on construction, for instance, may be submitted first followed by the one on planning adnd design and, finally, the maintenance section.

## V. Proposals

Two weeks after the requests for proposals are issued, the interested firms will submit proposals including the following:

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- Articles of Asociation
- Location, address, and telephone, telex and fax numbers
- Banker's statement of the financial status.
- Firm's organizationchart
- Resumes of the technical personnel
- Experience
- Work in hand
- Suggested approach/outline/work plan for the study.

**Evaluation and Selection Criteria**

The proposals will be evaluated by committee and ranked according to sprit. The top ranked firm will be asked to submit a cost proposal for carrying out the study including supporting details. If a reasonable price is not agreed upon the next best firm will be asked to submit a cost proposal.

The following critaria willbe used to evaluate and rank proposals. The proposal receiving the highest number of points will be ranked the highest provided that at least one point is received for each of the criteria other than the criterial #3. Proposals that are not awarded any points for any of the listed criteria, except criterian #3, will be considered to be unresponsive and wioll not be considered further. The decision of the committee will not be subject to challenge.

| S.No. | Criteria | Points |
|---|---|---|
| 1. | Experience of successful completion of large (Rs. 1.0 million and above) engineering design projects. | 20 |
| 2. | Experience of succesful management/ supervision of large (Rs. 30 Million and above) construction projects. | 20 |
| 3. | Experience of successful completion if studies of similar nature. | 10 |
| 4. | Clarity, relevance and specificity of the work plan. | 20 |
| 5. | Qualification/experience of the professional staff which will work for the study. | 20 |
| 6. | General quality and completeness of the proposal which must satisfy all specified requirements. | 5 |
| 7. | Capacity to start work promptly in relation to the current work load. | 5 |
| | | 100 |

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**ANNEXURE - II**

**LIST OF OFFICIALS OF EDUCATION, P&D AND C&W DEPARTMENTS CONTACTED**

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## OFFICIALS CONSULTED

Primary Schools design, construction and maintenance aspects were discussed with following officials of the Communication and Works Department, Planning & Development Department and Finance Department of NWFP. These meetings together with the visits to 30 schools in the province helped in familiarisation with the prevailing system:-

1. Mr.Adam Khan, Secretary, C&W Department.
2. Mr.Shah Jahan Khan, Director Primary Education.
3. Mr.Wade F.Robinson, Chief of Party, Primary Education.
4. Mr.Ikramullah Khan, Chief Engineer, C&W Department.
5. Mr.Mohammad Afzal Khan, Chief Engineer Development, C&W Department.
6. Mr.Tariq Saeed, Chief Engineer, Central Design Office, C&W Department.
7. Mr.Abdul Qayyum, Deputy Secretary, C&W Department.
8. Mr.Fida Hussain, Deputy Director, Primary Education.
9. Mr.Mohammad Jan Mohammad, Project Engineer, USAID.
10. Qazi Mohammad Aslam, Chief Planning Officer, Education Department.
11. Mr.Omar Hayat Malik, Planning Officer-II, Education Department.
12. Mr.Mohammad Iqbal, Assistant chief Education, P&D Department.
13. Mr.Mohammad Ashraf, Statistical Officer-I, Education Department.
14. Syed Nasir Hussain, Budget Officer-IV, Finance Department.

Moreover, contacts were made and meetings held with the XENs', SDOs and Sub-Engineers of C&W Department as well as DEOs, ADEOs, SDEOs, ASDEOs and Headmasters at Peshawar, Charsadda, Mardan, Swabi, Kohat, Abbottabad and Haripur. Thirty (30) Schools, in various stages of construction and in use, were also visited in these districts of NWFP.

Extensive discussions held with the officials and field staff, assisted in grasping the system presently being used for the management of design, construction and maintenance of Primary Schools in N.W.F.P.

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## FACTS FINDING SURVEY

Discussions were held with senior officials of Education Department for determining their views about the prevalent system of design, construction and maintenance of schools. In this connection the Consultants met and obtained the views of following officials of C&W Department and Education Department:-

1. Secretary C&W Department, Deputy Secretary C&W Department, Executive Engineer Mardan SDOs at Mardan, Swabi, Kohat, Abbottabad and Haripur.

2. Director Primary Education, Additional Director and Deputy Director, Chief planning Officer and Planning Officer-II, in the Education Department at Peshawar.

3. District Education Officers, Assistant DEOs, Sub-DEOs, Assistant Sub-Divisional Education Officers, Headmasters and Headmistresses in seven districts of NWFP.

4. Chief Planning Officer, Statistical Officer-I and Planning Officer-II in Education Department at Peshawar.

5. Private Sector Architect/Engineers M/s Saleem Ahmed & Associates- Mr.Saleem Ahmed and Mr.Mukhtar Hussain XEN State Bank of Pakistan, Peshawar. Site Supervisors of M/s Nayyar Ali Dada in Peshawar.

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**ANNEXURE - III**

**CONSULTANTS OBSERVATIONS ON 30 SCHOOLS**

**INSPECTED IN 7 DISTRICTS OF**

**N.W.F.P.**

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# CONSULTANTS OBSERVATION ON 30 SCHOOLS INSPECTED IN 7 DISTRICTS OF N.W.F.P.

## NOTES

i) 24 Schools were selected at random for these visits, from seven Districts of NWFP (Peshawar, Charsadda, Mardan, Swabi, Kohat, Abbottabad and Haripur).

The programme of visit was conveyed to concerned District Education Officers, in advance, with the request to have some representatives of C&W Department accompany the Consultants to the sites, if possible.

ii) Mr. Shah Nawaz Khan, Associate of Engineering Associates and former Federal Secretary, Communication & Works Pakistan and Mr.Fida Hussain Deputy. Director Primary Education, Peshawar, visited the schools in Peshawar and Charsadda Districts with the Consultants on 25th November 1990.

iii) 6 Schools were visited in the first week of May, 1991.

iv) Details of the schools visited and observations made by the Consultants are given below:

## A. SCHOOLS IN PESHAWAR DISTRICT

1. Zaryab Colony: Government Boys Primary School. It is a two roomed school with Verandah added in a row this year. Not yet occupied. Facing the sun. A large piece of land in front is 18" below plinth. Could form pool in rain with no drainage.

Single storey building said to have been designed for double storey extension. According to the contractor, the walls foundation is 8 ft. wide with R.C.C. foundation pad for full length of the main walls. Verandah columns 7'/6" c/c, are said to have 5'x5' R.C.C. footing. 6" thick R.C.C. Roof slab's exposed bars 3/8" dia perhaps bond bars for next part of the slab with spacing varying between 3" to 12", are totally rusted. This rust could be transmitted to rest of bars. No bent-up bars seem to be provided at support.

Flooring has thin layer of slurry which has started to chip off.

Wooden almirah in class room is only 9" deep. Timber used is cracking.



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Sand used for plaster (some still lying on site) is too fine, and mix of mortar used is very lean. Plaster is brittle and weak. Windows open inside as a result rain water comes in.

Boundary wall plaster is cracking.

Quality of work on the whole is not good.

2. Middle School Wing, constructed in 1988

Verandah is wider. No back curtain wall, Glass stripe used in verandah flooring are exposed with sharp dangerous edges as the flooring concrete is damaged and deep pits formed at places. Flooring is already broken.

Damp patches in ceiling indicate that water proofing and roof slopes both are damaged.

Roof treatment is said to be bitumen painted on concrete top, polythene over it, mud-layer and then brick tiles. Bad slopes and possibly chocked down-spouts quite likely due to lack of maintenance of roofing before rains.

Head Master's room has large seepage patches. Facia plaster above is peeling off.

3. Government Girls Middle School constructed in 1989 (Double Storey) Plaster quality is poor and looks like patch work. Flooring is badly damaged as it is laid on un-compacted earth or brick bats in verandah. Bricks salinity is still coming out. Masonry pointing done without raking of joints.

At the entrance the masonry steps are separating away from th plinth, for full length, possibly due to settlement or inadequate foundation. White was very nominal and not uniform.

4. TODA Upgradation of Girls Primary Schools to Middle School. Low quality bricks, hollow masonry joints with no mortar in them. Due to lack of curing and lean proportion of mortar, it is brittle and weak.

5. Government Middle School Takher Payal No.1. 1989-90 Scheme. Constructed on the basis of a double storied school. Work left incomplete on first floor upto lintel level. Scheme was supposed to have been completed in 1989- 90. Dampness in all roofs and walls of class rooms. No internal or external electrification done. No window panes fixed. Plastering concrete is of inferior quality and comes out with fingers. No water supply or sanitary fittings provided. Cracks in the roofs were found result-



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ing in entry of rain water. Concrete finish of floor and stairs very poor and substandard. Entrance gate is fixed 8" above the floor level. Maintenance of old building constructed by District Councial is very poor. Builtin Blackboards are of poor quality.

6. Government Middle School Takher Payal No.2. Floor was found with broken concrete and holes. Dampness in the roof and walls. Plaster concrete was inferior quality and comes out with fingers. Cupboard badly fixed and not painted properly. No external electricity provided. Temporary arrangment of electricity made from adjoining house. Ventilation is poor. Rooms orientation is wrong. There is not enough light. Concrete black board is of an inferior quality and not useable, new wooden boards have been fixed by teachers. No latrines. Stairs with no handrails which is dangerous for children. Students have fallen down from the stairs in the past. Water enters the classes due to bad joints in the roofs. Cracks in the wall were seen. Classes are suspended during rains. Students are found to sit outside due to heat and not enough lighting in the classes. Workmanship poor.

7. Government Primary School, Bahu Garhi, Warsak Road. Constructed on a low lying marshy land. Scheme of 1988-89. Classes recently started (28 April 1991). The building is incomplete. Foundation settlement is taking place and cracks of serious nature are found in walls of all rooms. Concrete Black board is of inferior quality and it cannot be used. Another wooden blackboard is placed in the room occupying extra space. Dampness in walls and roof. No electrification wood work very poor quality and wood used is very bad. No plinth protection was seen.

8. Government Primary School, Haryana Payan recently upgraded into middle school, a room was added under special repair in 1988-89 and is still incomplete. No window panes. Little light and ventilation. Beams and roof have been poorly cast. There is no toilet, no water Children drink water from adjoining irrigation canals. In the same compound school buildings constructed in the past by District Council are not being maintained properly and are in delapidated condition. Reinforcement steel is exposed. Condition is very bad with no fans and electricity.

9. Government Primary School, Jatibala. This is 1988-89 scheme, still incomplete in 1990-91. Approach through area where garbage of Peshawar is dumped by Municipality. Place not suitable, environment not proper for students.

There are no windows and doors. Not yet handed over to Education Department. No protection or watchman on the site. People have used the walls to fullfil their artistic urge. Workmanship poor.



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10. Governemnt Primary School Jatipayan. Verandah floor not level and of bad finish, aggregate is coming out. Pot holes on the floor. Water dampness in the roof and walls. No external electricity though internal fittings provided. Door and window wood of inferior quality. Materials used is not of good quality. Cracks are found in the walls and roof slab, stair plaster has come out, fouondation is corroded due to salts.

SCHOOLS IN CHARSADDA DISTRICT

1. Government Primary School for Girls, ABBAS KILI completed in 1989. No furniture or staff allocated yet. Cracks in verandah plaster, Masonry painted red, effecting its natural appearance. Bricks should better be left in their natural texture and colour. Plinth of the compound wall is plastered.

2. Government Primary School, HIKMATABAD. Poor quality flooring in rooms and verandah. Windows leaves are warping up. Roof water proofing is not working effectively. Marks of water leakage and dampness on the walls visible.

Verandah beam has developed cracks. Very poor quality of masonry mortar. It comes out just by scrubbing. Floor in the room appears to have settled unevenly. Foundation or floor sinking is suspected. Cracks observed in floor and between wall and slab.

3. Government Primary School for Boys GARHI KANA KHEL (8 years old). No boundary wall, as usual, for Boys School. Concrete floor in verandah is steel trowel finished. Badly needs repainting and renovation.

4. Government Middle School for Girls (upgraded from Primary School). GARHI KANA KHEL.

No plinth plaster.

Poor wood work. Cracks in window panels. Rough finish. Almirahs are shallow. It cannot accommodate a normal register. Cracks in external face of wall near the roof.

Poor flooring. As usual thin layer of cement slurry on top of lean concrete floor is breaking and exposing the weak concrete from below.

Electric wire to the main switch crosses through the courtyard, dangerously low, hanging and sagging with badly made joints in the wire. It should have been taken through G.I. conduits run along the walls, and fixed with clamps.



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Seepage through top of walls-and-slab-joints both in rooms and verandah.

Plaster mortar is weak and is coming out like powder. Bricks may have excessive salts quantity. Washing down of masonry before plastering is necessary in such cases to reduce the salinity trapped inside the bricks.

SCHOOLS IN MARDAN DISTRICT

A meeting was held with Mr. Ahmed Gul (Asstt. Director) Office of District Education Officer Near SP's Office Mardan on 27th November 1990 and schools in Mardan District were visited with Mr.Hazrat Jamal, Deputy Education Officer, Mr.Javed Ehsan SDO (C&W). Also meeting took place with XEN (C&W), Mr.Amresh Khan.

1. Government High School, GULI BAGH Upgradation from Middle School (Addition of 3 classrooms, office Science lab, Headmaster's room and staff room).

Headmaster - Mr.Saeed Badshah.

Covered area = 4624 sq. ft.
Cost = Rs.0.9 million cost per sq.ft.Rs.194.64 (rather high).

a) Single storey building but Raft Foundation is said to have been provided with 13 1/2" thick wall masonry. Both the continuous footing and 13 1/4" thick masonry were not required for single storey building.

   Foundation details were not given in the Contract Drawing. The foundation detail referred above has been adopted, it is an uneconomical design. The bearing capacity of the soil had not been studied or determined.

b) Door and Window openings did not have hold fasts. The masonry will be cut to make pockets for hold-fasts which would be concreted there with the frame, thereby, probably, damaging the masonry joints. Pockets should have been left in place during the masonry work.

c) Salt appears on large scale on plaster and masonry, damaging both. Salt should be washed out before starting plaster. Plaster should also be washed down regularly, during the curing period.

e) Timber deodar and windows were tending to warp. No care for seasoning. No preservant used on timber frame and doors. It is only painted with some colour.



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Any protective cost against moisture or any termite repellent, on timber surface in contact with masonry, not used at all.

f) Water proofing consisting of bitumen paint and polythene layer is badly damaged. Dry earth layer is spread over it which is covered with tiles jointed by cement mortar. Due to bad slope, water collects, penetrates through the tiles joints and gets collected in the un-compacted earth. This water stays there for long and dampness spots persist. Instead of dry earth, clay puddle with rice-husk etc. would provide better medium for stopping water passage through it.

2. Government Girls High School SHA DAND BABA. Upgradation from High to Higher Secondary upto class XII.

a) No Primer, only colour, used on door/window frames, S.D.O. and the Contractor thought it was either distemper or synthetic varnish or Emulsion paint or lime putty. They were not conversant with any wood preservant or primer. Solignum or Kereosote not heard of.

b) Brick's compressive strength not known to S.D.O.

c) It was said that the 13 1/2" thick wall in a class room will be cut by 9" in depth t make recess for fixing the Almirah there Naturally this would badly damage most of the wall and even 4 1/2" thick remaining wall be mostly broken. It would be better to place the almirah on a brick masonry plater form and place it in front of the wall, and avoid breaking the masonry.

d) Plaster underside/sofit of verandah beam without fixing plaster levelling points, as a result the level was very uneven in various bays.

e) Cost = Rs.2.5 million Covered area = 13,717 sq. ft.

(for double storey)
Cost per sq.ft. = Rs.182.25 (High).

f) Mortar for plaster was being prepared on open ground (earth). Should better be done on platform made of bricks so that unwanted organic material or soil is not mixed in it.

3. Government Girls Middle School (Presently used by Boys). SHAHBAZ GARHI (Upgradation of Middle to High School). It is an abandoned work. The construction was stopped due to lack of funds.



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Masonry walls and columns and R.C.C lintels are complete. Some columns however are eccentric on the concrete footing below due to layout mistake. Steel reinforcement of R.C.C. projection in several places is exposed at the bottom of the cantilever and not having any concrete cover. Cantilevers should have reinforcement at the top. Spacer blocks not used. Brick shuttering used for sides and bottom of beams. Poor concrete.

S.D.O. Mr. Javed Ehsan agreed on need to introduce improvements in supervision efforts.

SCHOOLS IN SWABI DISTRICT

Mr. Saeedur Rahman S.D.O. (C&W) and Mr. Vali Akbar Asstt. Sub-Divisional Education Officer accompanied the Cosultants in visiting schools in Swabi District on 27th November 1990.

1. Government Girls Middle School YAR HUSSAIN, used for boys. Headmaster - Mr.Mohammad Zahir Shah M.A., B.Ed.

a) No testing of any materials or concrete etc. is done. There is no Materials Testing Laboratory in the whole Division. S.D.O. felt that the results, which the contractors obtain from the Central Lab, etc. were not reliable. They always manage to get good results.

b) Contract drawings do not give any structural details. Most S.D.O's of C&W adopt thumb rule for designs of structures which are highly over-designed and uneconomical. There is no initiative to develop economical design.

c) Sometimes Budget/approved amount is spent for all the proposed buildings even when the funds are not enough for completing them. As a result all of them remain incomplete and held up at various levels/stages. This explains why large number of school buildings remain incomplete and left unattended by the contractor.

d) The School design does not provide for any W.C. for students and staff :

- Size of room for clerks (7 1/2' x 5 3/4') is too small.
- 20' x 10' staff room for 19 staff members is also very inadequate.
- No structural design or finishing details are given in the drawing for Primary Schools. No Electricity, Water Supply or boundary wall are shown on those drawings.



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2. Government Middle School, JAMALABAD (Darra) (Upgradation from Primary to Tehsil Middle School). (Work was in progress).

a) Verandah columns are badly honeycombed, invariably in the bottom 18", which the Contractor had plastered.

b) Beams are spaced 5 ft. centres, with 16 ft. span. The adopted section of 18"x12" (excluding slab, depth) appears too heavy even for a double storey building.

c)

| | | |
|---|---|---|
| Covered area | = | 2520 sq.ft. |
| Cost of Civil work | = | Rs. 416,891 |
| Cost per sq.ft. | = | 173.36 (appears high) |
| Cost including electricity water supply etc. | = | Rs. 651,006 |
| Cost per sq.ft | = | Rs. 258.0 (very high) |

d) Boundary wall cast-in-situ, 1:3:6 wall foundation done. poor concrete due to non-graded coarse aggregate. and lack of proper mixing. As a result, the concrete is weak and brittle.

Flooring should have been done in 1:2:4 concrete finished with steel trowel. But the Contractor lays lean concrete and provides thin layer of cement slurry on top, which would chip-off soon after being put to use.

3. Government Primary School, AMBAR. Upgradation to Middle School (1990-91 ADP).

[One block of 2 rooms and one office with W.C. and one separate room 25'x16'].

Floor concrete in rooms and verandah is poor. The Contractor is proceeding to lay another layer of flooring on top of it by slightly chipping the old floor. In fact the old concrete should have been removed first. It would not provide adequate bond. This floor is likely to loose bond with floor underneath and start cracking.

4. Government Middle School SHEIKH DHERI Tehsil Lahore, district Swabi. Upgrdation to High School [on going work 1989-90].

a) Designed for double storey, has same design problems as identified before.

Very bad plaster, uneven surface but white washed.

Concrete repair on columns is giving hollow, sound.



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Timber, beading for fixing windows panes in steel windows, is poor in quality and workmanship. Contact between metal and glass should be avoided.

Drain-pipe from wash basins should have been terminated in a floor-trap. The floor trap has been eliminated and space around drain pipe has been concreted with rest of floor. When the drain pipe is choked, floor shall have to be broken for clearing it.

SCHOOLS IN KOHAT DISTRICT

On 28th November, '90 visited the District Education Officer at Kohat and met Mr. Mohammad Razaque Khan.

Mr. Mohammad Gulzar Asstt. SDO, Development, Kohat, Mr. Gul Ahmed Asstt. DEO (Female) as well Mr. Saeedullah, C&W's Sub-Engineer Educational Projects, accompanied us to Kohat sites. Later Mr. Gulzar - Mr. Gul Ahmed came with us to Government Primary School Meels, Seri Karak District (Upgradation from Primary to Middle).

1. Government Boys Primary School, CHI-CHANA (Upgradation from Primary to Middle) ADP 1990-91. Headmaster - Mr.Islam Badshah. Contractor - M.S. Kosar Ali who has sub-let the work to Sub-Contractor Gulab Khan.

a) Plinth Area = 96'- 7-1/2"x27 1/3" = 96.625 x 27.25
Cost of ground floor = Rs.450,000 = 2633.03 sq.ft.
Cost per sq.ft. = Rs. 171

b) Wall masonry constructed upto lintel level

Masonry joints are hollow in many places.

At several others, bricks are butting against each other, leaving no space for mortar.

d) Mortar mix is said to be 1:6 but there is no arrangement of measuring boxes or any other quality control method. The mortar is mixed on ground (earth) without any trough and enclosures. Water is added again and again. Cement paste is flowing away.

e) No supervision of any level on site from C&W.

2. Government High School, Lachi No.2 Kohat (A block newly added) ADP 1989-90.

a) Building not yet in use.

b) Windows mostly warped.



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c) Timber used is thickly coated with paint. It is very poorly jointed and rough finished due to bad planning of timber, renders it ugly.

d) Floor finished with cement-slurry layer is already chipped at some places.

e) Temporary overhead electric connection from the other block across the courtyard is dangerously sagging with bad wiring joint. Headmaster was requested to disconnect until proper permanent connections is available. Carelessness in electric connection is very hazardous. The school's other buildings are very old and untidy.

3. Government Girls High Schools DHERI, KARAK DISTRICT. (Addition of Science lab. and Library Room) School was built in 1987. The addition was made in 1989-90 but not yet used.

a) Very poor and wrapped wood work in windows. Joinery is poor.

b) Concrete benches (slab) in Science Lab are chipping off at edges. The masonry above the concrete slab is cracking.

c) Flooring in the verandah is made of bricks with a thin layer of cement mortar plaster provided on top, to make it attractive.

4. Government Primary School, Melo Seri Karak District. (Upgradation, from Primary to Middle. It is a single storey building designed for 2 storeys. ADP 1990-91 Middle School class rooms are being built about two furlongs from the existing Primary School. Work has gone upto lintel level. No SUPERVISION EXERCISED AT ALL.

a) Sand being used for mortar is too fine with too much of silt.

b) Brick masonry jointing being done by TOOTHED joints and not stepped joints.

c) Masonry joints are hollow or bricks are butting against each other, no mortar in the joints.

d) Mortar being made on earth and not on any platform with enclosure.



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## SCHOOLS IN ABBOTTABAD & HARIPUR DISTRICTS

Visits to various sites on 29th November, with Mr. Sardar Khan Afsar, Asstt. Director, Planning and Development, office of Divisional Director of Education (in the premises of commissioner's office.

Mr. Sardar Khan Afsar in his initial briefing informed that:

1. C&W sometimes reject the sites when building materials and water etc. are not easily available near a site. C&W shifts sites in such cases without information/consent of Client e.g. GGPS Niloro and GMS (Boys) Banil sites were changed arbitrarily. DEO came to know about this only when the buildings reached lintel level. So it could not be changed.

2. Buildings sometimes are not completed on time. Government Boys High School Khairagali and Government Girls Primary School Kalilar (1985-86 scheme) not yet completed.

3. C&W does not inform DEO when a project's cost exceeds the PC-1 estimates/ADP allocation. C&W on the other hand, claim that PC-1 estimate is made before the site is identified, so the construction cost sometimes, is not same as the PC-1 Cost. [C&W do mention the upto date project cost in the monthly and quarterly reports].

4. C&W provides very little supervision. Sub-Engineer visits once a week, SDO once a month and XEN on projects completion, while at present all the C&W staff are meant exclusively for schools.

5. Review meetings every 3 months between C&W and Education Department do not provide detailed financial or cost information. [The information later received from the Education officials at Peshawar had shown that some cost information is given in the C&W reports].

6. Government Girls Primary School NARWARA that was completed in 1988 was not taken over by Education Department because the building is very weak and dangerous.

Visited the C&W office in Abbottabad. XEN was not available. SDO Mr. Rafiuddin and his Sub-Engineer Mohammad Niaz were met. The Sub-Engineer accompanied us to various sites also. General remarks/information obtained before starting the visits to schools in Abbottabad.



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- Contractors use Beyar wood which is a poor quality timber and not Deodar, for doors and windows.

- Bricks cost about Rs. 900/- per 100 bricks.

- Plaster's rate is about Rs. 240/- per 100 sq.ft.

- Bricks masonry costs about Rs. 2300/- for 100 Cft. in foundation and Rs. 2400/- in superstructure.

- Stone masonry costs about Rs. 1400/- for 100 Cft. in foundation (Course rubble) and 1500/- (Random Rabble) in superstructure.

  Stone masonry pointing and plaster cost about same, per 100 sq.ft.

  C&W informed that they do not run any tests on materials used on the site. Sometimes soil samples are sent to soils-labs for ascertaining the bearing capacity. Mostly bearing capacity is decided just by visual inspection of soil.

  Following C&W staff and transport are exclusively meant for Education projects but they appear to contribute very little to quality improvement.

  SDO - 4 Nos.

  Sub-Engineer 12 Nos and transport.

In practice, work for all department is looked by this staff and transport.

In practice this staff looks after all other work of C&W Department Until 1988-89 they were used exclusively for Education projects. Later, they started using them on non-education projects as well.

VISITS

1. Government Girls School, Mirpur (Upgradation from Primary to Middle).

   Timber used is not seasoned and not primed. It is just painted. Rough wood work and joinery are poor. Stone used for coarse rubble masonry are large boulders, over 1.5 Cft. in volume, as well as small filler pieces without any control on width of joints. On this site, sub- engineer comes once a month.

2. Adjacent to the above school is its Primary section, built in 1988.



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- Verandah floor is badly sunk at places. On the top of un-compacted plinth-filling about 4" of hard core, 2" of 1:4:8 concrete and 1/4" cement slurry was used for floor finish.

- Untreated weak timber used in the pitched roof, is cracking.

3. Government Girls Higher Secondary School, HAVELIAN.

- Verandah columns 13-1/2"x13-1/2", built by machine made bricks (costing about Rs. 1600/- for 1000 against the normal bricks of Rs. 900/- per 1000). Work quality is slightly better than other school buildings seen so far.

- Timber for doors and windows is chipped off, and cracked. Heavy and small knots used at corners.

- Shuttering for verandah and rooms slabs that was stripped off, show no signs of cover blocks. In large number of cases reinforcement steel is exposed and rusted.

- C&W work-charge staff deputed for work control on the sites is just matric or middle school qualified with no technical experience for the work. They are also low paid, vulnerable to Contractors pressures.

- Mortar for masonry is mixed on existing ground without any measurement control or dry mixing. Water is added, again and again.

- The value of this neglected work may be around Rs.5 million. It deserves better attention to quality and progress.

4. Government Girls Primary School, SHAH MAQSOOD, 1989-90.

- Plinth plaster is cracking at many places 1/2" plaster on the steps, made of brick masonry, is chipped away extensively.

- Classrooms and verandah floor, finished with thin cement slurry coat, which is cracking and being chipped off.

- Instead of R.C.C. roof, 8"x4" steel girders at 5 ft. c/c and 2"x2" angle iron sections as secondary beams placed at 12" c/c to receive 12"x1-1/2" tiles with bitumen and polythene. On top, 1" plaster on tiles 3" mud filling compacted to 2" and, then, brick tiles laid on that in mortar. This was the only school that we visited, where steel girders were used.



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**Costs:**

- Cost of this roofing alone comes to Rs.84000/- 73 per sq.ft. The cost of the school, in boundary wall and toilet, is Rs. 320000/- or R which is high.

- Alternate panels of boundary walls are pl Cracks are appearing in plaster on both faces wall. Boundary wall coping does not have cc tion/Expansion joints. This is cracking the c coping, at several places.

5. Government High School, Central Jail, Haripur ( dation from Primary School) Building is still inco The Contractor has stopped work due to non-payment bills.

- Window frames are cracking



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**ANNEXURE - IV**

**RELEVANT DATA USED FOR THE STUDY**

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ABSTRACT-II

ANNUAL DEVELOPMENT PROGRAMME 1990-91

FINANCIAL ASPECTS

(Rupees in Millions)

| Ser. No | SECTOR/SUB-SECTOR | NO OF ON-GOING SCHEMES | ALLOCATION | NO OF NEW SCHEMES | ALLOCATION | TOTAL NO OF SCHEMES | TOTAL ALLOCATION | PERCENTAGE ALLOCATION |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 5 | INDUSTRIES :- | | | | | | | |
| | (1) INDUSTRIES DEPARTMENT | 1 | 0.400 | 2 | 1.000 | 3 | 1.400 | 0.06 |
| | (2) PRINTING AND STATIONERY | .. | .. | 1 | 0.300 | 1 | 0.300 | 0.01 |
| | (3) SMALL INDUSTRIES DEV BOARD | 10 | 14.100 | 8 | 16.000 | 18 | 30.100 | 1.21 |
| | (4) SARHAD DEVELOPMENT AUTHORITY | 2 | 4.750 | 6 | 7.750 | 8 | 12.500 | 0.50 |
| | (5) ROAD TRANSPORT BOARD(GTS) | 1 | 7.600 | .. | .. | 1 | 7.600 | 0.31 |
| | TOTAL INDUSTRIES | 14 | 26.850 | 17 | 25.050 | 31 | 51.900 | 2.08 |
| 6 | MINERALS :- | | | | | | | |
| | (1) SARHAD DEVELOPMENT AUTHORITY | 9 | 26.000 | 8 | 14.000 | 17 | 40.000 | 1.61 |
| | TOTAL MINERALS | 9 | 26.000 | 8 | 14.000 | 17 | 40.000 | 1.61 |
| 7 | TRANSPORT AND COMMUNICATION :- | | | | | | | |
| | (1) MAJOR ROADS AND BRIDGES | 14 | 58.952 | 2 | 11.000 | 16 | 69.952 | 2.81 |
| | (2) RURAL ROADS | 84 | 218.048 | 7 | 17.000 | 91 | 235.048 | 9.44 |
| | TOTAL TRANSPORT AND COMMUNICATION | 98 | 277.000 | 9 | 28.000 | 107 | 305.000 | 12.25 |
| 8 | PHYSICAL PLANNING AND HOUSING :- | | | | | | | |
| | (1) PUBLIC HEALTH ENGINEERING | 397 | 215.200 | 20 | 26.800 | 417 | 242.000 | 9.72 |
| | (2) BUILDING AND HOUSING | 35 | 120.750 | 15 | 32.250 | 50 | 153.000 | 6.15 |
| | (3) URBAN DEVELOPMENT | 17 | 70.000 | 1 | 15.000 | 18 | 85.000 | 3.41 |
| | TOTAL PHYSICAL PLANNING AND HOUSING | 449 | 405.950 | 36 | 74.050 | 485 | 480.000 | 19.28 |
| 9 | EDUCATION AND TRAINING :- | | | | | | | |
| | (1) PRIMARY EDUCATION | 21 | 93.891 | 40 | 117.951 | 61 | 211.842 | 8.51 |
| | (2) SECONDARY EDUCATION | 64 | 95.173 | 55 | 146.417 | 119 | 241.590 | 9.70 |
| | (3) COLLEGE EDUCATION | 25 | 33.511 | 7 | 5.665 | 32 | 39.176 | 1.57 |
| | (4) TECHNICAL EDUCATION | 13 | 19.309 | 6 | 9.034 | 19 | 28.343 | 1.14 |
| | (5) TEACHERS EDUCATION | 7 | 12.000 | 3 | 3.900 | 10 | 15.900 | 0.64 |
| | (6) SCHOLARSHIPS | .. | .. | 6 | 14.100 | 6 | 14.100 | 0.57 |
| | (7) MISCELLANEOUS EDUCATION | 6 | 1.900 | 6 | 6.149 | 12 | 8.049 | 0.32 |
| | TOTAL EDUCATION AND TRAINING | 136 | 255.784 | 123 | 303.216 | 259 | 559.000 | 22.46 |

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ABSTRACT-I

ANNUAL DEVELOPMENT PROGRAMME 1990-91

SECTORAL BREAK-UP, PROVINCIAL AND DISTRICT-WISE, PROGRAMMES

(Rupees in Million)

| SER. NO. | SECTOR/SUB-SECTOR | PROVINCIAL PROGRAMME | PROVINCIAL PROGRAMME AS PERCENTAGE | LOCAL PROGRAMME | LOCAL PROGRAMME AS PERCENTAGE | TOTAL PROVINCIAL AND LOCAL PROGRAMM |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | INDUSTRIES :- | | | | | |
| | (1) INDUSTRIES DEPARTMENT | 1.400 | 100.00 | .. | .. | 1.400 |
| | (2) PRINTING AND STATIONERY | 0.300 | 100.00 | .. | .. | 0.300 |
| | (3) SMALL INDUSTRIES DEV BOARD | 30.100 | 100.00 | .. | .. | 30.100 |
| | (4) SARHAD DEVELOPMENT AUTHORITY | 12.500 | 100.00 | .. | .. | 12.500 |
| | (5) ROAD TRANSPORT BOARD(GTS) | 7.600 | 100.00 | .. | .. | 7.600 |
| | TOTAL INDUSTRIES | 51.900 | 100.00 | .. | .. | 51.900 |
| 6 | MINERALS :- | | | | | |
| | (1) SARHAD DEVELOPMENT AUTHORITY | 40.000 | 100.00 | .. | .. | 40.000 |
| | TOTAL MINERALS | 40.000 | 100.00 | .. | .. | 40.000 |
| 7 | TRANSPORT AND COMMUNICATION :- | | | | | |
| | (1) MAJOR ROADS AND BRIDGES | 30.000 | 42.89 | 39.952 | 57.11 | 69.952 |
| | (2) RURAL ROADS | 15.000 | 6.38 | 220.048 | 93.62 | 235.048 |
| | TOTAL TRANSPORT AND COMMUNICATION | 45.000 | 14.75 | 260.000 | 85.25 | 305.000 |
| 8 | PHYSICAL PLANNING AND HOUSING :- | | | | | |
| | (1) PUBLIC HEALTH ENGINEERING | 10.200 | 4.21 | 231.800 | 95.79 | 242.000 |
| | (2) BUILDING AND HOUSING | 65.000 | 42.48 | 88.000 | 57.52 | 153.000 |
| | (3) URBAN DEVELOPMENT | 85.000 | 100.00 | .. | .. | 85.000 |
| | TOTAL PHYSICAL PLANNING AND HOUSING | 160.200 | 33.38 | 319.800 | 66.63 | 480.000 |
| 9 | EDUCATION AND TRAINING :- | | | | | |
| | (1) PRIMARY EDUCATION | 10.000 | 4.72 | 201.842 | 95.28 | 211.842 |
| | (2) SECONDARY EDUCATION | 11.951 | 4.95 | 229.639 | 95.05 | 241.590 |
| | (3) COLLEGE EDUCATION | .. | .. | 39.176 | 100.00 | 39.176 |
| | (4) TECHNICAL EDUCATION | .. | .. | 28.343 | 100.00 | 28.343 |
| | (5) TEACHERS EDUCATION | 15.900 | 100.00 | .. | .. | 15.900 |
| | (6) SCHOLARSHIPS | 14.100 | 100.00 | .. | .. | 14.100 |
| | (7) MISCELLANEOUS EDUCATION | 8.049 | 100.00 | .. | .. | 8.049 |
| | TOTAL EDUCATION AND TRAINING | 60.000 | 10.73 | 499.000 | 89.27 | 559.000 |



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## NUMBER OF SCHOOLS

| S. No. | Sub-Div:/ District | Ele Mosq: Male | Ele Mosq: Female | Ele Mosq: Total | Primary M | Primary F | Primary Total | L.Middle M | L.Middle F | L.Middle T | T.Primary M | T.Primary F | T.Primary T | Middle M | Middle F | Middle T | High M | High F | High T | H.Secy: M | H.Secy: F | H.Secy: T | Higher Secy: M | Higher Secy: F | Higher Secy: T | Grant Total Male | Grant Total Female | Grant Total Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Peshawar | 9 | 250 | - | 341 | 205 | 546 | 2 | - | 2 | 610 | 205 | 815 | 37 | 10 | 47 | 44 | 18 | 62 | 5 | 2 | 7 | 49 | 20 | 69 | 696 | 235 | 931 |
| | Nowshera | 15 | 176 | - | 261 | 140 | 401 | - | - | - | 452 | 140 | 592 | 25 | 10 | 35 | 42 | 9 | 51 | 3 | - | 3 | 45 | 9 | 54 | 522 | 159 | 681 |
| | Total. | 24 | 426 | - | 602 | 345 | 947 | 2 | - | 2 | 1062 | 345 | 1407 | 62 | 20 | 82 | 86 | 27 | 113 | 8 | 2 | 10 | [illegible] | [illegible] | 183 | 1218 | 394 | 1612 |
| 2. | Charsadda | 19 | 331 | 3 | 225 | 127 | 352 | - | - | - | 374 | 130 | 504 | 20 | 5 | 25 | 24 | 6 | 30 | 2 | - | 2 | 26 | 6 | 32 | 420 | 141 | 561 |
| | Tangi | 4 | 70 | - | 75 | 35 | 110 | - | - | - | 149 | 35 | [illegible] | 4 | - | 4 | 9 | 3 | 12 | 1 | - | 1 | 10 | 3 | 13 | 163 | 38 | 201 |
| | Total. | 22 | [illegible] | 3 | 300 | 162 | 462 | - | - | - | 523 | 165 | | 24 | 5 | 29 | 33 | 9 | 42 | 3 | - | 3 | 36 | 9 | 45 | 583 | 179 | 762 |
| 3. | Mardan | 14 | [illegible] | 6 | 323 | 159 | 482 | - | 1 | 1 | 566 | 166 | 732 | 24 | 7 | 31 | 37 | 10 | 47 | 2 | - | 2 | 39 | 10 | 49 | 629 | 183 | 812 |
| | Takhtbhai | 3 | [illegible] | - | 114 | 84 | 198 | - | - | - | 217 | 84 | 301 | 13 | 2 | 15 | 6 | 5 | 11 | 1 | - | 1 | 7 | 5 | 12 | 237 | 91 | 328 |
| | Total. | 17 | [illegible] | 6 | 437 | 243 | 680 | - | 1 | 1 | 783 | 250 | 1033 | 37 | 9 | 46 | 43 | 15 | 58 | 3 | - | 3 | 46 | 15 | 61 | 866 | 274 | 1140 |
| 4. | Swabi | 13 | 165 | - | 216 | 126 | 342 | - | - | - | 394 | 126 | 520 | 20 | 3 | 23 | 37 | 7 | 44 | - | - | - | 37 | 7 | 44 | 451 | 136 | 587 |
| | Lahor | 6 | 44 | - | 100 | 69 | 169 | - | - | - | 150 | 69 | 219 | 5 | 2 | 7 | 13 | 5 | 18 | - | - | - | 13 | 5 | 18 | 163 | 76 | 244 |
| | Total. | 19 | 209 | - | 316 | 195 | 511 | - | - | - | 544 | 195 | 739 | 25 | 5 | 30 | 50 | 12 | 62 | - | - | - | 50 | 12 | 62 | 619 | 212 | 831 |
| 5. | Kohat | 3 | 193 | - | 199 | 115 | 314 | 1 | - | 1 | 366 | 115 | 481 | 15 | 4 | 19 | 29 | 8 | 37 | 2 | - | 2 | 31 | 8 | 39 | 412 | 127 | 539 |
| | Hangu | - | 67 | - | 131 | 42 | 173 | - | - | - | 198 | 42 | 240 | 9 | 1 | 10 | 13 | 3 | 16 | - | - | - | 13 | 3 | 16 | 220 | 46 | 266 |
| | Total. | 3 | 230 | - | 330 | 157 | 487 | 1 | - | 1 | 564 | 157 | 721 | 24 | 5 | 29 | 42 | 11 | 53 | 2 | - | 2 | 44 | 11 | 55 | 632 | 173 | 805 |
| 6. | Karak | 16 | 139 | 6 | 221 | 111 | 332 | - | - | - | 345 | 117 | 463 | 11 | 6 | 17 | 28 | 4 | 32 | 1 | 1 | 2 | 29 | 5 | 34 | 386 | 128 | 514 |
| | T.D.Shah | - | 26 | - | 65 | 21 | 86 | - | - | - | 91 | 21 | 112 | 3 | 2 | 5 | 11 | 1 | 12 | - | - | - | 11 | 1 | 12 | 105 | 24 | 129 |
| | Total. | 16 | 165 | 6 | 286 | 132 | 418 | - | - | - | 437 | 138 | 575 | 14 | 8 | 22 | 39 | 5 | 44 | 1 | 1 | 2 | 40 | 6 | 46 | 491 | 152 | 643 |
| 7. | Bannu | - | 173 | 4 | 321 | 216 | 537 | - | - | - | 491 | 220 | 711 | 22 | 11 | 33 | 21 | 4 | 25 | 5 | 1 | 6 | 26 | 5 | 31 | 539 | 236 | 775 |
| | Lakki | - | 137 | 11 | 295 | 128 | 413 | - | - | - | 432 | 139 | 571 | 35 | 6 | 41 | 27 | 7 | 34 | - | - | - | 27 | 7 | 34 | 494 | 152 | 646 |
| | Total. | - | 307 | 15 | 616 | 344 | 960 | - | - | - | 923 | 359 | 1282 | 57 | 17 | 74 | 48 | 11 | 59 | 5 | 1 | 6 | 53 | 12 | 65 | 1033 | 388 | 1421 |
| 8. | D.I.Khan | 4 | 171 | 9 | 336 | 174 | 510 | 1 | - | 1 | 512 | 183 | 695 | 21 | 9 | 30 | 36 | 12 | 48 | 2 | - | 2 | 38 | 12 | 50 | 571 | 204 | 775 |
| | Tank | - | 62 | - | 129 | 70 | 199 | - | - | - | 191 | 70 | 261 | 9 | 2 | 11 | 14 | 3 | 17 | - | - | - | 14 | 3 | 17 | 214 | 75 | 289 |
| | Kulachi | 1 | 32 | - | 102 | 33 | 135 | - | - | - | 141 | 33 | 174 | 9 | 2 | 11 | 11 | 3 | 14 | - | - | - | 11 | 3 | 14 | 161 | 38 | 199 |
| | Total. | 5 | 271 | 9 | 567 | 277 | 844 | 1 | - | 1 | 844 | 286 | 1130 | 39 | 13 | 52 | 61 | 18 | 79 | 2 | - | 2 | 63 | 18 | 81 | 946 | 317 | 1263 |

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| Sub-div:/ District | Ele: | Mosq: | Ibh | Primary M | Primary F | Primary T | L.Middle M | L.Middle F | L.Middle T | T.Primary M | T.Primary F | T.Primary T | Middle M | Middle F | Middle T | High M | High F | High T | H.Secy: M | H.Secy: F | H.Secy: T | H.& Higher Secy: M | H.& Higher Secy: F | H.& Higher Secy: T | Grant Total M | Grant Total F | Grant Total T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Abbott-bad | 14 | 253 | 3 | 450 | 282 | 740 | - | - | - | 735 | 285 | 1020 | 52 | 13 | 65 | 54 | 13 | 67 | 3 | 1 | 4 | 57 | 14 | 71 | 844 | 315 | 1159 |
| Haripur | 7 | 146 | - | 297 | 123 | 420 | - | - | - | 450 | 123 | 573 | 32 | 9 | 41 | 50 | 9 | 59 | 1 | - | 1 | 51 | 9 | 60 | 533 | 141 | 674 |
| Total. | 21 | 409 | 3 | 755 | 405 | 1160 | - | - | - | 1185 | 408 | 1593 | 84 | 25 | 109 | 104 | 22 | 126 | 4 | 1 | 5 | 108 | 23 | 131 | 1377 | 456 | 1833 |
| Mansehra | 21 | 350 | 15 | 556 | 239 | 825 | - | - | - | 957 | 254 | 1211 | 61 | 20 | 81 | 47 | 13 | 60 | 6 | - | 6 | 53 | 13 | 66 | 1071 | 287 | 1358 |
| Battagram | 3 | 9 | - | 226 | 76 | 302 | - | - | - | 236 | 76 | 312 | 14 | 1 | 15 | 13 | - | 13 | 1 | - | 1 | 14 | - | 14 | 266 | 77 | 343 |
| Total. | 24 | 359 | 15 | 782 | 315 | 1127 | - | - | - | 1193 | 330 | 1523 | 75 | 21 | 96 | 60 | 13 | 73 | 7 | - | 7 | 67 | 13 | 80 | 1337 | 364 | 1701 |
| Kohistan/ Pattan | 2 | 126 | - | 52 | 4 | 56 | - | - | - | 190 | 4 | 194 | 1 | - | 1 | 4 | - | 4 | - | - | - | 4 | - | 4 | 195 | 4 | 199 |
| Dasu | 3 | 84 | - | 101 | 113 | 214 | - | - | - | 178 | 13 | 191 | 2 | - | 2 | 1 | - | 1 | - | - | - | 1 | - | 1 | 181 | 13 | 194 |
| Total. | 5 | 210 | - | 153 | 117 | 270 | - | - | - | 368 | 17 | 385 | 3 | - | 3 | 5 | - | 5 | - | - | - | 5 | - | 5 | 376 | 17 | 393 |
| Swat | - | 200 | - | 375 | 161 | 536 | - | - | - | 575 | 161 | 736 | 39 | 8 | 47 | 46 | 9 | 55 | 4 | - | 4 | 50 | 9 | 59 | 664 | 178 | 842 |
| Dir Upper | - | 93 | - | 164 | 53 | 217 | - | - | - | 257 | 53 | 310 | 19 | 2 | 21 | 24 | - | 24 | - | - | - | 24 | - | 24 | 300 | 55 | 355 |
| Dir Lower | - | 73 | - | 175 | 50 | 225 | - | - | - | 252 | 50 | 302 | 17 | 1 | 18 | 16 | - | 16 | - | - | - | 16 | - | 16 | 285 | 51 | 336 |
| Total. | - | 366 | - | 718 | 264 | 982 | - | - | - | 1084 | 264 | 1348 | 75 | 11 | 86 | 86 | 9 | 95 | 4 | - | 4 | 90 | 9 | 99 | 1249 | 284 | 1533 |
| Swat | - | 102 | 3 | 175 | 49 | 224 | - | - | - | 277 | 52 | 329 | 11 | - | 11 | 17 | 1 | 18 | - | - | - | 17 | 1 | 18 | 305 | 53 | 358 |
| Mingora | - | 129 | 9 | 253 | 118 | 371 | 1 | - | 1 | 363 | 127 | 490 | 30 | 6 | 36 | 35 | 6 | 41 | 2 | - | 2 | 37 | 6 | 43 | 450 | 139 | 589 |
| Kabal | - | 123 | - | 53 | 31 | 84 | - | - | - | 176 | 31 | 207 | 10 | - | 10 | 10 | - | 10 | - | - | - | 10 | - | 10 | 196 | 31 | 227 |
| Matta | - | 33 | - | 72 | 21 | 93 | - | - | - | 105 | 21 | 126 | 10 | 4 | 14 | 6 | - | 6 | 1 | - | 1 | 7 | - | 7 | 126 | 25 | 151 |
| Total. | - | 391 | 12 | 553 | 219 | 772 | 1 | - | 1 | 945 | 231 | 1176 | 61 | 10 | 71 | 68 | 7 | 75 | 3 | - | 3 | 71 | 7 | 78 | 1077 | 248 | 1325 |
| Chitral | - | 70 | 9 | 97 | 40 | 137 | - | - | - | 167 | 49 | 216 | 18 | 6 | 24 | 18 | 3 | 21 | - | - | - | 18 | 3 | 21 | 203 | 58 | 261 |
| Mastuj | - | 50 | - | 97 | 31 | 128 | - | - | - | 147 | 31 | 178 | 10 | 3 | 13 | 15 | - | 15 | - | - | - | 15 | - | 15 | 172 | 34 | 206 |
| Total. | - | 120 | 9 | 194 | 71 | 265 | - | - | - | 314 | 80 | 394 | 28 | 9 | 37 | 33 | 3 | 36 | - | - | - | 33 | 3 | 36 | 375 | 92 | 467 |
| Swat Kohistan | - | 96 | 5 | 114 | 60 | 174 | - | - | - | 210 | 65 | 276 | 10 | 1 | 11 | 12 | 4 | 16 | - | - | - | 12 | 4 | 16 | 232 | 70 | 302 |
| Dir Kohistan | - | 34 | - | 55 | 35 | 90 | - | - | - | 89 | 35 | 124 | 6 | 2 | 8 | 18 | 2 | 20 | 1 | - | 1 | 19 | 2 | 21 | 114 | 39 | 153 |
| Total. | - | 130 | 5 | 169 | 95 | 264 | - | - | - | 299 | 100 | 399 | 16 | 3 | 19 | 30 | 6 | 36 | 1 | - | 1 | 31 | 6 | 37 | 346 | 109 | 455 |
| G.Total. | 155 | 4102 | 83 | 6808 | 3241 | 10049 | 5 | 1 | 6 | 11070 | 3325 | 14395 | 624 | 161 | 785 | 790 | 168 | 958 | 42 | 5 | 47 | 831 | 173 | 1004 | 12585 | 3659 | 16244 |

SOURCE : EDUCATION DEPARTMENT N.W.F.P.

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FINANCIAL ALLOCATION AND UTILIZATION

| SL. NO. | Sector/Item | 1980-81 Rural Allocation | 1980-81 Rural Utilization | 1980-81 Urban Allocation | 1980-81 Urban Utilization | 1981-82 Rural Allocation | 1981-82 Rural Utilization | 1981-82 Urban Allocation | 1981-82 Urban Utilization |
|---|---|---|---|---|---|---|---|---|---|
| I. | EDUCATION & TRAINING. | 118.125 | 118.125 | 39.375 | 39.375 | 161.947 | 161.947 | 53.982 | 53.982 |
| | Financial | | | | | | | | |
| i. | Mosque Schools. | - | - | - | - | - | - | - | - |
| ii. | Primary Schools. | 22.936 | 22.936 | 7.564 | 7.564 | 14.160 | 14.160 | 4.720 | 4.720 |
| iii. | Upgrdn:of Pry:Schools to Middle Status. | 16.016 | 12.012 | 16.016 | 4.004 | 7.613 | 7.613 | 2.317 | 2.317 |
| iv. | Upgrdn:of Pry:Schools to High Status. | 10.000 | 10.000 | 3.500 | 3.500 | 8.176 | 8.176 | 2.555 | 2.555 |
| v. | Teachers to be employed. | 809 | 809 | 271 | 271 | 643 | 643 | 207 | 207 |
| vi. | Other Programmes. | - | - | - | - | - | - | - | - |
| | (Phsical) | | | | | | | | |
| i. | Mosque Schools. | - | - | - | - | - | - | - | - |
| ii. | Primary Schools. | 188 | 188 | 62 | 62 | 127 | 177 | 59 | 59 |
| iii. | Upgrdn:of Pry:Schools. | 39 | 39 | 13 | 13 | 23 | 23 | 7 | 7 |
| iv. | Upgrdn:of Pry:Schools (Teachers to be employed) | 20 | 20 | 7 | 7 | 16 | 16 | 5 | 5 |
| v. | Other Programmes. | - | - | - | - | - | - | - | - |

Source: Education Department, N.W.F.P.

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## FINANCIAL ALLOCATION AND UTILIZATION

| SL. NO. | Sector/Item | 1982-83 | | | | 1982-83 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rural | | Urban | | Rural | | Urban | |
| | | Allocation | Utilization | Allocation | Utilization | Allocation | Utilization | Allocation | Utilization |
| I. | EDUCATION & TRAINING. | 197.007 | 197.007 | 65.668 | 65.668 | 202.919 | 202.919 | 67.640 | 67.640 |
| | Financial | | | | | | | | |
| i. | Mosque Schools. | - | - | - | - | 0.800 | 0.800 | 0.250 | 0.250 |
| ii. | Primary Schools. | 179.947 | 17.947 | 23.975 | 6.028 | 28.000 | 28.000 | 9.400 | 9.400 |
| iii. | Upgrdn:of Pry:School. | 10.720 | 10.720 | 3.350 | 3.350 | 14.000 | 14.000 | 4.400 | 4.400 |
| iv. | Upgrdn:of Middle:Schools. | 13.780 | 13.780 | 4.240 | 4.240 | 14.850 | 14.850 | 4.950 | 4.950 |
| v. | Teachers to be employed. | 694 | 694 | 222 | 222 | 805 | 805 | 263 | 263 |
| vi. | Other Programmes. | - | - | - | - | - | - | - | - |
| | (Phsical) | | | | | | | | |
| i. | Mosque Schools. | - | - | - | - | 32 | 32 | 10 | 10 |
| ii. | Primary Schools. | 131 | 131 | 175 | 44 | 140 | 140 | 47 | 47 |
| iii. | Upgrdn:of Pry:Schools. | 32 | 32 | 42 | 10 | 25 | 25 | 11 | 11 |
| iv. | Upgrdn:of Pry:Schools (Teachers to be employed) | 26 | 26 | 8 | 8 | 27 | 27 | 9 | 9 |
| v. | Other Programmes. | - | - | - | - | - | - | - | - |

Source: Education Department, N.W.F.P.

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FINANCIAL ALLOCATION AND UTILIZATION

| SL. NO. | Sector/Item | 1984-85 | | | | 1985-86 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rural | | Urban | | Rural | | Urban | |
| | | Allocation | Utilization | Allocation | Utilization | Allocation | Utilization | Allocation | Utilization |
| I. | EDUCATION & TRAINING. | 205.831 | 205.831 | 68.610 | 68.610 | 189.284 | 189.284 | 63.094 | 63.094 |
| | Financial | | | | | | | | |
| i. | Mosque Schools. | 0.282 | 0.282 | 0.093 | 0.093 | 1.125 | 1.125 | 0.375 | 0.375 |
| ii. | Primary Schools. | 17.030 | 17.030 | 5.590 | 5.590 | 66.400 | 66.400 | 22.000 | 22.000 |
| iii. | Upgrdn:of Pry:Schools. | 20.500 | 20.500 | 6.500 | 6.500 | 8.800 | 8.800 | 2.600 | 2.800 |
| iv. | Upgrdn:of M/Schools | 17.500 | 17.500 | 5.600 | 5.600 | 6.000 | 6.000 | 1.800 | 1.800 |
| v. | Teachers to be employed. | 937 | 937 | 303 | 303 | 1648 | 1648 | 543 | 543 |
| vi. | Other Programmes. | - | - | - | - | - | - | - | - |
| | (Phsical) | | | | | | | | |
| i. | Mosque Schools. | 94 | 94 | 31 | 31 | 375 | 375 | 125 | 125 |
| ii. | Primary Schools. | 131 | 131 | 43 | 43 | 332 | 332 | 110 | 110 |
| iii. | Upgrdn:of Pry:Schools. | 41 | 41 | 13 | 13 | 22 | 22 | 7 | 7 |
| iv. | Upgrdn:of M/Schools. | 25 | 25 | 8 | 8 | 10 | 10 | 3 | 3 |
| v. | Other Programmes. | - | - | - | - | - | - | - | - |

Source: Education Department, N.W.F.P.

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## FINANCIAL ALLOCATION AND UTILIZATION

| SL. NO. | Sector/Item | 1986-87 | | | | 1987-88 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rural | | Urban | | Rural | | Urban | |
| | | Allocation | Utilization | Allocation | Utilization | Allocation | Utilization | Allocation | Utilization |
| I. | EDUCATION & TRAINING. | 345.560 | 345.560 | 115.186 | 115.186 | 362.250 | 362.250 | 120.750 | 120.750 |
| | Financial | | | | | | | | |
| i. | Mosque Schools. | 1.575 | 1.572 | 0.525 | 0.525 | 1.281 | 1.281 | 0.426 | 0.426 |
| ii. | Primary Schools. | 91.540 | 91.540 | 30.360 | 30.360 | 150.720 | 150.720 | 50.400 | 50.400 |
| iii. | Upgrdn:of Pry:Schools. | 16.800 | 16.800 | 4.800 | 4.800 | 43.200 | 43.200 | 14.400 | 14.400 |
| iv. | Upgrdn:of M/Schools | 18.200 | 18.200 | 5.600 | 5.600 | 48.800 | 48.800 | 16.000 | 16.000 |
| v. | Teachers to be employed. | 2348 | 2348 | 762 | 762 | 3.270 | 3.270 | 1.088 | 1.088 |
| vi. | Other Programmes. | - | - | - | - | - | - | - | - |
| | (Phsical) | | | | | | | | |
| i. | Mosque Schools. | 525 | 525 | 175 | 175 | 427 | 427 | 142 | 142 |
| ii. | Primary Schools. | 398 | 398 | 132 | 132 | 628 | 628 | 210 | 210 |
| iii. | Upgrdn:of Pry:Schools. | 42 | 42 | 12 | 12 | 96 | 96 | 32 | 32 |
| iv. | Upgrdn:of M/Schools. | 26 | 26 | 8 | 8 | 61 | 61 | 20 | 20 |
| v. | Other Programmes. | - | - | - | - | - | - | - | - |

Source: Education Department, N.W.F.P.

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## FINANCIAL ALLOCATION AND UTILIZATION

| SL. NO. | Sector/Item | 1988-89 | | | | 1989-90 | | |
|---|---|---|---|---|---|---|---|---|
| | | Rural | | Urban | | Rural | | Urt |
| | | Allocation | Utilization | Allocation | Utilization | Allocation | Utilization | Allocation |
| I. | EDUCATION & TRAINING. | 352.000 | 352.134 | 117.378 | 117.378 | 376.827 | 376.827 | 125.609 |
| | Financial | | | | | | | |
| i. | Mosque Schools. | 1.528 | 1.528 | 0.509 | 0.509 | 1.827 | 1.827 | 0.609 |
| ii. | Primary Schools. | 117.750 | 117.750 | 39.250 | 39.250 | 130.200 | 130.200 | 43.500 |
| iii. | Upgrdn:of Pry:Schools. | 46.200 | 46.200 | 15.600 | 15.600 | 51.000 | 51.000 | 16.800 |
| iv. | Upgrdn:of M/Schools | 37.800 | 37.800 | 12.600 | 12.600 | 41.400 | 41.400 | 13.500 |
| v. | Teachers to be employed. | 2,835 | 2,835 | 949 | 949 | 3,049 | 3,049 | 1,012 |
| vi. | Other Programmes. | - | - | - | - | - | - | - |
| | (Phsical) | | | | | | | |
| i. | Mosque Schools. | 509 | 509 | 170 | 170 | 609 | 609 | 203 |
| ii. | Primary Schools. | 471 | 471 | 157 | 157 | 434 | 434 | 145 |
| iii. | Upgrdn:of Pry:Schools. | 77 | 77 | 26 | 26 | 85 | 85 | 28 |
| iv. | Upgrdn:of M/Schools. | 42 | 42 | 14 | 14 | 46 | 46 | 15 |
| v. | Other Programmes. | - | - | - | - | - | - | - |

Source: Education Department, N.W.F.P.

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BRIEF REGARDING THIRD QUARTER REVIEW OF ADP 1990-91

1.1. The Education Sector had been allocated an amount of Rs.559.000 million in ADP 1990-91. After re-appropriation of funds during the year 1990-91, the existing allocation was increased to Rs.585.314 million. An amount of Rs.285.377 million was incurred by the end of Third Quarter(31.3.1991),thus giving a financial progress of 48.8% which is lesser by 24.2% than the similar utilization of 73% made during the corresponding period of the last financial year. The sub-sectoral break-up of revised allocation and utilization of funds,is as under:-

| S.No. | Sector Sub-sector | Original Allocation 1990-91 | Revised Allocation 1990-91 | Expenditure(1.7. 1990 to 31.3.1991) | Percentage utilization 1990-91 | Percentage utilization 1989-90 |
|---|---|---|---|---|---|---|
| i- | Primary Education. | 211.842 | 173.164 | 67.784 | 39.1% | 73.0% |
| ii- | Secondary Education. | 241.590 | 279.961 | 142.379 | 50.9% | 76.5% |
| iii- | College Education. | 39.176 | 47.304 | 30.137 | 63.7% | 66.0% |
| iv- | Technical Education. | 28.343 | 29.704 | 16.734 | 56.3% | 62.0% |
| v- | Teacher Education. | 15.900 | 23.950 | 13.811 | 57.7% | 84.0% |
| vi- | Scholarships. | 14.100 | 14.100 | 9.870 | 70.0% | 70.0% |
| vii- | Miscellaneous Education. | 8.049 | 17.131 | 4.662 | 27.2% | 48.4% |
| | Total. | 559.000 | 585.314 | 285.377 | 48.8% | 73.0% |

1.2. The performance in respect of all the Sub-sectors except "Scholarships" is lesser by 33.9%,25.6%,22.3%,6.5%,26.3% and 21.2% respectively. In most of the cases the performance was slow due to late constitution of new DDACs in NWFP.Further details may be seen at Table-I appended with the Detailed Review Report.

2.1. In ADP 1990-91 an amount of Rs.526.648 million had been allocated to the Capital Head out of which an amount of Rs.257.297 million had been incurred upto 31.3.1991, thus giving a financial progress of 48.9% which is lesser by 22.9% than the similar utilization of 71.8% made during 1989-90. Like-wise an amount of Rs.58.666 million had been alocated to the Revenue head, out of which Rs.28.080 million had been utilized upto 31.3.1991,thus giving a financial progress of 47.9% which again lesser by 41.6% than the similar utilization of 89.5% made during the year 1989-90. Further details may be seen at Table-II of the synopsis appended with the Detailed Review Report.

3. In the ADP 1990-91 an allocation of Rs.327.637 million had been allocated to the 153 Ongoing Schemes(136 ADP and 17 Non-ADP), out of which an amount of Rs.-231.630 million had been incurred upto 31.3.1991,thus giving a financial progress of 70.7% which lesser by 7.2% than the similar utilization of of 77.9% made during 1989-90. Like-wise an amount of Rs.257.677 million had been allocated to the 131 New Schemes(123 ADP and 8 Non), out of which an amount of Rs.53.747 million had been utilized upto 31.3.1991 which is again lesser by 45.1% than the similar utilization of 66.0% made during 1989-90.Further details may be seen at Table III of the Synopsis appended with the Detailed Review Report.

4. The scrutiny of Table-IV of the Synopsis appended with the Detailed Review Report reveals, the following district-wise position of the revised allocation and utilization of funds upto 31.3.1991:-

| S.No. | Programme | Revised Allocation 1990-91 | Expenditure 1990-91 | % Utilization 1990-91 | % Utilization 1989-90 |
|---|---|---|---|---|---|
| I- | Provincial Programme. | 75.845 | 40.768 | 53.8% | 72.4% |

(Next sheet)

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| | | | | | |
|---|---|---|---|---|---|
| II- | Local Programme | | | | |
| i- | Peshawar. | 50.216 | 38.926 | 65.5% | 98.2% |
| ii- | Charsadda. | 24.215 | 15.743 | 65.0% | 72.0% |
| iii- | Mardan. | 35.482 | 13.202 | 37.2% | 96.2% |
| iv- | Swabi. | 24.944 | 7.290 | 29.2% | 78.5% |
| v- | Kohat. | 33.718 | 18.169 | 53.9% | 64.6% |
| vi- | Karak. | 27.526 | 20.201 | 73.4% | 93.4% |
| vii- | Abbottabad. | 60.918 | 34.889 | 57.3% | 75.5% |
| viii- | Mansehra. | 50.814 | 21.196 | 41.7% | 67.8% |
| ix- | Kohistan. | 22.550 | 7.482 | 33.2% | 37.1% |
| x- | Bannu. | 35.611 | 8.327 | 23.4% | 71.7% |
| xi- | D.I.Khan. | 26.443 | 9.681 | 36.6% | 71.3% |
| xii- | Chitral. | 13.677 | 3.827 | 28.0% | 74.6% |
| xiii- | Dir. | 38.447 | 25.667 | 66.0% | 68.8% |
| xiv- | Swat. | 47.776 | 21.247 | 44.5% | 67.5% |
| xv- | Malakand Agency. | 17.130 | 4.764 | 27.0% | 48.1% |
| | Total (L.P.). | 509.469 | 244.609 | 48.0% | 73.1% |
| | Grand Total. | 585.314 | 285.377 | 48.8% | 73.0% |

4.1. The above mentioned table indicates that the best utilization of funds i.e. 73.4% was in District Karak followed by 66.0% in District Dir, 65.6% in Peshawar, 65.0% in Mardan, 57.3% in Abbottabad respectively. The progress of utilization of funds is highly un-satisfactory in case of Bannu 23.4% followed by Malakand Agency 27.0%, 28.0% Chitral, 29.2% Swabi, 33.2% Kohistan, 36.6% D.I.Khan, 37.2% Mardan, 41.7% Mansehra, 44.5% Swat and 53.9% District Kohat respectively.

5. The over-all position regarding physical targets and achievements reflected at Table-V of the Synopsis appended with the Detailed Review Report, is reproduced below:-

| S.No. | Sector / Sub-sector / Schemes. | Targets O | Targets N | Targets T | Targets T | Achievement | %Achievement |
|---|---|---|---|---|---|---|---|
| | Primary Education | | | | | | |
| i- | Establishment of P.Schs. | 301 | 337 | 636 | 586 | 288 | 45.1% |
| ii- | Opening of Mosque Schs:. | 9 | 900 | 900 | 900 | - | - |
| iii- | Const: of rooms in P.Sc. | 28 | - | 28 | 28 | 22 | 78.6% |
| iv- | Reconst: of Bldgs of PS. | 3 | 61 | 64 | 64 | 4 | 6.3% |
| | Secondary Education | | | | | | |
| i- | Improvement of H.Schs:. | 1 | - | 1 | - | - | - |
| ii- | Buildings of H.Schs:. | 6 | 5 | 11 | 3 | 1 | 33.3% |
| iii- | Establishment of H.Schs:. | 3 | - | 3 | 1 | 1 | 100.0% |
| iv- | Addition of class rooms. | - | 66 | 66 | 66 | 2 | 3.0% |
| v- | Upgradation of Pry:Schs. | 136 | 160 | 296 | 126 | 101 | 34.1% |
| vi- | Upgradation of M.Schs:. | 81 | 80 | 161 | 71 | 50 | 31.1% |
| vii- | Upgradation of H.Schs:. | 14 | 5 | 19 | 9 | - | - |
| | College Education | | | | | | |
| i- | Const: of Buings. | 8 | 1 | 9 | 3 | - | - |
| ii- | Improvement of Colleges. | 15 | 6 | 21 | 7 | 4 | 19.0% |
| iii- | Const: of Hostels. | 2 | - | 2 | 1 | 1 | 100.0% |
| | Technical Education | | | | | | |
| i- | Improvement of T.Inst: | 7 | 2 | 9 | 2 | 2 | 22.2% |
| ii- | Bldgs: for Commerce/Cl. | 3 | 3 | 6 | - | - | - |
| iii- | Bldgs: for Polytechnic. | 2 | - | 2 | - | - | - |
| iv- | Bldgs. for Vocational. | 2 | 1 | 3 | 2 | 2 | 66.7% |

5.1. It may be seen from the achievements of physical targets that they are totally out of step with the financial progress. Futher details may be seen at Table-V of the Synopsis appended with the Detailed Review Report.

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6. A thorough perusal of the Progress Reports for the month of March,1991, provided by the Education Department and the C&W Department, reveals that out of the total 702 New Sites, 652 Sites have been handed over out of which work has been Started on370 sites as well as work has been completed on 9 sites as per report of the Education Department. The report of the C&W Department indicates that out of the total 702 sites, 509 sites have been taken over out of which work has been started on 248 sites as well as work has been completed on 19 sites. The details of the sites, are as under:-

| S.No. | Scheme | TS | SI | SHO | STO | W.S. | | W.C. | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | EU | C&W | ED | C&W |
| i- | Establishment: | 337 | 309 | 309 | 246 | 204 | 129 | 5 | 13 |
| ii- | Reconstruction: | 61 | 59 | 59 | 58 | 48 | 28 | - | 2 |
| iii- | Up: Pry: to Middle. | 160 | 149 | 149 | 101 | 66 | 49 | 1 | 2 |
| iv- | Up: Middle to High. | 80 | 72 | 72 | 53 | 28 | 27 | - | - |
| v- | Rooms in H/M. Schs:. | 64 | 63 | 63 | 51 | 24 | 18 | 3 | 2 |
| | Total. | 702 | 652 | 652 | 509 | 370 | 248 | 9 | 19 |

6.1. The work is still to be started on the remaining 282 sites as per report of the Education Department whereas report of the C&W Department indicates, that work on the remaining 261 , is till to be started. Moreover, identifidation of the remaining 50 sites(702-652), is till be made by the Chairman, DDACs under various schemes as mentioned above.

7. There were 259 Schemes(136 Ongoing and 123 New)included in the ADP 1990-91. Out of the total new 123 schemes schemes had been approved while the remaining schemes had still to be approved.The sub-sectoral break-up, is as under:-

| S.No. | Sub-sector | Total schemes | Approved schemes | Balanace schemes |
|---|---|---|---|---|
| 1. | Primary Education. | 40 | 40 | - |
| 2. | Secondary Education. | 55 | 55 | - |
| 3. | College Education. | 7 | 7 | - |
| 4. | Technical Education. | 6 | 5 | 1 |
| 5. | Teacher Education. | 3 | 3 | - |
| 6. | Scholarships. | 6 | 6 | - |
| 7. | Misc: Education. | 6 | 5 | 1 |
| | Total. | 123 | 121 | 2 |

8. The details of the Excesses and Surrenders of the C&W Department and the Education Department may be seen at Annexure-I. This needs to be provided to meet the liability of the ADP and Non-ADP Schemes.

MAJOR ISSUES FOR CONSIDERATION

1. Despite the repeated requests,the progress reports have not been received from the Chairman,District Council,Mansehra and Dir regarding financial and physical progress against the funds of Rs.1.740 million Rs.7.815 million released to them respectively.

2. The requisite summary to the Chief Minister,NWFP on the issue of incomplete buildings constructed by the District Councils in NWFP was submitted by the Local Govt but nothing further has so far been heard in the matter.

3. The C&W Department have made payment to D.C/P.D.,Mansehra for carrying out certain works(i.e. 9 buildings and 2 rooms) under the following Ongoing Schemes, but the progress received from Kala Dhaka Area

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does not indicate any progress against the said amount and submission of progress report about financial/physical is essential:-

a) Establishment of 48 Primary Schools (24 for girls) in Distt: Mansehra (Ongoing) for 9 Units. — Rs.2.511 Million

b) Construction of 13 rooms in Primary Schools (Ongoing) 2 class rooms. — Rs.0.292 Million

4. It was decided in the FCR/MYR of ADP 1990-91 that in future no new work would be executed in Kala Dhaka Area through the Project Director/D.C., Mansehra. The C&W Department is requested to implement the the said decision with regard to execution of work through them under new schemes included in the ADP 1990-91.

5. In the Mid Year Review of ADP 1990-91, the scheme "Upgradation of One Middle School to High Status in Distrct Chitral at "Shishi" was dropped, but the expenditure of Rs.0.0125 million to be justified by the C&W Department. as per progress report for the month of March, 1991.

6. The Progress Report for 3/1991 indicates an incurrence of expenditure amounting to Rs.0.110 million on the site at Gulab Khana whereas Column 19 of the said report shows that land purchased but not handed over. This needs clarification. Similarly an incurrence of expenditure of Rs.0.012 million on the site Islamabad shifted to Akhunabad, also needs justification.

7. The C&W Department is requested to furnish the Detiled Cost Estimates in respect of New un-approved schemes to th quarter concerned for preparation of PCI Form.

SOURCE.: EDUCATION DEPARTMENT N.W.F.P.

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TABLE-III. FINANCIAL TARGETS/ACHIEVEMENT INVOLVED IN THIRD QUARTER REVIEW OF ADP 1990-91.

| SL; No. | Sector Sub-Sector. | Revised Allocation. On-going | New | Total | Expenditure On-going | New | Total | Percentage 1990-91/1989-90 On-going | New | Tota |
|---|---|---|---|---|---|---|---|---|---|---|
| | EDUCATION & TRAINING. | | | | | | | | | |
| 1. | Primary Education. | 76.326 | 96.838 | 173.164 | 54.323 | 13.461 | 67.784 | 71.2/73.5 | 13.9/74.3 | 39.1/73.8 |
| 2. | Secondary Education. | 158.399 | 127.562 | 279.961 | 117.604 | 24.775 | 142.379 | 74.2/84.9 | 20.4/64.9 | 50.9/76.5 |
| 3. | College Education. | 41.501 | 5.803 | 47.304 | 29.617 | 0.520 | 30.137 | 71.4/77.8 | 9.0/28.5 | 63.7/66.0 |
| 4. | Technical E Education. | 22.730 | 6.974 | 29.704 | 15.675 | 1.059 | 16.734 | 69.0/60.5 | 15.2/79.5 | 56.3/62.8 |
| 5. | Teacher Education. | 20.150 | 3.800 | 23.950 | 12.321 | 1.490 | 13.811 | 61.1/112.0 | 39.2/- | 57.7/84.0 |
| 6. | Scholarships. | - | 14.100 | 14.100 | - | 9.870 | 9.870 | - | 70.0/70.0 | 70.0/70.0 |
| 7. | Misc:Education. | 8.531 | 8.600 | 17.131 | 2.090 | 2.572 | 4.662 | 24.5/76.6 | 30.0/13.5 | 27.2/48.4 |
| | Total:- | 327.637 | 257.677 | 585.314 | 231.630 | 53.747 | 285.317 | 70.7/77.9 | 20.9/66.0 | 48.8/73.0 |

SOURCE EDUCATION DEPARTMENT N.W.F.P.

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TABLE-IV. FINANCIAL TARGETS/ACHIEVEMENT INVOLVED IN THIRD QUARTER REVIEW OF ADP 1990-91.

| Sl: No. | Sector Sub-Sector. | Allocation Cap: | Allocation Rev: | Allocation Total | Expdr:1.7.90 to 31.12.90 Cap: | Expdr:1.7.90 to 31.12.90 Rev: | Expdr:1.7.90 to 31.12.90 Total | % Utilization 90-91 Cap: | % Utilization 90-91 Rev: | % Utilization 90-91 Total | %Utilization 89-90 Cap: | %Utilization 89-90 Rev: | %Utilization 89-90 Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EDUCATION & TRAINING. | | | | | | | | | | | | |
| 1. | Provincial Programme. | 35.895 | 39.950 | 75.845 | 16.404 | 24.364 | 40.768 | 45.7 | 61.0 | 53.8 | 53.9 | 86.4 | 72.4 |
| | Local Programme. | | | | | | | | | | | | |
| 1. | Peshawar. | 46.534 | 3.682 | 50.216 | 31.382 | 1 .542 | 32.924 | 67.4 | 41.9 | 65.6 | 98.0 | 100.0 | 98.2 |
| 2. | Charsadda. | 23.915 | 0.300 | 24.215 | 14.546 | - | 15.743 | 60.8 | - | 65.0 | 71.8 | 100.0 | 72.0 |
| 3. | Mardan. | 34.897 | 0.585 | 35.482 | 13.202 | - | 13.202 | 37.8 | - | 37.2 | 96.2 | 100.0 | 96.2 |
| 4. | Swabi. | 24.350 | 0.594 | 24.944 | 7.290 | - | 7.290 | 29.9 | - | 29.2 | 78.2 | 100.0 | 78.5 |
| 5. | Kohat. | 30.686 | 3.032 | 33.718 | 15.995 | 2.174 | 18.169 | 52.1 | 71.7 | 53.9 | 62.4 | 100.0 | 64.6 |
| 6. | Karak. | 27.104 | 0.424 | 27.528 | 20.201 | - | 20.201 | 74.5 | - | 73.4 | 93.3 | 100.0 | 93.4 |
| 7. | Abbottabad. | 60.098 | 0.820 | 60.918 | 34.889 | - | 34.889 | 58.1 | - | 57.3 | 75.4 | 100.0 | 75.5 |
| 8. | Mansehra. | 50.149 | 0.665 | 50.814 | 21.196 | - | 21.196 | 42.3 | - | 41.7 | 67.6 | 100.0 | 67.8 |
| 9. | Kohistan. | 21.861 | 0.689 | 22.550 | 7.482 | - | 7.482 | 34.2 | - | 33.2 | 36.1 | 100.0 | 37.1 |
| 10. | Bannu. | 33.204 | 2.407 | 35.611 | 8.327 | - | 8.327 | 25.1 | - | 23.4 | 71.4 | 100.0 | 71.7 |
| 11. | DIKhan. | 23.571 | 2.872 | 26.443 | 9.681 | - | 9.681 | 41.1 | - | 36.6 | 71.1 | 100.0 | 71.3 |
| 12. | Chitral. | 13.349 | 0.328 | 13.677 | 3.827 | - | 3.827 | 28.7 | - | 28.0 | 74.3 | 100.0 | 74.6 |
| 13. | Dir. | 37.261 | 1.186 | 38.447 | 25.667 | - | 25.667 | 68.9 | - | 66.8 | 68.3 | 100.0 | 68.6 |
| 14. | Swat. | 47.230 | 0.546 | 47.776 | 21.064 | - | 21.247 | 44.6 | - | 44.5 | 67.2 | 100.0 | 67.5 |
| 15. | Malakand. | 16.544 | 0.586 | 17.130 | 4.764 | - | 4.764 | 28.8 | - | 27.8 | 47.4 | 100.0 | 48.1 |
| | Total:- | 490.753 | 18.716 | 509.469 | 240.893 | 3.716 | 244.609 | 49.1 | 19.9 | 48.0 | 72.6 | 100.0 | 73.1 |
| | G.Total:- | 526.648 | 58.666 | 585.314 | 257.297 | 28.080 | 285.377 | 48.9 | 47.9 | 48.8 | 71.8 | 89.5 | 73.0 |

SOURCE : EDUCATION DEPARTMENT N.W.F.P.

TABLE-V. PHYSICAL TARGETS/ACHIEVEMENT INVOLVED IN THIRD QUARTER REVIEW OF ADP 1990-91.

| Sl: No. | District. | Establishment of Pry:Schools. | | | | | | Purchase of equipment for Mosque Schools. | | | | | Construction of Classrooms. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | O | N | T | T | A | B | O | N | T | A | B | O | N | T | A | B |
| 1. | Peshawar. | 35 | 52 | 87 | 35 | 53 | 34 | - | 130 | 130 | - | 130 | - | - | - | - | - |
| 2. | Charsadda. | 13 | 20 | 33 | 33 | 30 | 3 | - | 50 | 50 | - | 50 | - | - | - | - | - |
| 3. | Mardan. | 24 | 24 | 48 | 48 | 23 | 25 | - | 75 | 75 | - | 75 | - | - | - | - | - |
| 4. | Swabi. | - | 16 | 16 | 16 | - | 16 | - | 54 | 54 | - | 54 | - | - | - | - | - |
| 5. | Kohat. | - | 16 | 16 | 16 | 4 | 12 | - | 54 | 54 | - | 54 | - | - | - | - | - |
| 6. | Karak. | - | 13 | 13 | 13 | 9 | 4 | - | 16 | 16 | - | 16 | - | - | - | - | - |
| 7. | Abbottabad. | 48 | 36 | 84 | 84 | 26 | 58 | - | 90 | 90 | - | 90 | - | - | - | - | - |
| 8. | Mansehra. | 48 | 32 | 80 | 80 | 28 | 52 | - | 90 | 90 | - | 90 | 6 | - | 6 | 2 | 4 |
| 9. | Kohistan. | 18 | 12 | 30 | 30 | 27 | 3 | - | 47 | 47 | - | 47 | 12 | - | 12 | 10 | 2 |
| 10. | Bannu. | 1 | 20 | 21 | 21 | 1 | 20 | - | 54 | 54 | - | 54 | - | - | - | - | - |
| 11. | DIKhan. | 30 | 20 | 50 | 50 | 28 | 22 | - | 54 | 54 | - | 54 | - | - | - | - | - |
| 12. | Chitral. | 6 | 6 | 12 | 12 | 6 | 6 | - | 16 | 16 | - | 16 | - | - | - | - | - |
| 13. | Dir. | 24 | 24 | 48 | 48 | 17 | 31 | - | 64 | 64 | - | 64 | 10 | - | 10 | 10 | - |
| 14. | Swat. | 54 | 36 | 90 | 90 | 36 | 54 | - | 90 | 90 | - | 90 | - | - | - | - | - |
| 15. | Malakand. | - | 10 | 10 | 10 | - | 10 | - | 16 | 16 | - | 16 | - | - | - | - | - |
| | Total:- | 301 | 337 | 638 | 586 | 288 | 350 | - | 900 | 900 | - | 900 | 28 | - | 28 | 22 | 6 |

SOURCE : EDUCATION DEPARTMENT N.W.F.P.

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(Contd: TABLE-V).

| S.No. | District | Re-constrn:of buildings. | | | | | Improvement(High Schools). | | | | | Buildings (High Schools). | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | O | N | T | A | B | O | N | T | A | B | O | N | T | A | B |
| 1. | Peshawar. | - | - | - | - | - | 1 | - | 1 | - | 1 | 2(1) | - | 2(1) | - | 2 |
| 2. | Charsadda. | - | 1(1) | 1(1) | - | 1 | - | - | - | - | - | - | - | - | - | - |
| 3. | Mardan. | - | 21(21) | 21(21) | - | 21 | - | - | - | - | - | - | 1 | 1 | - | 1 |
| 4. | Swabi. | - | 11(11) | 11(11) | - | 11 | - | - | - | - | - | 1 | - | 1 | - | 1 |
| 5. | Kohat. | - | - | - | - | - | - | - | - | - | - | - | 1(1) | 1(1) | - | 1 |
| 6. | Karak. | - | 2(2) | 2(2) | 2 | - | - | - | - | - | - | 2(1) | - | 2(1) | 1 | 1 |
| 7. | Abbottabad. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8. | Mansehra. | - | 2(2) | 2(2) | - | 2 | - | - | - | - | - | - | - | - | - | - |
| 9. | Kohistan. | 3 | - | 3(3) | 2 | 1 | - | - | - | - | - | - | - | - | - | - |
| 10. | Bannu. | - | 13(13) | 13(13) | - | 13 | - | - | - | - | - | - | 1 | 1 | - | 1 |
| 11. | DIKhan. | - | 8(8) | 8(8) | - | 8 | - | - | - | - | - | - | - | - | - | - |
| 12. | Chitral. | - | - | - | - | - | - | - | - | - | - | 1 | - | 1 | - | 1 |
| 13. | Dir. | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | - | 1 |
| 14. | Swat. | - | 3(3) | 3(3) | - | 3 | - | - | - | - | - | - | - | - | - | - |
| 15. | Malakand. | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | - | 1 |
| | Total:- | 3 | 61(61) | 64(64) | 4 | 60 | 1 | - | 1 | - | 1 | 6(2) | 5(1) | 11(3) | 1 | 10 |

SOURCE : EDUCATION DEPARTMENT N.W.F.P.

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SUB-SECTORAL BREAK-UP OF PHYSICAL TARGETS/ACHIEVEMENT INVOLVED IN PLAN PERIOD.(1970-88).

| Sl: No. | Sector/Sub-Sectoral Scheme. | Non-Plan period (1970-78) | | V F.Y.P (1978-83) | | VI F.Y.Plan (1983-88). | | Total(IV-VI FYP (1970 - 88) | |
|---|---|---|---|---|---|---|---|---|---|
| | | Target | Achievement | Target. | Achievement | Target. | Achievement. | Target. | Achievement. |
| | EDUCATION & TRAINING. | | | | | | | | |
| I. | Primary Education. | | | | | | | | |
| i. | Estt:of Primary Schools. | - | - | 1464 | 1464 | 2706 | 2077 | 4170 | 3541 |
| ii. | Opening of Mosque Schools. | - | - | 1588 | 1588 | 2069 | 1936 | 3657 | 3524 |
| iii. | Consolidation/Improvement. | - | - | 1768 | 1768 | 2374 | 1581 | 4142 | 3349 |
| II. | Secondary Education. | | | | | | | | |
| i. | Upgrdn:of Primary Schools. | - | - | 194 | 194 | 411 | 410 | 605 | 604 |
| ii. | Upgrdn:of Middle Schools. | - | - | 128 | 128 | 218 | 216 | 346 | 344 |
| iii. | Consolidation/Improvement. | - | - | 627 | 627 | 514 | 489 | 1141 | 1116 |
| III. | College Education. | | | | | | | | |
| i. | Constrn: of buildings. | - | - | 14 | 14 | 20 | 10 | 34 | 34 |
| ii. | Constrn: of Hostels. | - | - | 2 | 2 | 22 | 18 | 24 | 20 |
| iii. | Consolidation/Improvement. | - | - | 16 | 16 | 44 | 30 | 60 | 46 |
| IV. | Technical Education. | | | | | | | | |
| i. | Buildings for Polytech:/ Vocational Institutes. | - | - | 7 | 7 | 10 | 6 | 17 | 13 |
| ii. | Buildings ~~for Co~~mmerce College/ Commercial Instt: | - | - | 2 | 2 | 5 | 5 | 7 | 7 |
| iii. | Consolidation/Improvement. | - | - | 14 | 14 | 22 | 10 | 36 | 24 |
| V. | Miscellaneous Education. | | | | | | | | |
| i. | Misc: buildings. | - | - | - | - | 21 | 21 | 21 | 21 |

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## BREAKUP OF ALLOCATION INVOLVED IN IV V VI FIVE YEAR PLAN.

EDUCATION SECTOR.

| Sl: No. | Sector Sub-Sector. | Non Plan Period IV FYP(1970-78) Allocation | %age | V.Five Year Plan (1978-83). Allocation | %age | VI.Five Year Plan (1983-88) Allocation | %age | Total IV - VI (1970-88) Allocation | %age |
|---|---|---|---|---|---|---|---|---|---|
| | EDUCATION & TRAINING. | | | | | | | | |
| 1. | Pri ary Education. | 113.177 | 25.7 | 430.017 | 46.3 | 686.458 | 38.6 | 1229.652 | 39. |
| 2. | Secondary Education. | 95.435 | 21.7 | 245.521 | 26.5 | 570.527 | 32.1 | 911.483 | 29. |
| 3. | College Education. | 77.752 | 17.6 | 103.625 | 11.2 | 190.792 | 10.7 | 372.169 | 11. |
| 4. | Technical Education. | 37.994 | 8.6 | 58.280 | 6.3 | 116.595 | 6.6 | 212.869 | 6. |
| 5. | Teacher Education. | 8.087 | 1.8 | 30.691 | 3.3 | 43.738 | 2.5 | 82.516 | 2. |
| 6. | Scholarships. | 32.465 | 7.4 | 33.596 | 3.6 | 53.878 | 3.0 | 119.939 | 3. |
| 7. | Misc: Education. | 17.131 | 3.9 | 16.445 | 1.8 | 34.579 | 1.9 | 68.155 | 2.1 |
| 8. | University Education. | 58.699 | 13.3 | 9.545 | 1.0 | - | - | 68.244 | 2.2 |
| 9. | Literacy Programme. | - | - | - | - | 0.557 | 0.1 | 0.557 | 0.2 |
| 10. | Spl:Dev:Programme. | - | - | - | - | 80.000 | 4.5 | 80.000 | 2.5 |
| | Total:- | 440.740 | 100.0 | 927.720 | 100.0 | 1777.124 | 100.0 | 3145.584 | 100.0 |

SOURCE : EDUCATION DEPARTMENT N.W.F.P.

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## STATISTICAL DATA( LEVEL-WISE) 1990-91 N.W.F.P. EDUCATION SECTOR

| S.No. | Category | | Government Institutes | | | Non-Govt Institutes | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| | | | **TABLE-II(a) Govt Institutes.** | | | **TABLE-II(b) Non-Govt Insti** | | | | | |
| 1. | Class I-V | (5-9 Yrs) | 1160730 | 355670 | 1516400 | 86371 | 39290 | 125661 | 1247101 | 394960 | 1642061 |
| 2. | Class VI-VIII | (10-12 Yrs) | 268318 | 56529 | 324847 | 12804 | 4894 | 17698 | 281122 | 61423 | 342545 |
| 3. | Class IX-X | (13-14 Yrs) | 94310 | 16871 | 111181 | 3430 | 1336 | 4766 | 97740 | 18207 | 115947 |
| 4. | Class XI-XII | (15-16 Yrs) | 33057 | 6522 | 39579 | - | - | - | 33057 | 6522 | 39579 |
| 5. | Class XIII-XIV | (17-18 Yrs) | 12944 | 2457 | 15401 | - | - | - | 12944 | 2457 | 15401 |
| 6. | Class XV-XVI | (19-20 Yrs) | 908 | - | 908 | - | - | - | 908 | - | 908 |
| | Total. | | 1570267 | 438049 | 2008316 | 102605 | 45520 | 148125 | 1672872 | 483569 | 2156441 |
| | | | **TABLE-II(c) FATA** | | | | | | | | |
| 1. | Class I-V | (5-9 Yrs) | 163874 | 23166 | 187040 | - | - | - | 163874 | 23166 | 187040 |
| 2. | Class VI-VIII | (10-12 Yrs) | 25638 | 815 | 26453 | - | - | - | 25638 | 815 | 26453 |
| 3. | Class IX-X | (13-14 Yrs) | 7969 | 207 | 8176 | - | - | - | 7969 | 207 | 8176 |
| 4. | Class XI-XII | (15-16)Yrs) | 3202 | 32 | 3234 | - | - | - | 3202 | 32 | 3234 |
| 5. | Class XIII-XIV | (17-18 Yrs) | 1139 | - | 1139 | - | - | - | 1139 | - | 1139 |
| | Total. | | 201822 | 24220 | 226042 | - | - | - | 201822 | 24220 | 226042 |

SOURCE : EDUCATION DEPARTMENT N.W.F.P.

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## PARTICIPATION RATE

| S.No. | Category | Projected Population | | | Enrolment | | | Participation Rate | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| 1. | Age Group(5-9 Yrs). | 1326 ~~2566~~ | 1240 | 2566 | 1161 | 355 | 1516 | 87.56% | 28.37% | 59.08% |
| 2. | Age Group(10-12 Yrs). | 775 | 647 | 1422 | 268 | 57 | 325 | 34.60% | 8.69% | 22.85% |
| 3. | Age Group(13-14 Yrs). | 342 | 290 | 632 | 94 | 17 | 111 | 27.49% | 5.68% | 17.54% |
| 4. | Age Group(15-16 Yrs). | 361 | 305 | 666 | 33 | 7 | 40 | 9.16% | 2.14% | 5.94% |
| 5. | Age Group(17-18 Yrs). | 313 | 253 | 566 | 13 | 2 | 15 | 4.08% | 0.97% | 2.72% |
| 6. | Age Group(19-20 Yrs). | 301 | 297 | 598 | 1 | 4 | 1 | 0.30% | - | 0.15% |

SOURCE : EDUCATION DEPARTMENT N.W.F.P.

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DEVELOPMENTAL AND RECURRING COST (ESTIMATED WITH 5% INCREASE PER YEAR)
FOR PRIMARY EDUCATION IN FP W.F.P. FROM 1989-90 TO 1998-99 FROM PROVINCIAL BUDGET

| | 1989-90 | 1990-91 | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 | 1997-98 | 1998-99 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Developmental Cost** | | | | | | | | | | | |
| i) Rs.in Million | 218.939 | 229.886 | 241.380 | 253.449 | 266.120 | 279.430 | 293.400 | 308.070 | 323.470 | 339.640 | 2753.784 |
| ii) $ in Million | 10.950 | 11.49 | 12.070 | 12.67 | 13.31 | 13.97 | 14.67 | 15.40 | 16.17 | 16.98 | 137.690 |
| **Recurring Cost** | | | | | | | | | | | |
| i) Rs.in Million | 1125.00 | 1181.25 | 1240.31 | 1302.33 | 1367.45 | 1435.82 | 1507.61 | 1582.99 | 1662.14 | 1745.25 | 14150.15 |
| ii) $ in Million | 56.25 | 59.06 | 62.02 | 65.12 | 68.37 | 71.79 | 75.38 | 79.15 | 83.11 | 87.26 | 707.51 |
| GRAND TOTAL Rs.in Million | 1343.94 | 1411.14 | 1481.69 | 1555.78 | 1633.57 | 1715.25 | 1801.01 | 1891.06 | 1985.61 | 2084.89 | 16904.00 |
| $ in Million | 67.20 | 70.55 | 74.09 | 77.79 | 81.68 | 85.76 | 90.05 | 94.55 | 99.28 | 104.24 | 845.20 |

EXTRACT FROM PC - I OF PRIMARY EDUCATION DEVELOPMNET PROGRAMME N.W.F.P.

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## YEAR-WISE BREAK-UP OF COST ESTIMATE (1989-99)

Annexure-I

| ACTIVITIES | 1989-90 | 1990-91 | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 | 1997-98 | 1998-99 | Total cost in Million Rs. | Tota cost mill Doll |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Administration and Management | 35.90 | 9.350 | 9.750 | 10.725 | 9.925 | 7.525 | 9.400 | 9.400 | 9.400 | 9.400 | 120.575 | 6.02 |
| 2. Teachers Training & Supply. | 20.04 | 14.78 | 15.78 | 15.98 | 16.88 | 16.78 | 16.78 | 16.78 | 17.78 | 17.78 | 168.86 | 8.44 |
| 3. Instructional Material. | 5.50 | 10.30 | 24.60 | 28.60 | 28.60 | 28.60 | 22.20 | 23.20 | 22.20 | 22.20 | 216.00 | 10.80 |
| 4. Construction | 51.58 | 23.42 | 233.777 | 303.041 | 316.487 | 312.79 | 328.054 | 341.896 | 311.351 | 290.00 | 2562.396 | 128.12 |
| 5. Contingencies | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 15.169 | 132.169 | 6.60 |
| GRAND TOTAL | 126.02 | 70.85 | 346.907 | 371.146 | 384.892 | 373.695 | 389.434 | 404.276 | 373.231 | 354.549 | 3200.00 | 160.00 |

EXTRACT FROM PC - I PRIMARY EDUCATION DEVELOPMENT PROGRAMME N.W.F.P.

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(Annexure-V Continued)

PHYSICAL PHASING AND FINANCIAL IMPLICATIONS

| S. No. | Scheme | 1989-90 | 1990-91 | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 | 1997-98 | 1998-99 | Total in Rs. | Total in Dollars |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Architect Engineering (Services). | 2.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 47.00 | 2.350 |
| 2. | Construction of Primary Schools. No. | - | - | 390 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 3330 | |
| | Cost | - | - | 115.[illegible] | 141.330 | 140.280 | 149.100 | 159.760 | 16[illegible].340 | 179.760 | 191.100 | 1234.77 | 61.739 |
| 3. | Upgradation of Primary Schools to Middle Status. | 20 | 20 | 30 | [illegible] | 30 | 40 | 40 | 50 | 50 | [illegible] | 350 | |
| | | 16.180 | 17.[illegible] | [illegible] | 29.310 | 31.[illegible] | 44.[illegible]30 | 47.160 | 62.7[illegible] | 66.[illegible]00 | 71.10[illegible] | 413.51 | 20.676 |
| 4. | Construction of hostel in existing GGHSs. | 4 | - | - | - | - | - | - | - | - | - | 4 | |
| | | 20.0 | - | - | - | - | - | - | - | - | - | 20.0 | 1.0 |
| 5. | Construction of building+ hostels for new GGHSs. | - | - | [illegible] | 2 | 2 | 1 | 1 | 1 | 1 | - | 16 | |
| | | - | - | 50.[illegible] | [illegible].000 | 37.510 | [illegible].674 | 30.614 | [illegible].734 | 3[illegible] | - | 292.787 | 14.859 |
| 6. | Expansion of Ware-house at N.F.P T.B.A. | 5.40 | - | - | - | - | - | - | - | - | - | 5.40 | 0.270 |
| 7. | Construction of Extension Centre+Hostels | - | - | 1 | 1 | 1 | 1 | 1 | - | - | - | 5 | |
| | | - | - | 6.606 | 7.[illegible] | 7.497 | 7.970 | 8.[illegible] | - | - | - | 37.610 | 1.881 |
| 8. | Construction of building for Bureau. | - | - | [illegible] | - | - | - | - | - | - | - | 3.459 | 0.173 |

EXTRACT FROM PC - I OF PRIMARY EDUCATION DEVELOPMENT PROGRAMME N.W.F.P.

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DIRECTORATE OF EDUCATION (SCHOOLS) NWFP PESHAWAR.

DISTRICT WISE DETAIL OF FUNDS RELEASED FOR PETTY REPAIRS AND ~~APPROVAL~~ Annual MAINTENANCE REPAIRS AND SPECIAL REPAIRS OF SCHOOLS (PRIMARY, MIDDLE, AND HIGH) IN N.W.F.P. DURING 1989-90.

| S.No. | District. | Petty Repair. No.of Schools concerned. | Petty Repair. Amount provided. | Annual Maint: Repair. No.of School. | Annual Maint: Repair. Amount Provided. | Spl: Repairs. No.of School. | Spl: Repairs. Amount provided. | G.Total. No.of School. | G.Total. Amount provided. |
|---|---|---|---|---|---|---|---|---|---|
| 1- | Peshawar. | 67 | 187500 | 67 | 1058400/- | 141 | 40411500 | 275 | 42287500 |
| 2- | Charsadda. | 17 | 47600 | 17 | 428400/- | 20 | 7814743 | 54 | 8290743 |
| 3- | Mardan. | 21 | 58800 | 21 | 529200/- | 56 | 24223499 | 78(98). | 24811499 |
| 4- | Swabi. | 27 | 75600 | 27 | 680400/- | 36 | 11452000 | 90 | 12208000 |
| 5- | Kohat. | 28 | 86800 | 28 | 701200/- | - | - | 56 | 868000 |
| 6- | Karak. | 23 | 64400 | 23 | 579600/- | - | - | 46 | 644000 |
| 7- | Bannu | 28 | 78400/- | 28 | 705600/- | - | - | 56 | 784000 |
| 8- | D.I.Khan | 42 | 117600/- | 42 | 1058400/- | - | - | 84 | 1176000 |
| 9- | A-Abad | 68 | 190400/- | 68 | 1713600/- | - | - | 136 | 1904000 |
| 10- | Mansehra | 41 | 114800/- | 41 | 1033200/- | - | - | 82 | 1148000 |
| 11- | Kohistan | - | - | - | - | - | - | - | - |
| 12- | Swat | 51 | 142800/- | 51 | 1285200/- | 16 | 2284500 | 118 | 3712500 |
| 13- | Dir | 39 | 109200/- | 39 | 982800/- | 19 | 1746507 | 97 | 2838507 |
| 14- | Chitral | 16 | 44800/- | 16 | 403200/- | 20 | 4445487 | 52 | 4893487 |
| 15- | Malakand | 16 | 44800/- | 16 | 403200/- | - | - | 32 | 448000 |
| | Total. | 484 | 1363600/- | 484 | 12272400/- | 308 | 93378236 | 1276 | 106014236 |

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STATEMENT SHOWING DISTT: WISE DISTRIBUTION SANCTIONED BY THE GOVT: FOR SPECIAL REPAIR FOR GOVT: PRIMARY, MIDDLE SCHOOLS AND HIGH SCHOOLS IN NWFP DURING 1989-90. UTILIZED BY THE C&W DEPARTMENT.

A.M.R. for HIGH SCHOOLS(11.5.90)

| SNo. | Name of Distt: | No. of Schools. | Amount. | Special Repair Pry: Middle, and High Schools. | | | | | | Grand Total. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | School 10.2.90. | Amount. | School. 10.2.90. | Amount. | 19.5.90. School | Amount. | No. of Sch: | Amount. |
| 1- | Peshawar. | 67 | 1688400 | 16 | 9417000 | 6 | 1830000 | 46 | 10893500 | 135 | 23828900 |
| 2- | Charsadda. | 17 | 426400 | - | - | - | - | 8 | 4140000 | 25 | 4566400 |
| 3- | Mardan. | 21 | 529200 | - | - | 2 | 3660000 | 26 | 9322000 | 55 | 13519200 |
| 4- | Swabi. | 27 | 680400 | - | - | 15 | 4151000 | 17 | 5301000 | 59 | 10132400 |
| 5- | Kohat. | 28 | 781200 | - | - | - | - | - | - | 28 | 781200 |
| 6- | Karak. | 23 | 579600 | - | - | - | - | - | - | 23 | 579600 |
| 7- | Bannu. | 28 | 705600 | - | - | - | - | - | - | 28 | 705600 |
| 8- | DIKhan. | 42 | 1058400 | - | - | - | - | - | - | 42 | 1058400 |
| 9- | A-Abad. | 68 | 1713600 | - | - | - | - | - | - | 68 | 1713600 |
| 10- | Mansehra. | 41 | 1033200 | - | - | - | - | - | - | 41 | 1033200 |
| 11- | Kohistan. | - | - | - | - | - | - | - | - | - | - |
| 12- | Swat. | 51 | 1285200 | - | - | - | - | - | - | 51 | 1285200 |
| 13- | Dir. | 39 | 982800 | - | - | - | - | - | - | 39 | 982800 |
| 14- | Chitral. | 16 | 403200 | - | - | 1 | 498000. | - | - | 17 | 901200 |
| 15- | Malakand. | 16 | 403200 | - | - | - | - | - | - | 16 | 403200 |
| | TOTAL:= | 484 | 1,22,72,400/- | 16 | 9417000 | 30 | 1,01,47,000 | 97 | 2,96,56,500 | 627 | 6,14,92,900 |

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STATEMENT SHOWING DISTT: WISE AMOUNT SANCTIONED/RECEIVED FROM GOVT: THROUGH CHECQUES FOR SPECIAL REPAIR (FOR PRIMARY, MIDDLE AND HIGH) SCHOOL DURING 1989-90. UTILIZED BY C&W DEPTT:.

| SNo. | District. | Special Repair Sanctioned on 16.6.90. No. of School. | Amount. |
|---|---|---|---|
| 1- | Peshawar. | 73 | 18271000 |
| 2- | Charsadda. | 12 | 3674743 |
| 3- | Mardan. | 22 | 11233499 |
| 4- | Swabi. | 4 | 2000000 |
| 5- | Kohat. | - | - |
| 6- | Karak. | - | - |
| 7- | Bannu. | - | - |
| 8- | DIKhan. | - | - |
| 9- | A-Abad. | - | - |
| 10- | Mansehra. | - | - |
| 11- | Kohistan. | - | - |
| 12- | Swat. | 13 | 2284500 |
| 13- | Dir. | 19 | 1746507 |
| 14- | Chitral. | 19 | 3947487 |
| 15- | Malakand. | - | - |
| G- | TOTAL: | 165 | 4,31,57,736 |

OFFICE OF THE DIRECTOR OF EDUCATION (SCHOOLS) NWFP.PESHAWAR.

STATEMENT SHOWING DISTT: WISE DISTRIBUTION SANCTIONED BY THE GOVT: FOR PETTY REPAIR FOR HIGH SCHOOL (MALE ONLY) DURING 1989-90 VIDE NO. SO(COORD) EDU:/3-1/89-90 dated 11-3-90 UNDER HEAD 6-40000-Social Services 6-41000-Education 6-41900 OTHERS TRAING & RESEARCH) 6-41900-44300-OTHER (REPAIR MAINTENANCE OF BUILDING UNDER DEMAND NO. 16.

| S.NO. | DISTRICT. | NO. OF SCHOOL. | AMOUNT. | EXPDR: |
|---|---|---|---|---|
| 1. | * Peshawar. | 67 | 1,37,600 | |
| 2. | * Charsadda. | 17 | 47,600 | |
| 3. | * Mardan. | 21 | 58,800 | |
| 4. | * Swabi. | 27 | 75,600 | |
| 5. | * Kohat. | 28 | 86,800 | |
| 6. | Bannu. | 28 | 78,400 | |
| 7. | DIKhan. | 42 | 1,17,600 | |
| 8. | * A.Abad. | 68 | 1,90,400 | |
| 9. | Mansehar. | 41 | 1,14,800 | |
| 10. | Swat. | 51 | 1,42,800 | |
| 11. | Dir. | 39 | 1,09,200 | |
| 12. | Malakand. | 16 | 44,800 | |
| 13. | * Karak. | 23 | 64,400 | |
| 14. | Kohistan. | - | - | |
| 15. | Chitral. | 16 | 44,800 | |
| | TOTAL. | 484 | 1,36,3600/-(13,63,600/-) | |

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OFFICE OF THE DIRECTOR OF EDUCATION (SCHOOLS) NWFP PESHAWAR.

STATEMENT SHOWING DISTT:WISE DISTRIBUTION SANCTIONED BY THE GOVT: FOR ANNUAL MAINTENANCES REPAIR FOR HIGH SCHOOL (MALE) ONLY DURING 1989-90 UTILIZED BY C&W DEPARTMENT.

| S.NO. | DISTRICT. | NO. OF SCHOOLS. | AMOUNT. | EXPR: |
|---|---|---|---|---|
| 1. | Peshawar. | 67 | 1,68,8400/- | |
| 2. | Charsadda. | 17 | 4,28,400 | |
| 3. | Mardan. | 21 | 5,29,200 | |
| 4. | Swabi. | 27 | 6,80,400 | |
| 5. | Kohat. | 28 | 7,81,200 | |
| 6. | Bannu. | 28 | 7,05,600 | |
| 7. | DIKhan. | 42 | 10,58,400 | |
| 8. | A.Abad. | 68 | 17,13.600 | |
| 9. | Mansehora. | 41 | 10,33,200 | |
| 10. | Swat. | 51 | 12,85,200 | |
| 11. | Malakand. | 16 | 4,03,200 | |
| 12. | Dir. | 39 | 9,82.800 | |
| 13. | Chitral. | 16 | 4,03,200 | |
| 14. | Karak. | 23. | 5,79,600 | |
| 15. | Kohistan. | Nil | Nil. | |
| | TOTAL. | 484 | 1,22,72,400/- | |

Sanctioned vide No.SO(Coord:)Edu:/3-1/89-90, under Head Grant 1989-90, under functional -Cum-object clasification "6-41900-44300-other (Repair and Maintanance of Buildings under demand No.16.

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## EXTRACTS FROM UNICEF REPORT ON HEALTH EDUCATION WITHIN THE PRIMARY CURRICULUM REFORM PROJECT, N.W.F.P.

### Present Situation

At present the School is not used or thought of as a learning centre for health related activities. Health and hygiene topics contained in the curriculum are fragmented. Children learn almost entirely by rote. Neither the children nor the teachers have a reliable, relevant and interesting source of information to show them how to control their health and their environment.

In the project pilot area, Malakand, the majority of children (and teachers) come from farming communities where health and sanitation facilities are very limited. In the schools too, only 8 out of 95 girls schools, and 28 out of 215 boys schools have piped water in Malakand. None have latrines.

Water is often collected and stored in a large concrete tub in the school grounds. It was observed that this was used directly for washing hands, cleaning, takti, boards and drinking.

The sanitary conditions of the schools visited were hazardous. In girls' schools in densely populated areas in particular, older children and teachers are not at liberty to leave the school compound and go to the fields. Instead an open area behind a classroom is usually designated for defecation. There are no provisions for cleaning and very few teachers take the initiative to include children in cleaning activities.

Most classrooms do not have sufficient light or ventilation. Only 56 schools out of a total of 310 schools have electricity. This is often of little value as no provision is given to teachers for purchasing light bulbs. Teachers often prefer to hold classes outside rather than suffer these poor conditions which are more aggravated during the summer months. In one girls' school visited, teachers complained that insufficient ventilation and heat inside the classroom and back of shade outside, made lessons so unbearable during the summer months, that children were usually sent home mid-morning.

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